

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

U.S. Patent No. 11,432,046 (“Ohliger”) was filed on June 13, 2016, claims priority to U.S. Provisional Application No. 62/174,851, filed June 12, 2015, and issued on August 30, 2022, and therefore qualifies as prior art under at least 35 U.S.C. §§ 102(a), (b), and (e) as to the asserted claims of U.S. Pat. No. 11,134,316 (“the ’316 Patent”). Ohliger, including any material incorporated by reference into Ohliger, anticipates claims 1-19 (“the Asserted Claims”) of the ’316 Patent under 35 U.S.C. § 102. Ohliger also renders obvious the Asserted Claims under 35 U.S.C. § 103, alone based on the state of the art and/or in combination with one or more references identified in TikTok Inc.’s accompanying disclosure for the ’316 Patent.¹

To the extent Plaintiff alleges that the Ohliger does not disclose any particular limitation of the Asserted Claims of the ’316 Patent, either expressly or inherently, it would have been obvious to a person of ordinary skill in the art as of the priority date of the ’316 Patent to modify the Ohliger reference and/or to combine the teachings of the Ohliger reference with other prior art references, including but not limited to the present prior art references found in Exhibit 316-B and the corresponding section(s) of charts for other prior art references for the ’316 Patent in a manner that would have rendered the Asserted Claims invalid as obvious.

To the extent Plaintiff alleges that the Ohliger does not disclose any particular limitation of the Asserted Claims of the ’316 Patent, either expressly or inherently, it would have been obvious to a person of ordinary skill in the art as of the priority date of the ’316 Patent to modify the Ohliger reference and/or to combine the teachings of the Ohliger reference with other prior art references, including but not limited to the present prior art references found in Exhibit 316-B and the corresponding section(s) of charts for other prior art references for the ’316 Patent in a manner that would have rendered the Asserted Claims invalid as obvious.

With respect to the obviousness of the Asserted Claims under 35 U.S.C. § 103, one or more of the principles enumerated by the United States Supreme Court in *KSR v. Teleflex*, 550 U.S. 398 (2007) apply, including: (a) combining various claimed elements known in the prior art according to known methods to yield a predictable result; and/or (b) making a simple substitution of one or more known elements for another to obtain a predictable result; and/or (c) using a known technique to improve a similar device or method in the same way; and/or (d) applying a known technique to a known device or method ready for improvement to yield a predictable result; and/or (e) choosing from a finite number of identified, predictable solutions with a reasonable expectation of success or, in other words, the solution was one which was “obvious to try”; and/or (f) a known work in one field of endeavor prompting variations of it for use either in the same field or a different field based on given design incentives or other market forces in which the variations were

¹ TikTok Inc. notes that Plaintiff appears in many instances to be pursuing overly broad constructions of various limitations of the asserted claims of the ’316 Patent in an effort to piece together an infringement claim where none exists and to accuse a product that does not practice the claims. This claim chart may take into account Plaintiff’s overly broad constructions of the claim limitations. Any assertion that a particular limitation is disclosed by a prior art reference may be based on Plaintiff’s apparent constructions and is not intended to be, and is not, an admission that such constructions are supportable or proper.

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predictable to one of ordinary skill in the art; and/or (g) a teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill in the art to modify the prior art reference or to combine the teachings of various prior art references to arrive at the claimed invention. It therefore would have been obvious to one of ordinary skill in the art to combine the disclosures of these references in accordance with the principles and rationales set forth above.

The citations to portions of any reference in this chart are exemplary only. For example, a citation that refers to or discusses a figure or figure item should be understood to also incorporate by reference that figure and any additional descriptions of that figure as if set forth fully therein. TikTok Inc. reserves the right to rely on the entirety of the references cited in this chart to show that the Asserted Claims are invalid. Citations presented for one claim limitation are expressly incorporated by reference into all other limitations for that claim as well as all limitations of all claims on which that claim depends. TikTok Inc. also reserves the right to rely on additional citations or sources of evidence that also may be applicable, or that may become applicable in light of claim construction, changes in Plaintiff's infringement contentions, and/or information obtained during discovery as the case progresses.

Claim	U.S. Patent No. 11,134,316	Exemplary Disclosure in Ohliger
1[pre]	A method for providing information on items, services, or songs in a video media comprising:	<p>To the extent the preamble is limiting, Ohliger discloses “A method for providing information on items, services, or songs in a video media comprising:” See e.g.:</p> <p>“A system is provided for identifying objects in video either automatically by using an object database or manually by using information provided by the creator of the video, making the objects interactive in every frame of the video that they appear, allowing the creator to embed information behind the video objects that appears when a viewer hovers over, clicks or touches the object, allowing the creator to describe at least one object that appears in a video, associating a hyperlink with a clickable space around the object in every frame that the object appears in, and electronically auctioning the rights to the hyperlink and what data the hyperlink connects to. The system includes a video server communicating with a consumer server over a distributed network. The video server includes at least one video file, an object inventory database, and relevant content including associated hyperlinks in a database stored on or accessible to the video server. The object inventory database contains information describing a location of at least one video object within at least one video file and the hyperlink that is associated with the object. A video overlay links the relevant content with a given video object and creating a selectable hyperlink whose</p>

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		<p>position tracks a dynamic location of the video object in the video. The consumer server includes a software application for accessing and displaying at least one video file stored in the video database, the software application including means for interacting with the video overlay to select an object displayed in the video file.” Ohliger at 3:9-36.</p> <p>“To summarize, the first preferred embodiment provides a system and method for identifying objects in video either automatically by using an object database or manually by using information provided by the creator of the video, making the objects interactive in every frame of the video that they appear, allowing the creator to embed information behind the video objects that appears when a viewer hovers over, clicks or touches the object, allowing the creator to describe at least one object that appears in a video, associating a hyperlink with a clickable space around the object in every frame that the object appears in, and electronically auctioning the rights to the hyperlink and what data the hyperlink connects to. The system includes a video server communicating with a consumer server over a distributed network. The video server includes at least one video file, an object inventory database, and relevant content including associated hyperlinks in a database stored on or accessible to the video server. The object inventory database contains information describing a location of at least one video object within at least one video file and the hyperlink that is associated with the object. A video overlay links the relevant content with a given video object and creating a selectable hyperlink whose position tracks a dynamic location of the video object in the video. The consumer server includes a software application for accessing and displaying at least one video file stored in the video database, the software application including means for interacting with the video overlay to select an object displayed in the video file.” Ohliger at 33:9-36.</p>
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Fig. 18
Shop VeePIO

Ohliger at Fig. 18.

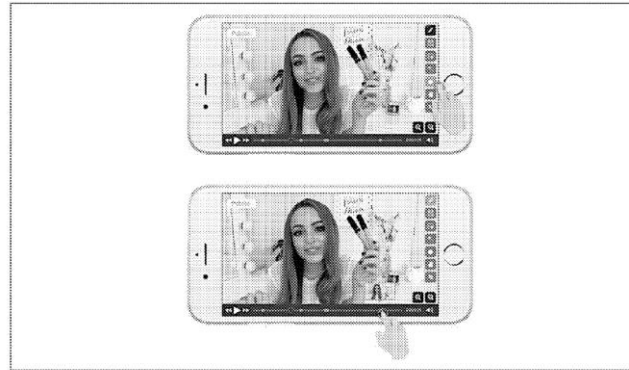
Fig. 20
How to Veep



Ohliger at Fig. 20.

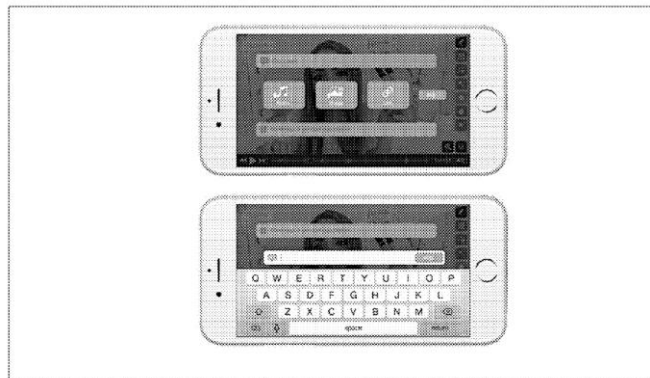
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Fig. 21
Veep Editing Room



Ohliger at Fig. 21.

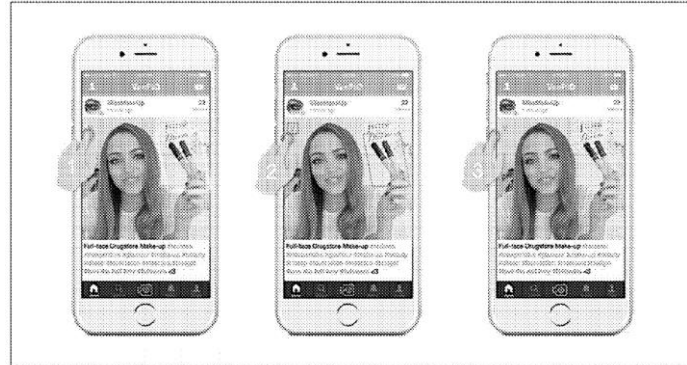
Fig. 22
Object Details



Ohliger at Fig. 21.

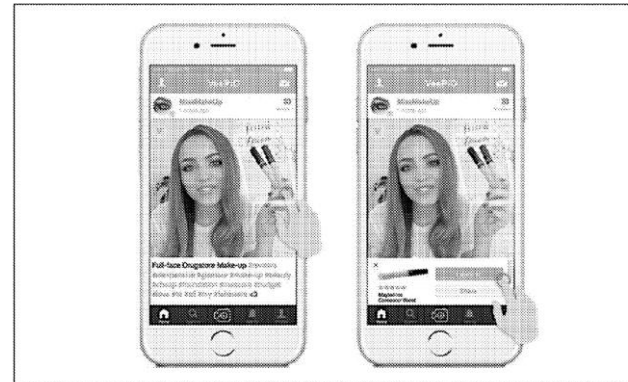
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Fig. 23
"V"isibility



Ohliger at Fig. 23.

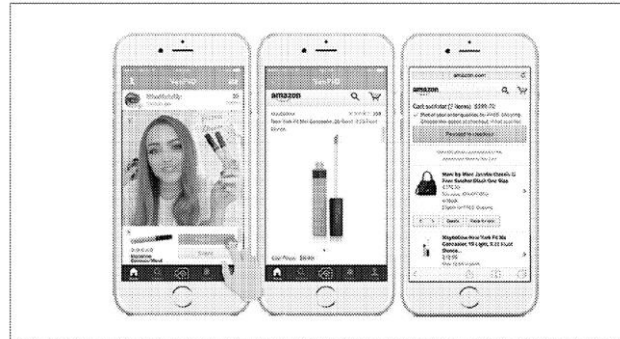
Fig. 24
I Want it!



Ohliger at Fig. 24.

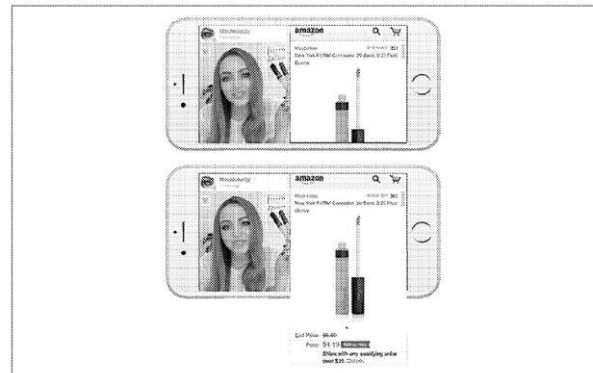
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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Fig. 25
I Want it! Continued



Ohliger at Fig. 25.

Fig. 28
Buy Via Split Screen



Ohliger at Fig. 28.

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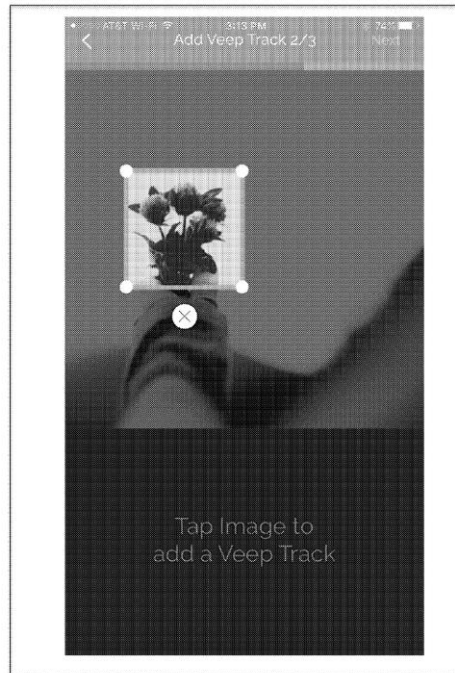


Fig. 38

Ohliger at Fig. 38.

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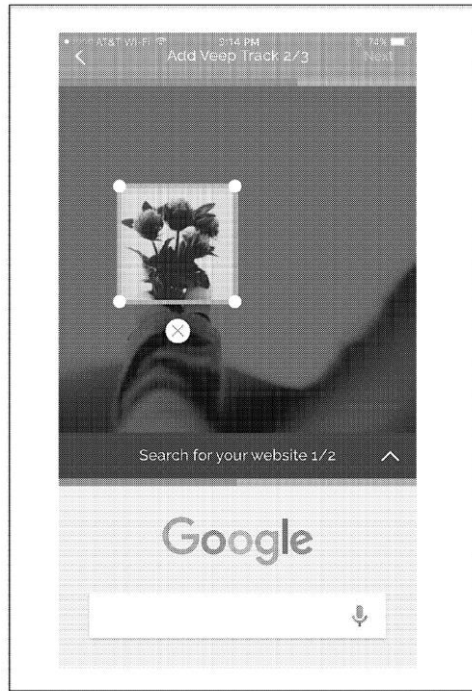


Fig. 39
Ohliger at Fig. 39.

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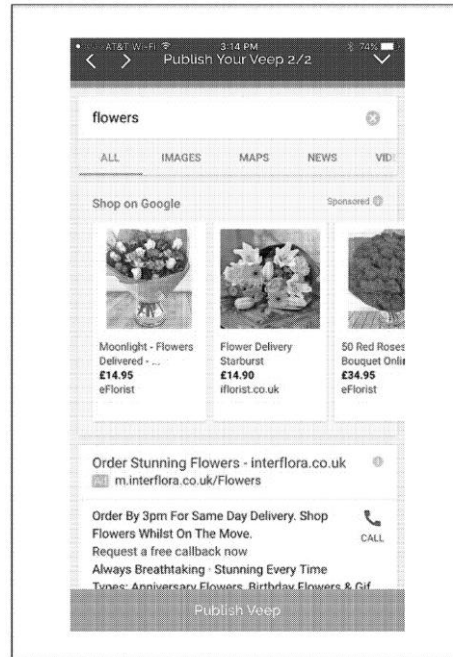


Fig. 41
Ohliger at Fig. 41.

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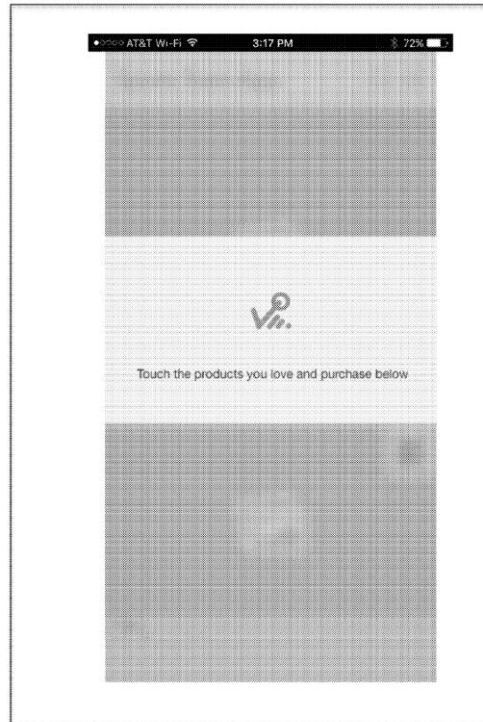


Fig. 46
'46 Patent at Fig. 46.

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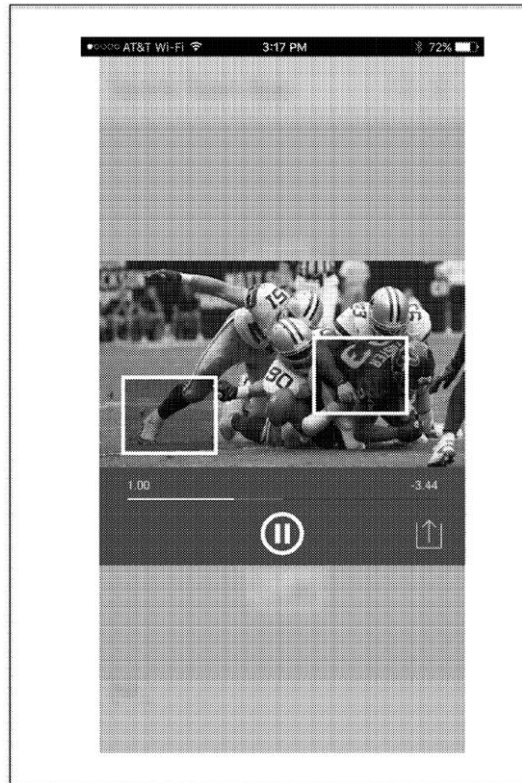


Fig. 48
Ohliger at Fig. 48.

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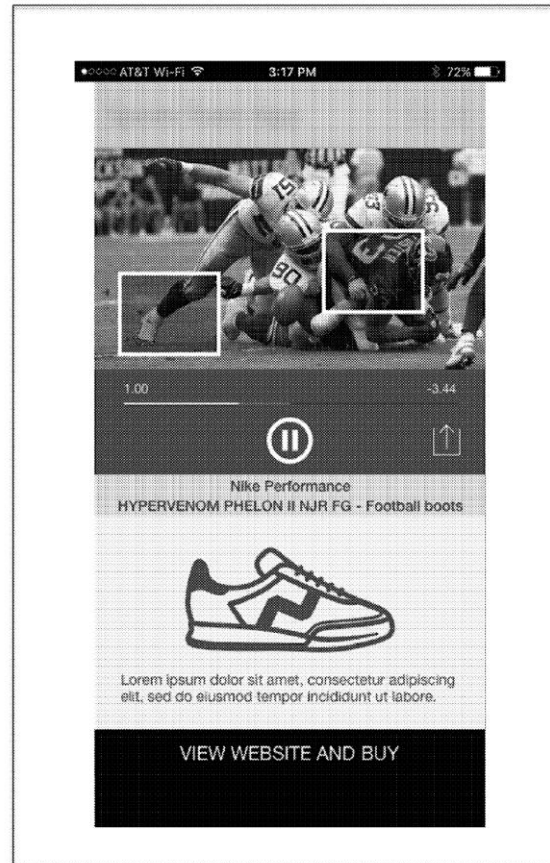


Fig. 49
Ohliger at Fig. 49.

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Fig. 50

Ohliger at Fig. 50.

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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger



FIG. 53B

Ohliger at Fig. 53B.

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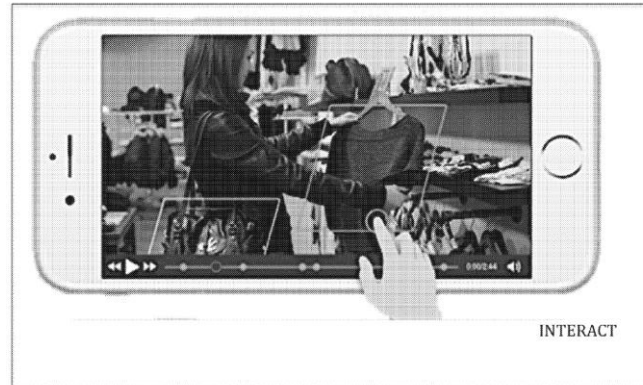


FIG. 53D

Ohliger at Fig. 53D.



FIG. 53E

Ohliger at Fig. 53E.

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		 <p style="text-align: center;">FIG. 53F</p> <p>Ohliger at Fig. 53F.</p>
1[a]	a) receiving the video media having a plurality of visual or audio objects in one or more frames of the video media;	Ohliger discloses “receiving the video media having a plurality of visual or audio objects in one or more frames of the video media;” See e.g.:

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Fig. 18
Shop VeePIO

Ohliger at Fig. 18.

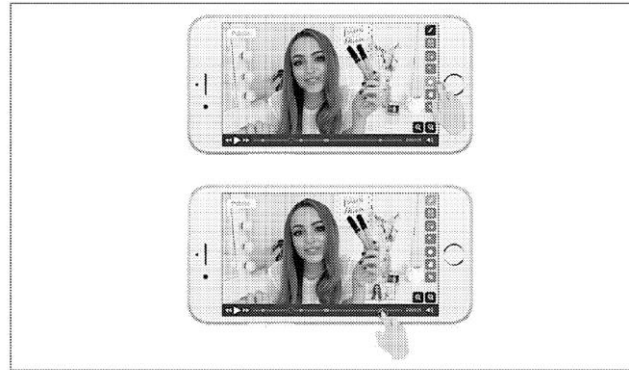
Fig. 20
How to Veep



Ohliger at Fig. 20.

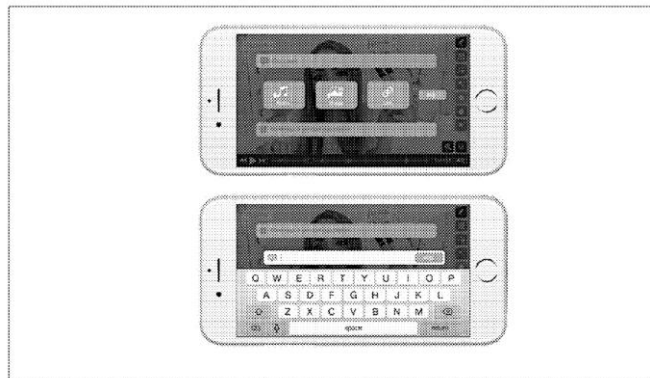
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Fig. 21
Veep Editing Room



Ohliger at Fig. 21.

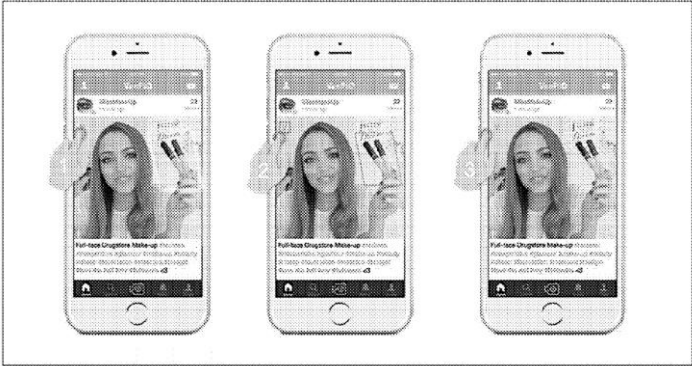
Fig. 22
Object Details



Ohliger at Fig. 21.

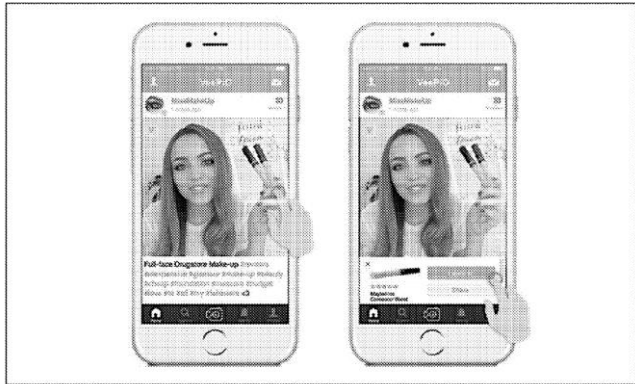
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Fig. 23



Ohliger at Fig. 23.

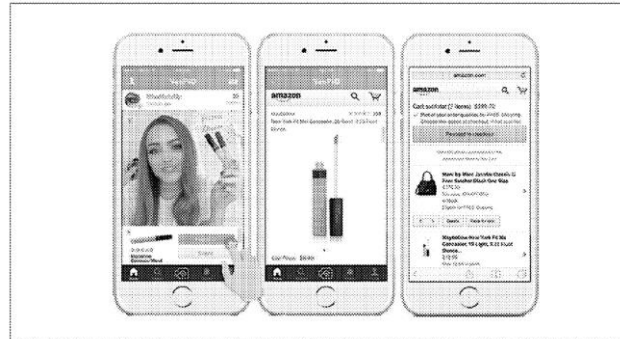
Fig. 24



Ohliger at Fig. 24.

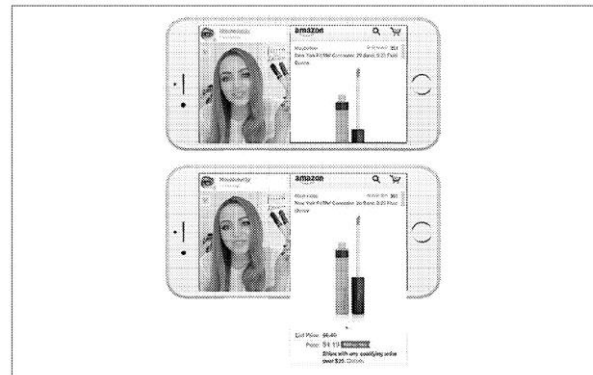
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Fig. 25
I Want it! Continued



Ohliger at Fig. 25.

Fig. 28
Buy Via Split Screen



Ohliger at Fig. 28.

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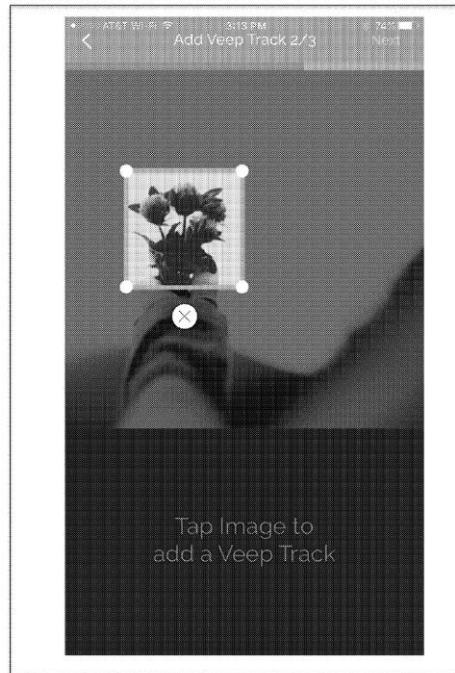


Fig. 38

Ohliger at Fig. 38.

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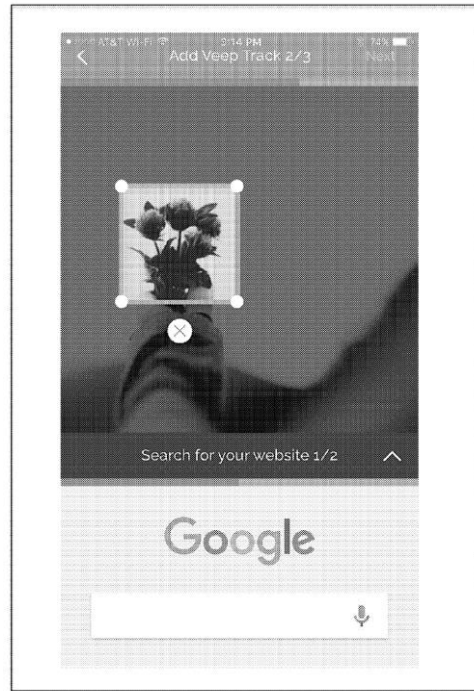


Fig. 39
Ohliger at Fig. 39.

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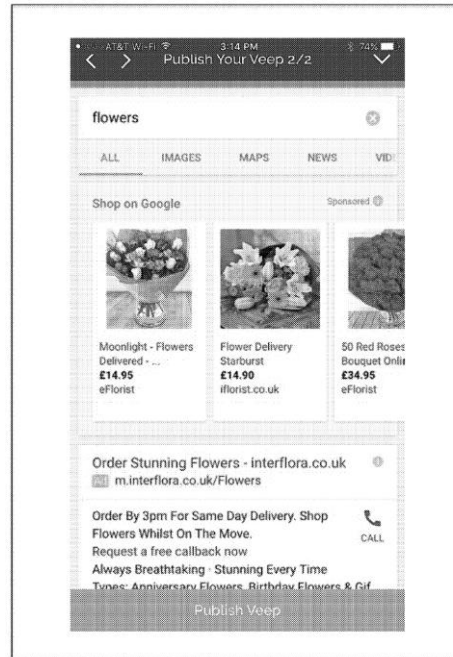


Fig. 41
Ohliger at Fig. 41.

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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

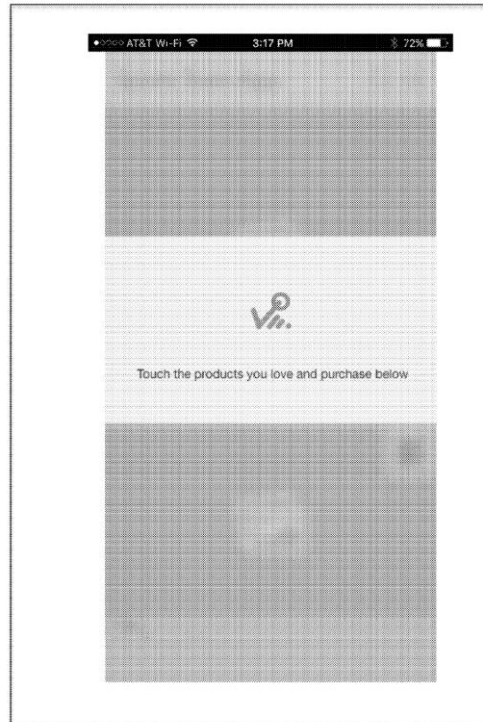


Fig. 46
'46 Patent at Fig. 46.

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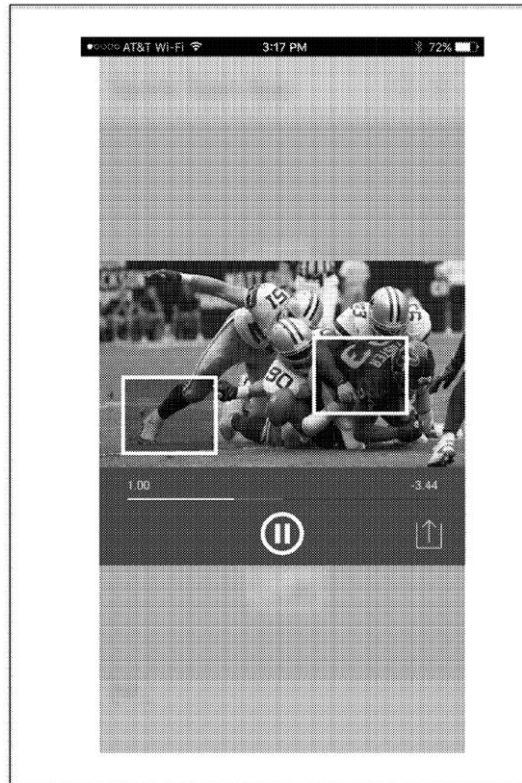


Fig. 48
Ohliger at Fig. 48.

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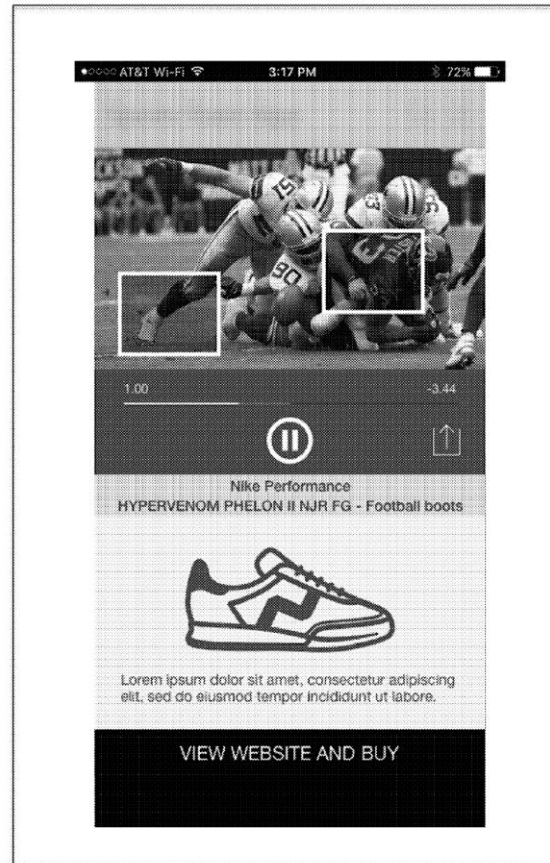


Fig. 49
Ohliger at Fig. 49.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger



Fig. 50

Ohliger at Fig. 50.

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Exhibit 316-A13
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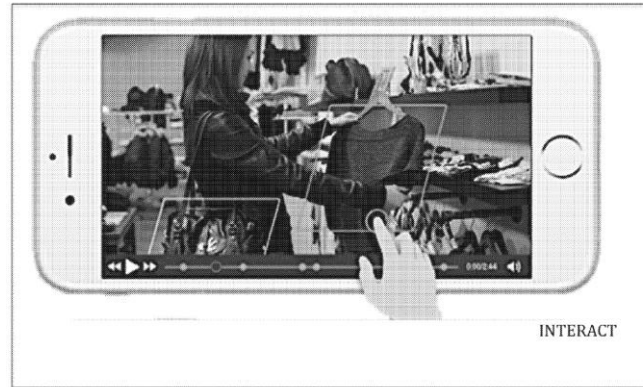


FIG. 53D

Ohliger at Fig. 53D.

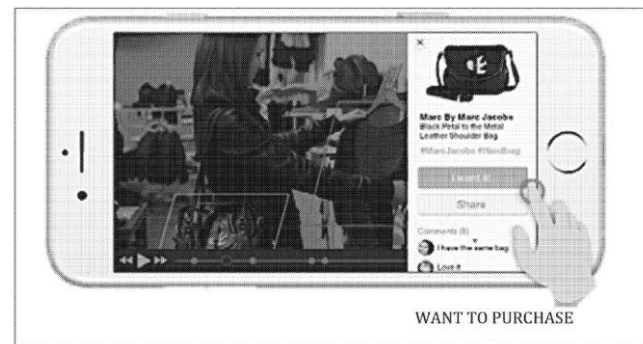


FIG. 53E

Ohliger at Fig. 53E.

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		 <p style="text-align: center;">FIG. 53F</p> <p>Ohliger at Fig. 53F.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
1[b]	b) processing the video media to generate a first interactive video layer, wherein the processing includes:	<p>Ohliger discloses “processing the video media to generate a first interactive video layer, wherein the processing includes:” See e.g.:</p> <p>“Also disclosed is a system for making an interactive overlay for a video, including: a server including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system further includes an</p>

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		<p>object inventory database stored on the server and containing information describing a location of at least one video object within one of the video files; a wire frame database stored on the server, the wireframe database storing a three-dimensional wireframe representations of at least one video object; and an overlay generation application (software or firmware) executed on the server, the overlay generation application matching occurrences of video objects in the object inventory library with three-dimensional wireframe representations of at least one video object and creating a video overlay including matched wire frame representations of the at least one video object wherein the shape and position of the wireframe representation tracks a dynamic location of the video object in the video, and storing the overlay on the server. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>Also disclosed is a system for making an interactive overlay for a video, including a server including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system further includes an object inventory database stored on the server and containing information describing coordinates of at least one video object within one of the video files; a wireframe database stored on the server, the wireframe database storing three-dimensional wireframe representations of at least one video object; and a wireframe generation application executed on the server, the wireframe generation application selecting a video object from the video object inventory database and generating a three-dimensional wireframe of the selected video object from multiple perspective occurrences of the video object in the video file and storing the three-dimensional wireframe in the wire frame database. The wireframe generation application may optionally generate a lighting model for each occurrence of a video object in a video frame from light distribution on the video object.</p> <p>The aforementioned system may further include an overlay generation application executed on the server, the overlay generation application matching occurrences of video objects in the object inventory library with three-dimensional wireframe representations of at least one video object and creating a video overlay including matched wire frame representations of the at least one video object wherein the</p>
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		<p>shape and position of the wire frame representation tracks a dynamic location of the video object in the video, and storing the overlay on the server. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.” Ohliger at 6:18-7:6.</p> <p>“A video content analysis or video analytics application 106 which is explained below in further detail automatically detects additional occurrences of the identified object in the video. If desired, the video content analysis application 106 may search the internet for occurrences of identified object. The video content analysis application 106 may be provided with an object information library 112 containing 2D/3D wire frame models or characteristics for identifying one or more pre-defined objects from one or more differing perspectives, or the video content analysis application 106 may be provided with heuristics for identifying objects. For each identified occurrence of an object, the VOHE 300 stores information for identifying the frame (temporal coordinate) and region definition data (location within the frame, e.g. x, y, and z coordinates) in which the object appears. Using the region definition data, the VOHE 300 is able to dynamically track an object. It should be noted that the size, shape and location of the selectable region (hyperlink) corresponds to the size, shape, and location of the underlying object.” Ohliger at 13:22-43.</p> <p>“System 100 includes a database 102 of video content whose rights are owned by a video creator, a broadcaster 120 or the like. The database 102 may be video content stored on or accessible via the internet (world wide web) using a desktop computer, or a mobile phone. The content may also be accessible through a social network. The term “broadcaster” simply refers to the party who owns the rights to the video content and makes it available to viewers 124 via interactive TV or streaming websites.</p> <p>The database 102 resides on a broadcaster server 200 or on a device which is accessible to server 200 (FIG. 2) which may be accessible over a distributed network 104 such as the Internet. Again, database 102 may be stored on a different server which is accessible to server 200. Server 200 includes a processor</p>
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		<p>202 which is connected via BUS 204 to a mass storage device 206, Read-Only-Memory (ROM) 208 and Random Access Memory (RAM) 210 (which may be volatile or nonvolatile). The database 102 may be stored in RAM 210, ROM 208, or mass storage device 206. Accessory devices such as keyboard 212, touch screen 214 which serves both as a keyboard and a display, display device 216, and pointing device (mouse) 218 may optionally be connected to the server 200. The database 102 contains unprocessed or raw video content which is accessed by a video content segmentation and classification engine 106 hereinafter referred to as a content analysis application. The content analysis application can also be used by a video creator to manually identify and describe objects. The phrase “raw video content” refers to video which has not been processed to identify objects.</p> <p>In FIG. 2, the database 102 is shown as copied to database 108; however, copying of the database 102 is optional.</p> <p>Database 108 resides on a video segmentation and classification server 300 (FIG. 2) which may be accessible over a distributed network such as the internet 104. Hereinafter reference to accessing the database 102 should be understood to be synonymous with accessing database 108 and vice versa. Again, database 108 is described as residing on the server 300 but it can reside on any server which is accessible to the server 300, for example, over a distributed network such as the internet.</p> <p>Server 300 includes a processor 202 which is connected via BUS 204 to a mass storage device 206, Read-Only-Memory (ROM) 208 and Random Access Memory 210 (which may be volatile or nonvolatile). The video file database 108 may be stored in RAM 210, ROM 208, or mass storage device 206. Accessory devices such as keyboard 212, touch screen 214 which serves both as a keyboard and a display, display device 216, and pointing device (mouse) 218 may optionally be connected to the server 300.” Ohliger at 15:36-16:18.</p>
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Fig. 18
Shop VeePIO

Ohliger at Fig. 18.

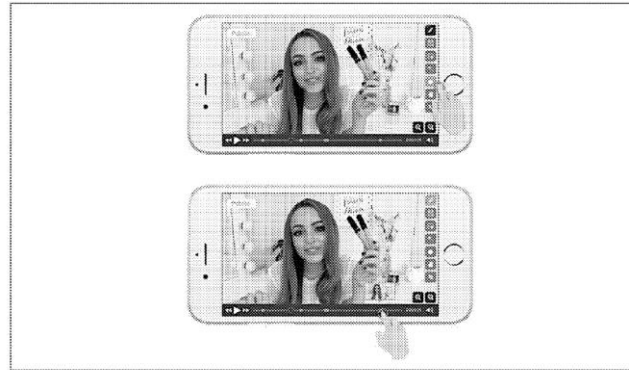
Fig. 20
How to Veep



Ohliger at Fig. 20.

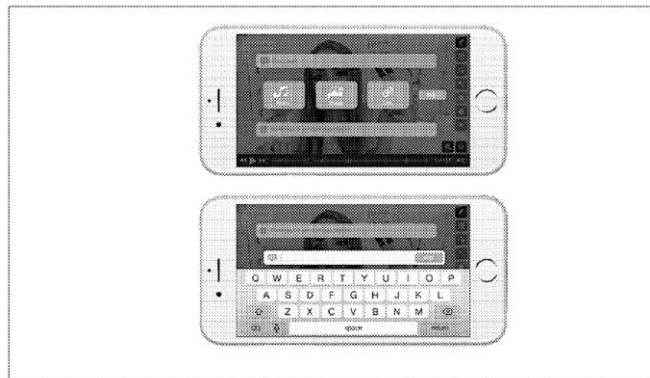
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Fig. 21
Veep Editing Room



Ohliger at Fig. 21.

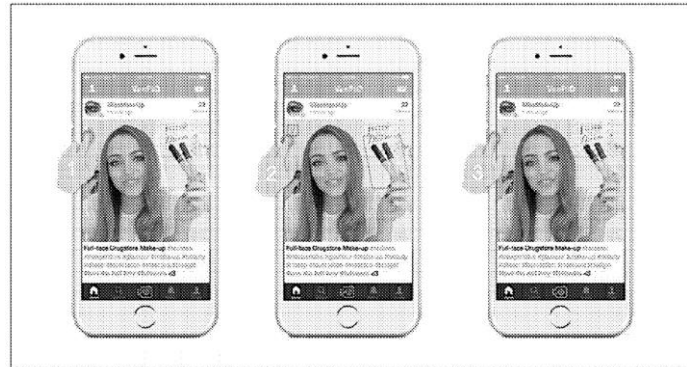
Fig. 22
Object Details



Ohliger at Fig. 21.

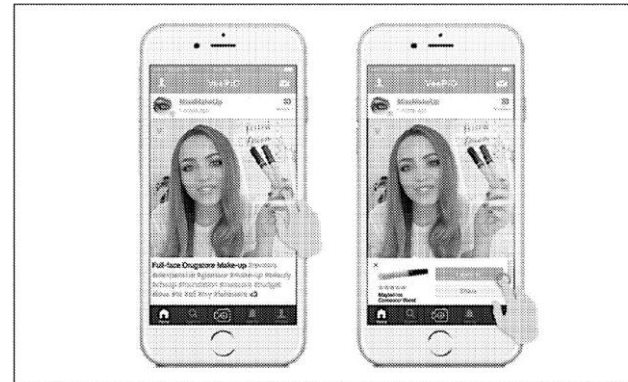
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Fig. 23
"V"isibility



Ohliger at Fig. 23.

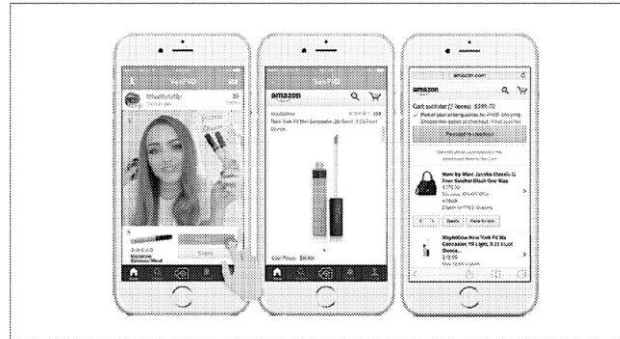
Fig. 24
I Want it!



Ohliger at Fig. 24.

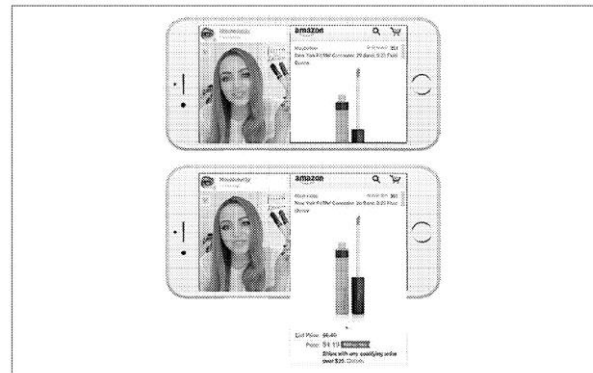
Exhibit 316-A13
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Fig. 25
I Want it! Continued



Ohliger at Fig. 25.

Fig. 28
Buy Via Split Screen



Ohliger at Fig. 28.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

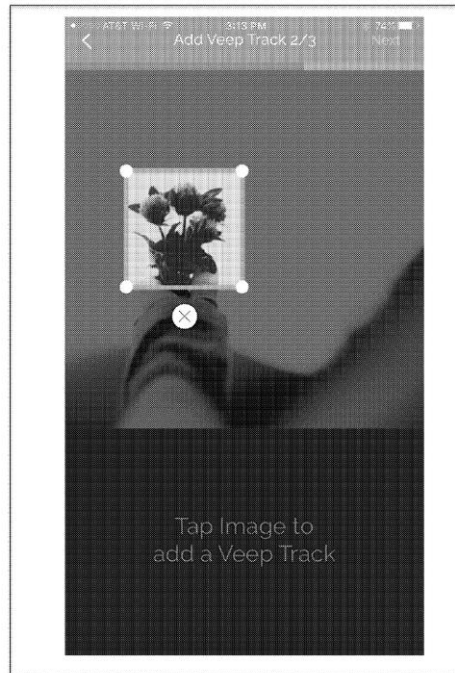


Fig. 38

Ohliger at Fig. 38.

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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

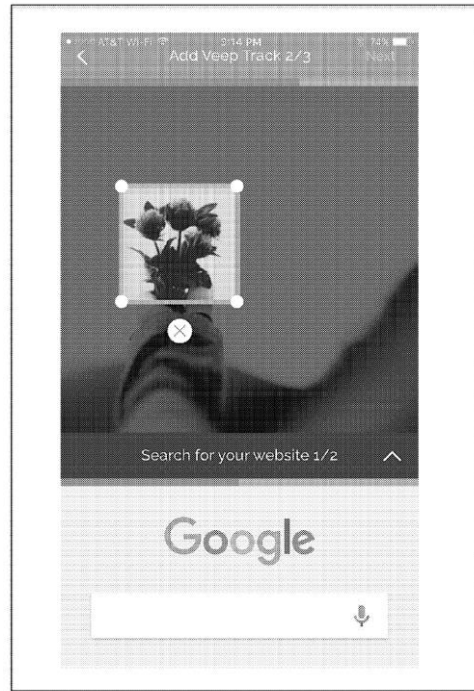


Fig. 39
Ohliger at Fig. 39.

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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

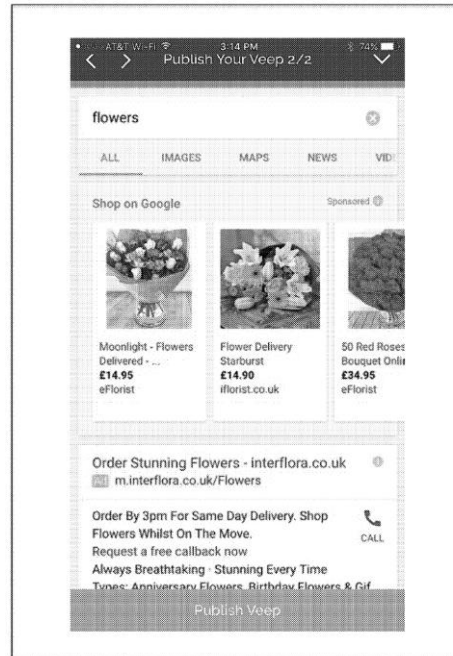


Fig. 41
Ohliger at Fig. 41.

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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

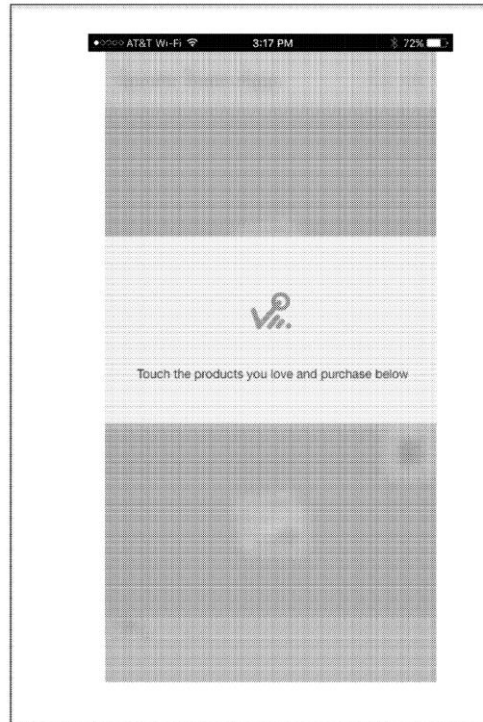


Fig. 46
'46 Patent at Fig. 46.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

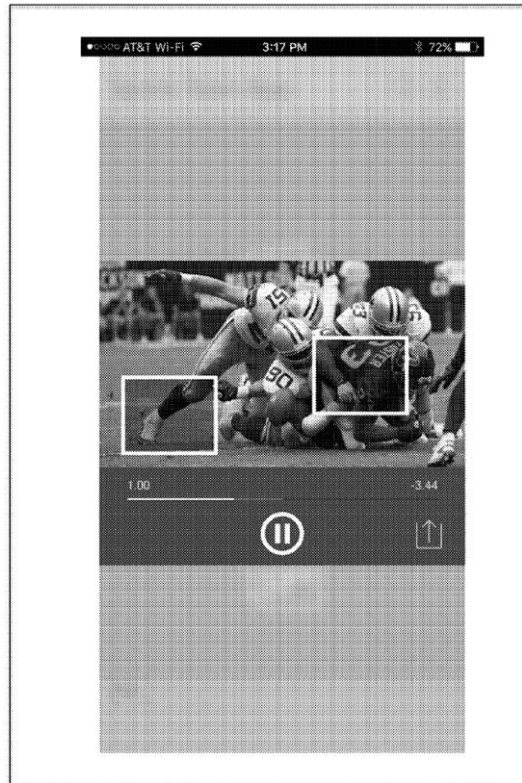


Fig. 48
Ohliger at Fig. 48.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

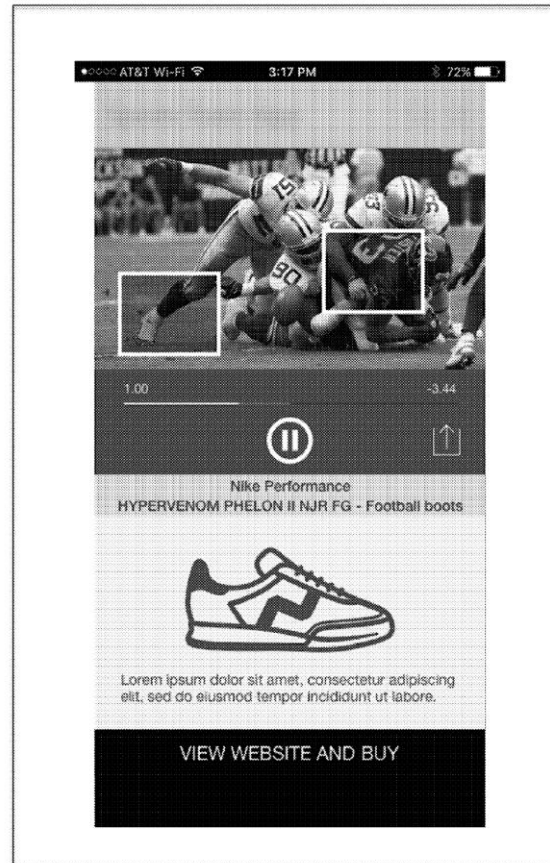


Fig. 49
Ohliger at Fig. 49.

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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger



Fig. 50

Ohliger at Fig. 50.

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FIG. 53B

Ohliger at Fig. 53B.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

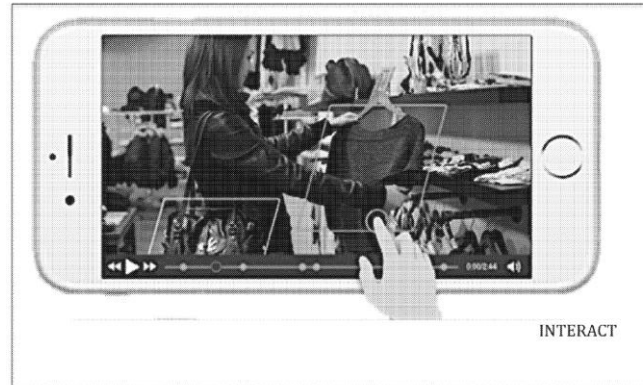


FIG. 53D

Ohliger at Fig. 53D.



FIG. 53E

Ohliger at Fig. 53E.

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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		 <p style="text-align: center;">FIG. 53F Ohliger at Fig. 53F.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
1[b][i]	i. identifying one or more of the plurality of visual or audio objects within the video media,	<p>Ohliger discloses “identifying one or more of the plurality of visual or audio objects within the video media,” See e.g.:</p> <p>“One aspect of the invention relates to the creation of an inventory of video objects and corresponding region definition data. The video object inventory 114 is a database containing region definition data in form of pointers or references to video objects within video or animation files. Importantly, the region definition data is used to make the video interactive by providing the ability to link</p>

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		<p>supplemental information with a specific video object within a video. For example, the video viewer can select a shirt displayed within the video and learn the brand and model of the shirt and other relevant information. Further, the viewer can also see comments, pictures, audio, and other content associated with the object by the creator of the video. The invention associates the relevant information with the video object thereby making the object a selectable hyperlink, meaning that the viewer can click or touch the object in any frame of the video in which the object appears and the related content will be revealed. In one embodiment of the invention, recognized video objects are represented by 3D vector graphics data such as wire frame models FIG. 8D. The representation is created by computing the difference between perspective views FIG. 8A-8C on the object and then specifying each edge of the physical object where two mathematically continuous smooth surfaces meet, or by connecting an object's constituent vertices using straight lines or curves.</p> <p>If not all views are available, then only a partial 3D model is created but completed once the missing views become available in additional videos. These 3D wireframe models may be used to improve the recognition of video objects but also may be used to represent the video objects as outlines of perspective views of the three-dimensional wireframe FIG. 8E. Such an embodiment allows users to rotate the view of the video object once selected. Furthermore, this embodiment allows additional animated 3D objects to be placed in videos complementing or superimposing original video objects.” Ohliger at 9:24-60.</p> <p>“In steps 700 and 710 a video is segmented and classified using an automated or manual segmentation and classification application to create a list or table of objects. The segmentation process 700 yields a list of video objects throughout the video (including the temporal coordinates and region definition date for each object) and the classification process 710 matches occurrences of the same object in different frames of the video thereby eliminating duplication/redundancy. It should be noted that the location, size and shape of a video object can and usually will vary throughout a video. The size of an object varies depending on its proximity which will vary as the object moves throughout the video. Similarly,</p>
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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		<p>the shape of an object may vary depending on the perspective or vantage point from which it is seen, e.g. frontal view versus side view. Moreover, the system of the invention is able to segment, track and classify a moving object. Thus the location of the video object dynamically changes as the underlying object moves, which is represented in the region definition data.</p> <p>In step 720, the video objects are compared with objects in an object library, which may be 2D (two-dimensional) or 3D (three-dimensional) wire frame data representing objects within the video. Perspective views from such 2D/3D wire frame models may be advantageous to the automatic object recognition process. This step is optional. If a match is detected then the object is associated with the product description and/or meta-data from the object library. The unmatched video object may be discarded or subjected to a secondary processing application and/or an analyst may manually identify/configure the object boundaries (step 730), and then the object may be subject to another classification step (710) and/or another comparison with objects in the object library (720). The creator of the video can also choose which objects they want to make interactive (705) and they can identify those objects with a dynamic bounding area that will change size proportionate to the change in size of the object from frame to frame as it is tracked by an object tracking algorithm. The creator can also describe, comment and add additional content to an object in the video that they have chosen to make interactive (715). This content will appear to a viewer when they interact with the bounding area around the object in any frame that the object appears by clicking, hovering over, or touching any point within the bounding area.” Ohliger at 11:52-12:28.</p> <p>“An inventory 114 of video objects is assembled by segmenting and classifying the raw video content from database 108 (or 102) to identify video objects therein. More particularly, the video content analysis application 106 segments the raw video content to yield a list of all the video objects in a given video. Then the video content analysis application 106 (which may be embodied in software or in a circuit, i.e. hardware or firmware) classifies the list of video objects to resolve occurrences of the same video object throughout the video. VOHE 300 may be provided with separate software applications for performing segmentation</p>
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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		<p>and classification, or a single software application may perform both segmentation and classification.” Ohliger at 16:19-31.</p> <p>“The video content analysis application 106 may access an object information library 112 which is a database stored on or accessible to server 300. For example, the object information library 112 may be stored on a memory device such as memory device 206 and/or RAM 210 used to store the program instructions for the video content analysis application 106. The library 112 stores images of objects from different viewing angles or 3D models of the objects. The image information may be used as the index or key to link descriptive information with the video object. The library 112 further contains one or more of an object identifier, label, and or meta-data description of the video object which may be used to describe the video content object to prospective bidders.</p> <p>Alternatively, the content analysis application 106 may utilize logic to identify video content objects without recourse to object information library 112.</p> <p>Applicant hereby incorporates by reference to U.S. Pat. No. 6,625,310 entitled “Video segmentation using statistical pixel modeling” which discloses one of many methods for segmenting video data into foreground and background portions which utilizes statistical modeling of the pixels. A statistical model of the background is built for each pixel, and each pixel in an incoming video frame is compared with the background statistical model for that pixel. Pixels are determined to be foreground or background based on the comparisons.</p> <p>Applicant hereby incorporates by reference to U.S. Pat. No. 6,462,754 entitled “Method and apparatus for authoring and linking video documents” which discloses an authoring method for video documents, involves creating anchorable information unit file based on boundaries of objects of interest such that objects interest are used to identify portions of video data.</p> <p>Applicant hereby incorporates by reference to U.S. Pat. No. 7,325,245 entitled “Linking to video information” which discloses a system which enables dynamic linking between a variety of video formats including television broadcasts, web pages, and video displays which are stored on magnetic or optical media. Each frame of the video information is identified together with a plurality of locations within that frame. The locations selected by the user, for example using a pointing</p>
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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		<p>device, are then used to access associated information either within the system itself or on an external system.</p> <p>U.S. Patent Publication 2008/0294694 (Maghfourian) entitled “Method, apparatus, system, medium, and signals for producing interactive video content,” which is incorporated herein by reference, discloses a method for producing interactive video content on a content publisher computer. The method involves associating indicia with at least one image portion in the video content, the indicia being operably configured to follow the at least one image portion as a display position of the image portion changes in the video content. The method also involves associating an image portion identifier with the indicia, and associating link properties with the indicia, the link properties being operable to cause transmission of a content location request to a registration server in response to selection of the indicia by a viewer of the interactive video content. The content location request includes the image portion identifier.</p> <p>In case of a manual or semi-automated process, the inventory 114 may be created by the content analysis application 106 with the assistance and/or review of a human analyst 110 who may be the creator of the video. The analyst 110 may manually identify a given instance of a video object by, for example, viewing a still image of the video and tracing the video object (manual process), and then utilize the content analysis application 106 (semi-automated process) to identify other occurrences of the video object in the video. Additionally or alternatively, an analyst 110 may review and refine the boundaries of an unmatched video object, and then subject the object to a second round of classification and/or second round of matching the object with objects in the object library.</p> <p>Alternatively, the analyst 110 may review and edit objects which were automatically identified by the content analysis application 106.” Ohliger at 17:27-18:38.</p> <p>“According to another embodiment, the system for automatically segmenting and classifying video content into objects includes a server such as server 300 including a computer connectable to a distributed network and having a processor, random access memory, read-only memory, and mass storage memory, the video segmenting and classification server including one or more video files</p>
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		<p>stored in a video database. The system includes a wireframe database stored on or accessible to the server. The wire frame database stores three-dimensional wireframe representations of at least one video object and at least one of descriptive information and semantic information used to describe the object. The descriptive information and semantic information is the same information described elsewhere in this disclosure in the context of segmenting and classifying video objects. The system further includes an object inventory database containing information describing a location of at least one video object within one of the video files. A video content analysis application executed on the processor, segments the video files to identify locations of video objects. The application searches for a matching (corresponding) occurrence of the video object in the wireframe database. For each match, the application retrieves information describing the video object from the wireframe database, and stores in the object inventory database 112 information describing the dynamic location of the video object within the video and information describing the video object.” Ohliger at 21:17-44.</p> <p>“a. Instagram Embodiment: Steps of a Manual Process (Performed by Content Owner (Content Provider))</p> <ul style="list-style-type: none"> i. Place finger or pointer on an object in the Instagram image and indicate that you wish “track” the object. ii. In a separate window, a search engine opens up and the content owner manually enters search terms to attempt to locate the object at an e-commerce site (e.g., AMAZON®, Lands End®). iii. If the object is located in the search results, the content owner navigates to the site in the search results hit. The URL of the search results hit (typically a very long string of characters) appears in the location bar, as is well-known. For example, here is the URL of CREST Whitestrips on Amazon.com: http://www.amazon.com/Crest-White-Whitestrips-Professional-Effects/dp/B00336EUTK iv. The content owner associates the URL with the tracked object in the image. The link itself is not shown in the image.
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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		<p>v. A database associated with the Veepio platform maintains an association with the tracked object in the content owner's image and the URL. This database record is unique to the user's image ("personalized object"). The database record may also include additional description added by the user about the object, as well as a social media feed regarding the object in the user's image.</p> <p>After completion of these steps, a subsequent viewer of the Instagram image will be provided with a visual cue that one or more objects in the image are clickable. If clicked, a browser is opened that automatically navigates to the previously stored URL of the e-commerce site so that the items can be purchased, and the viewer may also see whatever user description or social media feed may exist for the tracked object. (The URL is not viewable within the image.)" Ohliger at 36:40-37:6.</p> <p>"b. Instagram Embodiment: Steps of an Automated Process</p> <p>i. The content owner indicates that they want to "track" the objects in an Instagram image that is on the display by selecting an "auto-track" option.</p> <p>ii. The Instagram image is uploaded to Veepio's platform and an auto-recognition process identifies all of the objects in the image that match objects in the platform's library.</p> <p>iii. The content owner is presented with a list of the objects and selects the objects that they wish to "track" for their Instagram image.</p> <p>iv. (same as step v. above) A database associated with the Veepio platform maintains an association with the tracked object(s) in the content owner's image and the URL. This database record is unique to the content owner's image ("personalized object"). The database record may also include additional description added by the content owner about the object(s), as well as a social media feed regarding the object(s) in the content owner's image.</p> <p>In both manual and automated embodiments, the content owner receives a portion of the proceeds of any e-commerce purchase.</p> <p>In both embodiments, a cookie travels with the link to the e-commerce site. As known in the art, e-commerce sites that employ affiliate marketing programs use a cookie of the last place that a person navigated to so as to identify where a potential purchaser came from. Since the viewer is inside of the VEEPIO app, the</p>
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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		<p>cookie is used to identify that the purchaser was referred by VEEPIO. VEEPIO has an omnibus account for use with the e-commerce sites and each VEEPIO content owner has a sub-account within the omnibus account for crediting to the content owners of any monetization that may result from the e-commerce activity.” Ohliger at 37:37-38:3.</p> <p>“The same manual and automated processes occur as described above. Once an object is identified, it is followed (tracked) throughout the video. In the manual process, the content owner freeze-frames the video and identifies the object(s). Backward tracking also occurs so the object(s) are tracked and clickable in previous video frames that contain the object(s). “Key frames” are referred to herein as the frames that the object is in.</p> <p>2. Object Warehouse</p> <p>This is the database discussed above that is associated with the Veepio platform. It maintains an association with all tracked objects in the content owner's images/video. Each database record is unique to the content owner's image or video (“personalized object”). The database record may also include additional description added by the content owner about the object, as well as a social media feed regarding the object in the content owner's image or video. If the same object appears in a different image or video, it is maintained in a different database record and has its own content owner description and social media feed.” Ohliger at 38:5-27.</p>
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Fig. 18
Shop VeePIO

Ohliger at Fig. 18.

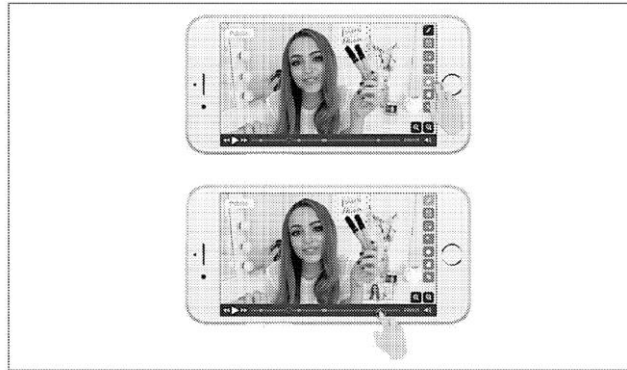
Fig. 20
How to Veep



Ohliger at Fig. 20.

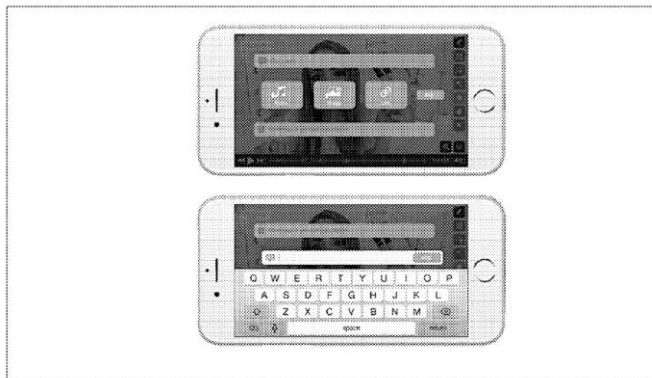
Exhibit 316-A13
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Fig. 21
Veep Editing Room



Ohliger at Fig. 21.

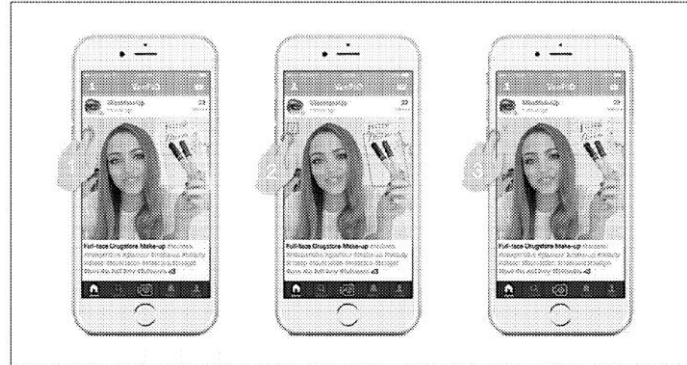
Fig. 22
Object Details



Ohliger at Fig. 21.

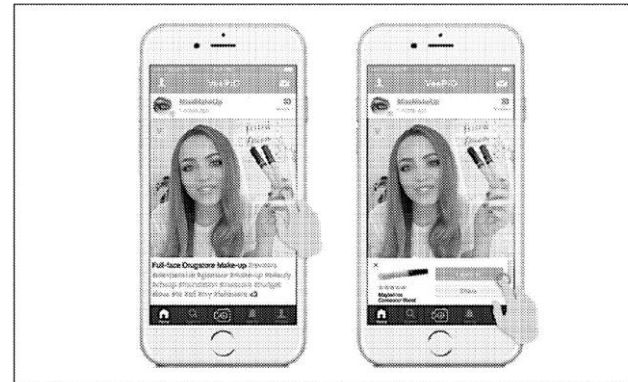
Exhibit 316-A13
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Fig. 23
"V"isibility



Ohliger at Fig. 23.

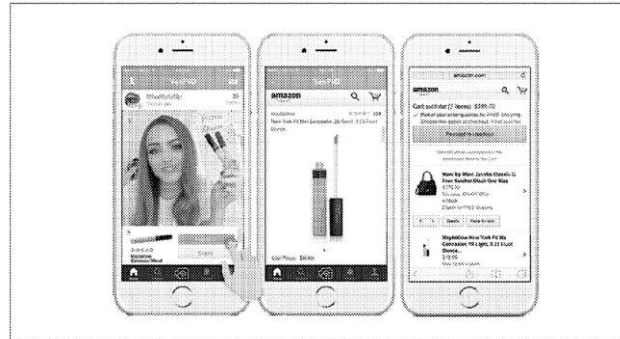
Fig. 24
I Want it!



Ohliger at Fig. 24.

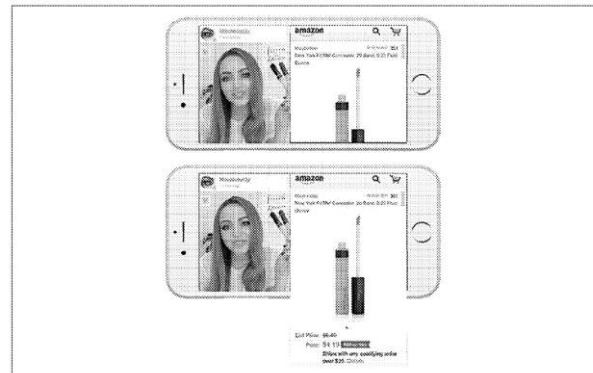
Exhibit 316-A13
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Fig. 25
I Want it! Continued



Ohliger at Fig. 25.

Fig. 28
Buy Via Split Screen



Ohliger at Fig. 28.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

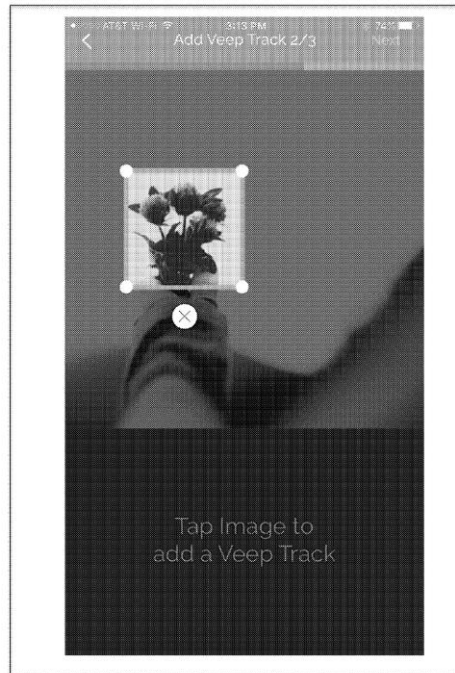


Fig. 38

Ohliger at Fig. 38.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

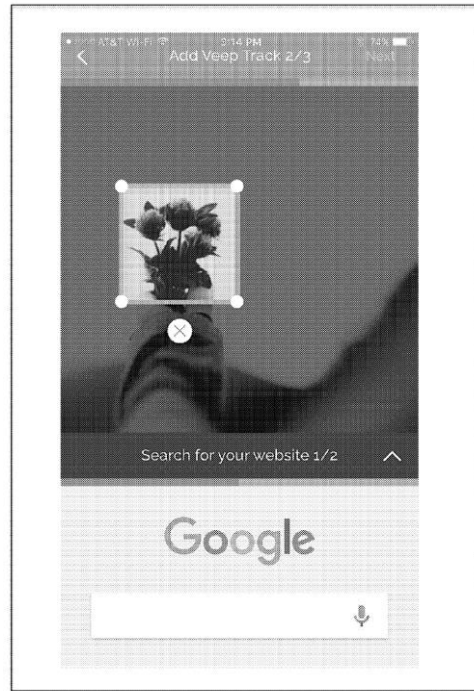


Fig. 39
Ohliger at Fig. 39.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

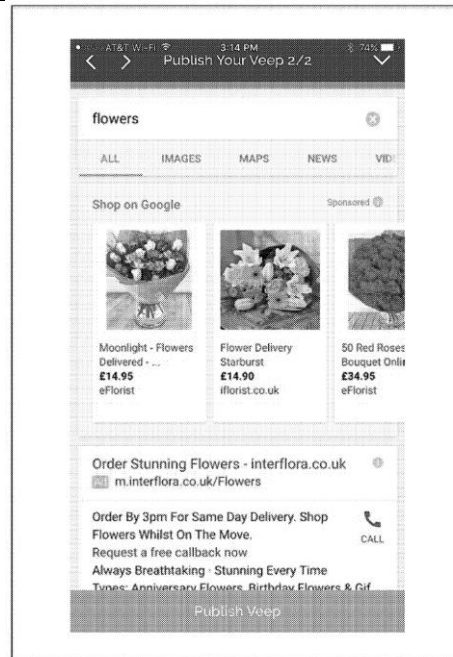


Fig. 41
Ohliger at Fig. 41.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

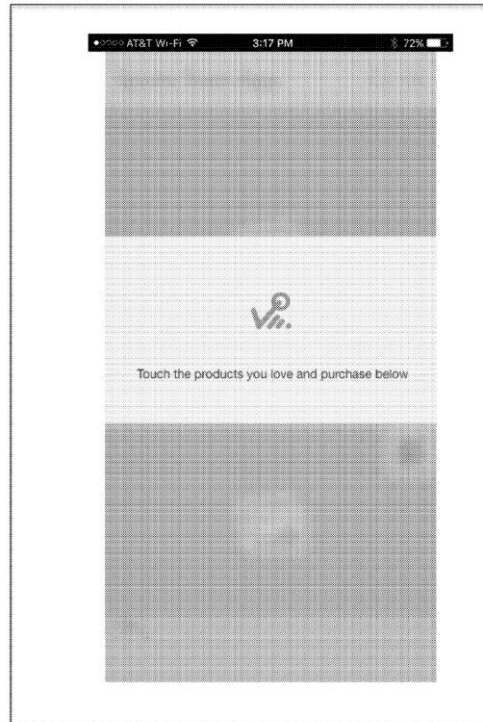


Fig. 46
'46 Patent at Fig. 46.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

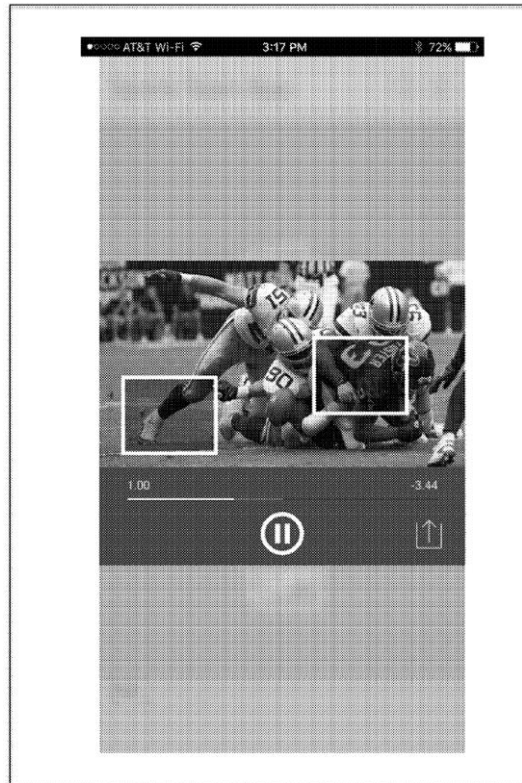


Fig. 48
Ohliger at Fig. 48.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

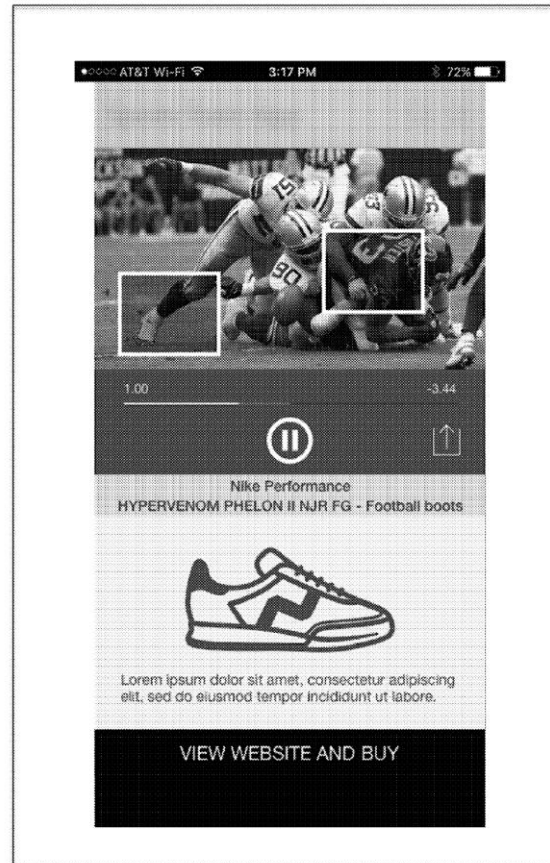


Fig. 49
Ohliger at Fig. 49.

Exhibit 316-A13
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Fig. 50

Ohliger at Fig. 50.

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FIG. 53B

Ohliger at Fig. 53B.

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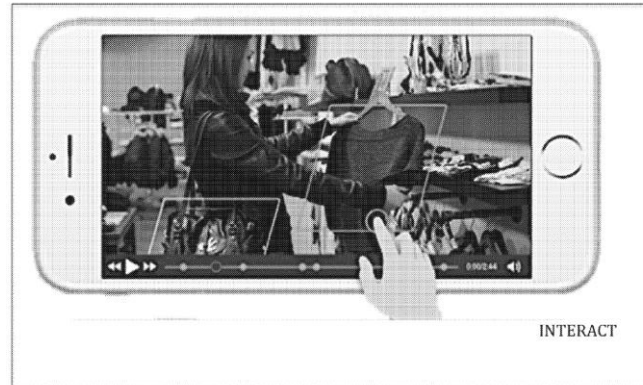


FIG. 53D

Ohliger at Fig. 53D.



FIG. 53E

Ohliger at Fig. 53E.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		 <p style="text-align: center;">FIG. 53F</p> <p>Ohliger at Fig. 53F.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
1[b][ii]	ii. associating product information to the one or more of the plurality of visual or audio objects to correspondingly form one or more items, services, or songs of interest;	<p>Ohliger discloses “associating product information to the one or more of the plurality of visual or audio objects to correspondingly form one or more items, services, or songs of interest;” See e.g.:</p> <p>“The present invention is a system 100 for automatically segmenting video into video objects, classifying the video objects either automatically or by the creator of the video, assembling a database of the classified video objects, defining region definition data representing each video object on an interactive layer, auctioning</p>

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		<p>the rights to a hyperlink that is either displayed or associated with a button that appears when an object is interacted with by a viewer of the video, or that is connected directly to the object so that when a viewer clicks or touches the object while watching the video they are directed to a website or other content that the hyperlink is pointing to. Allowing the creator of the video to associate comments, pictures, audio, hyperlinks, and other content with interactive areas around objects in their videos. Allowing viewers of the video to interact with objects in the video by clicking or touching areas around objects in the video, and further allowing viewers to comment about those objects, share those objects by way of the internet or social media, and purchase those objects, or other objects associated with the objects by way of the previously mentioned hyperlinks. These hyperlinks associated with video objects are auctioned on a video object hyperlink exchange (hereinafter “VOHE”) 300, and creating a video overlay with region definition data linking relevant content with the video content objects and thereby creating an interactive video. The creator of the video is reimbursed for the content by receiving a mutually agreed to percentage of the profits generated by the auction of the hyperlinks within the creators content. The region is a portion of the video frame which is congruent with the underlying video object. The region definition data defines such portion of the video frame. The system 100 of the present invention consists of several distinct yet related components.</p> <p>One aspect of the invention relates to the creation of an inventory of video objects and corresponding region definition data. The video object inventory 114 is a database containing region definition data in form of pointers or references to video objects within video or animation files. Importantly, the region definition data is used to make the video interactive by providing the ability to link supplemental information with a specific video object within a video. For example, the video viewer can select a shirt displayed within the video and learn the brand and model of the shirt and other relevant information. Further, the viewer can also see comments, pictures, audio, and other content associated with the object by the creator of the video. The invention associates the relevant information with the video object thereby making the object a selectable hyperlink, meaning that the viewer can click or touch the object in any frame of</p>
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Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		<p>the video in which the object appears and the related content will be revealed.” Ohliger at 8:58-9:41.</p> <p>“The present invention segments video and animation content into its objects and stores, region definition data such as shape, x, y, and temporal coordinates, or in the case of volumetric video or volumetric animation, the invention stores shape, x, y, z, and temporal coordinates. The term “temporal coordinate” refers to time, video frame or the like. Further, the term “video frame” is intended to convey an instantaneous (still) image frame of the video or animation at a particular time (location within the video stream). All of these coordinates are necessary to specify the video objects within a frame at a given moment in time.</p> <p>An object of the present invention is to take conventional video content analysis technology (computer vision algorithms, object tracking algorithms) such as currently used to identify a person within a crowd, or identify/inspect a widget on a conveyor belt and apply it to the field of marketing communication, advertising and commerce transaction. More particularly, it is an object of the invention to identify video objects of interest within video and animations. The identified video objects or content objects may be used to populate a video content inventory 114 used in a hyperlink exchange. Moreover, video may be activated or made interactive using region definition data linking video objects with relevant content.</p> <p>The method of the present invention should be understood to include both motion picture and object based animation. Hereinafter reference to video should therefore be understood to include both motion picture and object based animation.</p> <p>FIG. 1 is a high-level flow diagram of the method of a first embodiment of the present invention.</p> <p>In steps 700 and 710 a video is segmented and classified using an automated or manual segmentation and classification application to create a list or table of objects. The segmentation process 700 yields a list of video objects throughout the video (including the temporal coordinates and region definition date for each object) and the classification process 710 matches occurrences of the same object</p>
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	<p>in different frames of the video thereby eliminating duplication/redundancy. It should be noted that the location, size and shape of a video object can and usually will vary throughout a video. The size of an object varies depending on its proximity which will vary as the object moves throughout the video. Similarly, the shape of an object may vary depending on the perspective or vantage point from which it is seen, e.g. frontal view versus side view. Moreover, the system of the invention is able to segment, track and classify a moving object. Thus the location of the video object dynamically changes as the underlying object moves, which is represented in the region definition data.</p> <p>In step 720, the video objects are compared with objects in an object library, which may be 2D (two-dimensional) or 3D (three-dimensional) wire frame data representing objects within the video. Perspective views from such 2D/3D wire frame models may be advantageous to the automatic object recognition process. This step is optional. If a match is detected then the object is associated with the product description and/or meta-data from the object library. The unmatched video object may be discarded or subjected to a secondary processing application and/or an analyst may manually identify/configure the object boundaries (step 730), and then the object may be subject to another classification step (710) and/or another comparison with objects in the object library (720). The creator of the video can also choose which objects they want to make interactive (705) and they can identify those objects with a dynamic bounding area that will change size proportionate to the change in size of the object from frame to frame as it is tracked by an object tracking algorithm. The creator can also describe, comment and add additional content to an object in the video that they have chosen to make interactive (715). This content will appear to a viewer when they interact with the bounding area around the object in any frame that the object appears by clicking, hovering over, or touching any point within the bounding area.” Ohliger at 11:21-12:28.</p> <p>“In step 740, the video objects are published to the market exchange and subject to an automated auction process. The auction allows retailers, brands, and affiliates/advertisers to bid for the right to assign a hyperlink to a video object that takes a viewer of the video who has interacted with that object to a website where</p>
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		<p>that object or any object the winning bidder chooses can be purchased, or to any other content the winning bidder would like to associate with that object. In step 745 a video overlay is created which links the video object with the winning bidders provided content, and in step 750 the video overlay with region definition data is transmitted to the video broadcaster 120.” Ohliger at 12:29-41.</p> <p>“In step 760, a video viewer interacts with the video overlay by rolling-over or selecting a video region thereby triggering the display of relevant content associated with the video object. It should be appreciated that rolling over may illicit the display of different relevant content than that displayed when the object is selected. For example, selecting an object may trigger more detailed information than that displayed when the object is simply rolled-over with the pointing device.</p> <p>In step 770 (optional), the VOHE 300 records the viewer interaction with the video objects and updates the viewer's behavioral profile. It should be noted that the video viewer's interactions with the video overlay (and the video objects) generally triggers the display of relevant content from the VOHE 300. This enables the content associated with a video object to be updated on-the-fly without the need to alter the video overlay. The video overlay makes the video interactive by making video regions selectable, the content comes from the object database that stores information submitted from the creator of the video as well as comments by viewers, in addition, content also comes from the VOHE 300 in the form of hyperlinks supplied by the winning bidders.” Ohliger at 12:42-63.</p> <p>“In motion picture media, video content analysis technologies are used to identify objects based on size, shape, color, color density etc. The present invention is not limited to any particular method for identifying content objects within video and several different methods are discussed in detail below. Analysts or video creators may manually train the segmentation application 106 to recognize an object by, for example, tracing the outline of a video object or the system may present patterns of content objects it found by statistical pattern recognition.</p> <p>A video content analysis or video analytics application 106 which is explained below in further detail automatically detects additional occurrences of the</p>
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identified object in the video. If desired, the video content analysis application 106 may search the internet for occurrences of identified object. The video content analysis application 106 may be provided with an object information library 112 containing 2D/3D wire frame models or characteristics for identifying one or more pre-defined objects from one or more differing perspectives, or the video content analysis application 106 may be provided with heuristics for identifying objects. For each identified occurrence of an object, the VOHE 300 stores information for identifying the frame (temporal coordinate) and region definition data (location within the frame, e.g. x, y, and z coordinates) in which the object appears. Using the region definition data, the VOHE 300 is able to dynamically track an object. It should be noted that the size, shape and location of the selectable region (hyperlink) corresponds to the size, shape, and location of the underlying object.” Ohliger at 13:12-40.



Fig. 18
Shop VeePiO

Ohliger at Fig. 18.

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Fig. 20
How to Veep



Ohliger at Fig. 20.

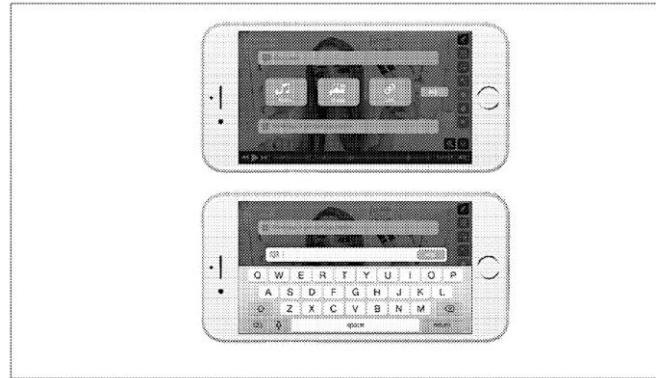
Fig. 21
Veep Editing Room



Ohliger at Fig. 21.

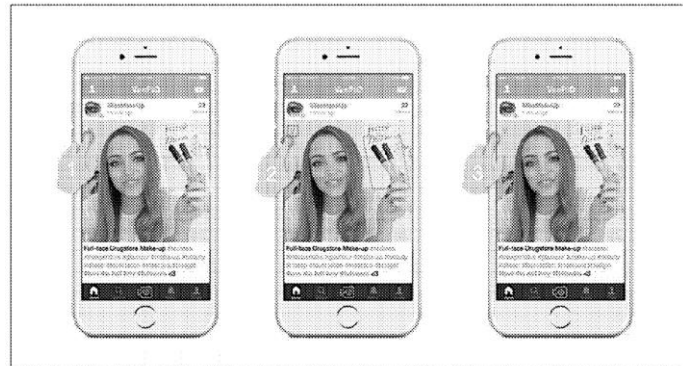
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Fig. 22
Object Details



Ohliger at Fig. 21.

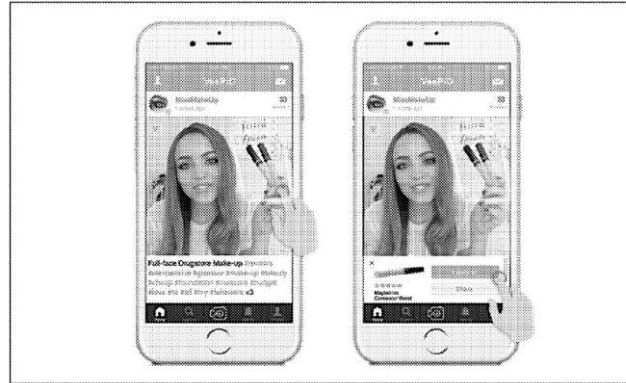
Fig. 23
"V"isibility



Ohliger at Fig. 23.

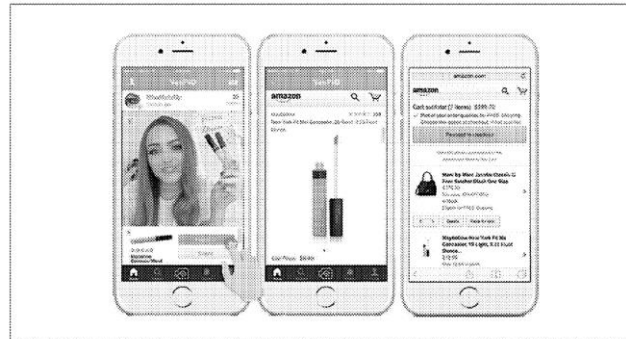
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Fig. 24
I Want it!



Ohliger at Fig. 24.

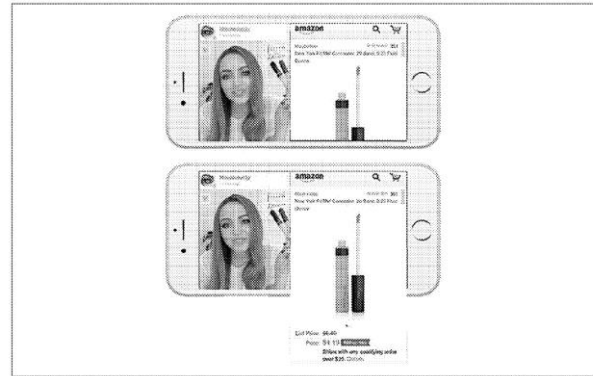
Fig. 25
I Want it! Continued



Ohliger at Fig. 25.

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Fig. 28
Buy Via Split Screen



Ohliger at Fig. 28.

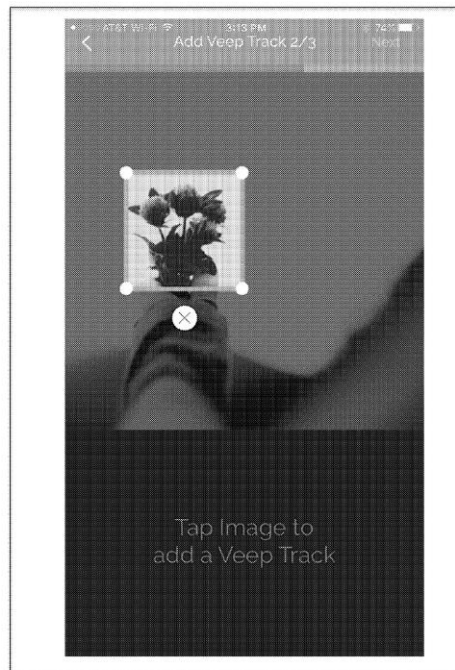


Fig. 38

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Ohliger at Fig. 38.

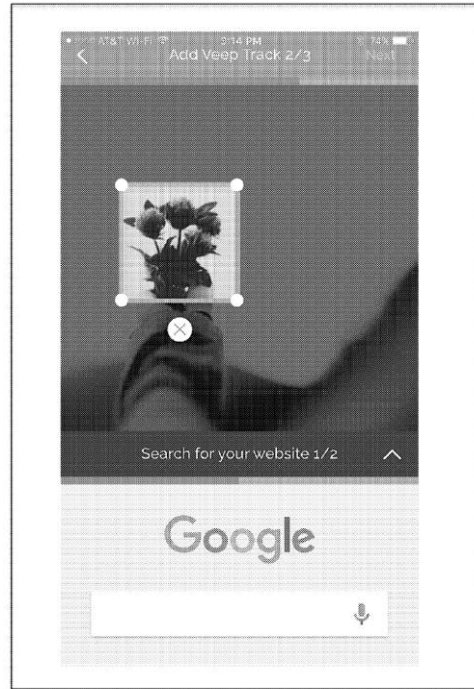


Fig. 39

Ohliger at Fig. 39.

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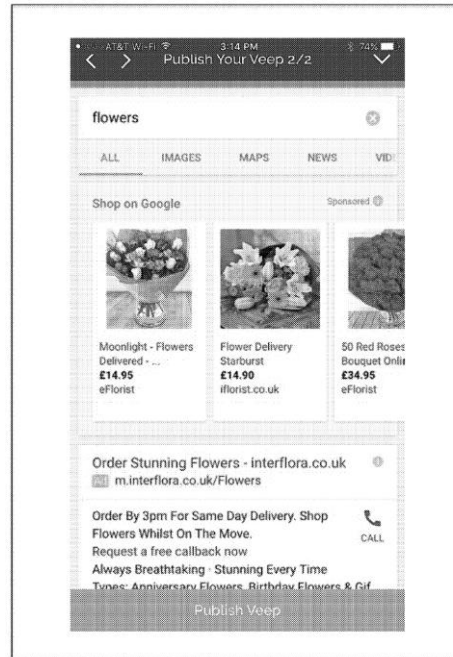


Fig. 41
Ohliger at Fig. 41.

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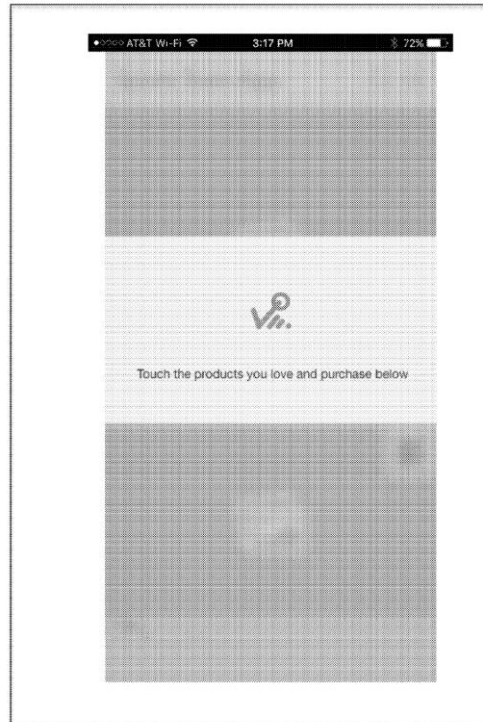


Fig. 46
'46 Patent at Fig. 46.

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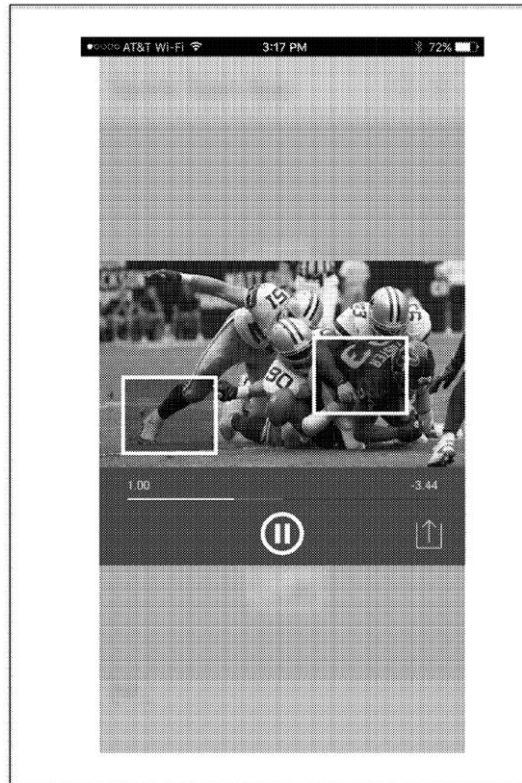


Fig. 48
Ohliger at Fig. 48.

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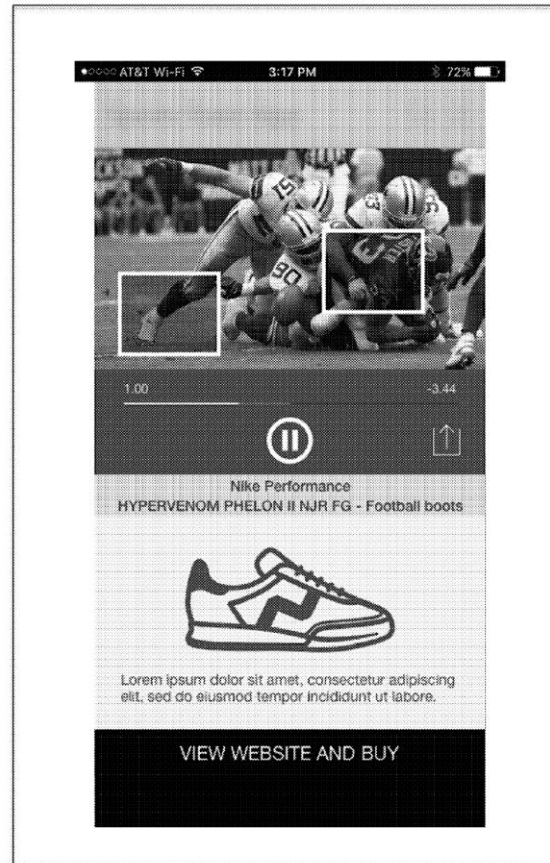


Fig. 49
Ohliger at Fig. 49.

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Fig. 50

Ohliger at Fig. 50.

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FIG. 53B

Ohliger at Fig. 53B.

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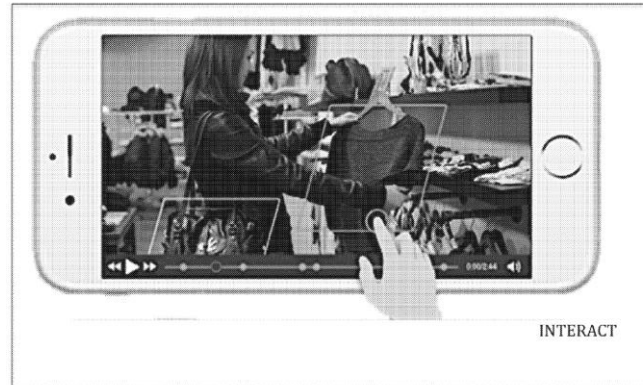


FIG. 53D

Ohliger at Fig. 53D.

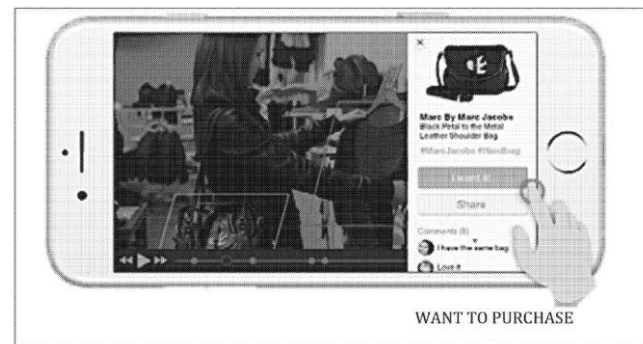


FIG. 53E

Ohliger at Fig. 53E.

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		 <p style="text-align: center;">FIG. 53F</p> <p>Ohliger at Fig. 53F.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
1[b][iii]	iii. tracking the one or more items, services, or songs of interest through the one or more frames of the video media; and	<p>Ohliger discloses “tracking the one or more items, services, or songs of interest through the one or more frames of the video media; and” See e.g.:</p> <p>“The present invention is a system 100 for automatically segmenting video into video objects, classifying the video objects either automatically or by the creator of the video, assembling a database of the classified video objects, defining region definition data representing each video object on an interactive layer, auctioning</p>

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		<p>the rights to a hyperlink that is either displayed or associated with a button that appears when an object is interacted with by a viewer of the video, or that is connected directly to the object so that when a viewer clicks or touches the object while watching the video they are directed to a website or other content that the hyperlink is pointing to. Allowing the creator of the video to associate comments, pictures, audio, hyperlinks, and other content with interactive areas around objects in their videos. Allowing viewers of the video to interact with objects in the video by clicking or touching areas around objects in the video, and further allowing viewers to comment about those objects, share those objects by way of the internet or social media, and purchase those objects, or other objects associated with the objects by way of the previously mentioned hyperlinks. These hyperlinks associated with video objects are auctioned on a video object hyperlink exchange (hereinafter “VOHE”) 300, and creating a video overlay with region definition data linking relevant content with the video content objects and thereby creating an interactive video. The creator of the video is reimbursed for the content by receiving a mutually agreed to percentage of the profits generated by the auction of the hyperlinks within the creators content. The region is a portion of the video frame which is congruent with the underlying video object. The region definition data defines such portion of the video frame. The system 100 of the present invention consists of several distinct yet related components.</p> <p>One aspect of the invention relates to the creation of an inventory of video objects and corresponding region definition data. The video object inventory 114 is a database containing region definition data in form of pointers or references to video objects within video or animation files. Importantly, the region definition data is used to make the video interactive by providing the ability to link supplemental information with a specific video object within a video. For example, the video viewer can select a shirt displayed within the video and learn the brand and model of the shirt and other relevant information. Further, the viewer can also see comments, pictures, audio, and other content associated with the object by the creator of the video. The invention associates the relevant information with the video object thereby making the object a selectable hyperlink, meaning that the viewer can click or touch the object in any frame of</p>
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		<p>the video in which the object appears and the related content will be revealed.” Ohliger at 8:58-9:41.</p> <p>“The present invention segments video and animation content into its objects and stores, region definition data such as shape, x, y, and temporal coordinates, or in the case of volumetric video or volumetric animation, the invention stores shape, x, y, z, and temporal coordinates. The term “temporal coordinate” refers to time, video frame or the like. Further, the term “video frame” is intended to convey an instantaneous (still) image frame of the video or animation at a particular time (location within the video stream). All of these coordinates are necessary to specify the video objects within a frame at a given moment in time.</p> <p>An object of the present invention is to take conventional video content analysis technology (computer vision algorithms, object tracking algorithms) such as currently used to identify a person within a crowd, or identify/inspect a widget on a conveyor belt and apply it to the field of marketing communication, advertising and commerce transaction. More particularly, it is an object of the invention to identify video objects of interest within video and animations. The identified video objects or content objects may be used to populate a video content inventory 114 used in a hyperlink exchange. Moreover, video may be activated or made interactive using region definition data linking video objects with relevant content.</p> <p>The method of the present invention should be understood to include both motion picture and object based animation. Hereinafter reference to video should therefore be understood to include both motion picture and object based animation.</p> <p>FIG. 1 is a high-level flow diagram of the method of a first embodiment of the present invention.</p> <p>In steps 700 and 710 a video is segmented and classified using an automated or manual segmentation and classification application to create a list or table of objects. The segmentation process 700 yields a list of video objects throughout the video (including the temporal coordinates and region definition date for each object) and the classification process 710 matches occurrences of the same object</p>
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	<p>in different frames of the video thereby eliminating duplication/redundancy. It should be noted that the location, size and shape of a video object can and usually will vary throughout a video. The size of an object varies depending on its proximity which will vary as the object moves throughout the video. Similarly, the shape of an object may vary depending on the perspective or vantage point from which it is seen, e.g. frontal view versus side view. Moreover, the system of the invention is able to segment, track and classify a moving object. Thus the location of the video object dynamically changes as the underlying object moves, which is represented in the region definition data.</p> <p>In step 720, the video objects are compared with objects in an object library, which may be 2D (two-dimensional) or 3D (three-dimensional) wire frame data representing objects within the video. Perspective views from such 2D/3D wire frame models may be advantageous to the automatic object recognition process. This step is optional. If a match is detected then the object is associated with the product description and/or meta-data from the object library. The unmatched video object may be discarded or subjected to a secondary processing application and/or an analyst may manually identify/configure the object boundaries (step 730), and then the object may be subject to another classification step (710) and/or another comparison with objects in the object library (720). The creator of the video can also choose which objects they want to make interactive (705) and they can identify those objects with a dynamic bounding area that will change size proportionate to the change in size of the object from frame to frame as it is tracked by an object tracking algorithm. The creator can also describe, comment and add additional content to an object in the video that they have chosen to make interactive (715). This content will appear to a viewer when they interact with the bounding area around the object in any frame that the object appears by clicking, hovering over, or touching any point within the bounding area.” Ohliger at 11:21-12:28.</p> <p>“In step 740, the video objects are published to the market exchange and subject to an automated auction process. The auction allows retailers, brands, and affiliates/advertisers to bid for the right to assign a hyperlink to a video object that takes a viewer of the video who has interacted with that object to a website where</p>
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		<p>that object or any object the winning bidder chooses can be purchased, or to any other content the winning bidder would like to associate with that object. In step 745 a video overlay is created which links the video object with the winning bidders provided content, and in step 750 the video overlay with region definition data is transmitted to the video broadcaster 120.” Ohliger at 12:29-41.</p> <p>“In step 760, a video viewer interacts with the video overlay by rolling-over or selecting a video region thereby triggering the display of relevant content associated with the video object. It should be appreciated that rolling over may illicit the display of different relevant content than that displayed when the object is selected. For example, selecting an object may trigger more detailed information than that displayed when the object is simply rolled-over with the pointing device.</p> <p>In step 770 (optional), the VOHE 300 records the viewer interaction with the video objects and updates the viewer's behavioral profile. It should be noted that the video viewer's interactions with the video overlay (and the video objects) generally triggers the display of relevant content from the VOHE 300. This enables the content associated with a video object to be updated on-the-fly without the need to alter the video overlay. The video overlay makes the video interactive by making video regions selectable, the content comes from the object database that stores information submitted from the creator of the video as well as comments by viewers, in addition, content also comes from the VOHE 300 in the form of hyperlinks supplied by the winning bidders.” Ohliger at 12:42-63.</p> <p>“In motion picture media, video content analysis technologies are used to identify objects based on size, shape, color, color density etc. The present invention is not limited to any particular method for identifying content objects within video and several different methods are discussed in detail below. Analysts or video creators may manually train the segmentation application 106 to recognize an object by, for example, tracing the outline of a video object or the system may present patterns of content objects it found by statistical pattern recognition.</p> <p>A video content analysis or video analytics application 106 which is explained below in further detail automatically detects additional occurrences of the</p>
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	<p>identified object in the video. If desired, the video content analysis application 106 may search the internet for occurrences of identified object. The video content analysis application 106 may be provided with an object information library 112 containing 2D/3D wire frame models or characteristics for identifying one or more pre-defined objects from one or more differing perspectives, or the video content analysis application 106 may be provided with heuristics for identifying objects. For each identified occurrence of an object, the VOHE 300 stores information for identifying the frame (temporal coordinate) and region definition data (location within the frame, e.g. x, y, and z coordinates) in which the object appears. Using the region definition data, the VOHE 300 is able to dynamically track an object. It should be noted that the size, shape and location of the selectable region (hyperlink) corresponds to the size, shape, and location of the underlying object.” Ohliger at 13:12-40.</p> <p>“It should be understood that the term automatic as used herein refers to actions which take place without human intervention. In other words, the auction is initiated by the VOHE 300 simply by the addition of new content to the inventory 114 or the expiration of previously auctioned rights etc. The VOHE 300 can automatically segments video files and automatically classifies the video objects. The retailers/brands/affiliates/advertisers server may include an automated bidding application (software) which automatically submits bids to the VOHE 300, also known as an algorithm. Also, as will be explained below, the processing of video to create activated video objects, and the addition of such video objects to the inventory may itself occur without human intervention. Thus, the VOHE 300 may according to some embodiments be a fully automated system. The only requirement for the system to run fully automatically is a preprocessed database 112 with images of objects from different viewing angles or 3D wire frame models of the objects with object descriptions and/or access to the internet to search for additional images of objects.” Ohliger at 15:6-26.</p> <p>“According to one refinement of the invention the outline of each region dynamically changes in the sequence of frames to match changes in at least one of</p>
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		<p>the perspective and the size and the angle of view in which the corresponding video object is shown in the sequence of frames.</p> <p>According to one refinement of the invention the outline around the interactive video objects can be a box, a circle, a halo effect, any other shape or effect or no affect at all. This can be chosen by the creator of the video, or it can be chosen by the viewer, or it can be an automatic default setting.</p> <p>According to one refinement of the invention, region definition data is used to define a plurality of active regions for interactive video viewing.</p> <p>According to one refinement of the invention, the frames are shown to a user on a display as a video, and the region definition data is used to determine whether a user action directed to a location of at least one of these frame addresses one of the active regions.</p> <p>According to one refinement of the invention, in response to a determination that the user action addresses a certain active region, additional information is presented to the user, the additional information pertaining to the video object that corresponds to the certain active region.</p> <p>According to one refinement of the invention, the region definition data for at least one region includes a three-dimensional wireframe representation of the video object that corresponds to the region.</p> <p>According to one refinement of the invention, the region definition data for the region further contains, for at least one frame of the sequence of frames in which the corresponding video object is shown, data defining a perspective view of the three-dimensional wireframe representation, the outline of the perspective view of the three dimensional wireframe representation defines the outline of the region for the frame.</p> <p>According to one refinement of the invention, the region definition data for the region further contains, for at least one pair of frames of the sequence of frames in which the corresponding video object is shown, data defining a change of the three dimensional wireframe representation between the frames of the pair of frames.</p> <p>According to one refinement of the invention, the three-dimensional wireframe representation includes a plurality of nodes, and the data defining the change</p>
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		<p>includes data that defines a displacement of a position of at least one node with respect to at least another node.</p> <p>According to one refinement of the invention, the data defining the change includes data that defines a change in at least one of the size and spatial orientation of the 3D wireframe representation.</p> <p>The video content analysis application 106 may access an object information library 112 which is a database stored on or accessible to server 300. For example, the object information library 112 may be stored on a memory device such as memory device 206 and/or RAM 210 used to store the program instructions for the video content analysis application 106. The library 112 stores images of objects from different viewing angles or 3D models of the objects. The image information may be used as the index or key to link descriptive information with the video object. The library 112 further contains one or more of an object identifier, label, and or meta-data description of the video object which may be used to describe the video content object to prospective bidders.</p> <p>Alternatively, the content analysis application 106 may utilize logic to identify video content objects without recourse to object information library 112.</p> <p>Applicant hereby incorporates by reference to U.S. Pat. No. 6,625,310 entitled “Video segmentation using statistical pixel modeling” which discloses one of many methods for segmenting video data into foreground and background portions which utilizes statistical modeling of the pixels. A statistical model of the background is built for each pixel, and each pixel in an incoming video frame is compared with the background statistical model for that pixel. Pixels are determined to be foreground or background based on the comparisons.</p> <p>Applicant hereby incorporates by reference to U.S. Pat. No. 6,462,754 entitled “Method and apparatus for authoring and linking video documents” which discloses an authoring method for video documents, involves creating anchorable information unit file based on boundaries of objects of interest such that objects interest are used to identify portions of video data.</p> <p>Applicant hereby incorporates by reference to U.S. Pat. No. 7,325,245 entitled “Linking to video information” which discloses a system which enables dynamic linking between a variety of video formats including television broadcasts, web pages, and video displays which are stored on magnetic or optical media. Each</p>
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		<p>frame of the video information is identified together with a plurality of locations within that frame. The locations selected by the user, for example using a pointing device, are then used to access associated information either within the system itself or on an external system.</p> <p>U.S. Patent Publication 2008/0294694 (Maghfourian) entitled “Method, apparatus, system, medium, and signals for producing interactive video content,” which is incorporated herein by reference, discloses a method for producing interactive video content on a content publisher computer. The method involves associating indicia with at least one image portion in the video content, the indicia being operably configured to follow the at least one image portion as a display position of the image portion changes in the video content. The method also involves associating an image portion identifier with the indicia, and associating link properties with the indicia, the link properties being operable to cause transmission of a content location request to a registration server in response to selection of the indicia by a viewer of the interactive video content. The content location request includes the image portion identifier.</p> <p>In case of a manual or semi-automated process, the inventory 114 may be created by the content analysis application 106 with the assistance and/or review of a human analyst 110 who may be the creator of the video. The analyst 110 may manually identify a given instance of a video object by, for example, viewing a still image of the video and tracing the video object (manual process), and then utilize the content analysis application 106 (semi-automated process) to identify other occurrences of the video object in the video. Additionally or alternatively, an analyst 110 may review and refine the boundaries of an unmatched video object, and then subject the object to a second round of classification and/or second round of matching the object with objects in the object library. Alternatively, the analyst 110 may review and edit objects which were automatically identified by the content analysis application 106.” Ohliger at 16:45-18:38.</p> <p>“It is important to note that the video objects are used to create selectable regions (hyperlinks) which dynamically track the movement, size and position of the object throughout the video.</p>
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		<p>3D Rotoscoping</p> <p>FIG. 12 is a high level flow diagram for 3-dimensional rotoscoping. The process begins in step 1200 with selecting a given video object.</p> <p>If only one perspective of the video object is available (step 1202A) in the video then a two-dimensional wire frame of the video object is created. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in a video object database (such as object information library 112 (step 1208).</p> <p>If additional perspectives for the video object subsequently become available (step 1202B) then a three-dimensional (3D) wire frame is created (step 1206) or the new perspectives are used to update the existing three-dimensional wireframe. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in the video object database (step 1208).</p> <p>In step 1210 the user (video consumer) is presented with viewing options such as rotating of the object or zoom. It is also possible to “replace” video objects (step 1212) in the video by superimposing a modified or new animated object including light and shadows of surrounding video objects over the existing video object. For example, an obscured appearance of a video object such as a can of Pepsi® can be replaced (superimposed) with an animated object (3-dimensional wireframe of the object) without the need to re-shoot the video. It is even possible to superimpose an animated object (3-dimensional wireframe of the object) of a can of Coca-Cola® over the can of Pepsi.</p> <p>The present invention further includes a system for making an interactive overlay for a video. The system includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server includes one or more video files stored in a video database. The system further includes object inventory database 112 stored on the server 300 and containing information describing a location (size, shape, orientation) of at least one video object within one of the video files. The object inventory database 112 may be compiled using any of the systems or methods disclosed in this specification or equivalents thereof. An overlay generation application (software or firmware) is stored and executed on the server 300. The overlay</p>
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		<p>generation application creates a video overlay including at least one selectable hyperlink whose shape and position (coordinates) track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. In some cases the overlay is transparent; however, as will be explained below in some cases the overlay may include animated representations of video objects which are superimposed over and replace/obscure the underlying video object. The system may optionally include a wireframe database 112A stored on the server 300 or the wireframe database may be included within the object inventory database 112 or any other database stored on the server. The wire frame database 112A stores three-dimensional wireframe representations of at least one video object.</p> <p>The overlay generation application may optionally match occurrences of video objects in the object inventory library with three-dimensional wireframe representations of the video object (stored in the wireframe library database or the object inventory database) and create a video overlay including matched wire frame representations wherein the shape and position of the wireframe representation tracks a dynamic location of the video object in the video. In other words, the wireframe representation of the object is superimposed over the corresponding video object. The superimposed wireframe representation obscures (replaces) the video object.</p> <p>The wire frame library database 112A may optionally include a lighting model which defines/specifies the light distribution on the video object. For each occurrence of a video object in a video frame the lighting model would define/specify the light distribution on the video object.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database 112 stored on (or accessible by) the server and containing information describing a location of at least one video object within one of the video files. The system includes a wireframe database</p>
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		<p>stored on (or accessible by) the server, the wireframe database storing three-dimensional wireframe representations of at least one video object; and an overlay generation application (software or firmware) executed on the server. The overlay generation application matches occurrences of video objects in the object inventory library with corresponding three-dimensional wireframe representations of the video object and creates a video overlay including matched wireframe representations of the video object wherein the shape and position (coordinates) of the wireframe representation track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database stored on the server and containing information describing coordinates of at least one video object within one of the video files. The system further includes a wireframe database stored on the server, the wireframe database stores three-dimensional wireframe representations of at least one video object. A wireframe generation application (software or firmware) executed on the server selects video objects from the video object inventory database and generates a three-dimensional wire frame of the selected video object from multiple perspective occurrences of the video object in the video file and stores the three-dimensional wireframe in the wireframe database. The wireframe generation application may optionally generate a lighting model for each occurrence of a video object in a video frame from light distribution on the video object.</p> <p>The system may further include an overlay generation application (software or firmware) executed on the server which matches occurrences of video objects in the object inventory library 112 with corresponding three-dimensional wire frame representations stored in the wire frame library 112A. The overlay generation</p>
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		<p>application creates a video overlay including matched wireframe representations of the video objects wherein the shape and position of the wireframe representation tracks the dynamic location of the video object in the video. The overlay generation application stores the overlay on the server. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>The creation of three-dimensional wire frames and lighting models is well known in the art and is disclosed in the following U.S. patents whose disclosure are hereby incorporated by reference: U.S. Pat. No. 7,602,404 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,983,082 entitled Reality-based light environment for digital imaging in motion pictures; U.S. Pat. No. 6,954,202 entitled Image-based methods of representation and rendering of three dimensional object and animated three-dimensional object; U.S. Pat. No. 6,919,962 entitled Reflectometry apparatus and method; U.S. Pat. No. 6,858,826 entitled Method and apparatus for scanning three-dimensional objects; U.S. Pat. No. 6,685,326 entitled Realistic scene lighting simulation; U.S. Pat. No. 6,628,298 entitled Apparatus and method for rendering synthetic objects into real scenes using measurements of scene illumination; U.S. Pat. No. 6,529,206 entitled Image processing apparatus and method, and medium therefore; U.S. Pat. No. 6,504,546 entitled Method of modeling objects to synthesize three-dimensional, photo-realistic animations; U.S. Pat. No. 6,434,265 entitled Aligning rectilinear images in 3D through projective registration and calibration; U.S. Pat. No. 6,333,749 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,281,904 entitled Multi-source texture reconstruction and fusion; and U.S. Pat. No. 6,281,903 entitled Methods and apparatus for embedding 2D image content into 3D models.” Ohliger at 18:45-21:16.</p>
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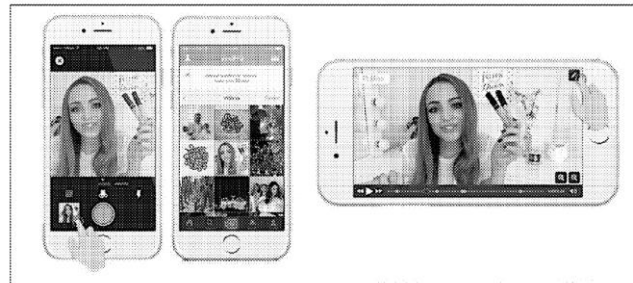
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Fig. 18
Shop VeePIO

Ohliger at Fig. 18.

Fig. 20
How to Veep



Ohliger at Fig. 20.

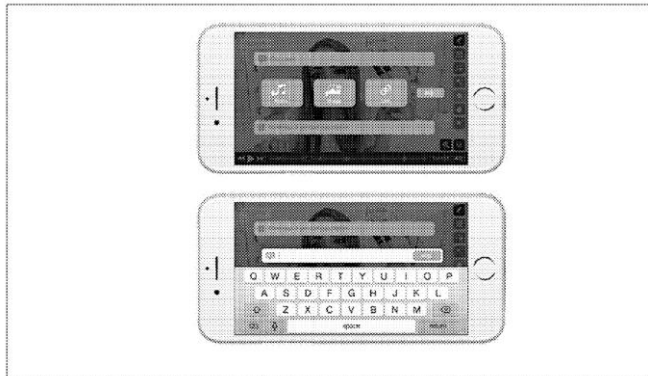
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Fig. 21
Veep Editing Room



Ohliger at Fig. 21.

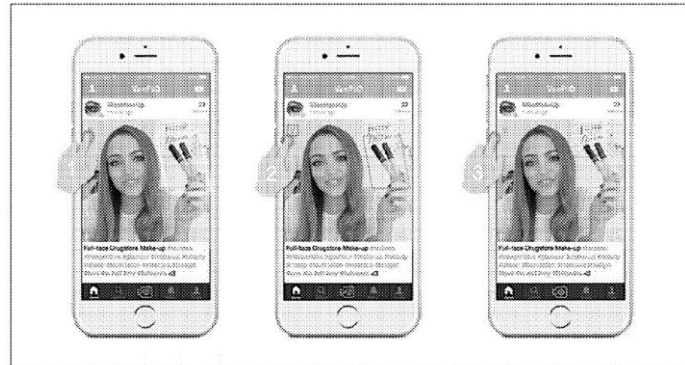
Fig. 22
Object Details



Ohliger at Fig. 21.

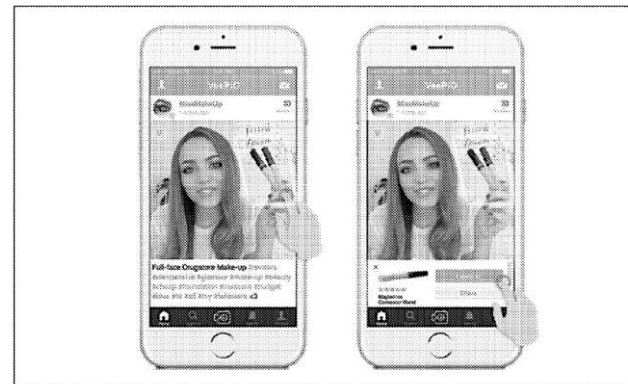
Exhibit 316-A13
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Fig. 23
"V"isibility



Ohliger at Fig. 23.

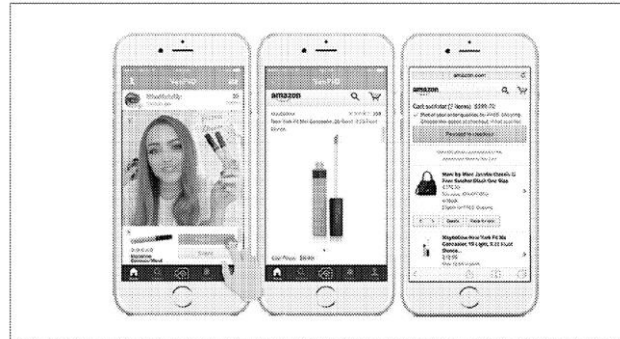
Fig. 24
I Want it!



Ohliger at Fig. 24.

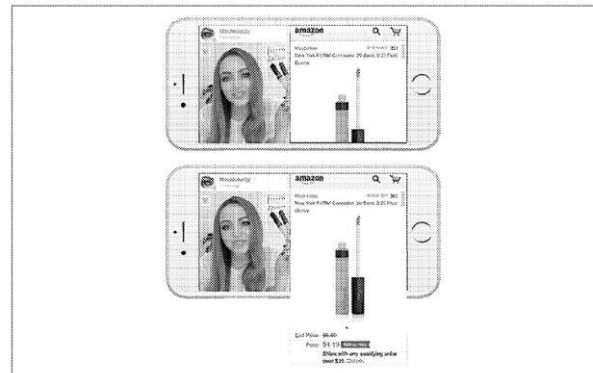
Exhibit 316-A13
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Fig. 25
I Want it! Continued



Ohliger at Fig. 25.

Fig. 28
Buy Via Split Screen



Ohliger at Fig. 28.

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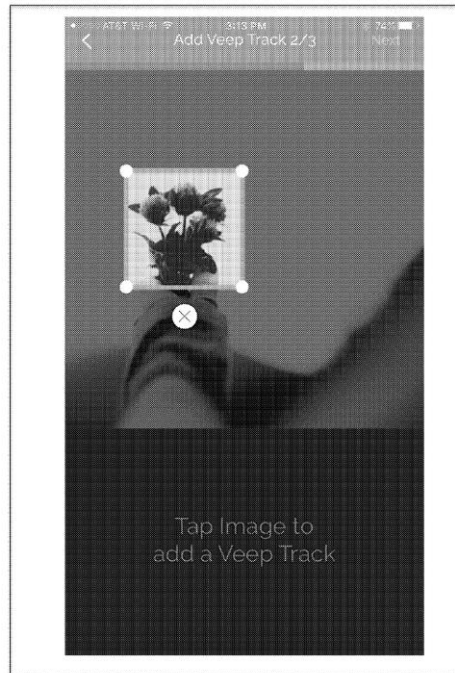


Fig. 38

Ohliger at Fig. 38.

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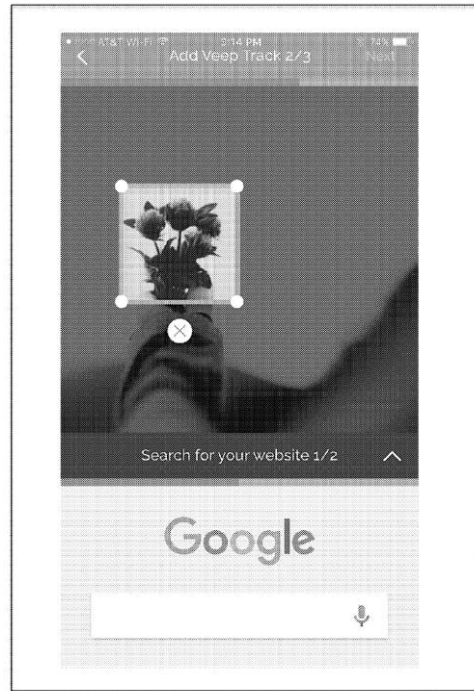


Fig. 39
Ohliger at Fig. 39.

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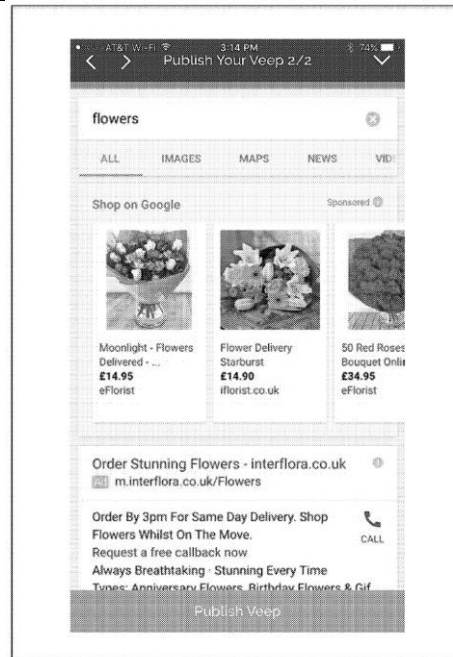


Fig. 41
Ohliger at Fig. 41.

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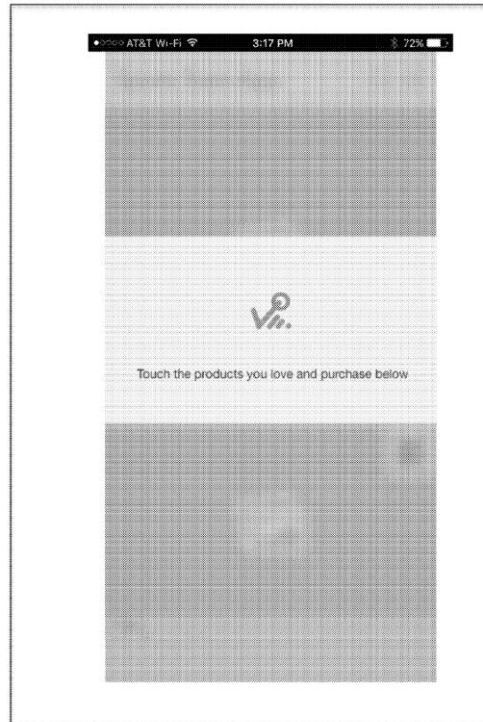


Fig. 46
'46 Patent at Fig. 46.

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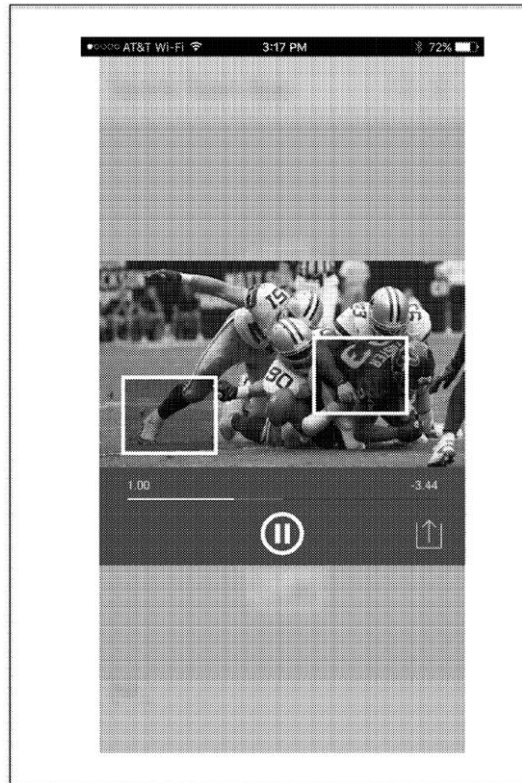


Fig. 48
Ohliger at Fig. 48.

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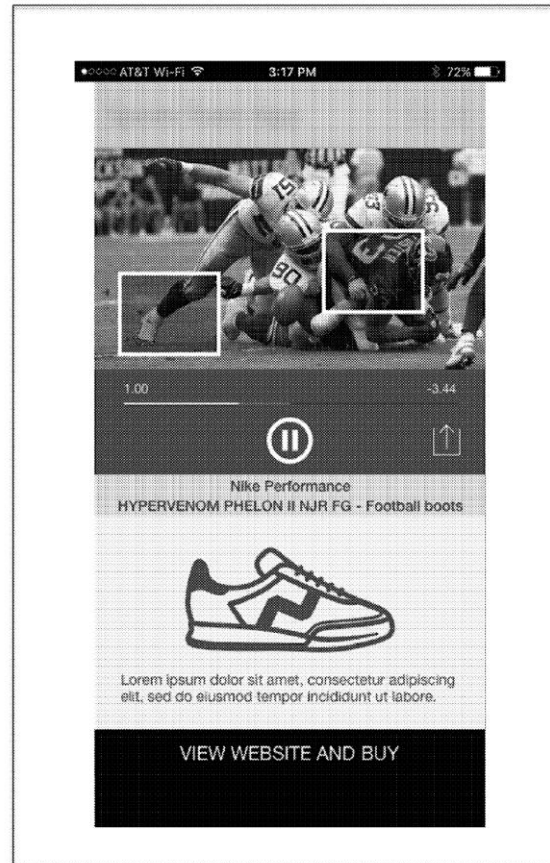


Fig. 49
Ohliger at Fig. 49.

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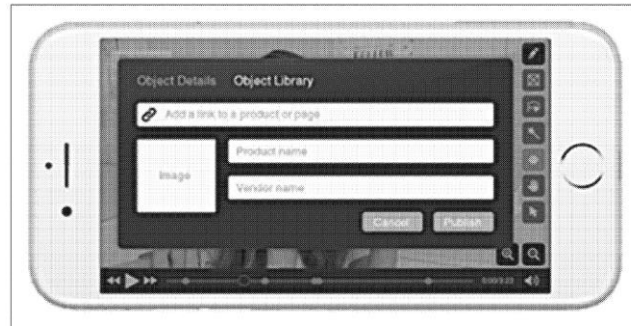


Fig. 50

Ohliger at Fig. 50.

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FIG. 53B

Ohliger at Fig. 53B.

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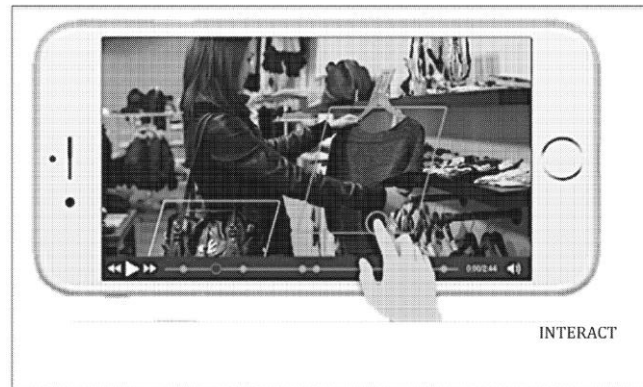


FIG. 53D

Ohliger at Fig. 53D.



FIG. 53E

Ohliger at Fig. 53E.

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		 <p style="text-align: center;">FIG. 53F</p> <p>Ohliger at Fig. 53F.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
1[b][iv]	iv. assigning a selectable visual indicator for each of the one or more items, services, or songs of interest, wherein the first interactive video layer is configured to display the selectable visual indicator;	<p>Ohliger discloses “assigning a selectable visual indicator for each of the one or more items, services, or songs of interest, wherein the first interactive video layer is configured to display the selectable visual indicator;” See e.g.:</p> <p>“A system is provided for identifying objects in video either automatically by using an object database or manually by using information provided by the creator of the video, making the objects interactive in every frame of the video</p>

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		<p>that they appear, allowing the creator to embed information behind the video objects that appears when a viewer hovers over, clicks or touches the object, allowing the creator to describe at least one object that appears in a video, associating a hyperlink with a clickable space around the object in every frame that the object appears in, and electronically auctioning the rights to the hyperlink and what data the hyperlink connects to. The system includes a video server communicating with a consumer server over a distributed network. The video server includes at least one video file, an object inventory database, and relevant content including associated hyperlinks in a database stored on or accessible to the video server. The object inventory database contains information describing a location of at least one video object within at least one video file and the hyperlink that is associated with the object. A video overlay links the relevant content with a given video object and creating a selectable hyperlink whose position tracks a dynamic location of the video object in the video. The consumer server includes a software application for accessing and displaying at least one video file stored in the video database, the software application including means for interacting with the video overlay to select an object displayed in the video file.</p> <p>More specifically, a system is disclosed for viewing video having segmented video objects. The system includes a video server including a computer or mobile device connectable to a distributed network and having a processor, random access memory, read-only memory, and mass storage memory. At least one video file is stored in a video database on or accessible to the video server. An object inventory database is stored on or accessible to the video server, the object inventory database containing information describing a location of at least one video object within the at least one video file. Object description content is stored in a database stored on or accessible to the video server. A video overlay links the object description content with a given video object and creating a selectable hyperlink whose position tracks a dynamic location of the video object in the video, wherein the video overlay is adapted to allow a consumer to interact with the video overlay to select an object displayed in the video file and be displayed content related to the object that has been added by the creator of the video, and/or content that has been added automatically by the system, or content that</p>
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		<p>has been added a viewer or viewers of the video. The system also allows a viewer to click a button that has a hyperlink associated with it that takes the viewer to an online store where a product or products associated with the object in the video can be purchased. The viewer also has the ability to add the selected object to a collection of objects. The viewer also has the ability to share a hyperlink directly associated with the video and the object with other people over a social network, email, the internet, mobile messaging and any other commonly used electronic forms of communication.” Ohliger at 3:9-67.</p> <p>“In step 720, the video objects are compared with objects in an object library, which may be 2D (two-dimensional) or 3D (three-dimensional) wire frame data representing objects within the video. Perspective views from such 2D/3D wire frame models may be advantageous to the automatic object recognition process. This step is optional. If a match is detected then the object is associated with the product description and/or meta-data from the object library. The unmatched video object may be discarded or subjected to a secondary processing application and/or an analyst may manually identify/configure the object boundaries (step 730), and then the object may be subject to another classification step (710) and/or another comparison with objects in the object library (720). The creator of the video can also choose which objects they want to make interactive (705) and they can identify those objects with a dynamic bounding area that will change size proportionate to the change in size of the object from frame to frame as it is tracked by an object tracking algorithm. The creator can also describe, comment and add additional content to an object in the video that they have chosen to make interactive (715). This content will appear to a viewer when they interact with the bounding area around the object in any frame that the object appears by clicking, hovering over, or touching any point within the bounding area.</p> <p>In step 740, the video objects are published to the market exchange and subject to an automated auction process. The auction allows retailers, brands, and affiliates/advertisers to bid for the right to assign a hyperlink to a video object that takes a viewer of the video who has interacted with that object to a website where that object or any object the winning bidder chooses can be purchased, or to any other content the winning bidder would like to associate with that object.</p>
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		<p>In step 745 a video overlay is created which links the video object with the winning bidders provided content, and in step 750 the video overlay with region definition data is transmitted to the video broadcaster 120.</p> <p>In step 760, a video viewer interacts with the video overlay by rolling-over or selecting a video region thereby triggering the display of relevant content associated with the video object. It should be appreciated that rolling over may illicit the display of different relevant content than that displayed when the object is selected. For example, selecting an object may trigger more detailed information than that displayed when the object is simply rolled-over with the pointing device.</p> <p>In step 770 (optional), the VOHE 300 records the viewer interaction with the video objects and updates the viewer's behavioral profile. It should be noted that the video viewer's interactions with the video overlay (and the video objects) generally triggers the display of relevant content from the VOHE 300. This enables the content associated with a video object to be updated on-the-fly without the need to alter the video overlay. The video overlay makes the video interactive by making video regions selectable, the content comes from the object database that stores information submitted from the creator of the video as well as comments by viewers, in addition, content also comes from the VOHE 300 in the form of hyperlinks supplied by the winning bidders.</p> <p>In step 780 (optional), the VOHE 100 completes a sales transaction initiated by the viewer's interactions with the video region representing the video object. As will be explained below in further detail, the VOHE 300 may enable the viewer to complete a sales transaction by following the hyperlink provided by the winning bidder to an online retailer.” Ohliger at 12:4-13:3.</p> <p>“It is important to note that the video objects are used to create selectable regions (hyperlinks) which dynamically track the movement, size and position of the object throughout the video.</p> <p>3D Rotoscoping</p> <p>FIG. 12 is a high level flow diagram for 3-dimensional rotoscoping. The process begins in step 1200 with selecting a given video object.</p>
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		<p>If only one perspective of the video object is available (step 1202A) in the video then a two-dimensional wire frame of the video object is created. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in a video object database (such as object information library 112 (step 1208).</p> <p>If additional perspectives for the video object subsequently become available (step 1202B) then a three-dimensional (3D) wire frame is created (step 1206) or the new perspectives are used to update the existing three-dimensional wireframe. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in the video object database (step 1208).</p> <p>In step 1210 the user (video consumer) is presented with viewing options such as rotating of the object or zoom. It is also possible to “replace” video objects (step 1212) in the video by superimposing a modified or new animated object including light and shadows of surrounding video objects over the existing video object. For example, an obscured appearance of a video object such as a can of Pepsi® can be replaced (superimposed) with an animated object (3-dimensional wireframe of the object) without the need to re-shoot the video. It is even possible to superimpose an animated object (3-dimensional wireframe of the object) of a can of Coca-Cola® over the can of Pepsi.</p> <p>The present invention further includes a system for making an interactive overlay for a video. The system includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server includes one or more video files stored in a video database. The system further includes object inventory database 112 stored on the server 300 and containing information describing a location (size, shape, orientation) of at least one video object within one of the video files. The object inventory database 112 may be compiled using any of the systems or methods disclosed in this specification or equivalents thereof. An overlay generation application (software or firmware) is stored and executed on the server 300. The overlay generation application creates a video overlay including at least one selectable hyperlink whose shape and position (coordinates) track a dynamic location of the video object in the video. The system stores the overlay on the server. As</p>
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		<p>explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. In some cases the overlay is transparent; however, as will be explained below in some cases the overlay may include animated representations of video objects which are superimposed over and replace/obscure the underlying video object. The system may optionally include a wireframe database 112A stored on the server 300 or the wireframe database may be included within the object inventory database 112 or any other database stored on the server. The wire frame database 112A stores three-dimensional wireframe representations of at least one video object.</p> <p>The overlay generation application may optionally match occurrences of video objects in the object inventory library with three-dimensional wireframe representations of the video object (stored in the wireframe library database or the object inventory database) and create a video overlay including matched wire frame representations wherein the shape and position of the wireframe representation tracks a dynamic location of the video object in the video. In other words, the wireframe representation of the object is superimposed over the corresponding video object. The superimposed wireframe representation obscures (replaces) the video object.</p> <p>The wire frame library database 112A may optionally include a lighting model which defines/specifies the light distribution on the video object. For each occurrence of a video object in a video frame the lighting model would define/specify the light distribution on the video object.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database 112 stored on (or accessible by) the server and containing information describing a location of at least one video object within one of the video files. The system includes a wireframe database stored on (or accessible by) the server, the wireframe database storing three-dimensional wireframe representations of at least one video object; and an overlay generation application (software or firmware) executed on the server. The overlay</p>
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		<p>generation application matches occurrences of video objects in the object inventory library with corresponding three-dimensional wireframe representations of the video object and creates a video overlay including matched wireframe representations of the video object wherein the shape and position (coordinates) of the wireframe representation track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database stored on the server and containing information describing coordinates of at least one video object within one of the video files. The system further includes a wireframe database stored on the server, the wireframe database stores three-dimensional wireframe representations of at least one video object. A wireframe generation application (software or firmware) executed on the server selects video objects from the video object inventory database and generates a three-dimensional wire frame of the selected video object from multiple perspective occurrences of the video object in the video file and stores the three-dimensional wireframe in the wireframe database. The wireframe generation application may optionally generate a lighting model for each occurrence of a video object in a video frame from light distribution on the video object.</p> <p>The system may further include an overlay generation application (software or firmware) executed on the server which matches occurrences of video objects in the object inventory library 112 with corresponding three-dimensional wire frame representations stored in the wire frame library 112A. The overlay generation application creates a video overlay including matched wireframe representations of the video objects wherein the shape and position of the wireframe representation tracks the dynamic location of the video object in the video. The</p>
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		<p>overlay generation application stores the overlay on the server. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>The creation of three-dimensional wire frames and lighting models is well known in the art and is disclosed in the following U.S. patents whose disclosure are hereby incorporated by reference: U.S. Pat. No. 7,602,404 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,983,082 entitled Reality-based light environment for digital imaging in motion pictures; U.S. Pat. No. 6,954,202 entitled Image-based methods of representation and rendering of three dimensional object and animated three-dimensional object; U.S. Pat. No. 6,919,962 entitled Reflectometry apparatus and method; U.S. Pat. No. 6,858,826 entitled Method and apparatus for scanning three-dimensional objects; U.S. Pat. No. 6,685,326 entitled Realistic scene lighting simulation; U.S. Pat. No. 6,628,298 entitled Apparatus and method for rendering synthetic objects into real scenes using measurements of scene illumination; U.S. Pat. No. 6,529,206 entitled Image processing apparatus and method, and medium therefore; U.S. Pat. No. 6,504,546 entitled Method of modeling objects to synthesize three-dimensional, photo-realistic animations; U.S. Pat. No. 6,434,265 entitled Aligning rectilinear images in 3D through projective registration and calibration; U.S. Pat. No. 6,333,749 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,281,904 entitled Multi-source texture reconstruction and fusion; and U.S. Pat. No. 6,281,903 entitled Methods and apparatus for embedding 2D image content into 3D models.” Ohliger at 18:45-21:16.</p> <p>“In steps 608A and 608B the viewer is viewing the selected content (1700 in FIGS. 6A-6D) and encounters video objects of interest. According to one embodiment pointing at the frame by, e.g., bringing pointer 1701 of pointing device 218 into video frame 1703 (FIG. 6A) will cause the video to slow the video down, which allows the viewer to select an object. In the case of interactive TV or three-dimensional (3D) videos, the viewer can use a variety of pointing means including, but not limited to, a virtual pointer of the type popularized by the Nintendo Wii® which utilizes a glove or the like with sensors capable to</p>
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		<p>determine X, Y, and Z coordinates. In step 608A the viewer merely tags the objects of interest for later review (1702 and 1704 in FIGS. 6B and 6C), whereupon in step 610 the contextual advertising is once again refined (this time in relation to the objects of interest) and the behavioral profile (analytics database) of the viewer is updated. Steps 608A and 610 may be repeated any number of times during the viewing of the video. In step 612, the viewer reviews the list of tagged items from step 608A and either jumps back to the scenes in which the items appear (step 614A and 1704 in FIG. 6C) or learns more about the items selected, e.g., price, features etc (step 614B). In step 616 the viewer selects one or more objects (products) to purchase (from the tagged or identified objects), and in step 618 the viewer completes the transaction (1708 in FIG. 6D). Step 608B is an alternative to step 608A and presents the viewer with the option to immediately jump to 614 and learn more about the object. The information associated with the video object may be displayed as an overlay pop-up or in a field next the video player. Each time the viewer interacts with video objects his/her profile gets updated in the database.” Ohliger at 23:62-24:27.</p> <p>“To summarize, the first preferred embodiment provides a system and method for identifying objects in video either automatically by using an object database or manually by using information provided by the creator of the video, making the objects interactive in every frame of the video that they appear, allowing the creator to embed information behind the video objects that appears when a viewer hovers over, clicks or touches the object, allowing the creator to describe at least one object that appears in a video, associating a hyperlink with a clickable space around the object in every frame that the object appears in, and electronically auctioning the rights to the hyperlink and what data the hyperlink connects to. The system includes a video server communicating with a consumer server over a distributed network. The video server includes at least one video file, an object inventory database, and relevant content including associated hyperlinks in a database stored on or accessible to the video server. The object inventory database contains information describing a location of at least one video object within at least one video file and the hyperlink that is associated with the object. A video overlay links the relevant content with a given video object and creating a</p>
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selectable hyperlink whose position tracks a dynamic location of the video object in the video. The consumer server includes a software application for accessing and displaying at least one video file stored in the video database, the software application including means for interacting with the video overlay to select an object displayed in the video file.” Ohliger at 33:9-36.



Fig. 18
Shop VeePiO

Ohliger at Fig. 18.

Fig. 20
How to Veep

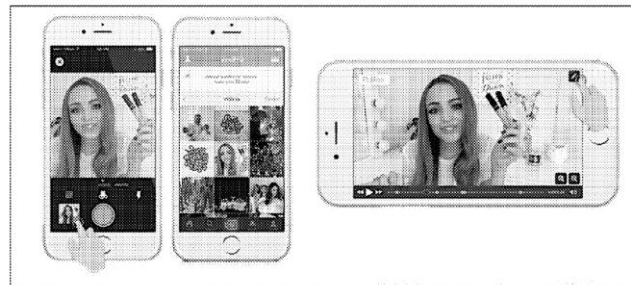
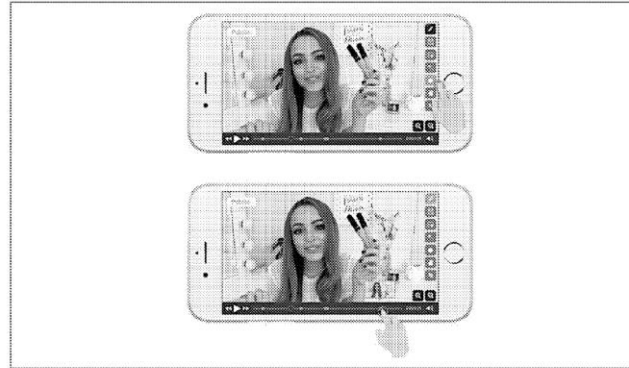


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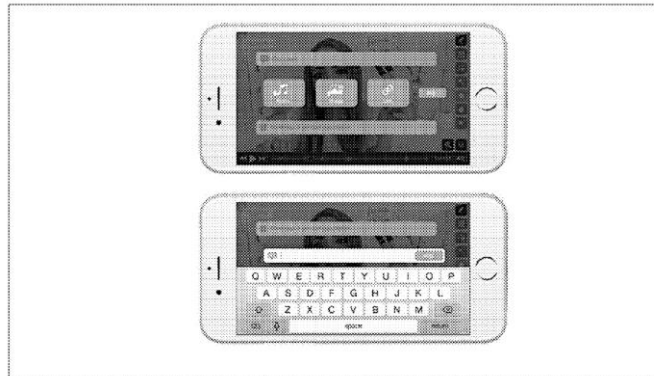
Ohliger at Fig. 20.

Fig. 21
Veep Editing Room



Ohliger at Fig. 21.

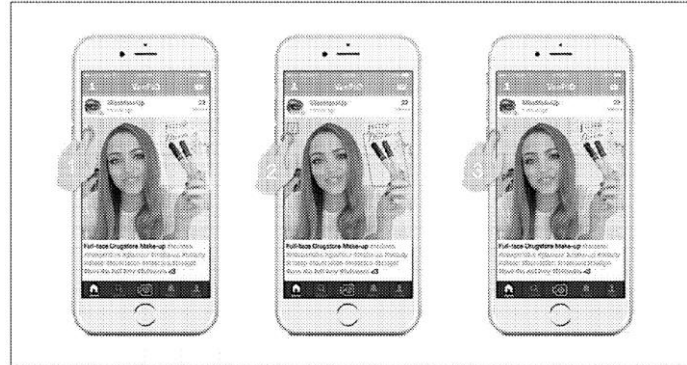
Fig. 22
Object Details



Ohliger at Fig. 21.

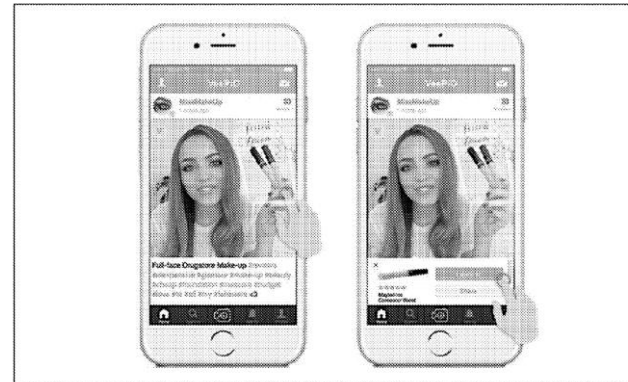
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Fig. 23
"V"isibility



Ohliger at Fig. 23.

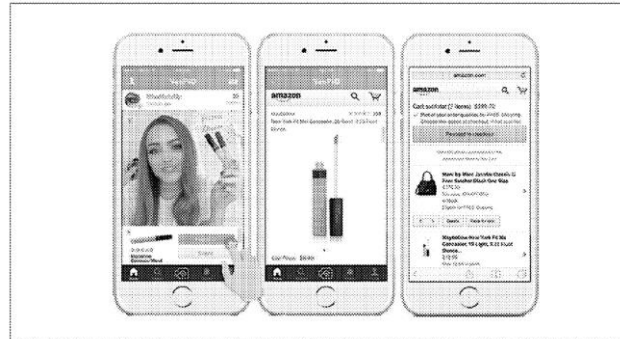
Fig. 24
I Want it!



Ohliger at Fig. 24.

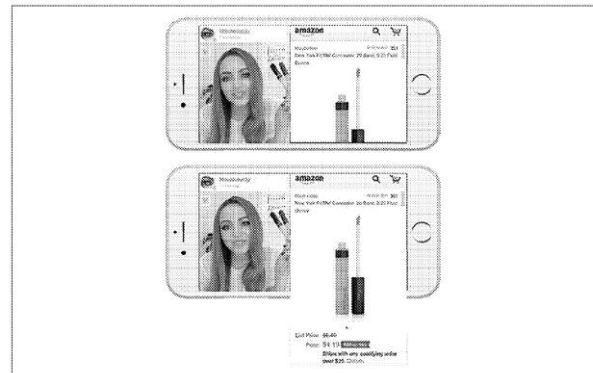
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Fig. 25
I Want it! Continued



Ohliger at Fig. 25.

Fig. 28
Buy Via Split Screen



Ohliger at Fig. 28.

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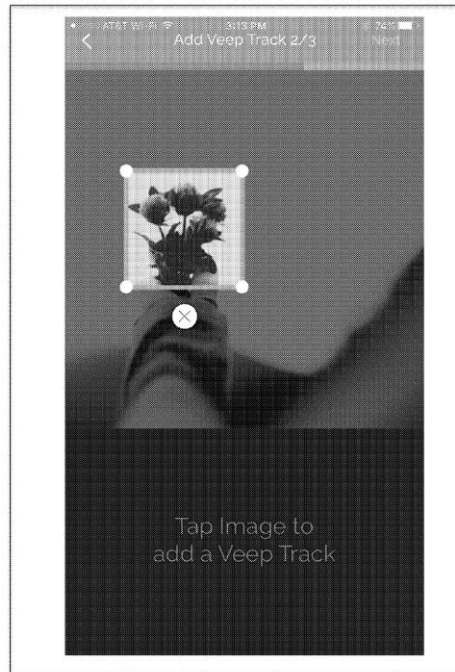


Fig. 38

Ohliger at Fig. 38.

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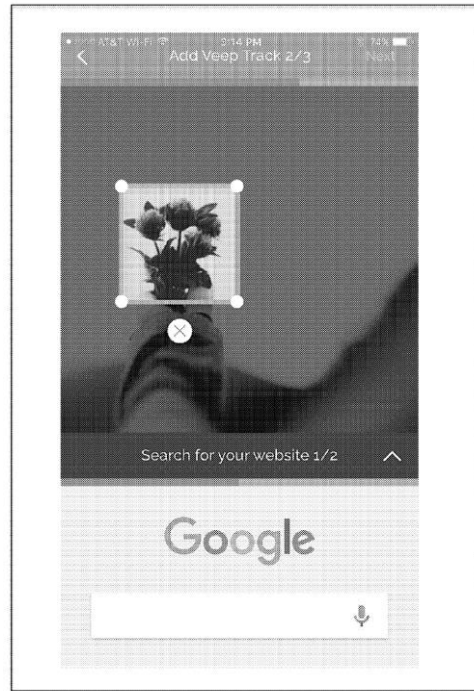


Fig. 39
Ohliger at Fig. 39.

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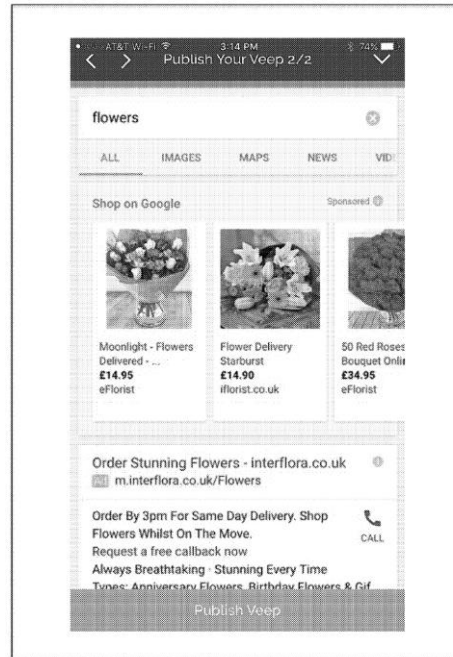


Fig. 41
Ohliger at Fig. 41.

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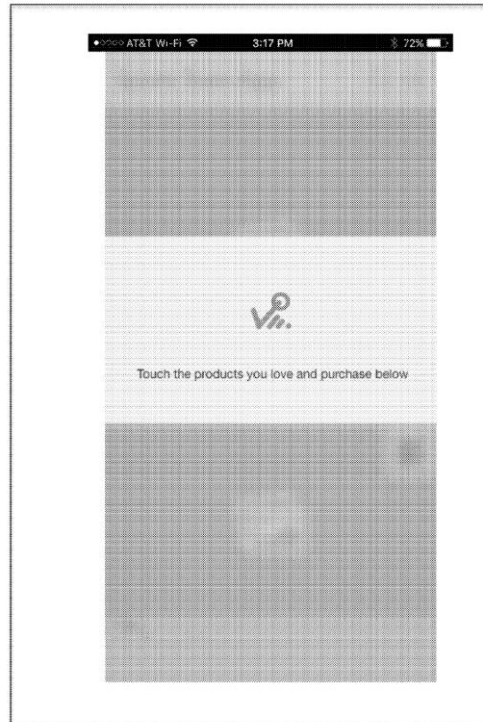


Fig. 46
'46 Patent at Fig. 46.

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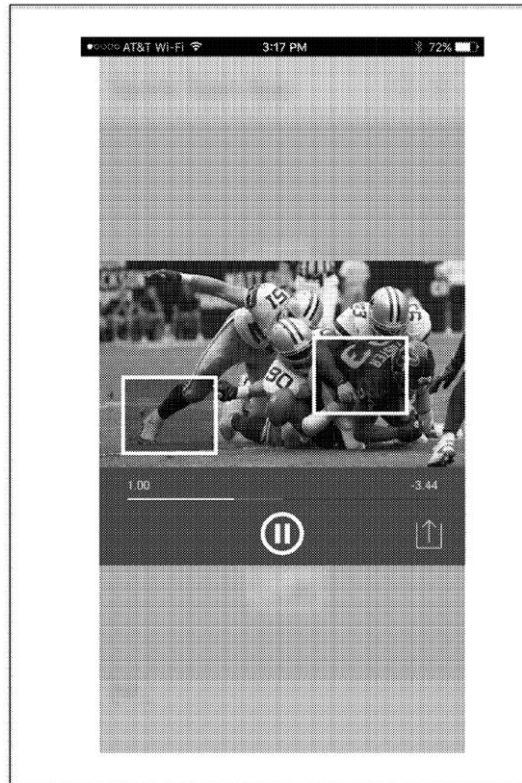


Fig. 48
Ohliger at Fig. 48.

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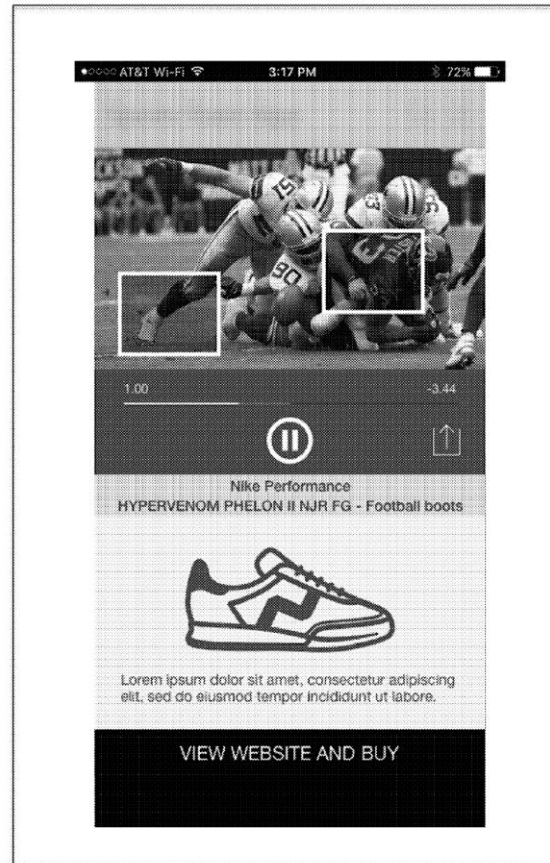


Fig. 49
Ohliger at Fig. 49.

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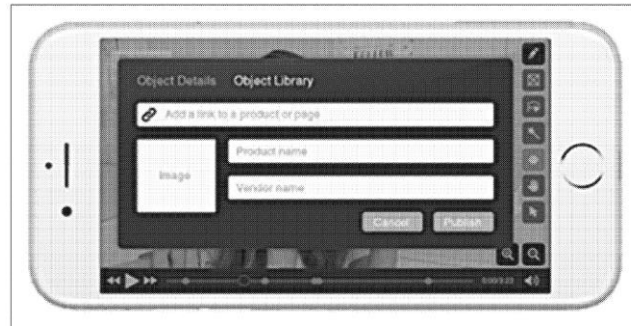


Fig. 50

Ohliger at Fig. 50.

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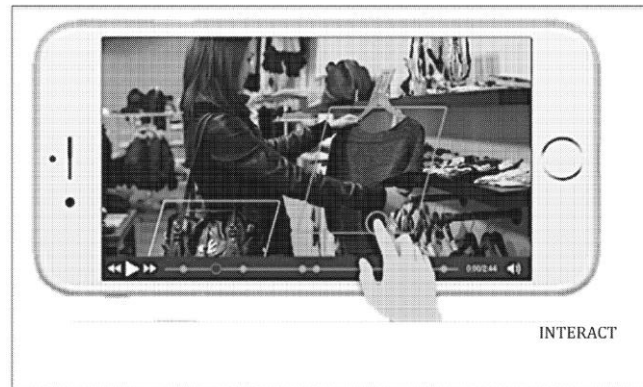


FIG. 53D

Ohliger at Fig. 53D.



FIG. 53E

Ohliger at Fig. 53E.

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		 <p style="text-align: center;">FIG. 53F</p> <p>Ohliger at Fig. 53F.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
1[c]	c) generating a video data comprising the video media, the first interactive video layer, and a second interactive video layer,	<p>Ohliger discloses “generating a video data comprising the video media, the first interactive video layer, and a second interactive video layer, ” See e.g.:</p> <p>“A further aspect of the invention relates to the creation of a video overlay which transforms “passive” video, e.g., video which you “passively” watch but with which you do not interact into interactive video where the viewer interacts with regions of the video by selecting, rolling over, pointing or touching at a region</p>

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	<p>within the video (with a pointing device such as a mouse or with a finger) thereby triggering the display of relevant content associated with the object.</p> <p>The use of hyperlinks within static media such as a website is well known. In video games and animations it is very common to click on objects. That is what makes it “interactive”. Rich or interactive media refers to communication media that facilitates active participation by the recipient, hence interactivity. Traditional information theory would describe interactive media as those media that establish two-way communication. The present invention takes advantage of the two-way communication capabilities for documenting and analyzing user interaction with video objects including sharing of video objects or collections of objects with their social network via social network services. The present invention includes the creation of user profiles, which entail the history of interaction and sharing of video objects, and targeting relevant content to users of specific profiles. These profiles furthermore act as criteria for VOHE participants when they place their bids.</p> <p>The invention also includes giving video viewers the ability to comment and communicate with each other and with the creator of the video in regards to a specific interactive object in the video. This is referred to as “sub-comments” and it differs from current comments on the internet and on social media in that sub-comments are accessed by viewers within the content related to the interaction of the viewer with a specific object within a video as opposed to comments that relate to the video as a whole.” Ohliger at 10:53-11:19.</p> <p>“It is important to note that the video objects are used to create selectable regions (hyperlinks) which dynamically track the movement, size and position of the object throughout the video.</p> <p>3D Rotoscoping</p> <p>FIG. 12 is a high level flow diagram for 3-dimensional rotoscoping. The process begins in step 1200 with selecting a given video object.</p> <p>If only one perspective of the video object is available (step 1202A) in the video then a two-dimensional wire frame of the video object is created. Additionally, a data model is created for light and shadows in the video frames in which the video</p>
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		<p>object appears. The wireframe is then stored in a video object database (such as object information library 112 (step 1208)).</p> <p>If additional perspectives for the video object subsequently become available (step 1202B) then a three-dimensional (3D) wire frame is created (step 1206) or the new perspectives are used to update the existing three-dimensional wireframe. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in the video object database (step 1208).</p> <p>In step 1210 the user (video consumer) is presented with viewing options such as rotating of the object or zoom. It is also possible to “replace” video objects (step 1212) in the video by superimposing a modified or new animated object including light and shadows of surrounding video objects over the existing video object. For example, an obscured appearance of a video object such as a can of Pepsi® can be replaced (superimposed) with an animated object (3-dimensional wireframe of the object) without the need to re-shoot the video. It is even possible to superimpose an animated object (3-dimensional wireframe of the object) of a can of Coca-Cola® over the can of Pepsi.</p> <p>The present invention further includes a system for making an interactive overlay for a video. The system includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server includes one or more video files stored in a video database. The system further includes object inventory database 112 stored on the server 300 and containing information describing a location (size, shape, orientation) of at least one video object within one of the video files. The object inventory database 112 may be compiled using any of the systems or methods disclosed in this specification or equivalents thereof. An overlay generation application (software or firmware) is stored and executed on the server 300. The overlay generation application creates a video overlay including at least one selectable hyperlink whose shape and position (coordinates) track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. In some cases the overlay is transparent; however, as will be explained below in</p>
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		<p>some cases the overlay may include animated representations of video objects which are superimposed over and replace/obscure the underlying video object. The system may optionally include a wireframe database 112A stored on the server 300 or the wireframe database may be included within the object inventory database 112 or any other database stored on the server. The wire frame database 112A stores three-dimensional wireframe representations of at least one video object.</p> <p>The overlay generation application may optionally match occurrences of video objects in the object inventory library with three-dimensional wireframe representations of the video object (stored in the wireframe library database or the object inventory database) and create a video overlay including matched wire frame representations wherein the shape and position of the wireframe representation tracks a dynamic location of the video object in the video. In other words, the wireframe representation of the object is superimposed over the corresponding video object. The superimposed wireframe representation obscures (replaces) the video object.</p> <p>The wire frame library database 112A may optionally include a lighting model which defines/specifies the light distribution on the video object. For each occurrence of a video object in a video frame the lighting model would define/specify the light distribution on the video object.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database 112 stored on (or accessible by) the server and containing information describing a location of at least one video object within one of the video files. The system includes a wireframe database stored on (or accessible by) the server, the wireframe database storing three-dimensional wireframe representations of at least one video object; and an overlay generation application (software or firmware) executed on the server. The overlay generation application matches occurrences of video objects in the object inventory library with corresponding three-dimensional wireframe representations of the video object and creates a video overlay including matched wireframe</p>
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		<p>representations of the video object wherein the shape and position (coordinates) of the wireframe representation track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database stored on the server and containing information describing coordinates of at least one video object within one of the video files. The system further includes a wireframe database stored on the server, the wireframe database stores three-dimensional wireframe representations of at least one video object. A wireframe generation application (software or firmware) executed on the server selects video objects from the video object inventory database and generates a three-dimensional wire frame of the selected video object from multiple perspective occurrences of the video object in the video file and stores the three-dimensional wireframe in the wireframe database. The wireframe generation application may optionally generate a lighting model for each occurrence of a video object in a video frame from light distribution on the video object.</p> <p>The system may further include an overlay generation application (software or firmware) executed on the server which matches occurrences of video objects in the object inventory library 112 with corresponding three-dimensional wire frame representations stored in the wire frame library 112A. The overlay generation application creates a video overlay including matched wireframe representations of the video objects wherein the shape and position of the wireframe representation tracks the dynamic location of the video object in the video. The overlay generation application stores the overlay on the server. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p>
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		<p>The creation of three-dimensional wire frames and lighting models is well known in the art and is disclosed in the following U.S. patents whose disclosure are hereby incorporated by reference: U.S. Pat. No. 7,602,404 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,983,082 entitled Reality-based light environment for digital imaging in motion pictures; U.S. Pat. No. 6,954,202 entitled Image-based methods of representation and rendering of three dimensional object and animated three-dimensional object; U.S. Pat. No. 6,919,962 entitled Reflectometry apparatus and method; U.S. Pat. No. 6,858,826 entitled Method and apparatus for scanning three-dimensional objects; U.S. Pat. No. 6,685,326 entitled Realistic scene lighting simulation; U.S. Pat. No. 6,628,298 entitled Apparatus and method for rendering synthetic objects into real scenes using measurements of scene illumination; U.S. Pat. No. 6,529,206 entitled Image processing apparatus and method, and medium therefore; U.S. Pat. No. 6,504,546 entitled Method of modeling objects to synthesize three-dimensional, photo-realistic animations; U.S. Pat. No. 6,434,265 entitled Aligning rectilinear images in 3D through projective registration and calibration; U.S. Pat. No. 6,333,749 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,281,904 entitled Multi-source texture reconstruction and fusion; and U.S. Pat. No. 6,281,903 entitled Methods and apparatus for embedding 2D image content into 3D models.” Ohliger at 18:45-21:16.</p> <p>“The viewer 124 uses a computer, mobile phone or another electronic device that connects to the internet or to a social network 400 (FIG. 3) to access the video content made available by broadcaster 120 on a web site or social network or application or the like accessible over a distributed network such as the Internet. Computer 400 includes a processor 202 which is connected via BUS 204 to a mass storage device 206, Read-Only-Memory (ROM) 208 and Random Access Memory (RAM) 210 (which may be volatile or nonvolatile). A web browser executes on the processor and is used to access web sites on the Internet. The viewer 124 interacts with the video overlay by selecting or rolling over a region representing a video object using a conventional pointing device 218, and/or using a touch sensitive screen 214 such as is known in the art. Interaction by the</p>
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		<p>video viewer 124 triggers display of supplemental content such as information provided by the creator of the video, comments by other viewers, or any other associated content including original, organic, advertising, links to other content, and/or paid content by retailers/brands/affiliates/advertisers that purchased rights on the VOHE. The retailers/brands/affiliates/advertisers 122 are bidding on the right to supply the relevant content using an embedded hyperlink.” Ohliger at 22:28-50.</p> <p>“The present invention is a system 100 for automatically segmenting video into video objects, classifying the video objects either automatically or by the creator of the video, assembling a database of the classified video objects, defining region definition data representing each video object on an interactive layer, auctioning the rights to a hyperlink that is either displayed or associated with a button that appears when an object is interacted with by a viewer of the video, or that is connected directly to the object so that when a viewer clicks or touches the object while watching the video they are directed to a website or other content that the hyperlink is pointing to. Allowing the creator of the video to associate comments, pictures, audio, hyperlinks, and other content with interactive areas around objects in their videos. Allowing viewers of the video to interact with objects in the video by clicking or touching areas around objects in the video, and further allowing viewers to comment about those objects, share those objects by way of the internet or social media, and purchase those objects, or other objects associated with the objects by way of the previously mentioned hyperlinks. These hyperlinks associated with video objects are auctioned on a video object hyperlink exchange (hereinafter “VOHE”) 300, and creating a video overlay with region definition data linking relevant content with the video content objects and thereby creating an interactive video. The creator of the video is reimbursed for the content by receiving a mutually agreed to percentage of the profits generated by the auction of the hyperlinks within the creators content. The region is a portion of the video frame which is congruent with the underlying video object. The region definition data defines such portion of the video frame. The system 100 of the present invention consists of several distinct yet related components.</p>
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		<p>One aspect of the invention relates to the creation of an inventory of video objects and corresponding region definition data. The video object inventory 114 is a database containing region definition data in form of pointers or references to video objects within video or animation files. Importantly, the region definition data is used to make the video interactive by providing the ability to link supplemental information with a specific video object within a video. For example, the video viewer can select a shirt displayed within the video and learn the brand and model of the shirt and other relevant information. Further, the viewer can also see comments, pictures, audio, and other content associated with the object by the creator of the video. The invention associates the relevant information with the video object thereby making the object a selectable hyperlink, meaning that the viewer can click or touch the object in any frame of the video in which the object appears and the related content will be revealed.” Ohliger at 8:58-9:41.</p> <p>“The invention also includes giving video viewers the ability to comment and communicate with each other and with the creator of the video in regards to a specific interactive object in the video. This is referred to as “sub-comments” and it differs from current comments on the internet and on social media in that sub-comments are accessed by viewers within the content related to the interaction of the viewer with a specific object within a video as opposed to comments that relate to the video as a whole.” Ohliger at 11:11-20.</p> <p>“The viewer 124 uses a computer, mobile phone or another electronic device that connects to the internet or to a social network 400 (FIG. 3) to access the video content made available by broadcaster 120 on a web site or social network or application or the like accessible over a distributed network such as the Internet. Computer 400 includes a processor 202 which is connected via BUS 204 to a mass storage device 206, Read-Only-Memory (ROM) 208 and Random Access Memory (RAM) 210 (which may be volatile or nonvolatile). A web browser executes on the processor and is used to access web sites on the Internet. The viewer 124 interacts with the video overlay by selecting or rolling over a region representing a video object using a conventional pointing device 218, and/or</p>
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		<p>using a touch sensitive screen 214 such as is known in the art. Interaction by the video viewer 124 triggers display of supplemental content such as information provided by the creator of the video, comments by other viewers, or any other associated content including original, organic, advertising, links to other content, and/or paid content by retailers/brands/affiliates/advertisers that purchased rights on the VOHE. The retailers/brands/affiliates/advertisers 122 are bidding on the right to supply the relevant content using an embedded hyperlink.” Ohliger at 22:27-50.</p> <p>“A further aspect of the invention will be described with reference to FIGS. 9-11. FIG. 9 is a high level flowchart showing the interactions of a viewer with the VOHE 300. FIGS. 10A-10D and 11A-11B are a graphical depiction of various steps in the flowchart of FIG. 9. In step 900 the viewer 124 views video content having video objects. As described above, the video presentation slows or stops as the user points at or rolls-over (step 902) the presentation screen, and selects a video object using a pointing device such as a mouse or a finger (or the like) on a display screen which may be touch sensitive (FIG. 9 step 904 and FIG. 10A). Selecting refers to both rolling-over the object with the pointing device (without a mouse click or a keyboard command) and to positioning the pointing device over the object and actuating one of the buttons on the mouse or keyboard. In a traditional TV setting the user may use the 5-star control of a remote controller to select a video object.</p> <p>Once the object has been selected (FIG. 9 step 904 and FIG. 10B), the viewer displays an abstract of the video object in the form of an overlay on top of the current viewing window or on a new window adjacent the current viewing panel. The Abstract may include descriptive information (relevant content) about the object (name, brand name, make, model, vendor, price, etc) and classification information about the object or it may be information provided by the creator of the video like a comment about the object, a picture, comments by other viewers, and/or the ability to share the video, video object, or associated content over the internet or through social networks.</p> <p>The user (viewer of video) 124 is presented with a menu of options (FIG. 10C). For example, the viewer 124 may search for other occurrences of the object in</p>
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		<p>both the current video or in other videos (FIG. 9 step 906A, and FIG. 11B). Moreover, the viewer may expand the search to encompass other objects which have similar classification such as the same make but different models (other Ferragamo shoes), or other red high heeled shoes, etc.</p> <p>In step 908A, the user is presented with a list of viewable video segments containing the selected video object. At this point the user can choose to view any of the segments and/or proceed to steps 906B, 906C or 906D.</p> <p>The viewer 124 may be presented with an option to retrieve more detailed information about the object (step 906B). Such information may include details about the materials or specifications of the object. The user may also be presented with the option to view a three-dimensional wire frame rendering of the object. The 3D wire frame is created by the VOHE 300 when the object is initially identified and classified. Depending on how many perspective facets of an object are available, a complete or partial 3D wire frame may exist for a given object. The viewer 124 presents the user with various options to manipulate and interact with the 3D wire frame. For example, the viewer 124 may rotate and zoom the 3D wire frame to display the rendering from different perspectives.</p> <p>As described above, the user may be presented with the option to add the video object to a shopping cart (FIG. 9 step 908B and FIG. 10C). Although not specifically illustrated in FIG. 9, the option to purchase may be nested under each of the menu items such that the user may always elect to purchase without having to retrace his/her steps. In fact, each of the menu options described herein may be organized in any number of ways and the inventive concept is not limited to the specific way they are presented. Thus, steps 906A-906D may be nested.</p> <p>The shopping cart may be a conventional electronic shopping cart which enables the user to purchase the object or flag it to the user's wish list for future purchase. The viewer 124, VOHE 300, or system 100 tracks objects purchased by the user and items added to the user's wish list, and such information may be used to analyze the user's buying trends etc. More particularly, an analytics database records the interactions of the consumer. The analytics database stores information regarding the video files or types of video files (genre or the like) accessed by the consumer, the objects selected by the consumer, items purchased by the consumer. The analytics database may be stored on or accessible to (via the</p>
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		<p>distributed network, e.g., internet) the VOHE 300 or system 100. The viewer 124 also enables the user to manually indicate that the user owns a given object even if it was not purchased through the VOHE 300.</p> <p>The VOHE 300 allows the user to share individual video objects or create and share a collection of video objects with one or more friends by selecting the video objects or the collection of objects and selecting individual friends or sets of friends (FIG. 9 steps 906C and 910B, and FIG. 10C). The viewer 124 may include a software plug-in application for a social networking site (Facebook® application, Twitter® application, Instagram® application, Vine® application, Snapchat® application) or the like which enables the user to add the video object to the user's social network account without leaving the portal (VOHE 300) through which the user was viewing the video. As used herein the term social networking site is equivalent in all respects to social networking server and encompasses Facebook application, Twitter application, etc. which enable a user to share information to a wide audience with or without specifying individual recipients.</p> <p>The plug-in application also enables the user to share the image/video segment etc with one or more social networking contacts (“Facebook friends, Instagram followers, etc.”). The plug-in application is software. The plug-in may share data linking or pointing to the video object or library of such objects. The video object or library of video objects may be stored on the YOM 300 or on the user's computer 400. Data transferred to Facebook or other social networking sites may also be stored on a 3d party server such as or the like, or the social networking site may simply store a link to data stored on the VOHE 300.” Ohliger at 24:29-26:3.</p> <p>“FIG. 16: The feed is a dynamic stream of user-created content. Each video plays on a constant loop. Hashtags help VeePiO users brand and sort their Veep'd videos. Viewers can like, comment on, and re-VeeP any video.</p> <p>FIG. 17: VeePiO thrives on community. Commenting is easy and encouraged via standard pathways like the feed, and through product sub-comments. Beyond that VeePiO media can be shared anywhere online.</p>
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Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

FIG. 18: VeePiO is simple to use. Tap any Veep'd object and instantly gain the ability to make it your own. (1st screen) Veepio users can also share and view comments for individual objects. (2nd screen) Tapping “I want it!” walks users through an easy in-app purchase flow. (2nd and 3rd screen)” Ohliger at 28:38-56.

“FIG. 26: Veepio users can also share and view sub-comments related to individual products.” Ohliger at 29:15-16.

“i. Creators of the video and viewers of the video are able to post comments related to the video and/or the at least one interactive object in the video that are displayed when the overlay that tracks the interactive object is clicked or touched. The comments are specific to only the interactive object they are related to.
ii. The creators of the video are able to associate other content like comments, pictures, links, audio files to the interactive objects. This content appears when the objects are hovered over, clicked or touched.” Ohliger at 30:55-64.

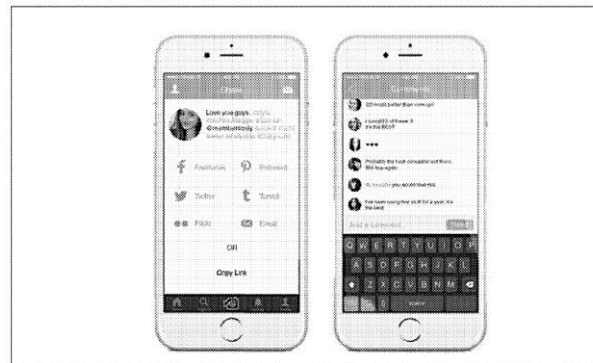
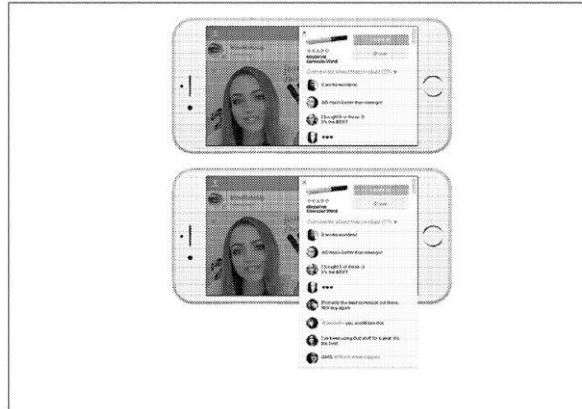


Fig. 17
Comment & Share

Ohliger at Fig. 17.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Fig. 26
Share & Comment



Ohliger at Fig. 26.



Fig. 18
Shop VeePiO

Ohliger at Fig. 18.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Fig. 20
How to Veep



Ohliger at Fig. 20.

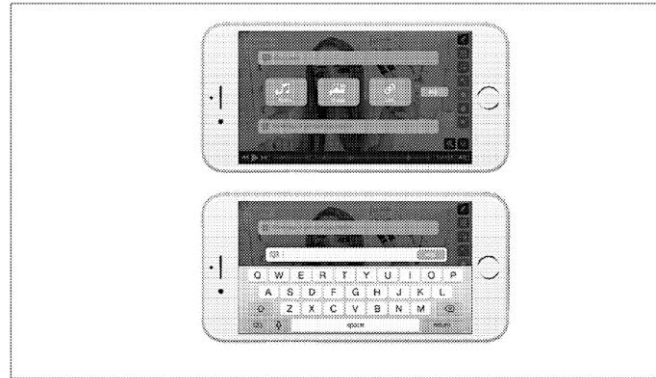
Fig. 21
Veep Editing Room



Ohliger at Fig. 21.

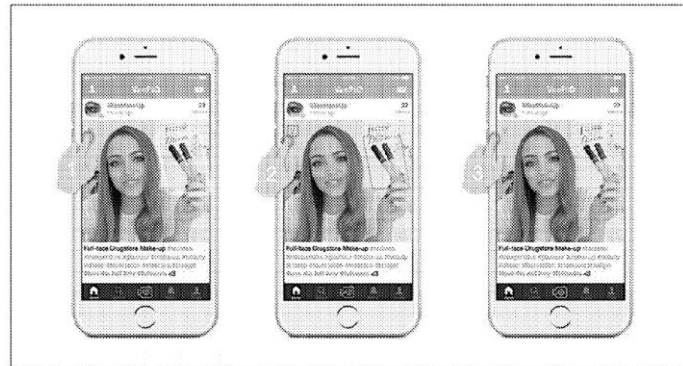
Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Fig. 22
Object Details



Ohliger at Fig. 21.

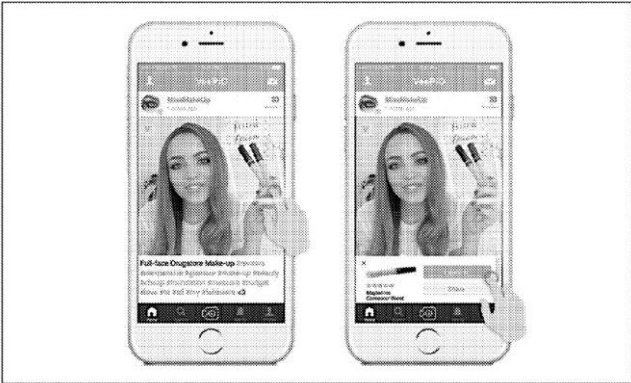
Fig. 23
"V"isibility



Ohliger at Fig. 23.

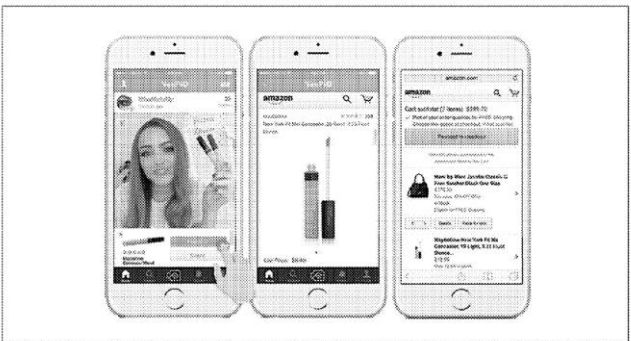
Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Fig. 24
I Want it!



Ohliger at Fig. 24.

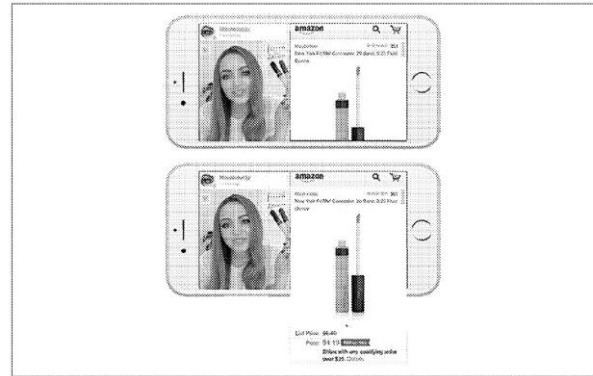
Fig. 25
I Want it! Continued



Ohliger at Fig. 25.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Fig. 28
Buy Via Split Screen



Ohliger at Fig. 28.

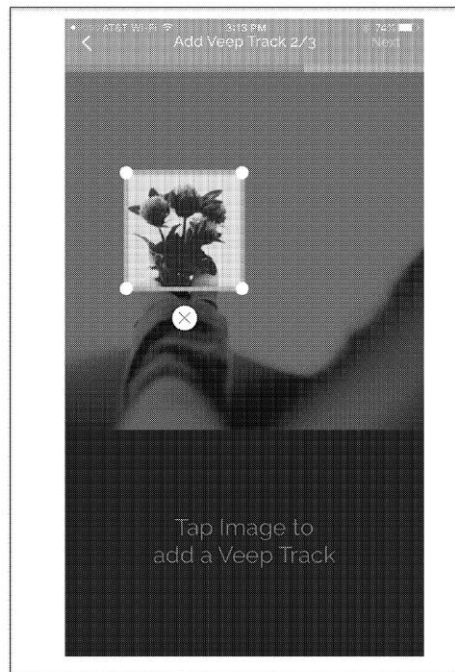


Fig. 38

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Ohliger at Fig. 38.

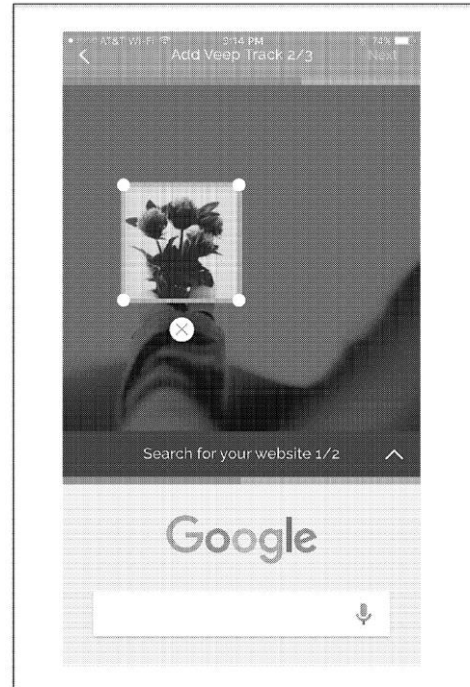


Fig. 39

Ohliger at Fig. 39.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

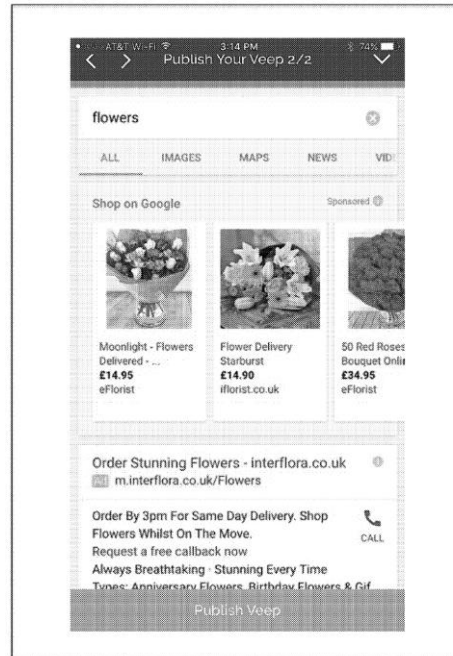


Fig. 41
Ohliger at Fig. 41.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

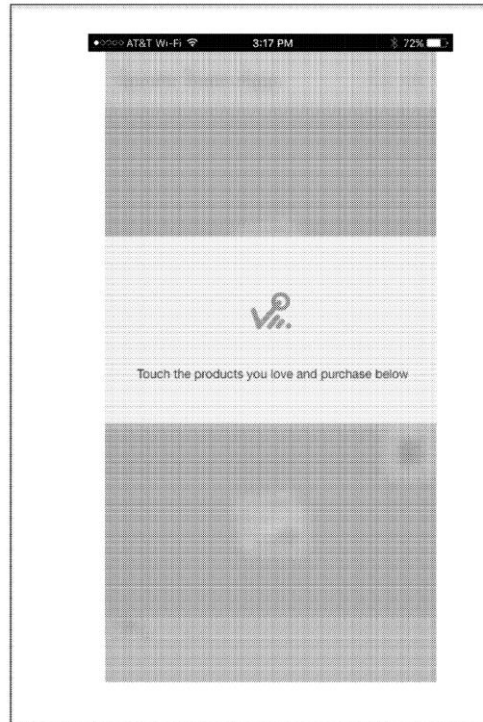


Fig. 46
'46 Patent at Fig. 46.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

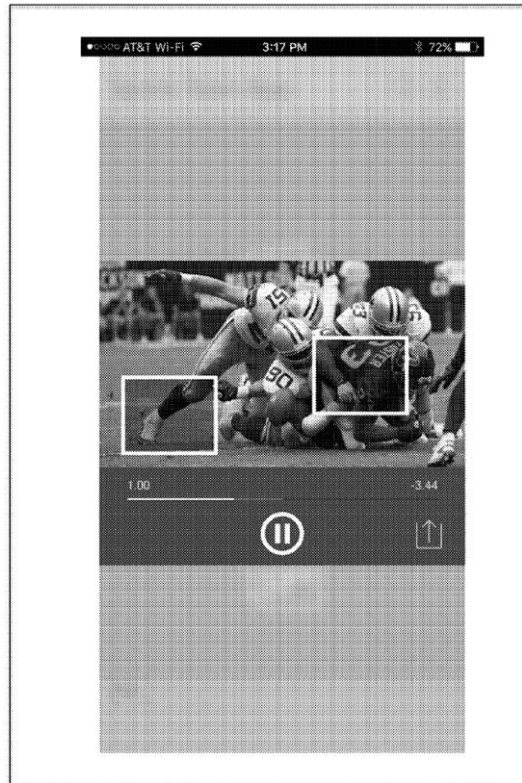


Fig. 48
Ohliger at Fig. 48.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

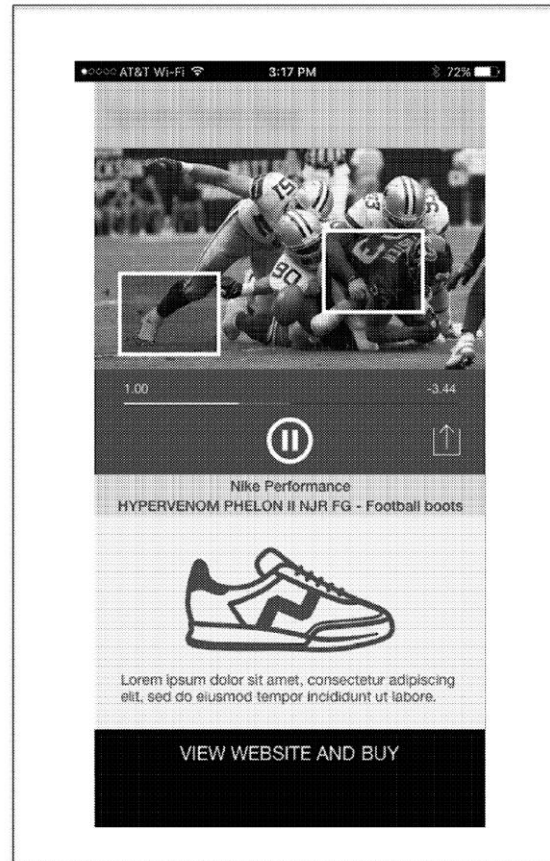


Fig. 49
Ohliger at Fig. 49.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger



Fig. 50

Ohliger at Fig. 50.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger



FIG. 53B

Ohliger at Fig. 53B.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

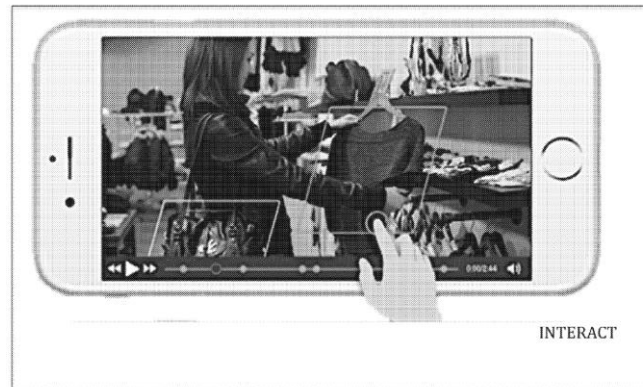


FIG. 53D

Ohliger at Fig. 53D.



FIG. 53E

Ohliger at Fig. 53E.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		 <p style="text-align: center;">FIG. 53F</p> <p>Ohliger at Fig. 53F.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
1[c][i]	wherein the video data is configured to be provided to a user via a first media playback device and to at least one guest via a second media playback device,	<p>Ohliger discloses “wherein the video data is configured to be provided to a user via a first media playback device and to at least one guest via a second media playback device,” See e.g.:</p> <p>“FIG. 2 is a block diagram of a first embodiment of the system 100 of the invention. Databases are described herein as being stored on a particular server; however, it should be understood that this concept includes a database stored on</p>

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		<p>another server but which is accessible to the particular server. Moreover, reference to storing something (e.g., database or the like) on the server should be understood to encompass storing something on a mass storage device such as a hard drive, solid state memory or the like.</p> <p>System 100 includes a database 102 of video content whose rights are owned by a video creator, a broadcaster 120 or the like. The database 102 may be video content stored on or accessible via the internet (world wide web) using a desktop computer, or a mobile phone. The content may also be accessible through a social network. The term “broadcaster” simply refers to the party who owns the rights to the video content and makes it available to viewers 124 via interactive TV or streaming websites.</p> <p>The database 102 resides on a broadcaster server 200 or on a device which is accessible to server 200 (FIG. 2) which may be accessible over a distributed network 104 such as the Internet. Again, database 102 may be stored on a different server which is accessible to server 200. Server 200 includes a processor 202 which is connected via BUS 204 to a mass storage device 206, Read-Only-Memory (ROM) 208 and Random Access Memory (RAM) 210 (which may be volatile or nonvolatile). The database 102 may be stored in RAM 210, ROM 208, or mass storage device 206. Accessory devices such as keyboard 212, touch screen 214 which serves both as a keyboard and a display, display device 216, and pointing device (mouse) 218 may optionally be connected to the server 200.</p> <p>The database 102 contains unprocessed or raw video content which is accessed by a video content segmentation and classification engine 106 hereinafter referred to as a content analysis application. The content analysis application can also be used by a video creator to manually identify and describe objects. The phrase “raw video content” refers to video which has not been processed to identify objects.</p> <p>In FIG. 2, the database 102 is shown as copied to database 108; however, copying of the database 102 is optional.</p> <p>Database 108 resides on a video segmentation and classification server 300 (FIG. 2) which may be accessible over a distributed network such as the internet 104. Hereinafter reference to accessing the database 102 should be understood to be synonymous with accessing database 108 and vice versa. Again, database 108 is</p>
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Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		<p>described as residing on the server 300 but it can reside on any server which is accessible to the server 300, for example, over a distributed network such as the internet.</p> <p>Server 300 includes a processor 202 which is connected via BUS 204 to a mass storage device 206, Read-Only-Memory (ROM) 208 and Random Access Memory 210 (which may be volatile or nonvolatile). The video file database 108 may be stored in RAM 210, ROM 208, or mass storage device 206. Accessory devices such as keyboard 212, touch screen 214 which serves both as a keyboard and a display, display device 216, and pointing device (mouse) 218 may optionally be connected to the server 300.</p> <p>An inventory 114 of video objects is assembled by segmenting and classifying the raw video content from database 108 (or 102) to identify video objects therein. More particularly, the video content analysis application 106 segments the raw video content to yield a list of all the video objects in a given video. Then the video content analysis application 106 (which may be embodied in software or in a circuit, i.e. hardware or firmware) classifies the list of video objects to resolve occurrences of the same video object throughout the video. VOHE 300 may be provided with separate software applications for performing segmentation and classification, or a single software application may perform both segmentation and classification.” Ohliger at 15:27-16:31.</p> <p>“According to another embodiment the system for making an interactive overlay for a video includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database 112 stored on (or accessible by) the server and containing information describing a location of at least one video object within one of the video files. The system includes a wireframe database stored on (or accessible by) the server, the wireframe database storing three-dimensional wireframe representations of at least one video object; and an overlay generation application (software or firmware) executed on the server. The overlay generation application matches occurrences of video objects in the object inventory library with corresponding three-dimensional wireframe representations</p>
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Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		<p>of the video object and creates a video overlay including matched wireframe representations of the video object wherein the shape and position (coordinates) of the wireframe representation track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database stored on the server and containing information describing coordinates of at least one video object within one of the video files. The system further includes a wireframe database stored on the server, the wireframe database stores three-dimensional wireframe representations of at least one video object. A wireframe generation application (software or firmware) executed on the server selects video objects from the video object inventory database and generates a three-dimensional wire frame of the selected video object from multiple perspective occurrences of the video object in the video file and stores the three-dimensional wireframe in the wireframe database. The wireframe generation application may optionally generate a lighting model for each occurrence of a video object in a video frame from light distribution on the video object.</p> <p>The system may further include an overlay generation application (software or firmware) executed on the server which matches occurrences of video objects in the object inventory library 112 with corresponding three-dimensional wire frame representations stored in the wire frame library 112A. The overlay generation application creates a video overlay including matched wireframe representations of the video objects wherein the shape and position of the wireframe representation tracks the dynamic location of the video object in the video. The overlay generation application stores the overlay on the server. The video overlay may optionally include at least one selectable hyperlink whose shape and position</p>
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Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		<p>tracks a dynamic location of the video object in the video.” Ohliger at 19:61-20:41.</p> <p>“The viewer 124 uses a computer, mobile phone or another electronic device that connects to the internet or to a social network 400 (FIG. 3) to access the video content made available by broadcaster 120 on a web site or social network or application or the like accessible over a distributed network such as the Internet. Computer 400 includes a processor 202 which is connected via BUS 204 to a mass storage device 206, Read-Only-Memory (ROM) 208 and Random Access Memory (RAM) 210 (which may be volatile or nonvolatile). A web browser executes on the processor and is used to access web sites on the Internet. The viewer 124 interacts with the video overlay by selecting or rolling over a region representing a video object using a conventional pointing device 218, and/or using a touch sensitive screen 214 such as is known in the art. Interaction by the video viewer 124 triggers display of supplemental content such as information provided by the creator of the video, comments by other viewers, or any other associated content including original, organic, advertising, links to other content, and/or paid content by retailers/brands/affiliates/advertisers that purchased rights on the VOHE. The retailers/brands/affiliates/advertisers 122 are bidding on the right to supply the relevant content using an embedded hyperlink.” Ohliger at 22:28-56.</p>
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Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

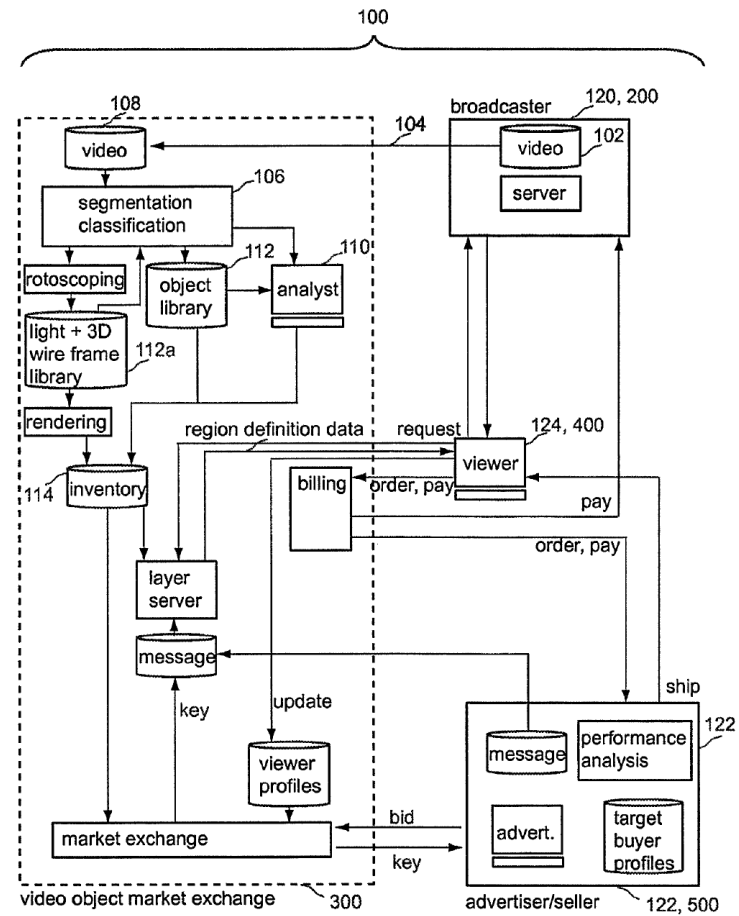


FIG. 2
 Ohliger at Fig. 2.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Flowchart: viewer

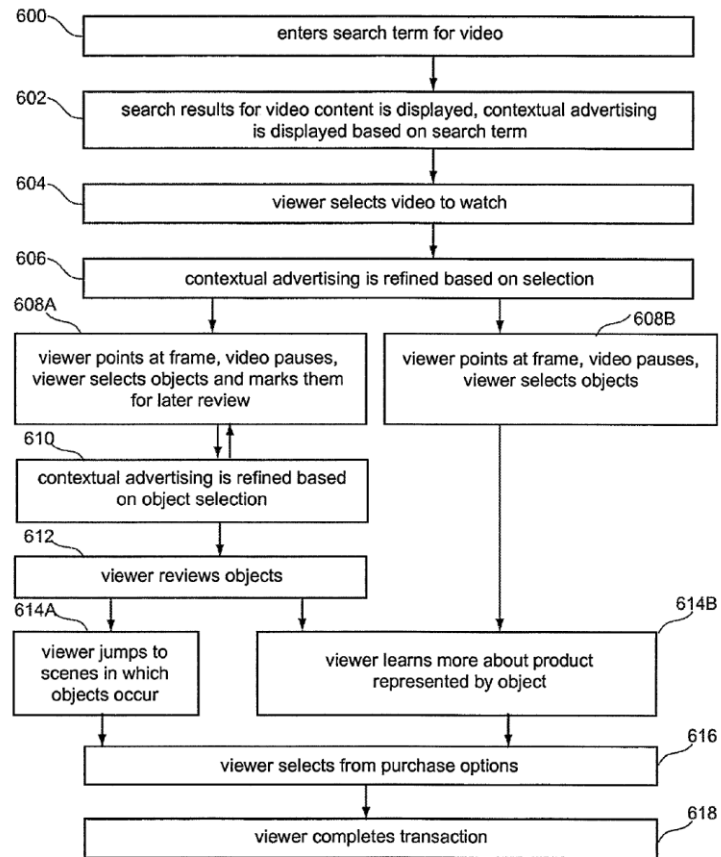


FIG. 5
Ohliger at Fig. 5.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Flowchart: high level flowchart video object collection actions

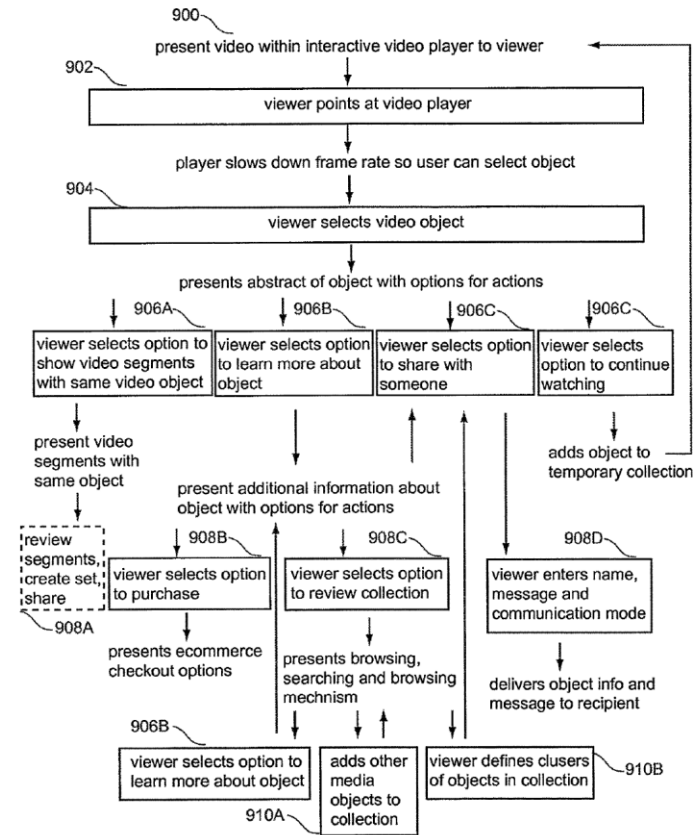


FIG. 9
 Ohliger at Fig. 9.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

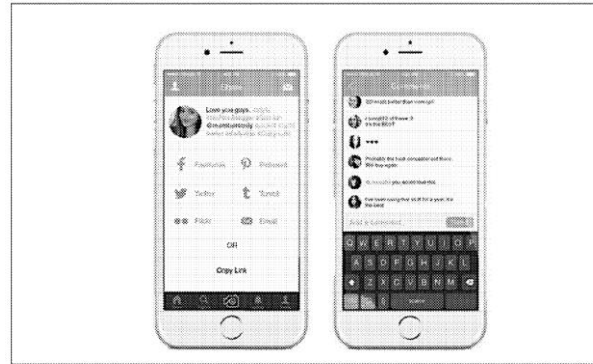
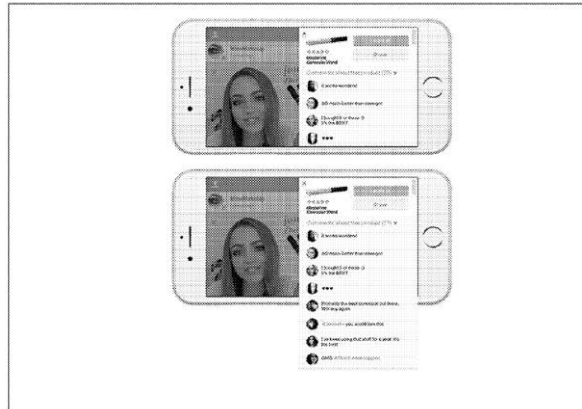


Fig. 17
Comment & Share

Ohliger at Fig. 17.

Fig. 26
Share & Comment



Ohliger at Fig. 26

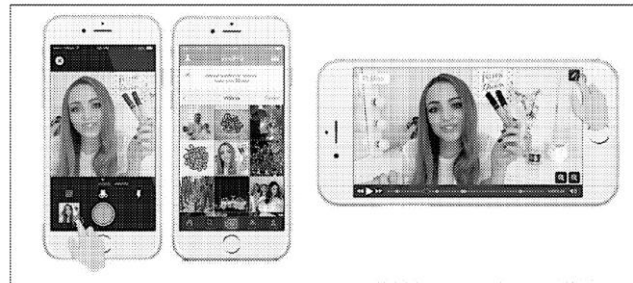
Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger



Fig. 18
Shop VeePIO

Ohliger at Fig. 18.

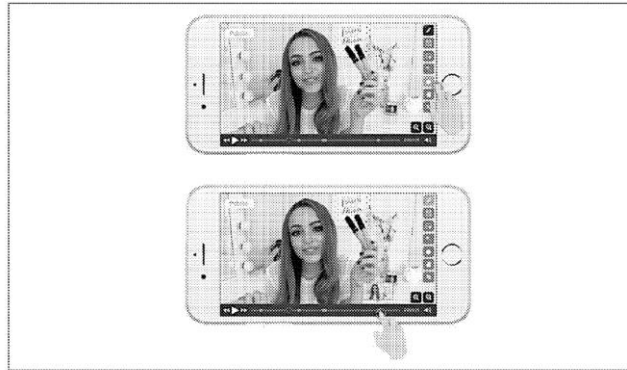
Fig. 20
How to Veep



Ohliger at Fig. 20.

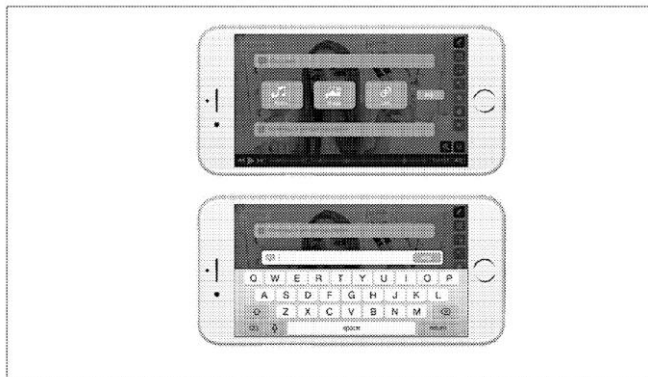
Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Fig. 21
Veep Editing Room



Ohliger at Fig. 21.

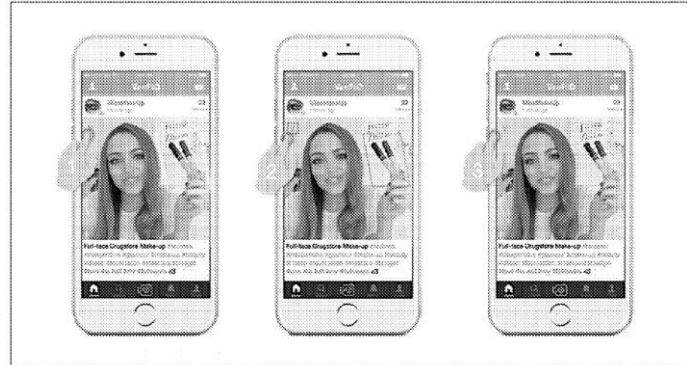
Fig. 22
Object Details



Ohliger at Fig. 21.

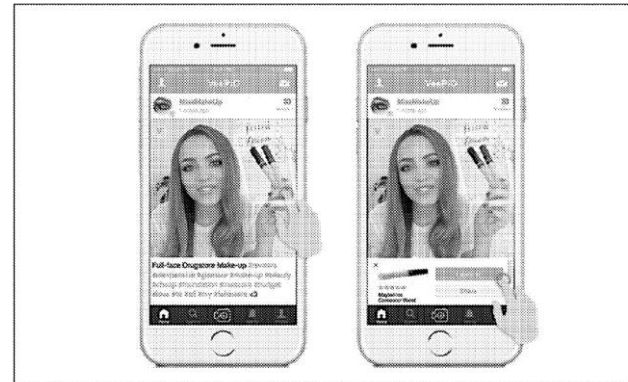
Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Fig. 23
"V"isibility



Ohliger at Fig. 23.

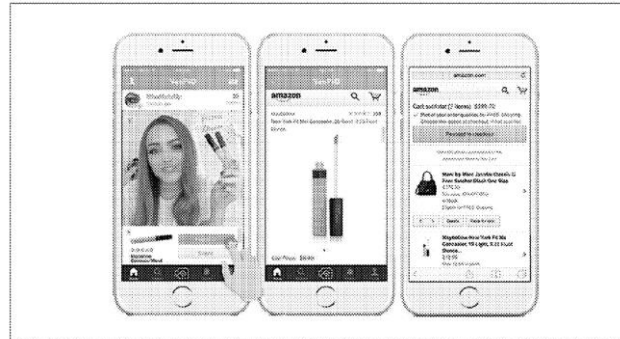
Fig. 24
I Want it!



Ohliger at Fig. 24.

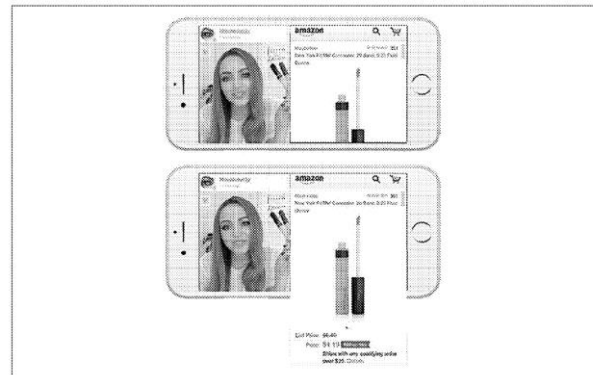
Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Fig. 25
I Want it! Continued



Ohliger at Fig. 25.

Fig. 28
Buy Via Split Screen

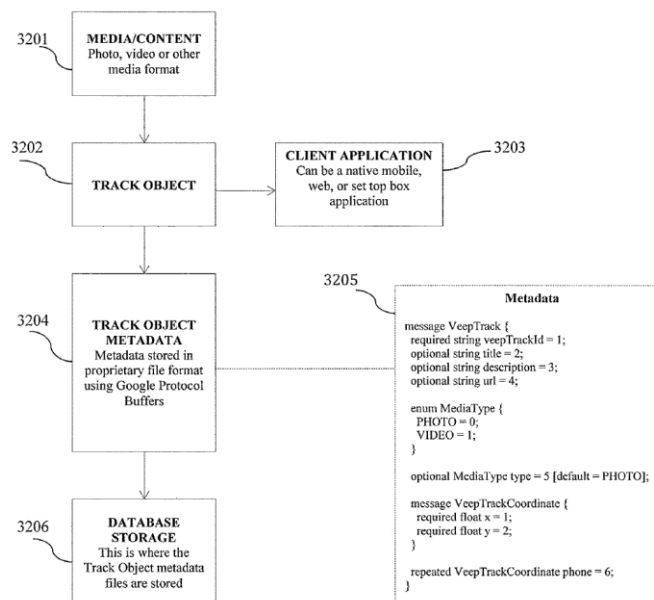


Ohliger at Fig. 28.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Fig. 32

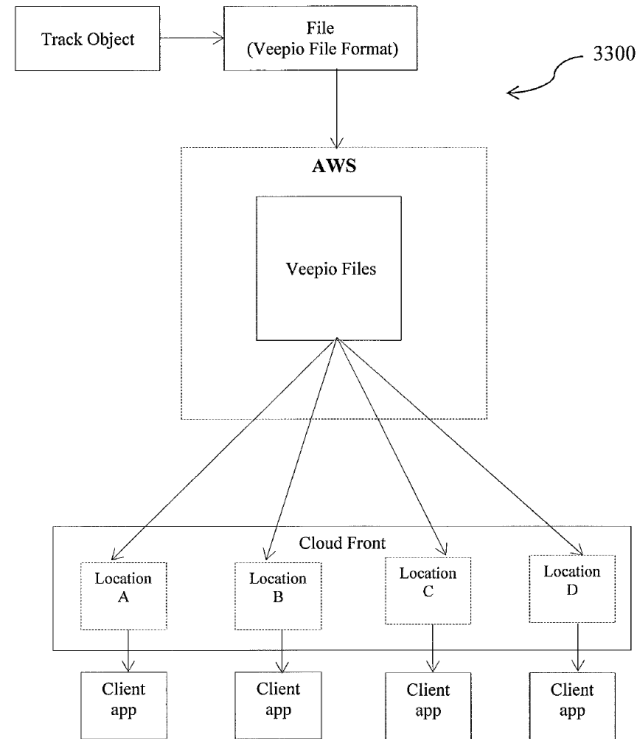
"Track" Feature



Ohliger at Fig. 32.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Fig. 33



Ohliger at Fig. 33.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

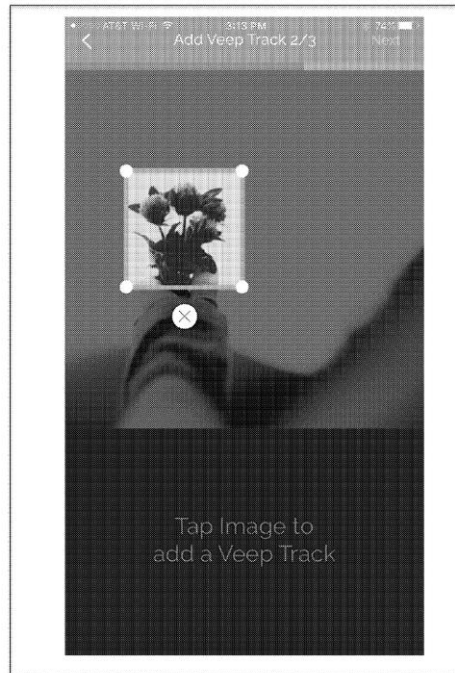


Fig. 38

Ohliger at Fig. 38.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

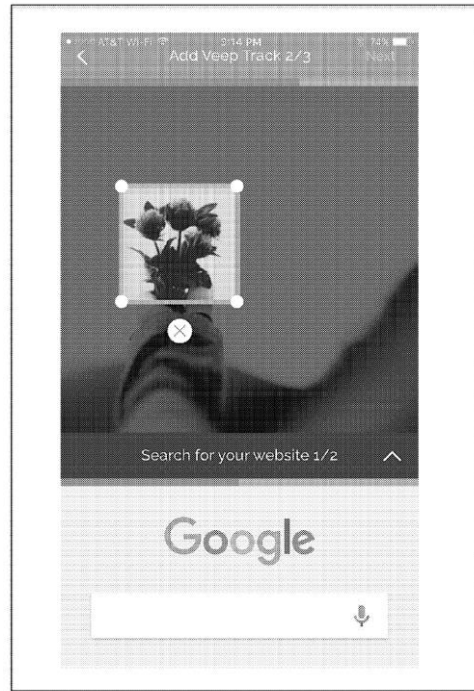


Fig. 39
Ohliger at Fig. 39.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

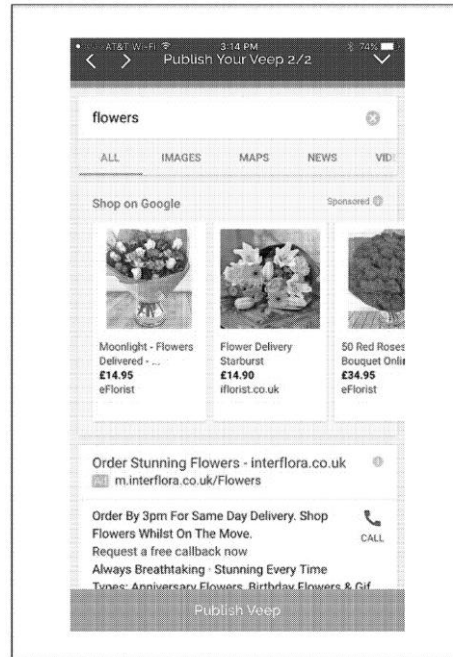


Fig. 41
Ohliger at Fig. 41.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

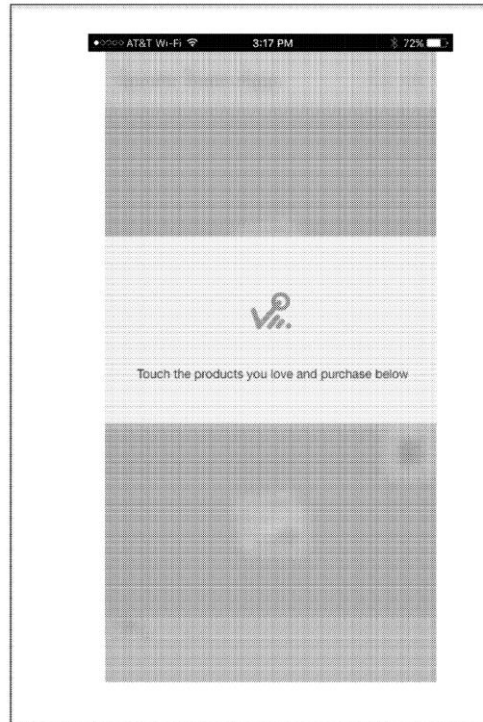


Fig. 46
'46 Patent at Fig. 46.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

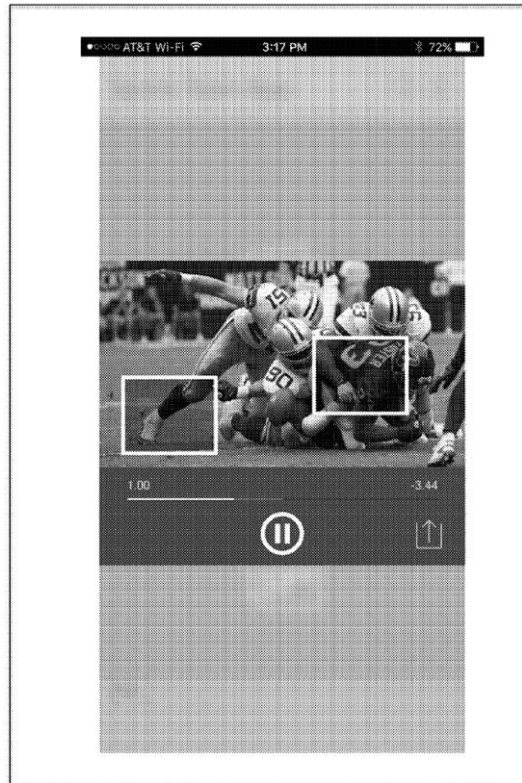


Fig. 48
Ohliger at Fig. 48.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

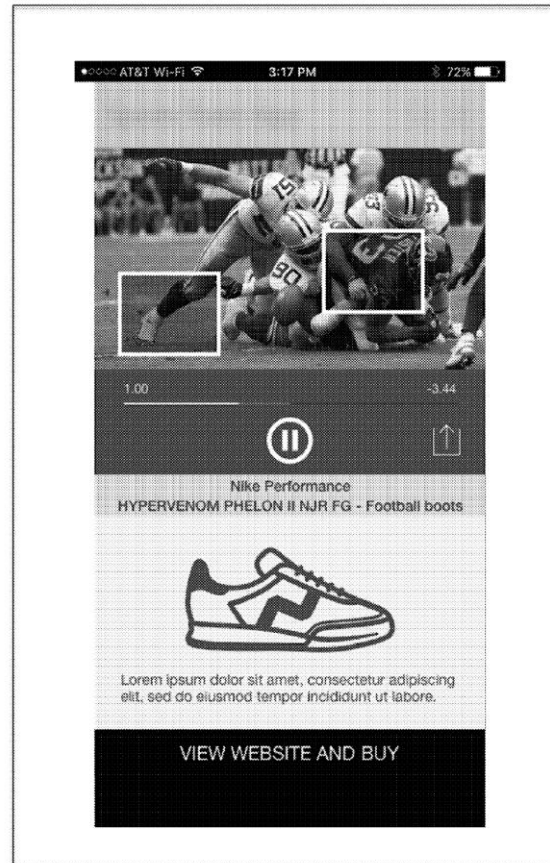


Fig. 49
Ohliger at Fig. 49.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger



Fig. 50

Ohliger at Fig. 50.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger



FIG. 53B

Ohliger at Fig. 53B.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

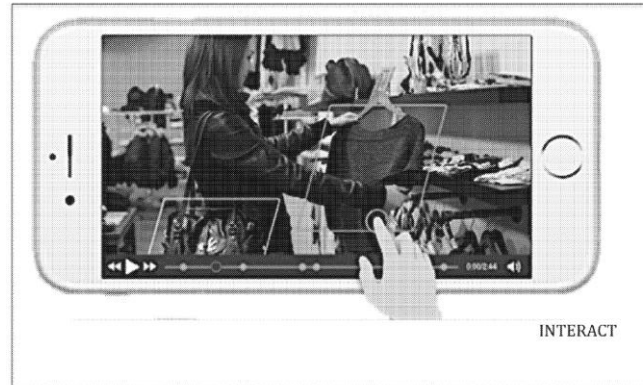


FIG. 53D

Ohliger at Fig. 53D.



FIG. 53E

Ohliger at Fig. 53E.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		 <p style="text-align: center;">FIG. 53F</p> <p>Ohliger at Fig. 53F.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
1[c][ii]	wherein the second interactive video layer comprises a social media portion controllable by the user via the first media playback device, so as to interact with the at least one guest that is also a viewer of the video media through an	Ohliger discloses “wherein the second interactive video layer comprises a social media portion controllable by the user via the first media playback device, so as to interact with the at least one guest that is also a viewer of the video media through an interface displayed in the second interactive video layer via the second media playback device, ” See e.g.:

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	<p>interface displayed in the second interactive video layer via the second media playback device,</p>	<p>“The present invention is a system 100 for automatically segmenting video into video objects, classifying the video objects either automatically or by the creator of the video, assembling a database of the classified video objects, defining region definition data representing each video object on an interactive layer, auctioning the rights to a hyperlink that is either displayed or associated with a button that appears when an object is interacted with by a viewer of the video, or that is connected directly to the object so that when a viewer clicks or touches the object while watching the video they are directed to a website or other content that the hyperlink is pointing to. Allowing the creator of the video to associate comments, pictures, audio, hyperlinks, and other content with interactive areas around objects in their videos. Allowing viewers of the video to interact with objects in the video by clicking or touching areas around objects in the video, and further allowing viewers to comment about those objects, share those objects by way of the internet or social media, and purchase those objects, or other objects associated with the objects by way of the previously mentioned hyperlinks. These hyperlinks associated with video objects are auctioned on a video object hyperlink exchange (hereinafter “VOHE”) 300, and creating a video overlay with region definition data linking relevant content with the video content objects and thereby creating an interactive video. The creator of the video is reimbursed for the content by receiving a mutually agreed to percentage of the profits generated by the auction of the hyperlinks within the creators content. The region is a portion of the video frame which is congruent with the underlying video object. The region definition data defines such portion of the video frame. The system 100 of the present invention consists of several distinct yet related components.</p> <p>One aspect of the invention relates to the creation of an inventory of video objects and corresponding region definition data. The video object inventory 114 is a database containing region definition data in form of pointers or references to video objects within video or animation files. Importantly, the region definition data is used to make the video interactive by providing the ability to link supplemental information with a specific video object within a video. For example, the video viewer can select a shirt displayed within the video and learn the brand and model of the shirt and other relevant information. Further, the viewer can also see comments, pictures, audio, and other content associated with</p>
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		<p>the object by the creator of the video. The invention associates the relevant information with the video object thereby making the object a selectable hyperlink, meaning that the viewer can click or touch the object in any frame of the video in which the object appears and the related content will be revealed.” Ohliger at 8:58-9:41.</p> <p>“The invention also includes giving video viewers the ability to comment and communicate with each other and with the creator of the video in regards to a specific interactive object in the video. This is referred to as “sub-comments” and it differs from current comments on the internet and on social media in that sub-comments are accessed by viewers within the content related to the interaction of the viewer with a specific object within a video as opposed to comments that relate to the video as a whole.” Ohliger at 11:11-20.</p> <p>“The viewer 124 uses a computer, mobile phone or another electronic device that connects to the internet or to a social network 400 (FIG. 3) to access the video content made available by broadcaster 120 on a web site or social network or application or the like accessible over a distributed network such as the Internet. Computer 400 includes a processor 202 which is connected via BUS 204 to a mass storage device 206, Read-Only-Memory (ROM) 208 and Random Access Memory (RAM) 210 (which may be volatile or nonvolatile). A web browser executes on the processor and is used to access web sites on the Internet. The viewer 124 interacts with the video overlay by selecting or rolling over a region representing a video object using a conventional pointing device 218, and/or using a touch sensitive screen 214 such as is known in the art. Interaction by the video viewer 124 triggers display of supplemental content such as information provided by the creator of the video, comments by other viewers, or any other associated content including original, organic, advertising, links to other content, and/or paid content by retailers/brands/affiliates/advertisers that purchased rights on the VOHE. The retailers/brands/affiliates/advertisers 122 are bidding on the right to supply the relevant content using an embedded hyperlink.” Ohliger at 22:27-50.</p>
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		<p>“A further aspect of the invention will be described with reference to FIGS. 9-11. FIG. 9 is a high level flowchart showing the interactions of a viewer with the VOHE 300. FIGS. 10A-10D and 11A-11B are a graphical depiction of various steps in the flowchart of FIG. 9. In step 900 the viewer 124 views video content having video objects. As described above, the video presentation slows or stops as the user points at or rolls-over (step 902) the presentation screen, and selects a video object using a pointing device such as a mouse or a finger (or the like) on a display screen which may be touch sensitive (FIG. 9 step 904 and FIG. 10A). Selecting refers to both rolling-over the object with the pointing device (without a mouse click or a keyboard command) and to positioning the pointing device over the object and actuating one of the buttons on the mouse or keyboard. In a traditional TV setting the user may use the 5-star control of a remote controller to select a video object.</p> <p>Once the object has been selected (FIG. 9 step 904 and FIG. 10B), the viewer displays an abstract of the video object in the form of an overlay on top of the current viewing window or on a new window adjacent the current viewing panel. The Abstract may include descriptive information (relevant content) about the object (name, brand name, make, model, vendor, price, etc) and classification information about the object or it may be information provided by the creator of the video like a comment about the object, a picture, comments by other viewers, and/or the ability to share the video, video object, or associated content over the internet or through social networks.</p> <p>The user (viewer of video) 124 is presented with a menu of options (FIG. 10C). For example, the viewer 124 may search for other occurrences of the object in both the current video or in other videos (FIG. 9 step 906A, and FIG. 11B). Moreover, the viewer may expand the search to encompass other objects which have similar classification such as the same make but different models (other Ferragamo shoes), or other red high heeled shoes, etc.</p> <p>In step 908A, the user is presented with a list of viewable video segments containing the selected video object. At this point the user can choose to view any of the segments and/or proceed to steps 906B, 906C or 906D.</p> <p>The viewer 124 may be presented with an option to retrieve more detailed information about the object (step 906B). Such information may include details</p>
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		<p>about the materials or specifications of the object. The user may also be presented with the option to view a three-dimensional wire frame rendering of the object. The 3D wire frame is created by the VOHE 300 when the object is initially identified and classified. Depending on how many perspective facets of an object are available, a complete or partial 3D wire frame may exist for a given object. The viewer 124 presents the user with various options to manipulate and interact with the 3D wire frame. For example, the viewer 124 may rotate and zoom the 3D wire frame to display the rendering from different perspectives.</p> <p>As described above, the user may be presented with the option to add the video object to a shopping cart (FIG. 9 step 908B and FIG. 10C). Although not specifically illustrated in FIG. 9, the option to purchase may be nested under each of the menu items such that the user may always elect to purchase without having to retrace his/her steps. In fact, each of the menu options described herein may be organized in any number of ways and the inventive concept is not limited to the specific way they are presented. Thus, steps 906A-906D may be nested.</p> <p>The shopping cart may be a conventional electronic shopping cart which enables the user to purchase the object or flag it to the user's wish list for future purchase. The viewer 124, VOHE 300, or system 100 tracks objects purchased by the user and items added to the user's wish list, and such information may be used to analyze the user's buying trends etc. More particularly, an analytics database records the interactions of the consumer. The analytics database stores information regarding the video files or types of video files (genre or the like) accessed by the consumer, the objects selected by the consumer, items purchased by the consumer. The analytics database may be stored on or accessible to (via the distributed network, e.g., internet) the VOHE 300 or system 100. The viewer 124 also enables the user to manually indicate that the user owns a given object even if it was not purchased through the VOHE 300.</p> <p>The VOHE 300 allows the user to share individual video objects or create and share a collection of video objects with one or more friends by selecting the video objects or the collection of objects and selecting individual friends or sets of friends (FIG. 9 steps 906C and 910B, and FIG. 10C). The viewer 124 may include a software plug-in application for a social networking site (Facebook® application, Twitter® application, Instagram® application, Vine® application,</p>
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		<p>Snapchat® application) or the like which enables the user to add the video object to the user's social network account without leaving the portal (VOHE 300) through which the user was viewing the video. As used herein the term social networking site is equivalent in all respects to social networking server and encompasses Facebook application, Twitter application, etc. which enable a user to share information to a wide audience with or without specifying individual recipients.</p> <p>The plug-in application also enables the user to share the image/video segment etc with one or more social networking contacts (“Facebook friends, Instagram followers, etc.”). The plug-in application is software. The plug-in may share data linking or pointing to the video object or library of such objects. The video object or library of video objects may be stored on the YOM 300 or on the user's computer 400. Data transferred to Facebook or other social networking sites may also be stored on a 3d party server such as or the like, or the social networking site may simply store a link to data stored on the VOHE 300.” Ohliger at 24:29-26:3.</p> <p>“FIG. 16: The feed is a dynamic stream of user-created content. Each video plays on a constant loop. Hashtags help VeePiO users brand and sort their Veep'd videos. Viewers can like, comment on, and re-VeeP any video.</p> <p>FIG. 17: VeePiO thrives on community. Commenting is easy and encouraged via standard pathways like the feed, and through product sub-comments. Beyond that VeePiO media can be shared anywhere online.</p> <p>FIG. 18: VeePiO is simple to use. Tap any Veep'd object and instantly gain the ability to make it your own. (1st screen) Veepio users can also share and view comments for individual objects. (2nd screen) Tapping “I want it!” walks users through an easy in-app purchase flow. (2nd and 3rd screen)” Ohliger at 28:38-56.</p> <p>“FIG. 26: Veepio users can also share and view sub-comments related to individual products.” Ohliger at 29:15-16.</p> <p>“i. Creators of the video and viewers of the video are able to post comments related to the video and/or the at least one interactive object in the video that are</p>
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displayed when the overlay that tracks the interactive object is clicked or touched. The comments are specific to only the interactive object they are related to.

ii. The creators of the video are able to associate other content like comments, pictures, links, audio files to the interactive objects. This content appears when the objects are hovered over, clicked or touched.” Ohliger at 30:55-64.

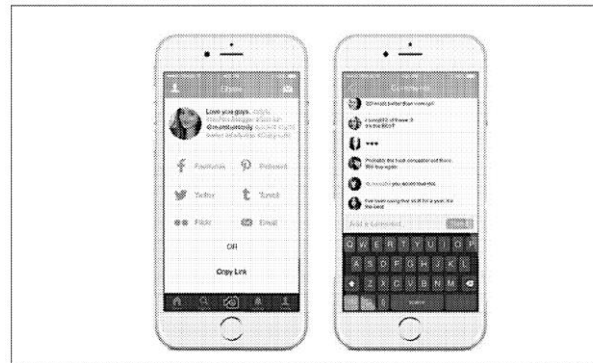


Fig. 17

Comment & Share

Ohliger at Fig. 17.

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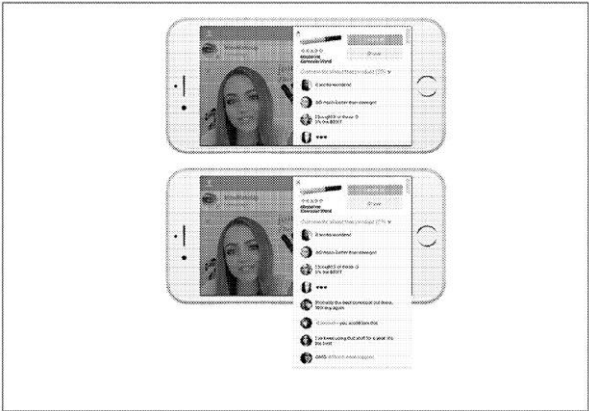
		<p style="text-align: center;">Fig. 26 Share & Comment</p>  <p>Ohliger at Fig. 26</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
1[c][iii]	wherein the second interactive video layer displays an interaction between the user and the at least one guest, and	<p>Ohliger discloses “wherein the second interactive video layer displays an interaction between the user and the at least one guest, and” See e.g.:</p> <p>“The present invention is a system 100 for automatically segmenting video into video objects, classifying the video objects either automatically or by the creator of the video, assembling a database of the classified video objects, defining region definition data representing each video object on an interactive layer, auctioning the rights to a hyperlink that is either displayed or associated with a button that appears when an object is interacted with by a viewer of the video, or that is connected directly to the object so that when a viewer clicks or touches the object</p>

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		<p>while watching the video they are directed to a website or other content that the hyperlink is pointing to. Allowing the creator of the video to associate comments, pictures, audio, hyperlinks, and other content with interactive areas around objects in their videos. Allowing viewers of the video to interact with objects in the video by clicking or touching areas around objects in the video, and further allowing viewers to comment about those objects, share those objects by way of the internet or social media, and purchase those objects, or other objects associated with the objects by way of the previously mentioned hyperlinks. These hyperlinks associated with video objects are auctioned on a video object hyperlink exchange (hereinafter “VOHE”) 300, and creating a video overlay with region definition data linking relevant content with the video content objects and thereby creating an interactive video. The creator of the video is reimbursed for the content by receiving a mutually agreed to percentage of the profits generated by the auction of the hyperlinks within the creators content. The region is a portion of the video frame which is congruent with the underlying video object. The region definition data defines such portion of the video frame. The system 100 of the present invention consists of several distinct yet related components.</p> <p>One aspect of the invention relates to the creation of an inventory of video objects and corresponding region definition data. The video object inventory 114 is a database containing region definition data in form of pointers or references to video objects within video or animation files. Importantly, the region definition data is used to make the video interactive by providing the ability to link supplemental information with a specific video object within a video. For example, the video viewer can select a shirt displayed within the video and learn the brand and model of the shirt and other relevant information. Further, the viewer can also see comments, pictures, audio, and other content associated with the object by the creator of the video. The invention associates the relevant information with the video object thereby making the object a selectable hyperlink, meaning that the viewer can click or touch the object in any frame of the video in which the object appears and the related content will be revealed.” Ohliger at 8:58-9:41.</p>
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		<p>“The invention also includes giving video viewers the ability to comment and communicate with each other and with the creator of the video in regards to a specific interactive object in the video. This is referred to as “sub-comments” and it differs from current comments on the internet and on social media in that sub-comments are accessed by viewers within the content related to the interaction of the viewer with a specific object within a video as opposed to comments that relate to the video as a whole.” Ohliger at 11:11-20.</p> <p>“The viewer 124 uses a computer, mobile phone or another electronic device that connects to the internet or to a social network 400 (FIG. 3) to access the video content made available by broadcaster 120 on a web site or social network or application or the like accessible over a distributed network such as the Internet. Computer 400 includes a processor 202 which is connected via BUS 204 to a mass storage device 206, Read-Only-Memory (ROM) 208 and Random Access Memory (RAM) 210 (which may be volatile or nonvolatile). A web browser executes on the processor and is used to access web sites on the Internet. The viewer 124 interacts with the video overlay by selecting or rolling over a region representing a video object using a conventional pointing device 218, and/or using a touch sensitive screen 214 such as is known in the art. Interaction by the video viewer 124 triggers display of supplemental content such as information provided by the creator of the video, comments by other viewers, or any other associated content including original, organic, advertising, links to other content, and/or paid content by retailers/brands/affiliates/advertisers that purchased rights on the VOHE. The retailers/brands/affiliates/advertisers 122 are bidding on the right to supply the relevant content using an embedded hyperlink.” Ohliger at 22:27-50.</p> <p>“A further aspect of the invention will be described with reference to FIGS. 9-11. FIG. 9 is a high level flowchart showing the interactions of a viewer with the VOHE 300. FIGS. 10A-10D and 11A-11B are a graphical depiction of various steps in the flowchart of FIG. 9. In step 900 the viewer 124 views video content having video objects. As described above, the video presentation slows or stops as the user points at or rolls-over (step 902) the presentation screen, and selects a</p>
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		<p>video object using a pointing device such as a mouse or a finger (or the like) on a display screen which may be touch sensitive (FIG. 9 step 904 and FIG. 10A). Selecting refers to both rolling-over the object with the pointing device (without a mouse click or a keyboard command) and to positioning the pointing device over the object and actuating one of the buttons on the mouse or keyboard. In a traditional TV setting the user may use the 5-star control of a remote controller to select a video object.</p> <p>Once the object has been selected (FIG. 9 step 904 and FIG. 10B), the viewer displays an abstract of the video object in the form of an overlay on top of the current viewing window or on a new window adjacent the current viewing panel. The Abstract may include descriptive information (relevant content) about the object (name, brand name, make, model, vendor, price, etc) and classification information about the object or it may be information provided by the creator of the video like a comment about the object, a picture, comments by other viewers, and/or the ability to share the video, video object, or associated content over the internet or through social networks.</p> <p>The user (viewer of video) 124 is presented with a menu of options (FIG. 10C). For example, the viewer 124 may search for other occurrences of the object in both the current video or in other videos (FIG. 9 step 906A, and FIG. 11B). Moreover, the viewer may expand the search to encompass other objects which have similar classification such as the same make but different models (other Ferragamo shoes), or other red high heeled shoes, etc.</p> <p>In step 908A, the user is presented with a list of viewable video segments containing the selected video object. At this point the user can choose to view any of the segments and/or proceed to steps 906B, 906C or 906D.</p> <p>The viewer 124 may be presented with an option to retrieve more detailed information about the object (step 906B). Such information may include details about the materials or specifications of the object. The user may also be presented with the option to view a three-dimensional wire frame rendering of the object. The 3D wire frame is created by the VOHE 300 when the object is initially identified and classified. Depending on how many perspective facets of an object are available, a complete or partial 3D wire frame may exist for a given object.</p> <p>The viewer 124 presents the user with various options to manipulate and interact</p>
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		<p>with the 3D wire frame. For example, the viewer 124 may rotate and zoom the 3D wire frame to display the rendering from different perspectives.</p> <p>As described above, the user may be presented with the option to add the video object to a shopping cart (FIG. 9 step 908B and FIG. 10C). Although not specifically illustrated in FIG. 9, the option to purchase may be nested under each of the menu items such that the user may always elect to purchase without having to retrace his/her steps. In fact, each of the menu options described herein may be organized in any number of ways and the inventive concept is not limited to the specific way they are presented. Thus, steps 906A-906D may be nested.</p> <p>The shopping cart may be a conventional electronic shopping cart which enables the user to purchase the object or flag it to the user's wish list for future purchase. The viewer 124, VOHE 300, or system 100 tracks objects purchased by the user and items added to the user's wish list, and such information may be used to analyze the user's buying trends etc. More particularly, an analytics database records the interactions of the consumer. The analytics database stores information regarding the video files or types of video files (genre or the like) accessed by the consumer, the objects selected by the consumer, items purchased by the consumer. The analytics database may be stored on or accessible to (via the distributed network, e.g., internet) the VOHE 300 or system 100. The viewer 124 also enables the user to manually indicate that the user owns a given object even if it was not purchased through the VOHE 300.</p> <p>The VOHE 300 allows the user to share individual video objects or create and share a collection of video objects with one or more friends by selecting the video objects or the collection of objects and selecting individual friends or sets of friends (FIG. 9 steps 906C and 910B, and FIG. 10C). The viewer 124 may include a software plug-in application for a social networking site (Facebook® application, Twitter® application, Instagram® application, Vine® application, Snapchat® application) or the like which enables the user to add the video object to the user's social network account without leaving the portal (VOHE 300) through which the user was viewing the video. As used herein the term social networking site is equivalent in all respects to social networking server and encompasses Facebook application, Twitter application, etc. which enable a user</p>
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		<p>to share information to a wide audience with or without specifying individual recipients.</p> <p>The plug-in application also enables the user to share the image/video segment etc with one or more social networking contacts (“Facebook friends, Instagram followers, etc.”). The plug-in application is software. The plug-in may share data linking or pointing to the video object or library of such objects. The video object or library of video objects may be stored on the YOM 300 or on the user's computer 400. Data transferred to Facebook or other social networking sites may also be stored on a 3d party server such as or the like, or the social networking site may simply store a link to data stored on the VOHE 300.” Ohliger at 24:29-26:3.</p> <p>“FIG. 16: The feed is a dynamic stream of user-created content. Each video plays on a constant loop. Hashtags help VeePiO users brand and sort their Veep'd videos. Viewers can like, comment on, and re-VeeP any video.</p> <p>FIG. 17: VeePiO thrives on community. Commenting is easy and encouraged via standard pathways like the feed, and through product sub-comments. Beyond that VeePiO media can be shared anywhere online.</p> <p>FIG. 18: VeePiO is simple to use. Tap any Veep'd object and instantly gain the ability to make it your own. (1st screen) Veepio users can also share and view comments for individual objects. (2nd screen) Tapping “I want it!” walks users through an easy in-app purchase flow. (2nd and 3rd screen)” Ohliger at 28:38-56.</p> <p>“FIG. 26: Veepio users can also share and view sub-comments related to individual products.” Ohliger at 29:15-16.</p> <p>“i. Creators of the video and viewers of the video are able to post comments related to the video and/or the at least one interactive object in the video that are displayed when the overlay that tracks the interactive object is clicked or touched. The comments are specific to only the interactive object they are related to.</p> <p>ii. The creators of the video are able to associate other content like comments, pictures, links, audio files to the interactive objects. This content appears when the objects are hovered over, clicked or touched.” Ohliger at 30:55-64.</p>
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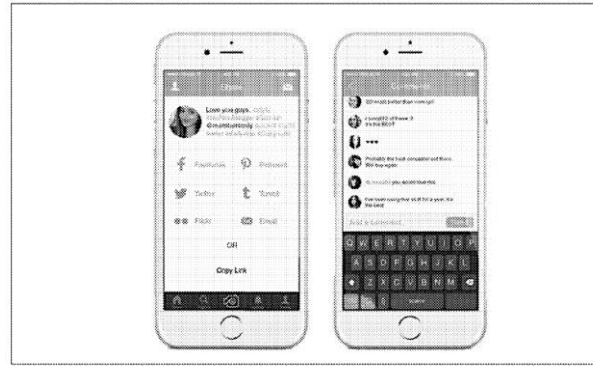


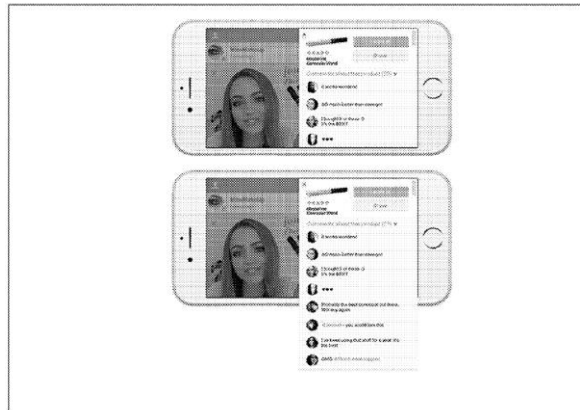
Fig. 17

Comment & Share

Ohliger at Fig. 17.

Fig. 26

Share & Comment



Ohliger at Fig. 26

Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge

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		<p>of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
1[c][iv]	<p>past interaction activity between a plurality of users in the social media portion, and</p>	<p>Ohliger discloses “past interaction activity between a plurality of users in the social media portion, and ” See e.g.:</p> <p>“The present invention is a system 100 for automatically segmenting video into video objects, classifying the video objects either automatically or by the creator of the video, assembling a database of the classified video objects, defining region definition data representing each video object on an interactive layer, auctioning the rights to a hyperlink that is either displayed or associated with a button that appears when an object is interacted with by a viewer of the video, or that is connected directly to the object so that when a viewer clicks or touches the object while watching the video they are directed to a website or other content that the hyperlink is pointing to. Allowing the creator of the video to associate comments, pictures, audio, hyperlinks, and other content with interactive areas around objects in their videos. Allowing viewers of the video to interact with objects in the video by clicking or touching areas around objects in the video, and further allowing viewers to comment about those objects, share those objects by way of the internet or social media, and purchase those objects, or other objects associated with the objects by way of the previously mentioned hyperlinks. These hyperlinks associated with video objects are auctioned on a video object hyperlink exchange (hereinafter “VOHE”) 300, and creating a video overlay with region definition data linking relevant content with the video content objects and thereby creating an interactive video. The creator of the video is reimbursed for the content by receiving a mutually agreed to percentage of the profits generated by the auction of the hyperlinks within the creators content. The region is a portion of the video frame which is congruent with the underlying video object. The region definition data defines such portion of the video frame. The system 100 of the present invention consists of several distinct yet related components.</p>

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		<p>One aspect of the invention relates to the creation of an inventory of video objects and corresponding region definition data. The video object inventory 114 is a database containing region definition data in form of pointers or references to video objects within video or animation files. Importantly, the region definition data is used to make the video interactive by providing the ability to link supplemental information with a specific video object within a video. For example, the video viewer can select a shirt displayed within the video and learn the brand and model of the shirt and other relevant information. Further, the viewer can also see comments, pictures, audio, and other content associated with the object by the creator of the video. The invention associates the relevant information with the video object thereby making the object a selectable hyperlink, meaning that the viewer can click or touch the object in any frame of the video in which the object appears and the related content will be revealed.” Ohliger at 8:58-9:41.</p> <p>“The invention also includes giving video viewers the ability to comment and communicate with each other and with the creator of the video in regards to a specific interactive object in the video. This is referred to as “sub-comments” and it differs from current comments on the internet and on social media in that sub-comments are accessed by viewers within the content related to the interaction of the viewer with a specific object within a video as opposed to comments that relate to the video as a whole.” Ohliger at 11:11-20.</p> <p>“The viewer 124 uses a computer, mobile phone or another electronic device that connects to the internet or to a social network 400 (FIG. 3) to access the video content made available by broadcaster 120 on a web site or social network or application or the like accessible over a distributed network such as the Internet. Computer 400 includes a processor 202 which is connected via BUS 204 to a mass storage device 206, Read-Only-Memory (ROM) 208 and Random Access Memory (RAM) 210 (which may be volatile or nonvolatile). A web browser executes on the processor and is used to access web sites on the Internet. The viewer 124 interacts with the video overlay by selecting or rolling over a region representing a video object using a conventional pointing device 218, and/or</p>
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	<p>using a touch sensitive screen 214 such as is known in the art. Interaction by the video viewer 124 triggers display of supplemental content such as information provided by the creator of the video, comments by other viewers, or any other associated content including original, organic, advertising, links to other content, and/or paid content by retailers/brands/affiliates/advertisers that purchased rights on the VOHE. The retailers/brands/affiliates/advertisers 122 are bidding on the right to supply the relevant content using an embedded hyperlink.” Ohliger at 22:27-50.</p> <p>“A further aspect of the invention will be described with reference to FIGS. 9-11. FIG. 9 is a high level flowchart showing the interactions of a viewer with the VOHE 300. FIGS. 10A-10D and 11A-11B are a graphical depiction of various steps in the flowchart of FIG. 9. In step 900 the viewer 124 views video content having video objects. As described above, the video presentation slows or stops as the user points at or rolls-over (step 902) the presentation screen, and selects a video object using a pointing device such as a mouse or a finger (or the like) on a display screen which may be touch sensitive (FIG. 9 step 904 and FIG. 10A). Selecting refers to both rolling-over the object with the pointing device (without a mouse click or a keyboard command) and to positioning the pointing device over the object and actuating one of the buttons on the mouse or keyboard. In a traditional TV setting the user may use the 5-star control of a remote controller to select a video object.</p> <p>Once the object has been selected (FIG. 9 step 904 and FIG. 10B), the viewer displays an abstract of the video object in the form of an overlay on top of the current viewing window or on a new window adjacent the current viewing panel. The Abstract may include descriptive information (relevant content) about the object (name, brand name, make, model, vendor, price, etc) and classification information about the object or it may be information provided by the creator of the video like a comment about the object, a picture, comments by other viewers, and/or the ability to share the video, video object, or associated content over the internet or through social networks.</p> <p>The user (viewer of video) 124 is presented with a menu of options (FIG. 10C). For example, the viewer 124 may search for other occurrences of the object in</p>
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		<p>both the current video or in other videos (FIG. 9 step 906A, and FIG. 11B). Moreover, the viewer may expand the search to encompass other objects which have similar classification such as the same make but different models (other Ferragamo shoes), or other red high heeled shoes, etc.</p> <p>In step 908A, the user is presented with a list of viewable video segments containing the selected video object. At this point the user can choose to view any of the segments and/or proceed to steps 906B, 906C or 906D.</p> <p>The viewer 124 may be presented with an option to retrieve more detailed information about the object (step 906B). Such information may include details about the materials or specifications of the object. The user may also be presented with the option to view a three-dimensional wire frame rendering of the object. The 3D wire frame is created by the VOHE 300 when the object is initially identified and classified. Depending on how many perspective facets of an object are available, a complete or partial 3D wire frame may exist for a given object. The viewer 124 presents the user with various options to manipulate and interact with the 3D wire frame. For example, the viewer 124 may rotate and zoom the 3D wire frame to display the rendering from different perspectives.</p> <p>As described above, the user may be presented with the option to add the video object to a shopping cart (FIG. 9 step 908B and FIG. 10C). Although not specifically illustrated in FIG. 9, the option to purchase may be nested under each of the menu items such that the user may always elect to purchase without having to retrace his/her steps. In fact, each of the menu options described herein may be organized in any number of ways and the inventive concept is not limited to the specific way they are presented. Thus, steps 906A-906D may be nested.</p> <p>The shopping cart may be a conventional electronic shopping cart which enables the user to purchase the object or flag it to the user's wish list for future purchase. The viewer 124, VOHE 300, or system 100 tracks objects purchased by the user and items added to the user's wish list, and such information may be used to analyze the user's buying trends etc. More particularly, an analytics database records the interactions of the consumer. The analytics database stores information regarding the video files or types of video files (genre or the like) accessed by the consumer, the objects selected by the consumer, items purchased by the consumer. The analytics database may be stored on or accessible to (via the</p>
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	<p>distributed network, e.g., internet) the VOHE 300 or system 100. The viewer 124 also enables the user to manually indicate that the user owns a given object even if it was not purchased through the VOHE 300.</p> <p>The VOHE 300 allows the user to share individual video objects or create and share a collection of video objects with one or more friends by selecting the video objects or the collection of objects and selecting individual friends or sets of friends (FIG. 9 steps 906C and 910B, and FIG. 10C). The viewer 124 may include a software plug-in application for a social networking site (Facebook® application, Twitter® application, Instagram® application, Vine® application, Snapchat® application) or the like which enables the user to add the video object to the user's social network account without leaving the portal (VOHE 300) through which the user was viewing the video. As used herein the term social networking site is equivalent in all respects to social networking server and encompasses Facebook application, Twitter application, etc. which enable a user to share information to a wide audience with or without specifying individual recipients.</p> <p>The plug-in application also enables the user to share the image/video segment etc with one or more social networking contacts (“Facebook friends, Instagram followers, etc.”). The plug-in application is software. The plug-in may share data linking or pointing to the video object or library of such objects. The video object or library of video objects may be stored on the YOM 300 or on the user's computer 400. Data transferred to Facebook or other social networking sites may also be stored on a 3d party server such as or the like, or the social networking site may simply store a link to data stored on the VOHE 300.” Ohliger at 24:29-26:3.</p> <p>“FIG. 16: The feed is a dynamic stream of user-created content. Each video plays on a constant loop. Hashtags help VeePiO users brand and sort their Veep'd videos. Viewers can like, comment on, and re-VeeP any video.</p> <p>FIG. 17: VeePiO thrives on community. Commenting is easy and encouraged via standard pathways like the feed, and through product sub-comments. Beyond that VeePiO media can be shared anywhere online.</p>
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FIG. 18: VeePiO is simple to use. Tap any Veep'd object and instantly gain the ability to make it your own. (1st screen) Veepio users can also share and view comments for individual objects. (2nd screen) Tapping “I want it!” walks users through an easy in-app purchase flow. (2nd and 3rd screen)” Ohliger at 28:38-56.

“FIG. 26: Veepio users can also share and view sub-comments related to individual products.” Ohliger at 29:15-16.

“i. Creators of the video and viewers of the video are able to post comments related to the video and/or the at least one interactive object in the video that are displayed when the overlay that tracks the interactive object is clicked or touched. The comments are specific to only the interactive object they are related to.
ii. The creators of the video are able to associate other content like comments, pictures, links, audio files to the interactive objects. This content appears when the objects are hovered over, clicked or touched.” Ohliger at 30:55-64.

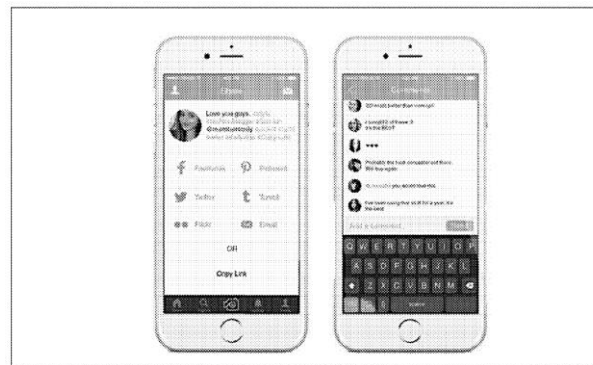


Fig. 17

Comment & Share

Ohliger at Fig. 17.

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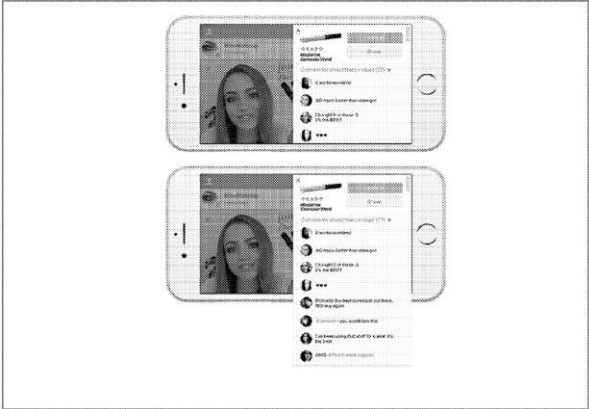
		<p style="text-align: center;">Fig. 26 Share & Comment</p>  <p>Ohliger at Fig. 26</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
1[c][v]	<p>wherein the user is capable of maintaining and toggling between a plurality of different conversations displayable in the social media portion in the second interactive video layer as an overlay to the video media displayed by the first media playback device,</p>	<p>Ohliger discloses “wherein the user is capable of maintaining and toggling between a plurality of different conversations displayable in the social media portion in the second interactive video layer as an overlay to the video media displayed by the first media playback device,” See e.g.:</p> <p>“The present invention is a system 100 for automatically segmenting video into video objects, classifying the video objects either automatically or by the creator of the video, assembling a database of the classified video objects, defining region definition data representing each video object on an interactive layer, auctioning the rights to a hyperlink that is either displayed or associated with a button that</p>

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		<p>appears when an object is interacted with by a viewer of the video, or that is connected directly to the object so that when a viewer clicks or touches the object while watching the video they are directed to a website or other content that the hyperlink is pointing to. Allowing the creator of the video to associate comments, pictures, audio, hyperlinks, and other content with interactive areas around objects in their videos. Allowing viewers of the video to interact with objects in the video by clicking or touching areas around objects in the video, and further allowing viewers to comment about those objects, share those objects by way of the internet or social media, and purchase those objects, or other objects associated with the objects by way of the previously mentioned hyperlinks. These hyperlinks associated with video objects are auctioned on a video object hyperlink exchange (hereinafter “VOHE”) 300, and creating a video overlay with region definition data linking relevant content with the video content objects and thereby creating an interactive video. The creator of the video is reimbursed for the content by receiving a mutually agreed to percentage of the profits generated by the auction of the hyperlinks within the creators content. The region is a portion of the video frame which is congruent with the underlying video object. The region definition data defines such portion of the video frame. The system 100 of the present invention consists of several distinct yet related components.</p> <p>One aspect of the invention relates to the creation of an inventory of video objects and corresponding region definition data. The video object inventory 114 is a database containing region definition data in form of pointers or references to video objects within video or animation files. Importantly, the region definition data is used to make the video interactive by providing the ability to link supplemental information with a specific video object within a video. For example, the video viewer can select a shirt displayed within the video and learn the brand and model of the shirt and other relevant information. Further, the viewer can also see comments, pictures, audio, and other content associated with the object by the creator of the video. The invention associates the relevant information with the video object thereby making the object a selectable hyperlink, meaning that the viewer can click or touch the object in any frame of the video in which the object appears and the related content will be revealed.” Ohliger at 8:58-9:41.</p>
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		<p>“The invention also includes giving video viewers the ability to comment and communicate with each other and with the creator of the video in regards to a specific interactive object in the video. This is referred to as “sub-comments” and it differs from current comments on the internet and on social media in that sub-comments are accessed by viewers within the content related to the interaction of the viewer with a specific object within a video as opposed to comments that relate to the video as a whole.” Ohliger at 11:11-20.</p> <p>“The viewer 124 uses a computer, mobile phone or another electronic device that connects to the internet or to a social network 400 (FIG. 3) to access the video content made available by broadcaster 120 on a web site or social network or application or the like accessible over a distributed network such as the Internet. Computer 400 includes a processor 202 which is connected via BUS 204 to a mass storage device 206, Read-Only-Memory (ROM) 208 and Random Access Memory (RAM) 210 (which may be volatile or nonvolatile). A web browser executes on the processor and is used to access web sites on the Internet. The viewer 124 interacts with the video overlay by selecting or rolling over a region representing a video object using a conventional pointing device 218, and/or using a touch sensitive screen 214 such as is known in the art. Interaction by the video viewer 124 triggers display of supplemental content such as information provided by the creator of the video, comments by other viewers, or any other associated content including original, organic, advertising, links to other content, and/or paid content by retailers/brands/affiliates/advertisers that purchased rights on the VOHE. The retailers/brands/affiliates/advertisers 122 are bidding on the right to supply the relevant content using an embedded hyperlink.” Ohliger at 22:27-50.</p> <p>“A further aspect of the invention will be described with reference to FIGS. 9-11. FIG. 9 is a high level flowchart showing the interactions of a viewer with the VOHE 300. FIGS. 10A-10D and 11A-11B are a graphical depiction of various steps in the flowchart of FIG. 9. In step 900 the viewer 124 views video content having video objects. As described above, the video presentation slows or stops as</p>
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		<p>the user points at or rolls-over (step 902) the presentation screen, and selects a video object using a pointing device such as a mouse or a finger (or the like) on a display screen which may be touch sensitive (FIG. 9 step 904 and FIG. 10A). Selecting refers to both rolling-over the object with the pointing device (without a mouse click or a keyboard command) and to positioning the pointing device over the object and actuating one of the buttons on the mouse or keyboard. In a traditional TV setting the user may use the 5-star control of a remote controller to select a video object.</p> <p>Once the object has been selected (FIG. 9 step 904 and FIG. 10B), the viewer displays an abstract of the video object in the form of an overlay on top of the current viewing window or on a new window adjacent the current viewing panel. The Abstract may include descriptive information (relevant content) about the object (name, brand name, make, model, vendor, price, etc) and classification information about the object or it may be information provided by the creator of the video like a comment about the object, a picture, comments by other viewers, and/or the ability to share the video, video object, or associated content over the internet or through social networks.</p> <p>The user (viewer of video) 124 is presented with a menu of options (FIG. 10C). For example, the viewer 124 may search for other occurrences of the object in both the current video or in other videos (FIG. 9 step 906A, and FIG. 11B). Moreover, the viewer may expand the search to encompass other objects which have similar classification such as the same make but different models (other Ferragamo shoes), or other red high heeled shoes, etc.</p> <p>In step 908A, the user is presented with a list of viewable video segments containing the selected video object. At this point the user can choose to view any of the segments and/or proceed to steps 906B, 906C or 906D.</p> <p>The viewer 124 may be presented with an option to retrieve more detailed information about the object (step 906B). Such information may include details about the materials or specifications of the object. The user may also be presented with the option to view a three-dimensional wire frame rendering of the object. The 3D wire frame is created by the VOHE 300 when the object is initially identified and classified. Depending on how many perspective facets of an object are available, a complete or partial 3D wire frame may exist for a given object.</p>
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		<p>The viewer 124 presents the user with various options to manipulate and interact with the 3D wire frame. For example, the viewer 124 may rotate and zoom the 3D wire frame to display the rendering from different perspectives.</p> <p>As described above, the user may be presented with the option to add the video object to a shopping cart (FIG. 9 step 908B and FIG. 10C). Although not specifically illustrated in FIG. 9, the option to purchase may be nested under each of the menu items such that the user may always elect to purchase without having to retrace his/her steps. In fact, each of the menu options described herein may be organized in any number of ways and the inventive concept is not limited to the specific way they are presented. Thus, steps 906A-906D may be nested.</p> <p>The shopping cart may be a conventional electronic shopping cart which enables the user to purchase the object or flag it to the user's wish list for future purchase. The viewer 124, VOHE 300, or system 100 tracks objects purchased by the user and items added to the user's wish list, and such information may be used to analyze the user's buying trends etc. More particularly, an analytics database records the interactions of the consumer. The analytics database stores information regarding the video files or types of video files (genre or the like) accessed by the consumer, the objects selected by the consumer, items purchased by the consumer. The analytics database may be stored on or accessible to (via the distributed network, e.g., internet) the VOHE 300 or system 100. The viewer 124 also enables the user to manually indicate that the user owns a given object even if it was not purchased through the VOHE 300.</p> <p>The VOHE 300 allows the user to share individual video objects or create and share a collection of video objects with one or more friends by selecting the video objects or the collection of objects and selecting individual friends or sets of friends (FIG. 9 steps 906C and 910B, and FIG. 10C). The viewer 124 may include a software plug-in application for a social networking site (Facebook® application, Twitter® application, Instagram® application, Vine® application, Snapchat® application) or the like which enables the user to add the video object to the user's social network account without leaving the portal (VOHE 300) through which the user was viewing the video. As used herein the term social networking site is equivalent in all respects to social networking server and encompasses Facebook application, Twitter application, etc. which enable a user</p>
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		<p>to share information to a wide audience with or without specifying individual recipients.</p> <p>The plug-in application also enables the user to share the image/video segment etc with one or more social networking contacts (“Facebook friends, Instagram followers, etc.”). The plug-in application is software. The plug-in may share data linking or pointing to the video object or library of such objects. The video object or library of video objects may be stored on the YOM 300 or on the user's computer 400. Data transferred to Facebook or other social networking sites may also be stored on a 3d party server such as or the like, or the social networking site may simply store a link to data stored on the VOHE 300.” Ohliger at 24:29-26:3.</p> <p>“FIG. 16: The feed is a dynamic stream of user-created content. Each video plays on a constant loop. Hashtags help VeePiO users brand and sort their Veep'd videos. Viewers can like, comment on, and re-VeeP any video.</p> <p>FIG. 17: VeePiO thrives on community. Commenting is easy and encouraged via standard pathways like the feed, and through product sub-comments. Beyond that VeePiO media can be shared anywhere online.</p> <p>FIG. 18: VeePiO is simple to use. Tap any Veep'd object and instantly gain the ability to make it your own. (1st screen) Veepio users can also share and view comments for individual objects. (2nd screen) Tapping “I want it!” walks users through an easy in-app purchase flow. (2nd and 3rd screen)” Ohliger at 28:38-56.</p> <p>“FIG. 26: Veepio users can also share and view sub-comments related to individual products.” Ohliger at 29:15-16.</p> <p>“i. Creators of the video and viewers of the video are able to post comments related to the video and/or the at least one interactive object in the video that are displayed when the overlay that tracks the interactive object is clicked or touched. The comments are specific to only the interactive object they are related to.</p> <p>ii. The creators of the video are able to associate other content like comments, pictures, links, audio files to the interactive objects. This content appears when the objects are hovered over, clicked or touched.” Ohliger at 30:55-64.</p>
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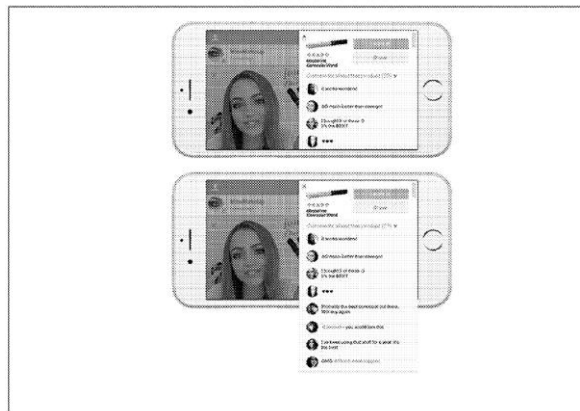
Fig. 17

Comment & Share

Ohliger at Fig. 17.

Fig. 26

Share & Comment



Ohliger at Fig. 26

Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge

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		<p>of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
1[c][vi]	<p>wherein the plurality of users either includes the user or does not include the user; and</p>	<p>Ohliger discloses “wherein the plurality of users either includes the user or does not include the user; and” See e.g.:</p> <p>“The present invention is a system 100 for automatically segmenting video into video objects, classifying the video objects either automatically or by the creator of the video, assembling a database of the classified video objects, defining region definition data representing each video object on an interactive layer, auctioning the rights to a hyperlink that is either displayed or associated with a button that appears when an object is interacted with by a viewer of the video, or that is connected directly to the object so that when a viewer clicks or touches the object while watching the video they are directed to a website or other content that the hyperlink is pointing to. Allowing the creator of the video to associate comments, pictures, audio, hyperlinks, and other content with interactive areas around objects in their videos. Allowing viewers of the video to interact with objects in the video by clicking or touching areas around objects in the video, and further allowing viewers to comment about those objects, share those objects by way of the internet or social media, and purchase those objects, or other objects associated with the objects by way of the previously mentioned hyperlinks. These hyperlinks associated with video objects are auctioned on a video object hyperlink exchange (hereinafter “VOHE”) 300, and creating a video overlay with region definition data linking relevant content with the video content objects and thereby creating an interactive video. The creator of the video is reimbursed for the content by receiving a mutually agreed to percentage of the profits generated by the auction of the hyperlinks within the creators content. The region is a portion of the video frame which is congruent with the underlying video object. The region definition data defines such portion of the video frame. The system 100 of the present invention consists of several distinct yet related components.</p>

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		<p>One aspect of the invention relates to the creation of an inventory of video objects and corresponding region definition data. The video object inventory 114 is a database containing region definition data in form of pointers or references to video objects within video or animation files. Importantly, the region definition data is used to make the video interactive by providing the ability to link supplemental information with a specific video object within a video. For example, the video viewer can select a shirt displayed within the video and learn the brand and model of the shirt and other relevant information. Further, the viewer can also see comments, pictures, audio, and other content associated with the object by the creator of the video. The invention associates the relevant information with the video object thereby making the object a selectable hyperlink, meaning that the viewer can click or touch the object in any frame of the video in which the object appears and the related content will be revealed.” Ohliger at 8:58-9:41.</p> <p>“The invention also includes giving video viewers the ability to comment and communicate with each other and with the creator of the video in regards to a specific interactive object in the video. This is referred to as “sub-comments” and it differs from current comments on the internet and on social media in that sub-comments are accessed by viewers within the content related to the interaction of the viewer with a specific object within a video as opposed to comments that relate to the video as a whole.” Ohliger at 11:11-20.</p> <p>“The viewer 124 uses a computer, mobile phone or another electronic device that connects to the internet or to a social network 400 (FIG. 3) to access the video content made available by broadcaster 120 on a web site or social network or application or the like accessible over a distributed network such as the Internet. Computer 400 includes a processor 202 which is connected via BUS 204 to a mass storage device 206, Read-Only-Memory (ROM) 208 and Random Access Memory (RAM) 210 (which may be volatile or nonvolatile). A web browser executes on the processor and is used to access web sites on the Internet. The viewer 124 interacts with the video overlay by selecting or rolling over a region representing a video object using a conventional pointing device 218, and/or</p>
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		<p>using a touch sensitive screen 214 such as is known in the art. Interaction by the video viewer 124 triggers display of supplemental content such as information provided by the creator of the video, comments by other viewers, or any other associated content including original, organic, advertising, links to other content, and/or paid content by retailers/brands/affiliates/advertisers that purchased rights on the VOHE. The retailers/brands/affiliates/advertisers 122 are bidding on the right to supply the relevant content using an embedded hyperlink.” Ohliger at 22:27-50.</p> <p>“A further aspect of the invention will be described with reference to FIGS. 9-11. FIG. 9 is a high level flowchart showing the interactions of a viewer with the VOHE 300. FIGS. 10A-10D and 11A-11B are a graphical depiction of various steps in the flowchart of FIG. 9. In step 900 the viewer 124 views video content having video objects. As described above, the video presentation slows or stops as the user points at or rolls-over (step 902) the presentation screen, and selects a video object using a pointing device such as a mouse or a finger (or the like) on a display screen which may be touch sensitive (FIG. 9 step 904 and FIG. 10A). Selecting refers to both rolling-over the object with the pointing device (without a mouse click or a keyboard command) and to positioning the pointing device over the object and actuating one of the buttons on the mouse or keyboard. In a traditional TV setting the user may use the 5-star control of a remote controller to select a video object.</p> <p>Once the object has been selected (FIG. 9 step 904 and FIG. 10B), the viewer displays an abstract of the video object in the form of an overlay on top of the current viewing window or on a new window adjacent the current viewing panel. The Abstract may include descriptive information (relevant content) about the object (name, brand name, make, model, vendor, price, etc) and classification information about the object or it may be information provided by the creator of the video like a comment about the object, a picture, comments by other viewers, and/or the ability to share the video, video object, or associated content over the internet or through social networks.</p> <p>The user (viewer of video) 124 is presented with a menu of options (FIG. 10C). For example, the viewer 124 may search for other occurrences of the object in</p>
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		<p>both the current video or in other videos (FIG. 9 step 906A, and FIG. 11B). Moreover, the viewer may expand the search to encompass other objects which have similar classification such as the same make but different models (other Ferragamo shoes), or other red high heeled shoes, etc.</p> <p>In step 908A, the user is presented with a list of viewable video segments containing the selected video object. At this point the user can choose to view any of the segments and/or proceed to steps 906B, 906C or 906D.</p> <p>The viewer 124 may be presented with an option to retrieve more detailed information about the object (step 906B). Such information may include details about the materials or specifications of the object. The user may also be presented with the option to view a three-dimensional wire frame rendering of the object. The 3D wire frame is created by the VOHE 300 when the object is initially identified and classified. Depending on how many perspective facets of an object are available, a complete or partial 3D wire frame may exist for a given object. The viewer 124 presents the user with various options to manipulate and interact with the 3D wire frame. For example, the viewer 124 may rotate and zoom the 3D wire frame to display the rendering from different perspectives.</p> <p>As described above, the user may be presented with the option to add the video object to a shopping cart (FIG. 9 step 908B and FIG. 10C). Although not specifically illustrated in FIG. 9, the option to purchase may be nested under each of the menu items such that the user may always elect to purchase without having to retrace his/her steps. In fact, each of the menu options described herein may be organized in any number of ways and the inventive concept is not limited to the specific way they are presented. Thus, steps 906A-906D may be nested.</p> <p>The shopping cart may be a conventional electronic shopping cart which enables the user to purchase the object or flag it to the user's wish list for future purchase. The viewer 124, VOHE 300, or system 100 tracks objects purchased by the user and items added to the user's wish list, and such information may be used to analyze the user's buying trends etc. More particularly, an analytics database records the interactions of the consumer. The analytics database stores information regarding the video files or types of video files (genre or the like) accessed by the consumer, the objects selected by the consumer, items purchased by the consumer. The analytics database may be stored on or accessible to (via the</p>
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		<p>distributed network, e.g., internet) the VOHE 300 or system 100. The viewer 124 also enables the user to manually indicate that the user owns a given object even if it was not purchased through the VOHE 300.</p> <p>The VOHE 300 allows the user to share individual video objects or create and share a collection of video objects with one or more friends by selecting the video objects or the collection of objects and selecting individual friends or sets of friends (FIG. 9 steps 906C and 910B, and FIG. 10C). The viewer 124 may include a software plug-in application for a social networking site (Facebook® application, Twitter® application, Instagram® application, Vine® application, Snapchat® application) or the like which enables the user to add the video object to the user's social network account without leaving the portal (VOHE 300) through which the user was viewing the video. As used herein the term social networking site is equivalent in all respects to social networking server and encompasses Facebook application, Twitter application, etc. which enable a user to share information to a wide audience with or without specifying individual recipients.</p> <p>The plug-in application also enables the user to share the image/video segment etc with one or more social networking contacts (“Facebook friends, Instagram followers, etc.”). The plug-in application is software. The plug-in may share data linking or pointing to the video object or library of such objects. The video object or library of video objects may be stored on the YOM 300 or on the user's computer 400. Data transferred to Facebook or other social networking sites may also be stored on a 3d party server such as or the like, or the social networking site may simply store a link to data stored on the VOHE 300.” Ohliger at 24:29-26:3.</p> <p>“FIG. 16: The feed is a dynamic stream of user-created content. Each video plays on a constant loop. Hashtags help VeePiO users brand and sort their Veep'd videos. Viewers can like, comment on, and re-VeeP any video.</p> <p>FIG. 17: VeePiO thrives on community. Commenting is easy and encouraged via standard pathways like the feed, and through product sub-comments. Beyond that VeePiO media can be shared anywhere online.</p>
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FIG. 18: VeePiO is simple to use. Tap any Veep'd object and instantly gain the ability to make it your own. (1st screen) Veepio users can also share and view comments for individual objects. (2nd screen) Tapping “I want it!” walks users through an easy in-app purchase flow. (2nd and 3rd screen)” Ohliger at 28:38-56.

“FIG. 26: Veepio users can also share and view sub-comments related to individual products.” Ohliger at 29:15-16.

“i. Creators of the video and viewers of the video are able to post comments related to the video and/or the at least one interactive object in the video that are displayed when the overlay that tracks the interactive object is clicked or touched. The comments are specific to only the interactive object they are related to.
ii. The creators of the video are able to associate other content like comments, pictures, links, audio files to the interactive objects. This content appears when the objects are hovered over, clicked or touched.” Ohliger at 30:55-64.

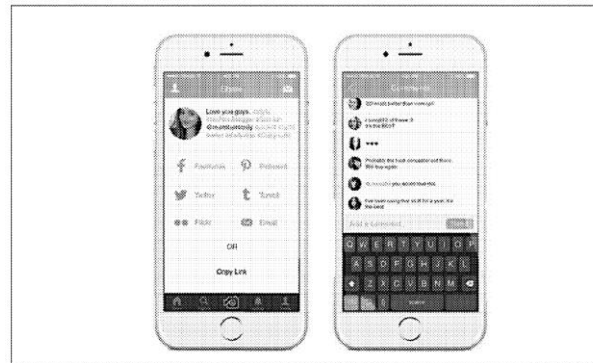


Fig. 17

Comment & Share

Ohliger at Fig. 17.

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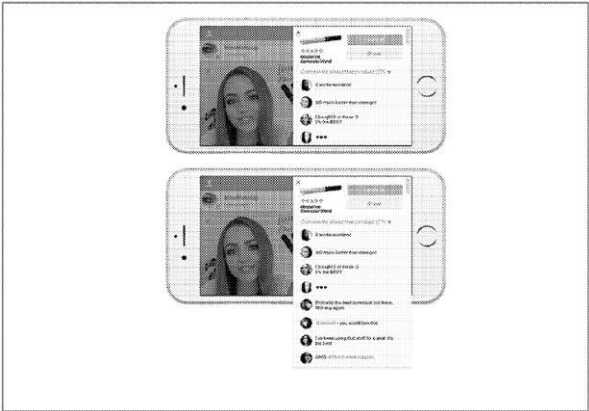
		<p style="text-align: center;">Fig. 26 Share & Comment</p>  <p>Ohliger at Fig. 26</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
1[d]	d) distributing information associated with the one or more items, services, or songs in the video media to the user.	<p>Ohliger discloses “distributing information associated with the one or more items, services, or songs in the video media to the user.” See e.g.:</p> <p>“In step 720, the video objects are compared with objects in an object library, which may be 2D (two-dimensional) or 3D (three-dimensional) wire frame data representing objects within the video. Perspective views from such 2D/3D wire frame models may be advantageous to the automatic object recognition process. This step is optional. If a match is detected then the object is associated with the product description and/or meta-data from the object library. The unmatched video object may be discarded or subjected to a secondary processing application</p>

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		<p>and/or an analyst may manually identify/configure the object boundaries (step 730), and then the object may be subject to another classification step (710) and/or another comparison with objects in the object library (720). The creator of the video can also choose which objects they want to make interactive (705) and they can identify those objects with a dynamic bounding area that will change size proportionate to the change in size of the object from frame to frame as it is tracked by an object tracking algorithm. The creator can also describe, comment and add additional content to an object in the video that they have chosen to make interactive (715). This content will appear to a viewer when they interact with the bounding area around the object in any frame that the object appears by clicking, hovering over, or touching any point within the bounding area.</p> <p>In step 740, the video objects are published to the market exchange and subject to an automated auction process. The auction allows retailers, brands, and affiliates/advertisers to bid for the right to assign a hyperlink to a video object that takes a viewer of the video who has interacted with that object to a website where that object or any object the winning bidder chooses can be purchased, or to any other content the winning bidder would like to associate with that object.</p> <p>In step 745 a video overlay is created which links the video object with the winning bidders provided content, and in step 750 the video overlay with region definition data is transmitted to the video broadcaster 120.</p> <p>In step 760, a video viewer interacts with the video overlay by rolling-over or selecting a video region thereby triggering the display of relevant content associated with the video object. It should be appreciated that rolling over may illicit the display of different relevant content than that displayed when the object is selected. For example, selecting an object may trigger more detailed information than that displayed when the object is simply rolled-over with the pointing device.</p> <p>In step 770 (optional), the VOHE 300 records the viewer interaction with the video objects and updates the viewer's behavioral profile. It should be noted that the video viewer's interactions with the video overlay (and the video objects) generally triggers the display of relevant content from the VOHE 300. This enables the content associated with a video object to be updated on-the-fly without the need to alter the video overlay. The video overlay makes the video</p>
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		<p>interactive by making video regions selectable, the content comes from the object database that stores information submitted from the creator of the video as well as comments by viewers, in addition, content also comes from the VOHE 300 in the form of hyperlinks supplied by the winning bidders.</p> <p>In step 780 (optional), the VOHE 100 completes a sales transaction initiated by the viewer's interactions with the video region representing the video object. As will be explained below in further detail, the VOHE 300 may enable the viewer to complete a sales transaction by following the hyperlink provided by the winning bidder to an online retailer.” Ohliger at 12:4-13:3.</p> <p>“It is important to note that the video objects are used to create selectable regions (hyperlinks) which dynamically track the movement, size and position of the object throughout the video.</p> <p>3D Rotoscoping</p> <p>FIG. 12 is a high level flow diagram for 3-dimensional rotoscoping. The process begins in step 1200 with selecting a given video object.</p> <p>If only one perspective of the video object is available (step 1202A) in the video then a two-dimensional wire frame of the video object is created. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in a video object database (such as object information library 112 (step 1208).</p> <p>If additional perspectives for the video object subsequently become available (step 1202B) then a three-dimensional (3D) wire frame is created (step 1206) or the new perspectives are used to update the existing three-dimensional wireframe. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in the video object database (step 1208).</p> <p>In step 1210 the user (video consumer) is presented with viewing options such as rotating of the object or zoom. It is also possible to “replace” video objects (step 1212) in the video by superimposing a modified or new animated object including light and shadows of surrounding video objects over the existing video object. For example, an obscured appearance of a video object such as a can of Pepsi® can be replaced (superimposed) with an animated object (3-dimensional wireframe of the</p>
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		<p>object) without the need to re-shoot the video. It is even possible to superimpose an animated object (3-dimensional wireframe of the object) of a can of Coca-Cola® over the can of Pepsi.</p> <p>The present invention further includes a system for making an interactive overlay for a video. The system includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server includes one or more video files stored in a video database. The system further includes object inventory database 112 stored on the server 300 and containing information describing a location (size, shape, orientation) of at least one video object within one of the video files. The object inventory database 112 may be compiled using any of the systems or methods disclosed in this specification or equivalents thereof. An overlay generation application (software or firmware) is stored and executed on the server 300. The overlay generation application creates a video overlay including at least one selectable hyperlink whose shape and position (coordinates) track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. In some cases the overlay is transparent; however, as will be explained below in some cases the overlay may include animated representations of video objects which are superimposed over and replace/obscure the underlying video object. The system may optionally include a wireframe database 112A stored on the server 300 or the wireframe database may be included within the object inventory database 112 or any other database stored on the server. The wire frame database 112A stores three-dimensional wireframe representations of at least one video object.</p> <p>The overlay generation application may optionally match occurrences of video objects in the object inventory library with three-dimensional wireframe representations of the video object (stored in the wireframe library database or the object inventory database) and create a video overlay including matched wire frame representations wherein the shape and position of the wireframe representation tracks a dynamic location of the video object in the video. In other words, the wireframe representation of the object is superimposed over the</p>
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		<p>corresponding video object. The superimposed wireframe representation obscures (replaces) the video object.</p> <p>The wire frame library database 112A may optionally include a lighting model which defines/specifies the light distribution on the video object. For each occurrence of a video object in a video frame the lighting model would define/specify the light distribution on the video object.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database 112 stored on (or accessible by) the server and containing information describing a location of at least one video object within one of the video files. The system includes a wireframe database stored on (or accessible by) the server, the wireframe database storing three-dimensional wireframe representations of at least one video object; and an overlay generation application (software or firmware) executed on the server. The overlay generation application matches occurrences of video objects in the object inventory library with corresponding three-dimensional wireframe representations of the video object and creates a video overlay including matched wireframe representations of the video object wherein the shape and position (coordinates) of the wireframe representation track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database stored on the server and containing information describing coordinates of at least one video object within one of the video files. The system further includes a wireframe database stored on the server, the</p>
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		<p>wireframe database stores three-dimensional wireframe representations of at least one video object. A wireframe generation application (software or firmware) executed on the server selects video objects from the video object inventory database and generates a three-dimensional wire frame of the selected video object from multiple perspective occurrences of the video object in the video file and stores the three-dimensional wireframe in the wireframe database. The wireframe generation application may optionally generate a lighting model for each occurrence of a video object in a video frame from light distribution on the video object.</p> <p>The system may further include an overlay generation application (software or firmware) executed on the server which matches occurrences of video objects in the object inventory library 112 with corresponding three-dimensional wire frame representations stored in the wire frame library 112A. The overlay generation application creates a video overlay including matched wireframe representations of the video objects wherein the shape and position of the wireframe representation tracks the dynamic location of the video object in the video. The overlay generation application stores the overlay on the server. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>The creation of three-dimensional wire frames and lighting models is well known in the art and is disclosed in the following U.S. patents whose disclosure are hereby incorporated by reference: U.S. Pat. No. 7,602,404 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,983,082 entitled Reality-based light environment for digital imaging in motion pictures; U.S. Pat. No. 6,954,202 entitled Image-based methods of representation and rendering of three dimensional object and animated three-dimensional object; U.S. Pat. No. 6,919,962 entitled Reflectometry apparatus and method; U.S. Pat. No. 6,858,826 entitled Method and apparatus for scanning three-dimensional objects; U.S. Pat. No. 6,685,326 entitled Realistic scene lighting simulation; U.S. Pat. No. 6,628,298 entitled Apparatus and method for rendering synthetic objects into real scenes using measurements of scene illumination; U.S. Pat. No. 6,529,206 entitled Image processing apparatus and method, and medium therefore; U.S. Pat. No. 6,504,546 entitled Method of modeling objects to</p>
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synthesize three-dimensional, photo-realistic animations; U.S. Pat. No. 6,434,265 entitled Aligning rectilinear images in 3D through projective registration and calibration; U.S. Pat. No. 6,333,749 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,281,904 entitled Multi-source texture reconstruction and fusion; and U.S. Pat. No. 6,281,903 entitled Methods and apparatus for embedding 2D image content into 3D models.” Ohliger at 18:45-21:16.

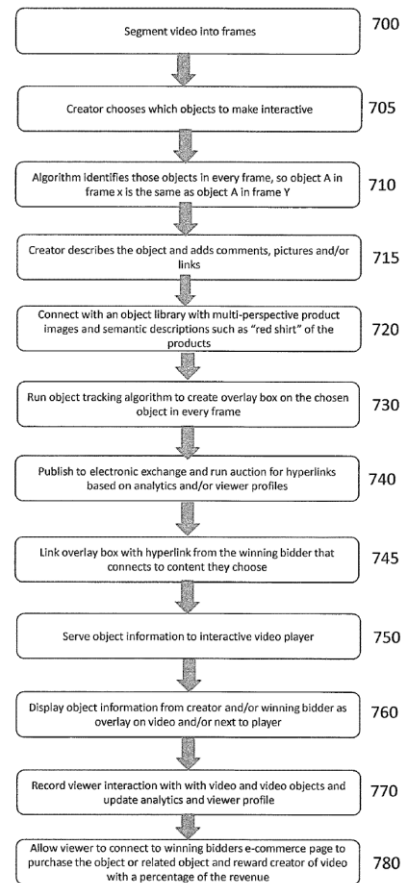


Fig. 1
 Ohliger at Fig. 1.

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Flowchart: viewer

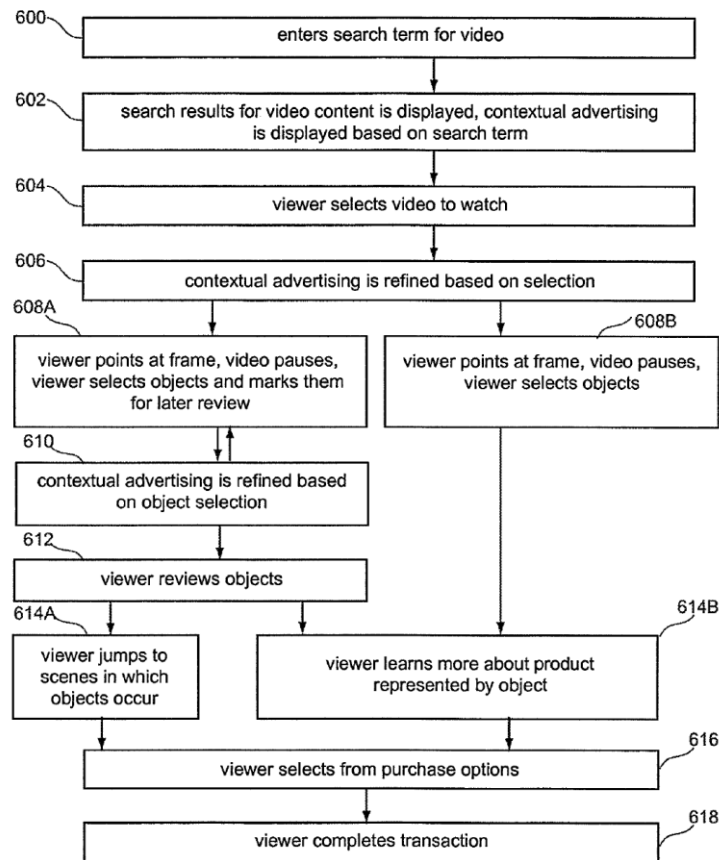


FIG. 5
Ohliger at Fig. 5.

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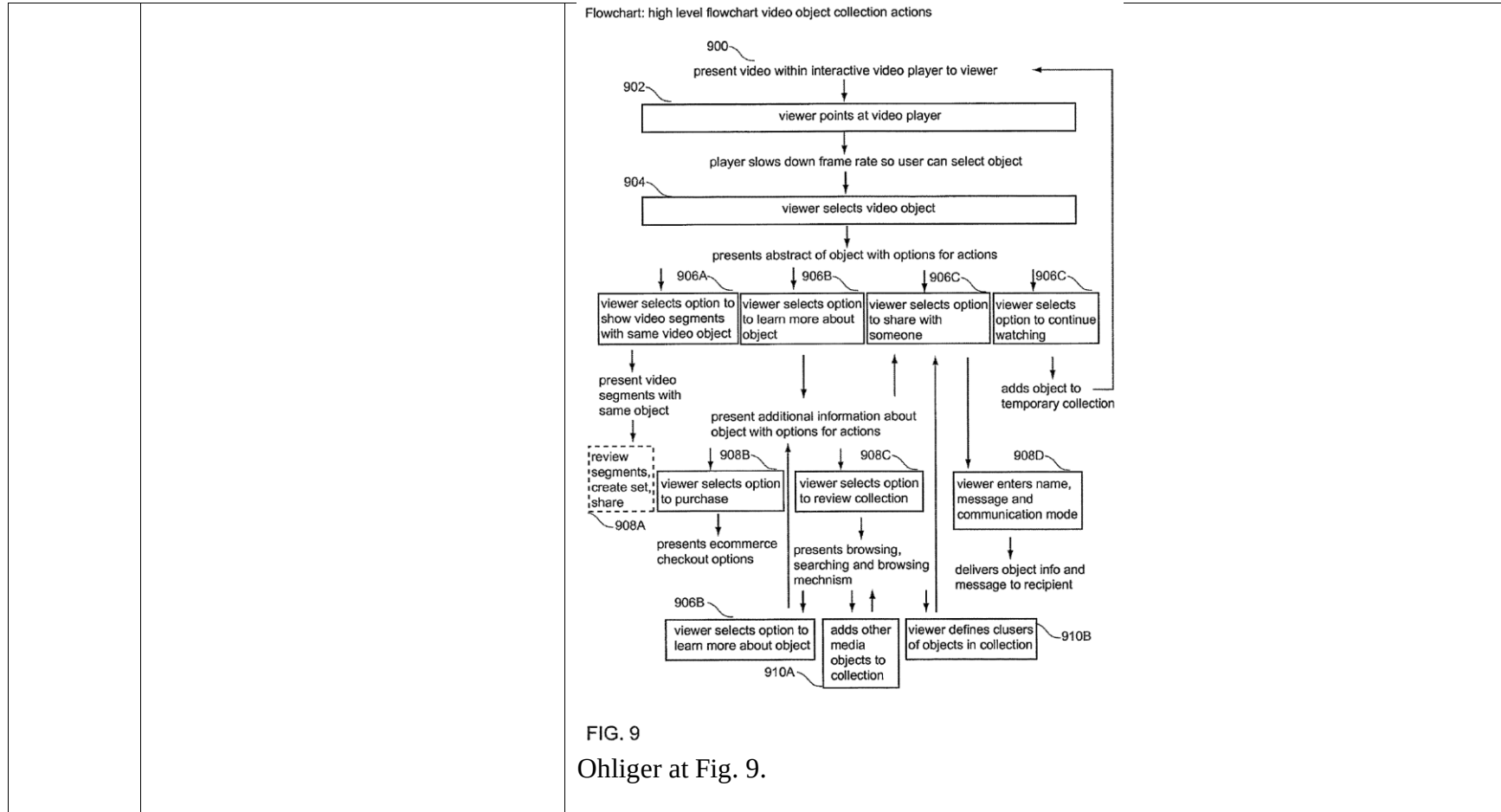


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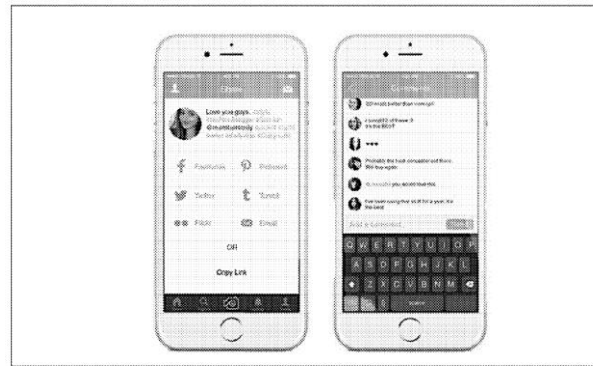
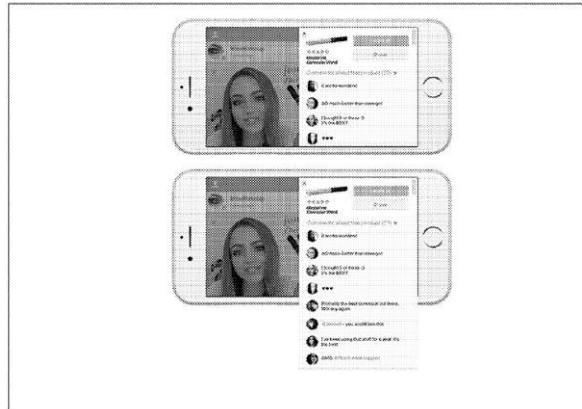


Fig. 17
Comment & Share

Ohliger at Fig. 17.

Fig. 26
Share & Comment



Ohliger at Fig. 26.

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Fig. 18
Shop VeePIO

Ohliger at Fig. 18.

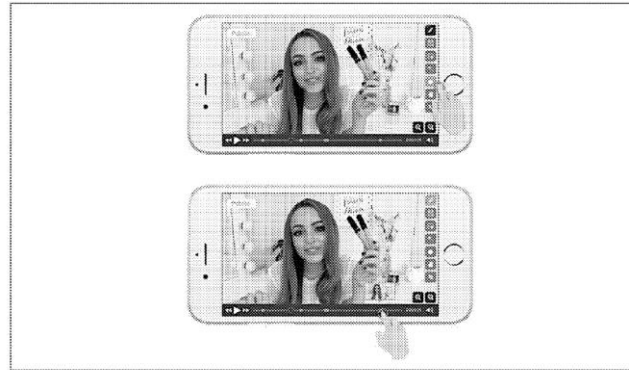
Fig. 20
How to Veep



Ohliger at Fig. 20.

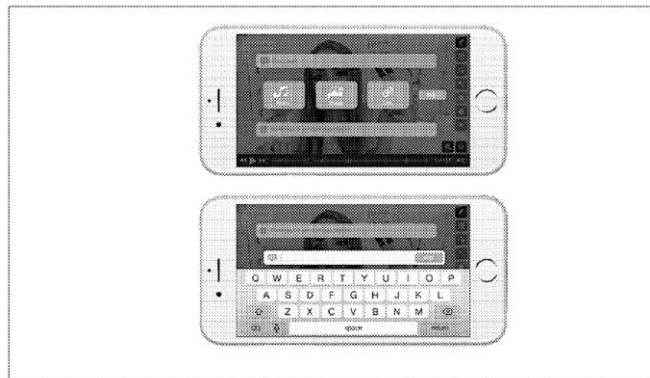
Exhibit 316-A13
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Fig. 21
Veep Editing Room



Ohliger at Fig. 21.

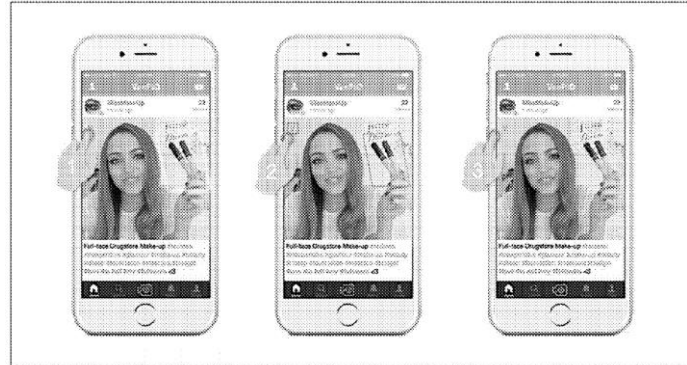
Fig. 22
Object Details



Ohliger at Fig. 21.

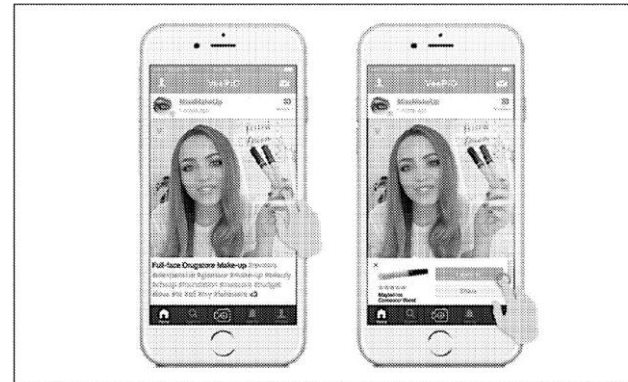
Exhibit 316-A13
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Fig. 23
"V"isibility



Ohliger at Fig. 23.

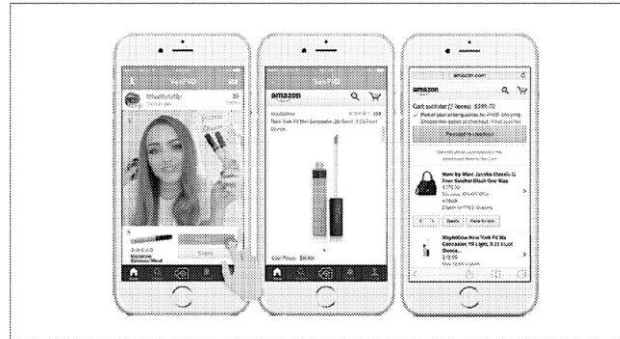
Fig. 24
I Want it!



Ohliger at Fig. 24.

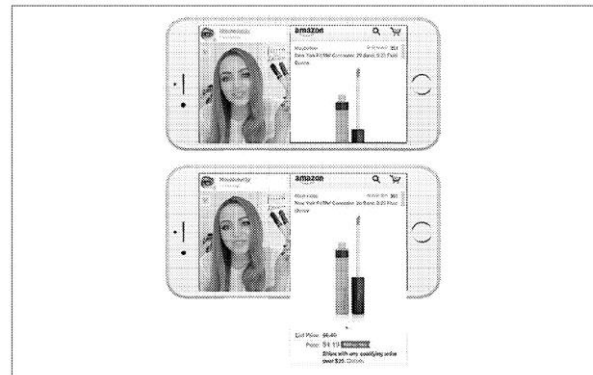
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Fig. 25
I Want it! Continued



Ohliger at Fig. 25.

Fig. 28
Buy Via Split Screen



Ohliger at Fig. 28.

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		VEEPIO database of personalized objects (Veep'd objects) - URL is auctioned for each purchase					
		Media source	URL (all are http://veepio/...)	Frames of media source that contain the object (for video media sources)	Object identifier SKU/UPC/EAN/ASIN/Model #/Mfr # (if available) (Entry in VEEPIO database of described objects)	Content owner's description of object (details other than object identifier)	Social media feed regarding the object
		Instagram URL	johndoe/00001		Canon EOS Rebel T5 Mfr #: 9126B069		
		Instagram URL	johndoe/00002		Ray-Ban Aviator Classic RB3025		
		Instagram URL	johndoe/00003		Red men's t-shirt (large)		
		YouTube URL	johndoe/10001		Canon EOS Rebel T5 Mfr #: 9126B069		
		YouTube URL	johndoe/10002		Ray-Ban Aviator Classic RB3025		
		Instagram URL	janedoe/00001		Canon EOS Rebel T5 Mfr #: 9126B069		
		Instagram URL	janedoe/00002		Ray-Ban Aviator Classic RB3025		
		YouTube URL	janedoe/10001		Canon EOS Rebel T5 Mfr #: 9126B069		
		YouTube URL	janedoe/10002		Ray-Ban Aviator Classic RB3025		

Fig. 31C

Ohliger at Fig. 31C.

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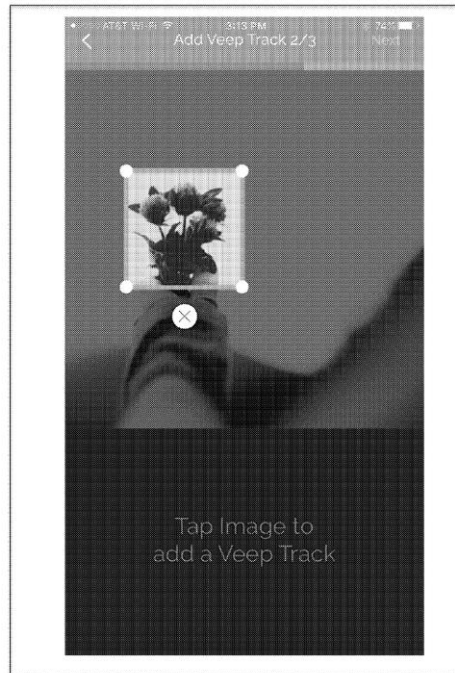


Fig. 38

Ohliger at Fig. 38.

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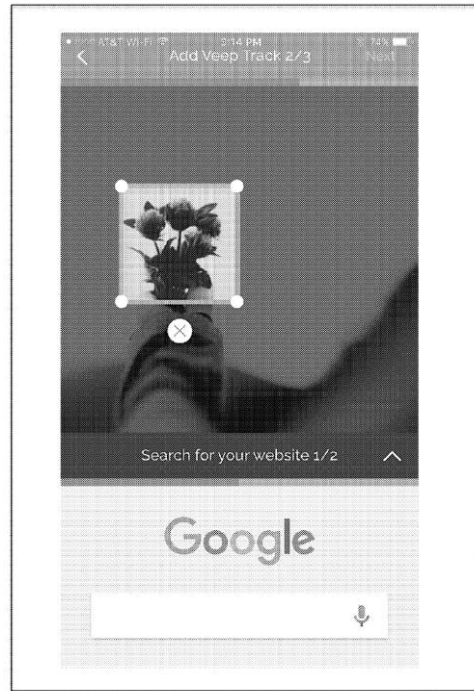


Fig. 39
Ohliger at Fig. 39.

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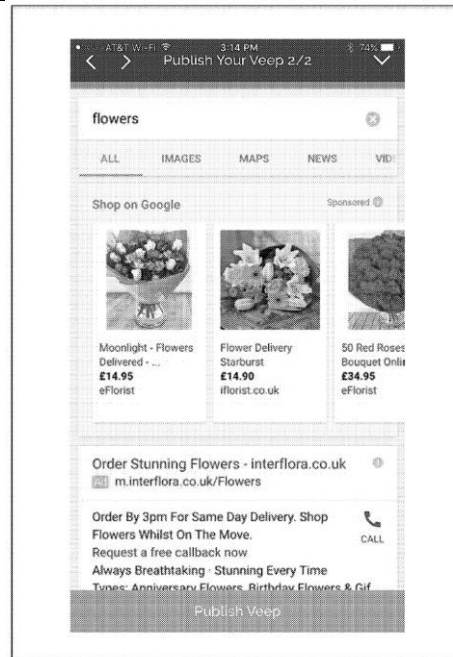


Fig. 41
Ohliger at Fig. 41.

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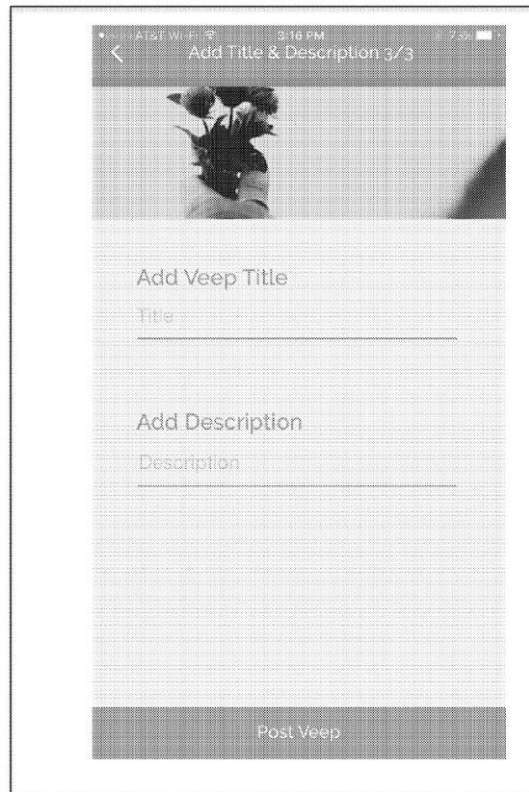


Fig. 44
Ohliger at Fig. 44.

Exhibit 316-A13
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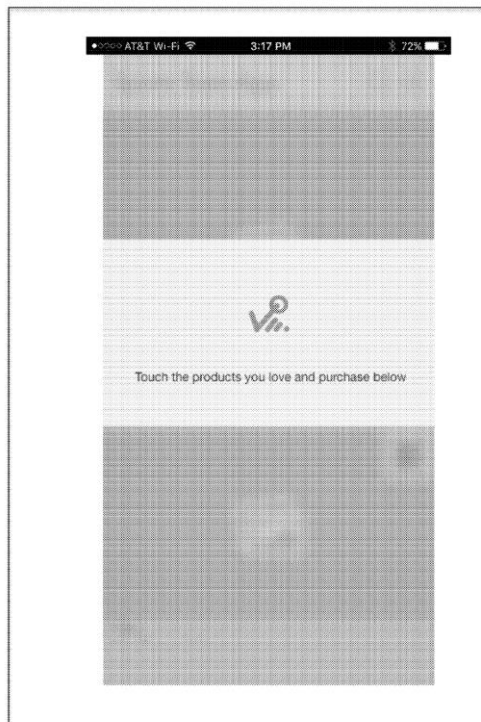


Fig. 46
'46 Patent at Fig. 46.

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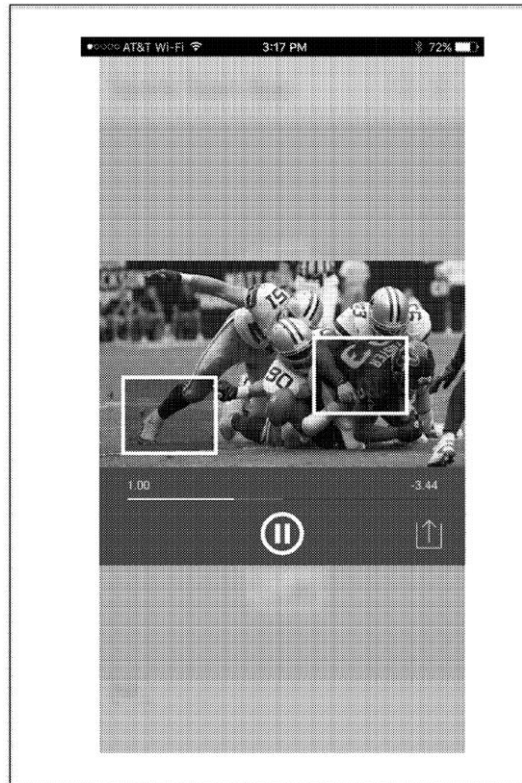


Fig. 48
Ohliger at Fig. 48.

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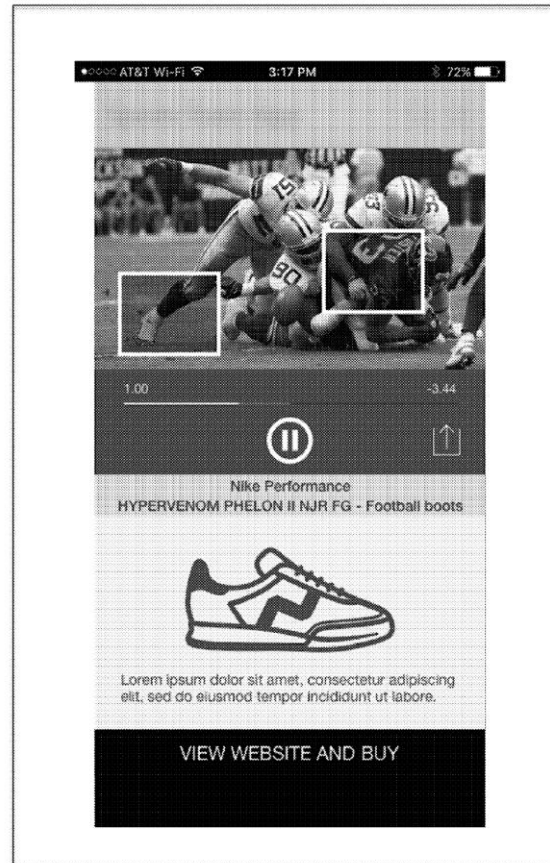


Fig. 49
Ohliger at Fig. 49.

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Fig. 50

Ohliger at Fig. 50.

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FIG. 53B

Ohliger at Fig. 53B.

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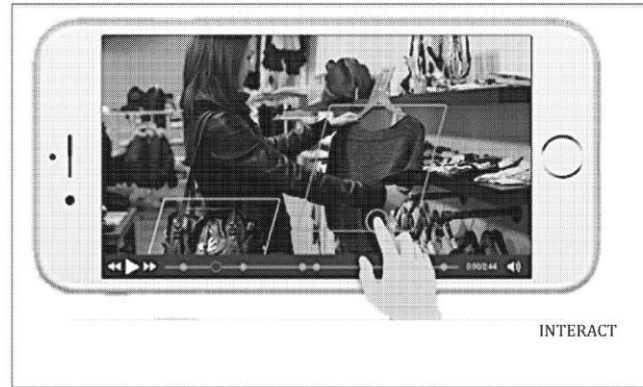


FIG. 53D

Ohliger at Fig. 53D.

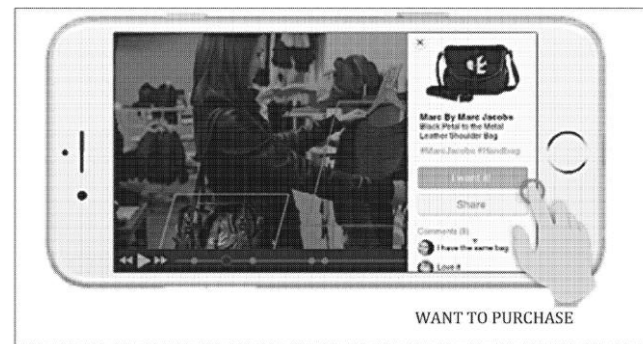


FIG. 53E

Ohliger at Fig. 53E.

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		 <p style="text-align: center;">FIG. 53F</p> <p>Ohliger at Fig. 53F.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
2[pre]	The method of claim 1, further comprising:	<p>To the extent the preamble is limiting, Ohliger discloses “The method of claim 1, further comprising:” See e.g.:</p> <p><i>See claim 1, supra.</i></p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in</p>

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		Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.
2[a][i]	enabling the user to present the video data with or without the first interactive video layer being turned on or off based on selection by the user to view or not view the first interactive video layer, respectively; and	<p>Ohliger discloses “enabling the user to present the video data with or without the first interactive video layer being turned on or off based on selection by the user to view or not view the first interactive video layer, respectively; and” See e.g.:</p> <p>“A system is provided for identifying objects in video either automatically by using an object database or manually by using information provided by the creator of the video, making the objects interactive in every frame of the video that they appear, allowing the creator to embed information behind the video objects that appears when a viewer hovers over, clicks or touches the object, allowing the creator to describe at least one object that appears in a video, associating a hyperlink with a clickable space around the object in every frame that the object appears in, and electronically auctioning the rights to the hyperlink and what data the hyperlink connects to. The system includes a video server communicating with a consumer server over a distributed network. The video server includes at least one video file, an object inventory database, and relevant content including associated hyperlinks in a database stored on or accessible to the video server. The object inventory database contains information describing a location of at least one video object within at least one video file and the hyperlink that is associated with the object. A video overlay links the relevant content with a given video object and creating a selectable hyperlink whose position tracks a dynamic location of the video object in the video. The consumer server includes a software application for accessing and displaying at least one video file stored in the video database, the software application including means for interacting with the video overlay to select an object displayed in the video file.</p> <p>More specifically, a system is disclosed for viewing video having segmented video objects. The system includes a video server including a computer or mobile</p>

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		<p>device connectable to a distributed network and having a processor, random access memory, read-only memory, and mass storage memory. At least one video file is stored in a video database on or accessible to the video server. An object inventory database is stored on or accessible to the video server, the object inventory database containing information describing a location of at least one video object within the at least one video file. Object description content is stored in a database stored on or accessible to the video server. A video overlay links the object description content with a given video object and creating a selectable hyperlink whose position tracks a dynamic location of the video object in the video, wherein the video overlay is adapted to allow a consumer to interact with the video overlay to select an object displayed in the video file and be displayed content related to the object that has been added by the creator of the video, and/or content that has been added automatically by the system, or content that has been added a viewer or viewers of the video. The system also allows a viewer to click a button that has a hyperlink associated with it that takes the viewer to an online store where a product or products associated with the object in the video can be purchased. The viewer also has the ability to add the selected object to a collection of objects. The viewer also has the ability to share a hyperlink directly associated with the video and the object with other people over a social network, email, the internet, mobile messaging and any other commonly used electronic forms of communication.” Ohliger at 3:9-67.</p> <p>“To summarize, the first preferred embodiment provides a system and method for identifying objects in video either automatically by using an object database or manually by using information provided by the creator of the video, making the objects interactive in every frame of the video that they appear, allowing the creator to embed information behind the video objects that appears when a viewer hovers over, clicks or touches the object, allowing the creator to describe at least one object that appears in a video, associating a hyperlink with a clickable space around the object in every frame that the object appears in, and electronically auctioning the rights to the hyperlink and what data the hyperlink connects to. The system includes a video server communicating with a consumer server over a distributed network. The video server includes at least one video file, an object</p>
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	<p>inventory database, and relevant content including associated hyperlinks in a database stored on or accessible to the video server. The object inventory database contains information describing a location of at least one video object within at least one video file and the hyperlink that is associated with the object. A video overlay links the relevant content with a given video object and creating a selectable hyperlink whose position tracks a dynamic location of the video object in the video. The consumer server includes a software application for accessing and displaying at least one video file stored in the video database, the software application including means for interacting with the video overlay to select an object displayed in the video file.” Ohliger at 33:9-36.</p> <p>“In step 720, the video objects are compared with objects in an object library, which may be 2D (two-dimensional) or 3D (three-dimensional) wire frame data representing objects within the video. Perspective views from such 2D/3D wire frame models may be advantageous to the automatic object recognition process. This step is optional. If a match is detected then the object is associated with the product description and/or meta-data from the object library. The unmatched video object may be discarded or subjected to a secondary processing application and/or an analyst may manually identify/configure the object boundaries (step 730), and then the object may be subject to another classification step (710) and/or another comparison with objects in the object library (720). The creator of the video can also choose which objects they want to make interactive (705) and they can identify those objects with a dynamic bounding area that will change size proportionate to the change in size of the object from frame to frame as it is tracked by an object tracking algorithm. The creator can also describe, comment and add additional content to an object in the video that they have chosen to make interactive (715). This content will appear to a viewer when they interact with the bounding area around the object in any frame that the object appears by clicking, hovering over, or touching any point within the bounding area.</p> <p>In step 740, the video objects are published to the market exchange and subject to an automated auction process. The auction allows retailers, brands, and affiliates/advertisers to bid for the right to assign a hyperlink to a video object that takes a viewer of the video who has interacted with that object to a website where</p>
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	<p>that object or any object the winning bidder chooses can be purchased, or to any other content the winning bidder would like to associate with that object. In step 745 a video overlay is created which links the video object with the winning bidders provided content, and in step 750 the video overlay with region definition data is transmitted to the video broadcaster 120.</p> <p>In step 760, a video viewer interacts with the video overlay by rolling-over or selecting a video region thereby triggering the display of relevant content associated with the video object. It should be appreciated that rolling over may illicit the display of different relevant content than that displayed when the object is selected. For example, selecting an object may trigger more detailed information than that displayed when the object is simply rolled-over with the pointing device.</p> <p>In step 770 (optional), the VOHE 300 records the viewer interaction with the video objects and updates the viewer's behavioral profile. It should be noted that the video viewer's interactions with the video overlay (and the video objects) generally triggers the display of relevant content from the VOHE 300. This enables the content associated with a video object to be updated on-the-fly without the need to alter the video overlay. The video overlay makes the video interactive by making video regions selectable, the content comes from the object database that stores information submitted from the creator of the video as well as comments by viewers, in addition, content also comes from the VOHE 300 in the form of hyperlinks supplied by the winning bidders.</p> <p>In step 780 (optional), the VOHE 100 completes a sales transaction initiated by the viewer's interactions with the video region representing the video object. As will be explained below in further detail, the VOHE 300 may enable the viewer to complete a sales transaction by following the hyperlink provided by the winning bidder to an online retailer.” Ohliger at 12:4-13:3.</p> <p>“It is important to note that the video objects are used to create selectable regions (hyperlinks) which dynamically track the movement, size and position of the object throughout the video.</p> <p>3D Rotoscoping</p>
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		<p>FIG. 12 is a high level flow diagram for 3-dimensional rotoscoping. The process begins in step 1200 with selecting a given video object.</p> <p>If only one perspective of the video object is available (step 1202A) in the video then a two-dimensional wire frame of the video object is created. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in a video object database (such as object information library 112 (step 1208).</p> <p>If additional perspectives for the video object subsequently become available (step 1202B) then a three-dimensional (3D) wire frame is created (step 1206) or the new perspectives are used to update the existing three-dimensional wireframe. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in the video object database (step 1208).</p> <p>In step 1210 the user (video consumer) is presented with viewing options such as rotating of the object or zoom. It is also possible to “replace” video objects (step 1212) in the video by superimposing a modified or new animated object including light and shadows of surrounding video objects over the existing video object. For example, an obscured appearance of a video object such as a can of Pepsi® can be replaced (superimposed) with an animated object (3-dimensional wireframe of the object) without the need to re-shoot the video. It is even possible to superimpose an animated object (3-dimensional wireframe of the object) of a can of Coca-Cola® over the can of Pepsi.</p> <p>The present invention further includes a system for making an interactive overlay for a video. The system includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server includes one or more video files stored in a video database. The system further includes object inventory database 112 stored on the server 300 and containing information describing a location (size, shape, orientation) of at least one video object within one of the video files. The object inventory database 112 may be compiled using any of the systems or methods disclosed in this specification or equivalents thereof. An overlay generation application (software or firmware) is stored and executed on the server 300. The overlay generation application creates a video overlay including at least one selectable</p>
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	<p>hyperlink whose shape and position (coordinates) track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. In some cases the overlay is transparent; however, as will be explained below in some cases the overlay may include animated representations of video objects which are superimposed over and replace/obscure the underlying video object. The system may optionally include a wireframe database 112A stored on the server 300 or the wireframe database may be included within the object inventory database 112 or any other database stored on the server. The wire frame database 112A stores three-dimensional wireframe representations of at least one video object.</p> <p>The overlay generation application may optionally match occurrences of video objects in the object inventory library with three-dimensional wireframe representations of the video object (stored in the wireframe library database or the object inventory database) and create a video overlay including matched wire frame representations wherein the shape and position of the wireframe representation tracks a dynamic location of the video object in the video. In other words, the wireframe representation of the object is superimposed over the corresponding video object. The superimposed wireframe representation obscures (replaces) the video object.</p> <p>The wire frame library database 112A may optionally include a lighting model which defines/specifies the light distribution on the video object. For each occurrence of a video object in a video frame the lighting model would define/specify the light distribution on the video object.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database 112 stored on (or accessible by) the server and containing information describing a location of at least one video object within one of the video files. The system includes a wireframe database stored on (or accessible by) the server, the wireframe database storing three-</p>
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		<p>dimensional wireframe representations of at least one video object; and an overlay generation application (software or firmware) executed on the server. The overlay generation application matches occurrences of video objects in the object inventory library with corresponding three-dimensional wireframe representations of the video object and creates a video overlay including matched wireframe representations of the video object wherein the shape and position (coordinates) of the wireframe representation track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database stored on the server and containing information describing coordinates of at least one video object within one of the video files. The system further includes a wireframe database stored on the server, the wireframe database stores three-dimensional wireframe representations of at least one video object. A wireframe generation application (software or firmware) executed on the server selects video objects from the video object inventory database and generates a three-dimensional wire frame of the selected video object from multiple perspective occurrences of the video object in the video file and stores the three-dimensional wireframe in the wireframe database. The wireframe generation application may optionally generate a lighting model for each occurrence of a video object in a video frame from light distribution on the video object.</p> <p>The system may further include an overlay generation application (software or firmware) executed on the server which matches occurrences of video objects in the object inventory library 112 with corresponding three-dimensional wire frame representations stored in the wire frame library 112A. The overlay generation application creates a video overlay including matched wireframe representations</p>
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		<p>of the video objects wherein the shape and position of the wireframe representation tracks the dynamic location of the video object in the video. The overlay generation application stores the overlay on the server. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>The creation of three-dimensional wire frames and lighting models is well known in the art and is disclosed in the following U.S. patents whose disclosure are hereby incorporated by reference: U.S. Pat. No. 7,602,404 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,983,082 entitled Reality-based light environment for digital imaging in motion pictures; U.S. Pat. No. 6,954,202 entitled Image-based methods of representation and rendering of three dimensional object and animated three-dimensional object; U.S. Pat. No. 6,919,962 entitled Reflectometry apparatus and method; U.S. Pat. No. 6,858,826 entitled Method and apparatus for scanning three-dimensional objects; U.S. Pat. No. 6,685,326 entitled Realistic scene lighting simulation; U.S. Pat. No. 6,628,298 entitled Apparatus and method for rendering synthetic objects into real scenes using measurements of scene illumination; U.S. Pat. No. 6,529,206 entitled Image processing apparatus and method, and medium therefore; U.S. Pat. No. 6,504,546 entitled Method of modeling objects to synthesize three-dimensional, photo-realistic animations; U.S. Pat. No. 6,434,265 entitled Aligning rectilinear images in 3D through projective registration and calibration; U.S. Pat. No. 6,333,749 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,281,904 entitled Multi-source texture reconstruction and fusion; and U.S. Pat. No. 6,281,903 entitled Methods and apparatus for embedding 2D image content into 3D models.” Ohliger at 18:45-21:16.</p> <p>“FIG. 23: Once published, the video shows up first in the feed. Tapping the“V” once reveals a transparent halo around each Veep'd object. (1st Screen) Tapping twice places colored boxes on each object so users can view multiple objects with ease. (2nd Screen) Veep'ers can turn objects off by tapping the “V” watermark a third time. (3rd Screen)” Ohliger at 29:5-10.</p>
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Fig. 18
Shop VeePIO

Ohliger at Fig. 18.

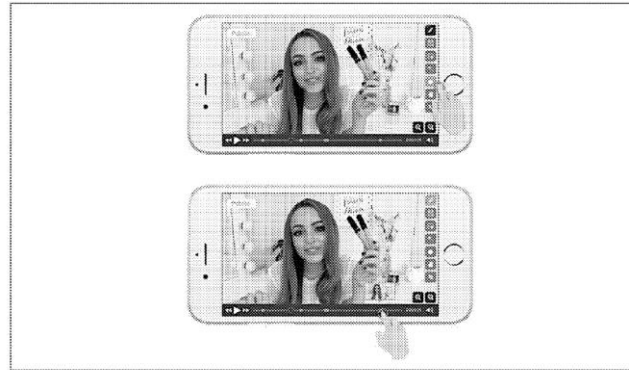
Fig. 20
How to Veep



Ohliger at Fig. 20.

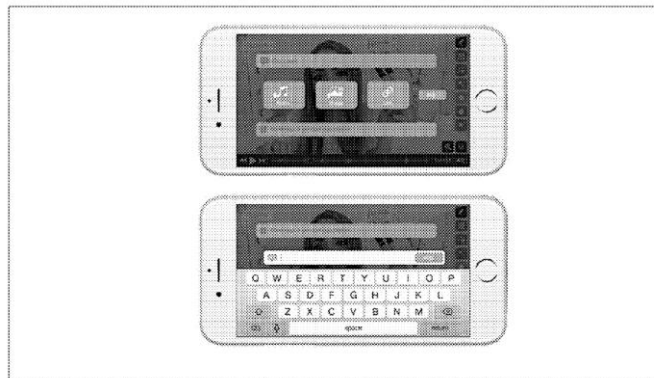
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Fig. 21
Veep Editing Room



Ohliger at Fig. 21.

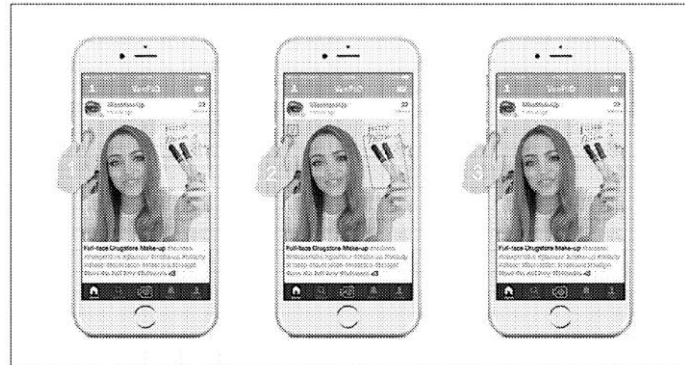
Fig. 22
Object Details



Ohliger at Fig. 21.

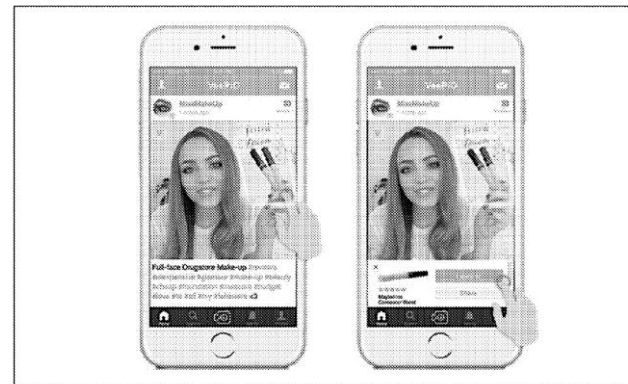
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Fig. 23
"V"isibility



Ohliger at Fig. 23.

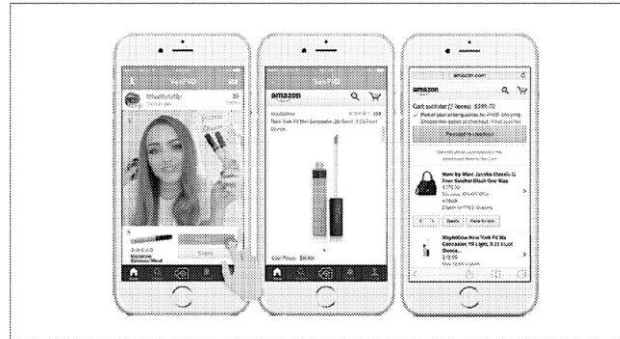
Fig. 24
I Want it!



Ohliger at Fig. 24.

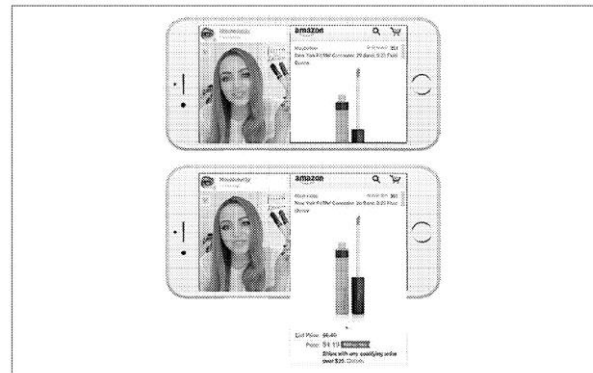
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Fig. 25
I Want it! Continued



Ohliger at Fig. 25.

Fig. 28
Buy Via Split Screen



Ohliger at Fig. 28.

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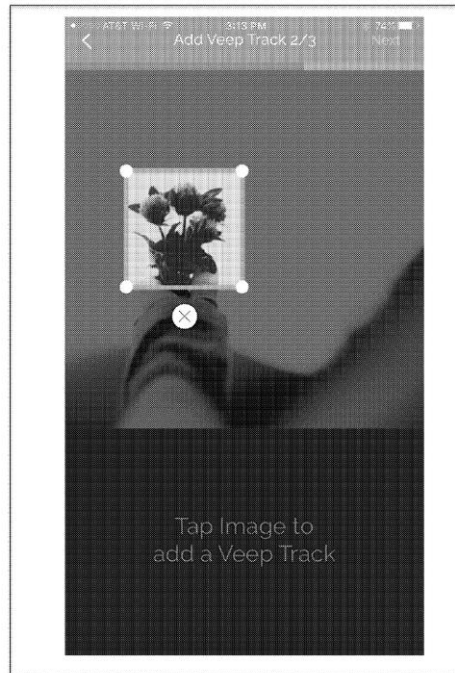


Fig. 38

Ohliger at Fig. 38.

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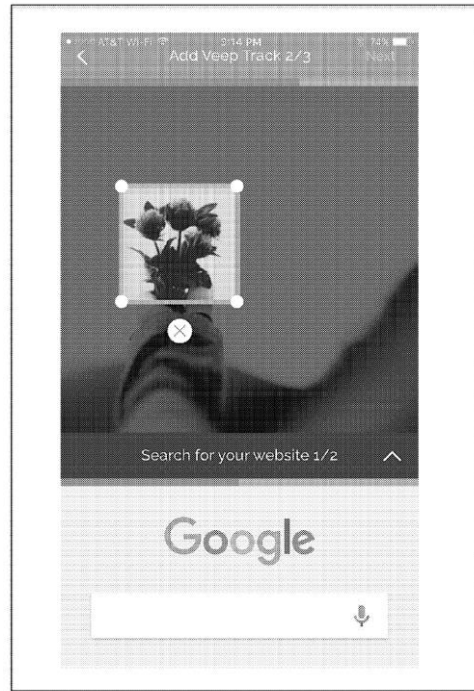


Fig. 39
Ohliger at Fig. 39.

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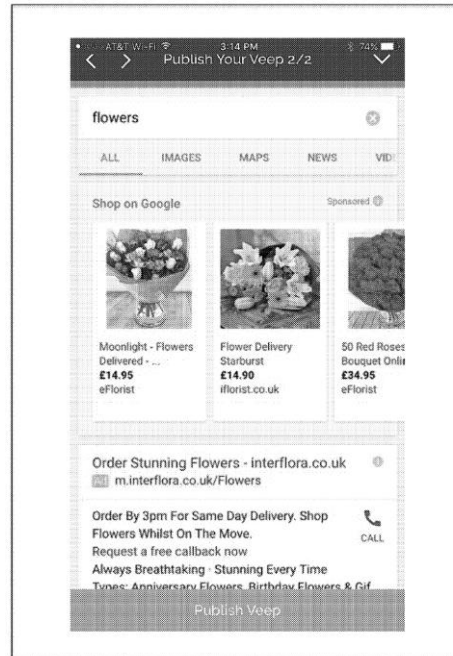


Fig. 41
Ohliger at Fig. 41.

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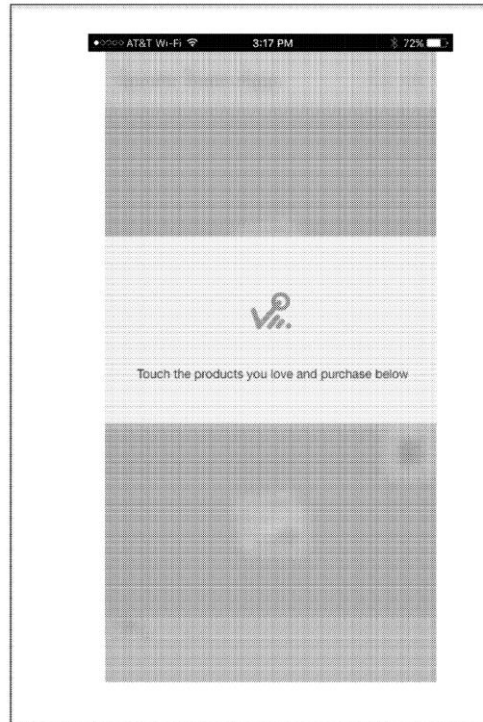


Fig. 46
'46 Patent at Fig. 46.

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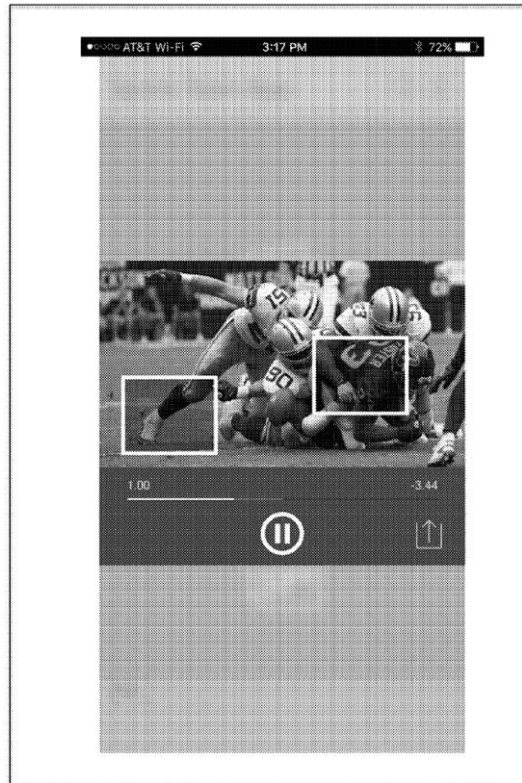


Fig. 48
Ohliger at Fig. 48.

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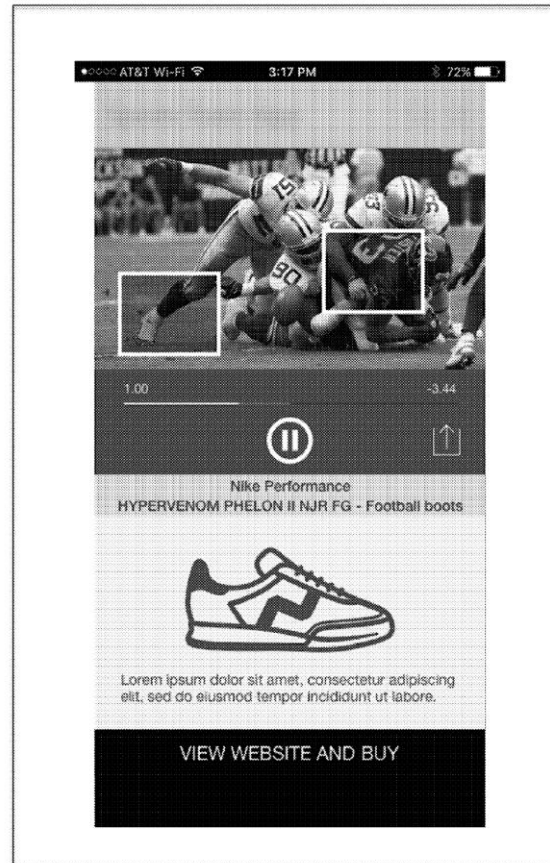


Fig. 49
Ohliger at Fig. 49.

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Fig. 50

Ohliger at Fig. 50.

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FIG. 53B

Ohliger at Fig. 53B.

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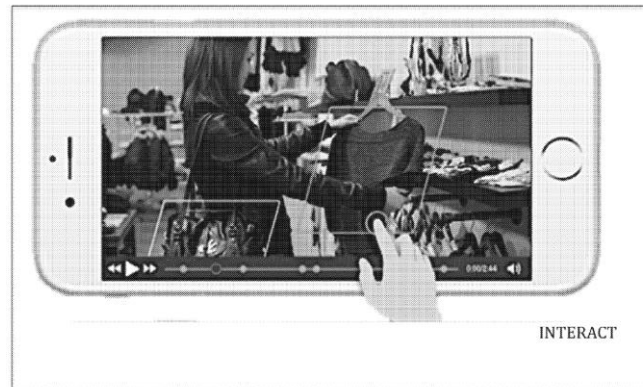


FIG. 53D

Ohliger at Fig. 53D.



FIG. 53E

Ohliger at Fig. 53E.

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		 <p style="text-align: center;">FIG. 53F</p> <p>Ohliger at Fig. 53F.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
2[a][ii]	<p>enabling the user to present the video data with or without the second interactive video layer being turned on or off based on selection by the user to view or not view the second interactive video layer, respectively.</p>	<p>Ohliger discloses “enabling the user to present the video data with or without the second interactive video layer being turned on or off based on selection by the user to view or not view the second interactive video layer, respectively.” See e.g.:</p> <p>“The present invention is a system 100 for automatically segmenting video into video objects, classifying the video objects either automatically or by the creator</p>

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		<p>of the video, assembling a database of the classified video objects, defining region definition data representing each video object on an interactive layer, auctioning the rights to a hyperlink that is either displayed or associated with a button that appears when an object is interacted with by a viewer of the video, or that is connected directly to the object so that when a viewer clicks or touches the object while watching the video they are directed to a website or other content that the hyperlink is pointing to. Allowing the creator of the video to associate comments, pictures, audio, hyperlinks, and other content with interactive areas around objects in their videos. Allowing viewers of the video to interact with objects in the video by clicking or touching areas around objects in the video, and further allowing viewers to comment about those objects, share those objects by way of the internet or social media, and purchase those objects, or other objects associated with the objects by way of the previously mentioned hyperlinks. These hyperlinks associated with video objects are auctioned on a video object hyperlink exchange (hereinafter “VOHE”) 300, and creating a video overlay with region definition data linking relevant content with the video content objects and thereby creating an interactive video. The creator of the video is reimbursed for the content by receiving a mutually agreed to percentage of the profits generated by the auction of the hyperlinks within the creators content. The region is a portion of the video frame which is congruent with the underlying video object. The region definition data defines such portion of the video frame. The system 100 of the present invention consists of several distinct yet related components.</p> <p>One aspect of the invention relates to the creation of an inventory of video objects and corresponding region definition data. The video object inventory 114 is a database containing region definition data in form of pointers or references to video objects within video or animation files. Importantly, the region definition data is used to make the video interactive by providing the ability to link supplemental information with a specific video object within a video. For example, the video viewer can select a shirt displayed within the video and learn the brand and model of the shirt and other relevant information. Further, the viewer can also see comments, pictures, audio, and other content associated with the object by the creator of the video. The invention associates the relevant information with the video object thereby making the object a selectable</p>
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		<p>hyperlink, meaning that the viewer can click or touch the object in any frame of the video in which the object appears and the related content will be revealed.” Ohliger at 8:58-9:41.</p> <p>“The invention also includes giving video viewers the ability to comment and communicate with each other and with the creator of the video in regards to a specific interactive object in the video. This is referred to as “sub-comments” and it differs from current comments on the internet and on social media in that sub-comments are accessed by viewers within the content related to the interaction of the viewer with a specific object within a video as opposed to comments that relate to the video as a whole.” Ohliger at 11:11-20.</p> <p>“The viewer 124 uses a computer, mobile phone or another electronic device that connects to the internet or to a social network 400 (FIG. 3) to access the video content made available by broadcaster 120 on a web site or social network or application or the like accessible over a distributed network such as the Internet. Computer 400 includes a processor 202 which is connected via BUS 204 to a mass storage device 206, Read-Only-Memory (ROM) 208 and Random Access Memory (RAM) 210 (which may be volatile or nonvolatile). A web browser executes on the processor and is used to access web sites on the Internet. The viewer 124 interacts with the video overlay by selecting or rolling over a region representing a video object using a conventional pointing device 218, and/or using a touch sensitive screen 214 such as is known in the art. Interaction by the video viewer 124 triggers display of supplemental content such as information provided by the creator of the video, comments by other viewers, or any other associated content including original, organic, advertising, links to other content, and/or paid content by retailers/brands/affiliates/advertisers that purchased rights on the VOHE. The retailers/brands/affiliates/advertisers 122 are bidding on the right to supply the relevant content using an embedded hyperlink.” Ohliger at 22:27-50.</p> <p>“A further aspect of the invention will be described with reference to FIGS. 9-11. FIG. 9 is a high level flowchart showing the interactions of a viewer with the</p>
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		<p>VOHE 300. FIGS. 10A-10D and 11A-11B are a graphical depiction of various steps in the flowchart of FIG. 9. In step 900 the viewer 124 views video content having video objects. As described above, the video presentation slows or stops as the user points at or rolls-over (step 902) the presentation screen, and selects a video object using a pointing device such as a mouse or a finger (or the like) on a display screen which may be touch sensitive (FIG. 9 step 904 and FIG. 10A). Selecting refers to both rolling-over the object with the pointing device (without a mouse click or a keyboard command) and to positioning the pointing device over the object and actuating one of the buttons on the mouse or keyboard. In a traditional TV setting the user may use the 5-star control of a remote controller to select a video object.</p> <p>Once the object has been selected (FIG. 9 step 904 and FIG. 10B), the viewer displays an abstract of the video object in the form of an overlay on top of the current viewing window or on a new window adjacent the current viewing panel. The Abstract may include descriptive information (relevant content) about the object (name, brand name, make, model, vendor, price, etc) and classification information about the object or it may be information provided by the creator of the video like a comment about the object, a picture, comments by other viewers, and/or the ability to share the video, video object, or associated content over the internet or through social networks.</p> <p>The user (viewer of video) 124 is presented with a menu of options (FIG. 10C). For example, the viewer 124 may search for other occurrences of the object in both the current video or in other videos (FIG. 9 step 906A, and FIG. 11B). Moreover, the viewer may expand the search to encompass other objects which have similar classification such as the same make but different models (other Ferragamo shoes), or other red high heeled shoes, etc.</p> <p>In step 908A, the user is presented with a list of viewable video segments containing the selected video object. At this point the user can choose to view any of the segments and/or proceed to steps 906B, 906C or 906D.</p> <p>The viewer 124 may be presented with an option to retrieve more detailed information about the object (step 906B). Such information may include details about the materials or specifications of the object. The user may also be presented with the option to view a three-dimensional wire frame rendering of the object.</p>
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		<p>The 3D wire frame is created by the VOHE 300 when the object is initially identified and classified. Depending on how many perspective facets of an object are available, a complete or partial 3D wire frame may exist for a given object. The viewer 124 presents the user with various options to manipulate and interact with the 3D wire frame. For example, the viewer 124 may rotate and zoom the 3D wire frame to display the rendering from different perspectives.</p> <p>As described above, the user may be presented with the option to add the video object to a shopping cart (FIG. 9 step 908B and FIG. 10C). Although not specifically illustrated in FIG. 9, the option to purchase may be nested under each of the menu items such that the user may always elect to purchase without having to retrace his/her steps. In fact, each of the menu options described herein may be organized in any number of ways and the inventive concept is not limited to the specific way they are presented. Thus, steps 906A-906D may be nested.</p> <p>The shopping cart may be a conventional electronic shopping cart which enables the user to purchase the object or flag it to the user's wish list for future purchase. The viewer 124, VOHE 300, or system 100 tracks objects purchased by the user and items added to the user's wish list, and such information may be used to analyze the user's buying trends etc. More particularly, an analytics database records the interactions of the consumer. The analytics database stores information regarding the video files or types of video files (genre or the like) accessed by the consumer, the objects selected by the consumer, items purchased by the consumer. The analytics database may be stored on or accessible to (via the distributed network, e.g., internet) the VOHE 300 or system 100. The viewer 124 also enables the user to manually indicate that the user owns a given object even if it was not purchased through the VOHE 300.</p> <p>The VOHE 300 allows the user to share individual video objects or create and share a collection of video objects with one or more friends by selecting the video objects or the collection of objects and selecting individual friends or sets of friends (FIG. 9 steps 906C and 910B, and FIG. 10C). The viewer 124 may include a software plug-in application for a social networking site (Facebook® application, Twitter® application, Instagram® application, Vine® application, Snapchat® application) or the like which enables the user to add the video object to the user's social network account without leaving the portal (VOHE 300)</p>
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	<p>through which the user was viewing the video. As used herein the term social networking site is equivalent in all respects to social networking server and encompasses Facebook application, Twitter application, etc. which enable a user to share information to a wide audience with or without specifying individual recipients.</p> <p>The plug-in application also enables the user to share the image/video segment etc with one or more social networking contacts (“Facebook friends, Instagram followers, etc.”). The plug-in application is software. The plug-in may share data linking or pointing to the video object or library of such objects. The video object or library of video objects may be stored on the YOM 300 or on the user's computer 400. Data transferred to Facebook or other social networking sites may also be stored on a 3d party server such as or the like, or the social networking site may simply store a link to data stored on the VOHE 300.” Ohliger at 24:29-26:3.</p> <p>“FIG. 16: The feed is a dynamic stream of user-created content. Each video plays on a constant loop. Hashtags help VeePiO users brand and sort their Veep'd videos. Viewers can like, comment on, and re-VeeP any video.</p> <p>FIG. 17: VeePiO thrives on community. Commenting is easy and encouraged via standard pathways like the feed, and through product sub-comments. Beyond that VeePiO media can be shared anywhere online.</p> <p>FIG. 18: VeePiO is simple to use. Tap any Veep'd object and instantly gain the ability to make it your own. (1st screen) Veepio users can also share and view comments for individual objects. (2nd screen) Tapping “I want it!” walks users through an easy in-app purchase flow. (2nd and 3rd screen)” Ohliger at 28:38-56.</p> <p>“FIG. 26: Veepio users can also share and view sub-comments related to individual products.” Ohliger at 29:15-16.</p> <p>“i. Creators of the video and viewers of the video are able to post comments related to the video and/or the at least one interactive object in the video that are displayed when the overlay that tracks the interactive object is clicked or touched. The comments are specific to only the interactive object they are related to.</p>
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ii. The creators of the video are able to associate other content like comments, pictures, links, audio files to the interactive objects. This content appears when the objects are hovered over, clicked or touched.” Ohliger at 30:55-64.

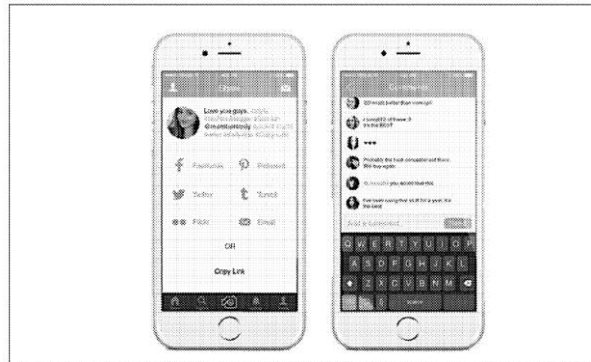
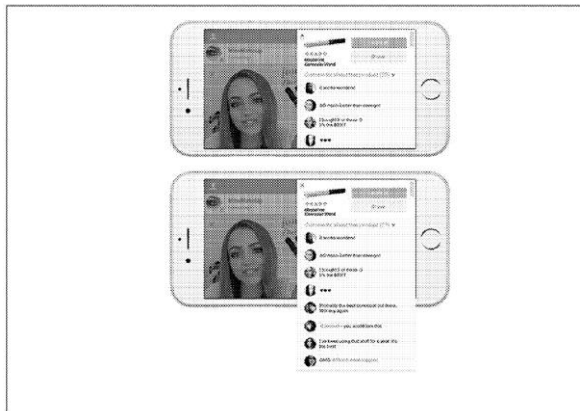


Fig. 17

Comment & Share

Ohliger at Fig. 17.

Fig. 26
Share & Comment



Ohliger at Fig. 26.

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Fig. 18
Shop VeePIO

Ohliger at Fig. 18.

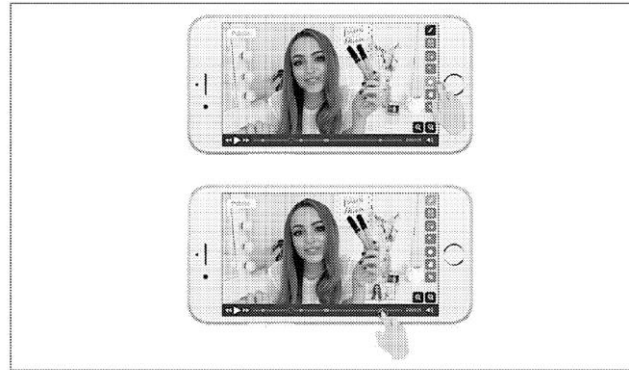
Fig. 20
How to Veep



Ohliger at Fig. 20.

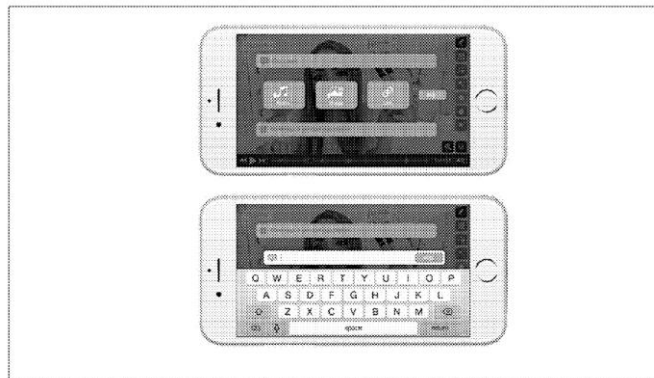
Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Fig. 21
Veep Editing Room



Ohliger at Fig. 21.

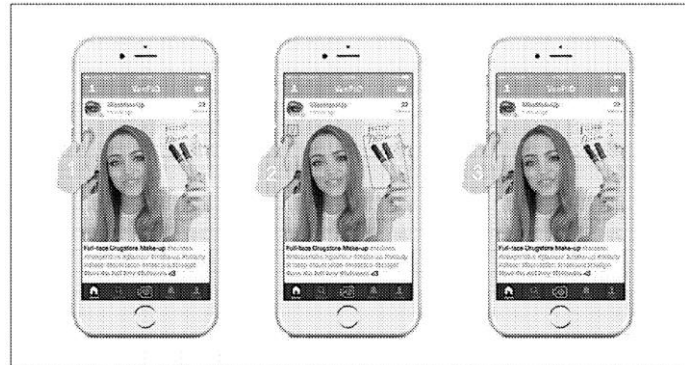
Fig. 22
Object Details



Ohliger at Fig. 21.

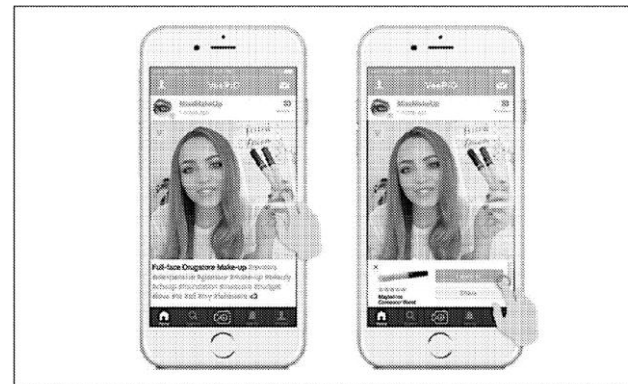
Exhibit 316-A13
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Fig. 23
"V"isibility



Ohliger at Fig. 23.

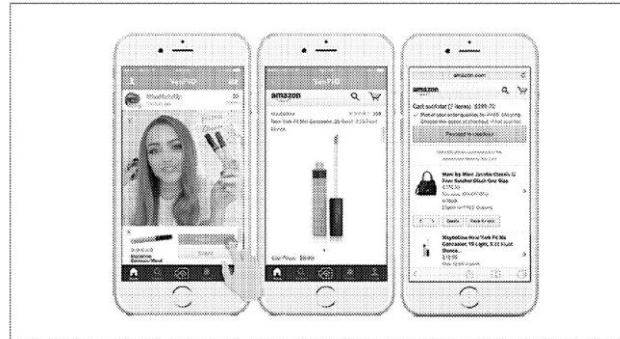
Fig. 24
I Want it!



Ohliger at Fig. 24.

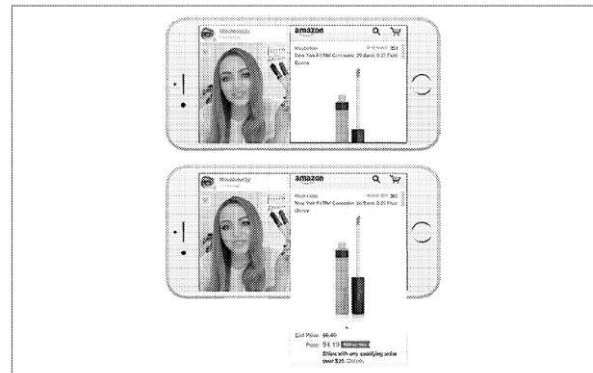
Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Fig. 25
I Want it! Continued



Ohliger at Fig. 25.

Fig. 28
Buy Via Split Screen



Ohliger at Fig. 28.

Ohliger at Fig. 38.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

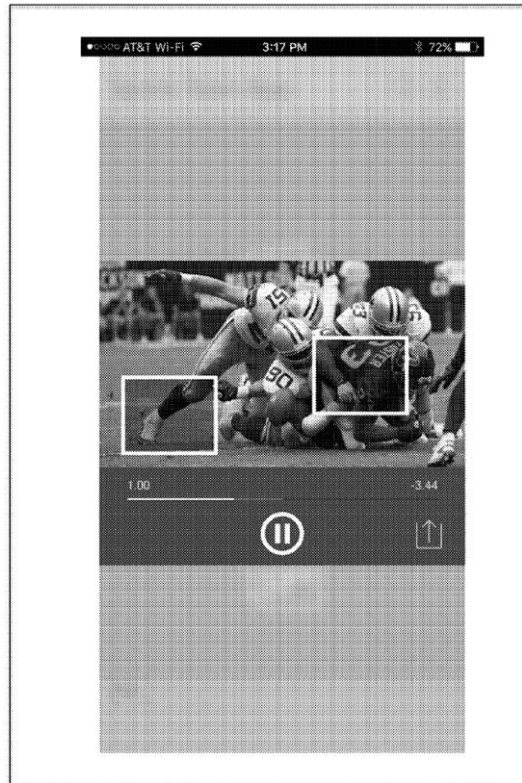


Fig. 48
Ohliger at Fig. 48.

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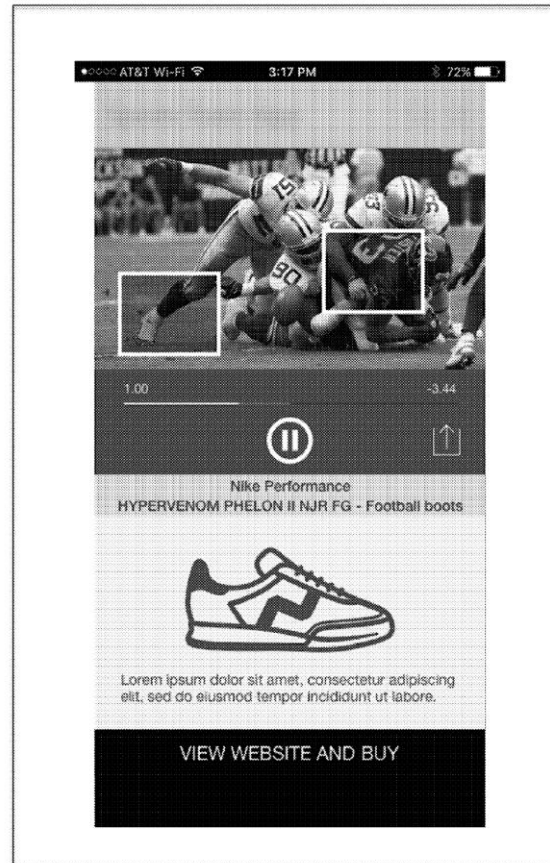


Fig. 49
Ohliger at Fig. 49.

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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger



FIG. 53B

Ohliger at Fig. 53B.

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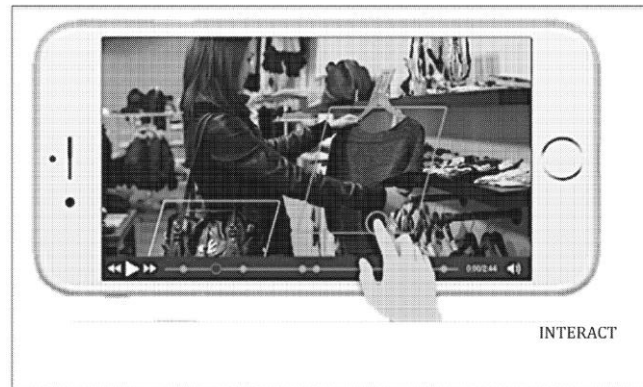


FIG. 53D

Ohliger at Fig. 53D.



FIG. 53E

Ohliger at Fig. 53E.

Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further

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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		<p>motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
3[pre]	<p>The method of claim 2, further comprising:</p>	<p>To the extent the preamble is limiting, Ohliger discloses “The method of claim 2, further comprising: ” See e.g.:</p> <p><i>See claim 2, supra.</i></p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
3[a][i]	<p>displaying the video media and the first interactive video layer to the user; and</p>	<p>Ohliger discloses “displaying the video media and the first interactive video layer to the user; and ” See e.g.:</p> <p>“A system is provided for identifying objects in video either automatically by using an object database or manually by using information provided by the creator of the video, making the objects interactive in every frame of the video that they appear, allowing the creator to embed information behind the video objects that appears when a viewer hovers over, clicks or touches the object, allowing the creator to describe at least one object that appears in a video, associating a hyperlink with a clickable space around the object in every frame that the object appears in, and electronically auctioning the rights to the hyperlink and what data the hyperlink connects to. The system includes a video server communicating with a consumer server over a distributed network. The video server includes at least one video file, an object inventory database, and relevant content including associated hyperlinks in a database stored on or accessible to the video server. The object inventory database contains information describing a location of at least one video object within at least one video file and the hyperlink that is associated with the object. A video overlay links the relevant</p>

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		<p>content with a given video object and creating a selectable hyperlink whose position tracks a dynamic location of the video object in the video. The consumer server includes a software application for accessing and displaying at least one video file stored in the video database, the software application including means for interacting with the video overlay to select an object displayed in the video file.</p> <p>More specifically, a system is disclosed for viewing video having segmented video objects. The system includes a video server including a computer or mobile device connectable to a distributed network and having a processor, random access memory, read-only memory, and mass storage memory. At least one video file is stored in a video database on or accessible to the video server. An object inventory database is stored on or accessible to the video server, the object inventory database containing information describing a location of at least one video object within the at least one video file. Object description content is stored in a database stored on or accessible to the video server. A video overlay links the object description content with a given video object and creating a selectable hyperlink whose position tracks a dynamic location of the video object in the video, wherein the video overlay is adapted to allow a consumer to interact with the video overlay to select an object displayed in the video file and be displayed content related to the object that has been added by the creator of the video, and/or content that has been added automatically by the system, or content that has been added a viewer or viewers of the video. The system also allows a viewer to click a button that has a hyperlink associated with it that takes the viewer to an online store where a product or products associated with the object in the video can be purchased. The viewer also has the ability to add the selected object to a collection of objects. The viewer also has the ability to share a hyperlink directly associated with the video and the object with other people over a social network, email, the internet, mobile messaging and any other commonly used electronic forms of communication.” Ohliger at 3:9-67.</p> <p>“In step 720, the video objects are compared with objects in an object library, which may be 2D (two-dimensional) or 3D (three-dimensional) wire frame data representing objects within the video. Perspective views from such 2D/3D wire</p>
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		<p>frame models may be advantageous to the automatic object recognition process. This step is optional. If a match is detected then the object is associated with the product description and/or meta-data from the object library. The unmatched video object may be discarded or subjected to a secondary processing application and/or an analyst may manually identify/configure the object boundaries (step 730), and then the object may be subject to another classification step (710) and/or another comparison with objects in the object library (720). The creator of the video can also choose which objects they want to make interactive (705) and they can identify those objects with a dynamic bounding area that will change size proportionate to the change in size of the object from frame to frame as it is tracked by an object tracking algorithm. The creator can also describe, comment and add additional content to an object in the video that they have chosen to make interactive (715). This content will appear to a viewer when they interact with the bounding area around the object in any frame that the object appears by clicking, hovering over, or touching any point within the bounding area.</p> <p>In step 740, the video objects are published to the market exchange and subject to an automated auction process. The auction allows retailers, brands, and affiliates/advertisers to bid for the right to assign a hyperlink to a video object that takes a viewer of the video who has interacted with that object to a website where that object or any object the winning bidder chooses can be purchased, or to any other content the winning bidder would like to associate with that object.</p> <p>In step 745 a video overlay is created which links the video object with the winning bidders provided content, and in step 750 the video overlay with region definition data is transmitted to the video broadcaster 120.</p> <p>In step 760, a video viewer interacts with the video overlay by rolling-over or selecting a video region thereby triggering the display of relevant content associated with the video object. It should be appreciated that rolling over may illicit the display of different relevant content than that displayed when the object is selected. For example, selecting an object may trigger more detailed information than that displayed when the object is simply rolled-over with the pointing device.</p> <p>In step 770 (optional), the VOHE 300 records the viewer interaction with the video objects and updates the viewer's behavioral profile. It should be noted that</p>
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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		<p>the video viewer's interactions with the video overlay (and the video objects) generally triggers the display of relevant content from the VOHE 300. This enables the content associated with a video object to be updated on-the-fly without the need to alter the video overlay. The video overlay makes the video interactive by making video regions selectable, the content comes from the object database that stores information submitted from the creator of the video as well as comments by viewers, in addition, content also comes from the VOHE 300 in the form of hyperlinks supplied by the winning bidders.</p> <p>In step 780 (optional), the VOHE 100 completes a sales transaction initiated by the viewer's interactions with the video region representing the video object. As will be explained below in further detail, the VOHE 300 may enable the viewer to complete a sales transaction by following the hyperlink provided by the winning bidder to an online retailer.” Ohliger at 12:4-13:3.</p> <p>“It is important to note that the video objects are used to create selectable regions (hyperlinks) which dynamically track the movement, size and position of the object throughout the video.</p> <p>3D Rotoscoping</p> <p>FIG. 12 is a high level flow diagram for 3-dimensional rotoscoping. The process begins in step 1200 with selecting a given video object.</p> <p>If only one perspective of the video object is available (step 1202A) in the video then a two-dimensional wire frame of the video object is created. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in a video object database (such as object information library 112 (step 1208).</p> <p>If additional perspectives for the video object subsequently become available (step 1202B) then a three-dimensional (3D) wire frame is created (step 1206) or the new perspectives are used to update the existing three-dimensional wireframe. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in the video object database (step 1208).</p> <p>In step 1210 the user (video consumer) is presented with viewing options such as rotating of the object or zoom. It is also possible to “replace” video objects (step</p>
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		<p>1212) in the video by superimposing a modified or new animated object including light and shadows of surrounding video objects over the existing video object. For example, an obscured appearance of a video object such as a can of Pepsi® can be replaced (superimposed) with an animated object (3-dimensional wireframe of the object) without the need to re-shoot the video. It is even possible to superimpose an animated object (3-dimensional wireframe of the object) of a can of Coca-Cola® over the can of Pepsi.</p> <p>The present invention further includes a system for making an interactive overlay for a video. The system includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server includes one or more video files stored in a video database. The system further includes object inventory database 112 stored on the server 300 and containing information describing a location (size, shape, orientation) of at least one video object within one of the video files. The object inventory database 112 may be compiled using any of the systems or methods disclosed in this specification or equivalents thereof. An overlay generation application (software or firmware) is stored and executed on the server 300. The overlay generation application creates a video overlay including at least one selectable hyperlink whose shape and position (coordinates) track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. In some cases the overlay is transparent; however, as will be explained below in some cases the overlay may include animated representations of video objects which are superimposed over and replace/obscure the underlying video object. The system may optionally include a wireframe database 112A stored on the server 300 or the wireframe database may be included within the object inventory database 112 or any other database stored on the server. The wire frame database 112A stores three-dimensional wireframe representations of at least one video object.</p> <p>The overlay generation application may optionally match occurrences of video objects in the object inventory library with three-dimensional wireframe representations of the video object (stored in the wireframe library database or the</p>
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		<p>object inventory database) and create a video overlay including matched wire frame representations wherein the shape and position of the wireframe representation tracks a dynamic location of the video object in the video. In other words, the wireframe representation of the object is superimposed over the corresponding video object. The superimposed wireframe representation obscures (replaces) the video object.</p> <p>The wire frame library database 112A may optionally include a lighting model which defines/specifies the light distribution on the video object. For each occurrence of a video object in a video frame the lighting model would define/specify the light distribution on the video object.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database 112 stored on (or accessible by) the server and containing information describing a location of at least one video object within one of the video files. The system includes a wireframe database stored on (or accessible by) the server, the wireframe database storing three-dimensional wireframe representations of at least one video object; and an overlay generation application (software or firmware) executed on the server. The overlay generation application matches occurrences of video objects in the object inventory library with corresponding three-dimensional wireframe representations of the video object and creates a video overlay including matched wireframe representations of the video object wherein the shape and position (coordinates) of the wireframe representation track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server</p>
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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		<p>including one or more video files stored in a video database. The system includes an object inventory database stored on the server and containing information describing coordinates of at least one video object within one of the video files. The system further includes a wireframe database stored on the server, the wireframe database stores three-dimensional wireframe representations of at least one video object. A wireframe generation application (software or firmware) executed on the server selects video objects from the video object inventory database and generates a three-dimensional wire frame of the selected video object from multiple perspective occurrences of the video object in the video file and stores the three-dimensional wireframe in the wireframe database. The wireframe generation application may optionally generate a lighting model for each occurrence of a video object in a video frame from light distribution on the video object.</p> <p>The system may further include an overlay generation application (software or firmware) executed on the server which matches occurrences of video objects in the object inventory library 112 with corresponding three-dimensional wire frame representations stored in the wire frame library 112A. The overlay generation application creates a video overlay including matched wireframe representations of the video objects wherein the shape and position of the wireframe representation tracks the dynamic location of the video object in the video. The overlay generation application stores the overlay on the server. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>The creation of three-dimensional wire frames and lighting models is well known in the art and is disclosed in the following U.S. patents whose disclosure are hereby incorporated by reference: U.S. Pat. No. 7,602,404 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,983,082 entitled Reality-based light environment for digital imaging in motion pictures; U.S. Pat. No. 6,954,202 entitled Image-based methods of representation and rendering of three dimensional object and animated three-dimensional object; U.S. Pat. No. 6,919,962 entitled Reflectometry apparatus and method; U.S. Pat. No. 6,858,826 entitled Method and apparatus for scanning three-dimensional objects; U.S. Pat. No. 6,685,326 entitled Realistic scene lighting simulation; U.S.</p>
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		<p>Pat. No. 6,628,298 entitled Apparatus and method for rendering synthetic objects into real scenes using measurements of scene illumination; U.S. Pat. No. 6,529,206 entitled Image processing apparatus and method, and medium therefore; U.S. Pat. No. 6,504,546 entitled Method of modeling objects to synthesize three-dimensional, photo-realistic animations; U.S. Pat. No. 6,434,265 entitled Aligning rectilinear images in 3D through projective registration and calibration; U.S. Pat. No. 6,333,749 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,281,904 entitled Multi-source texture reconstruction and fusion; and U.S. Pat. No. 6,281,903 entitled Methods and apparatus for embedding 2D image content into 3D models.” Ohliger at 18:45-21:16.</p> <p>“In steps 608A and 608B the viewer is viewing the selected content (1700 in FIGS. 6A-6D) and encounters video objects of interest. According to one embodiment pointing at the frame by, e.g., bringing pointer 1701 of pointing device 218 into video frame 1703 (FIG. 6A) will cause the video to slow the video down, which allows the viewer to select an object. In the case of interactive TV or three-dimensional (3D) videos, the viewer can use a variety of pointing means including, but not limited to, a virtual pointer of the type popularized by the Nintendo Wii® which utilizes a glove or the like with sensors capable to determine X, Y, and Z coordinates. In step 608A the viewer merely tags the objects of interest for later review (1702 and 1704 in FIGS. 6B and 6C), whereupon in step 610 the contextual advertising is once again refined (this time in relation to the objects of interest) and the behavioral profile (analytics database) of the viewer is updated. Steps 608A and 610 may be repeated any number of times during the viewing of the video. In step 612, the viewer reviews the list of tagged items from step 608A and either jumps back to the scenes in which the items appear (step 614A and 1704 in FIG. 6C) or learns more about the items selected, e.g., price, features etc (step 614B). In step 616 the viewer selects one or more objects (products) to purchase (from the tagged or identified objects), and in step 618 the viewer completes the transaction (1708 in FIG. 6D). Step 608B is an alternative to step 608A and presents the viewer with the option to immediately jump to 614 and learn more about the object. The information</p>
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		<p>associated with the video object may be displayed as an overlay pop-up or in a field next the video player. Each time the viewer interacts with video objects his/her profile gets updated in the database.” Ohliger at 23:62-24:27.</p> <p>“To summarize, the first preferred embodiment provides a system and method for identifying objects in video either automatically by using an object database or manually by using information provided by the creator of the video, making the objects interactive in every frame of the video that they appear, allowing the creator to embed information behind the video objects that appears when a viewer hovers over, clicks or touches the object, allowing the creator to describe at least one object that appears in a video, associating a hyperlink with a clickable space around the object in every frame that the object appears in, and electronically auctioning the rights to the hyperlink and what data the hyperlink connects to. The system includes a video server communicating with a consumer server over a distributed network. The video server includes at least one video file, an object inventory database, and relevant content including associated hyperlinks in a database stored on or accessible to the video server. The object inventory database contains information describing a location of at least one video object within at least one video file and the hyperlink that is associated with the object. A video overlay links the relevant content with a given video object and creating a selectable hyperlink whose position tracks a dynamic location of the video object in the video. The consumer server includes a software application for accessing and displaying at least one video file stored in the video database, the software application including means for interacting with the video overlay to select an object displayed in the video file.” Ohliger at 33:9-36.</p>
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Fig. 18
Shop VeePIO

Ohliger at Fig. 18.

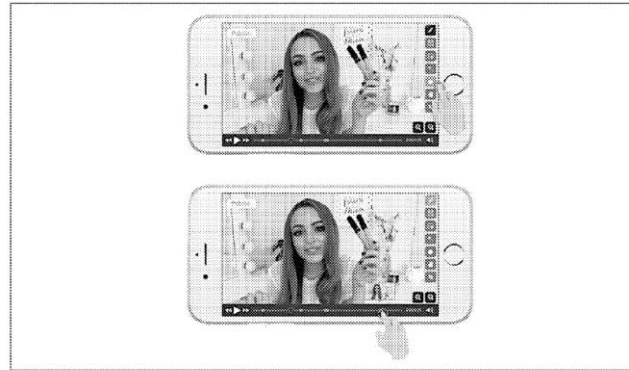
Fig. 20
How to Veep



Ohliger at Fig. 20.

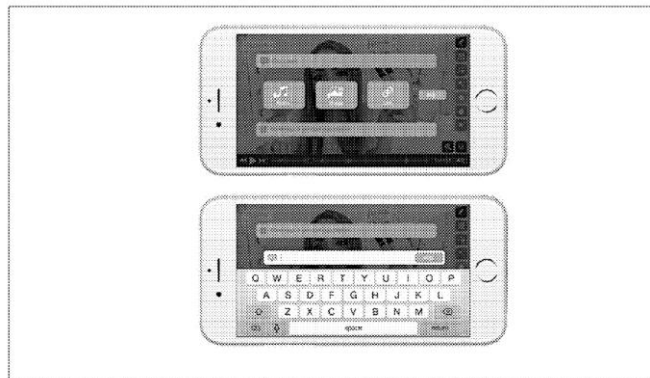
Exhibit 316-A13
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Fig. 21
Veep Editing Room



Ohliger at Fig. 21.

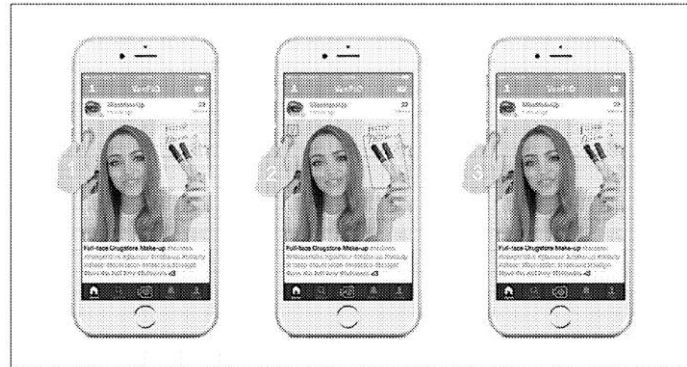
Fig. 22
Object Details



Ohliger at Fig. 21.

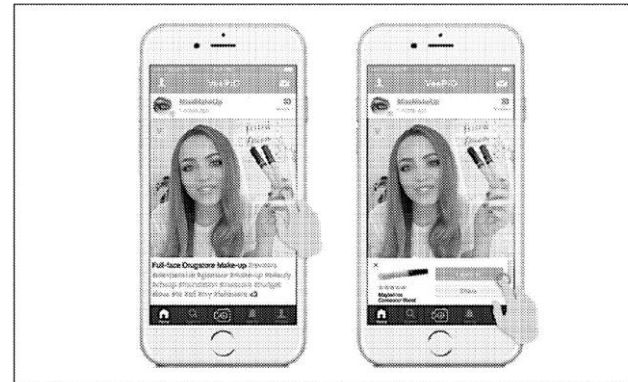
Exhibit 316-A13
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Fig. 23
"V"isibility



Ohliger at Fig. 23.

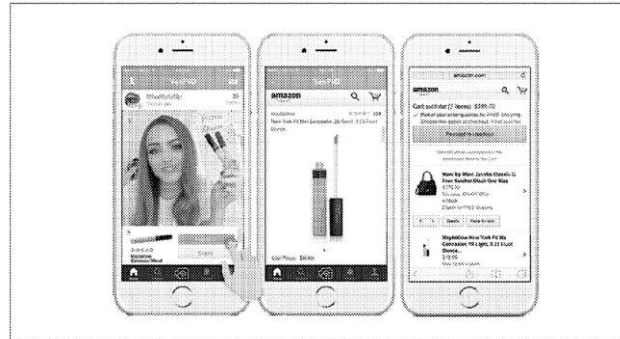
Fig. 24
I Want it!



Ohliger at Fig. 24.

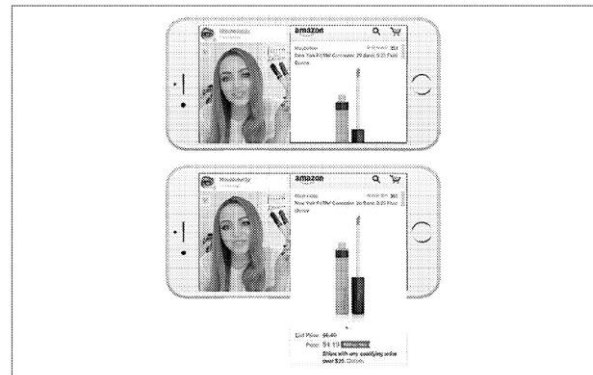
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Fig. 25
I Want it! Continued



Ohliger at Fig. 25.

Fig. 28
Buy Via Split Screen



Ohliger at Fig. 28.

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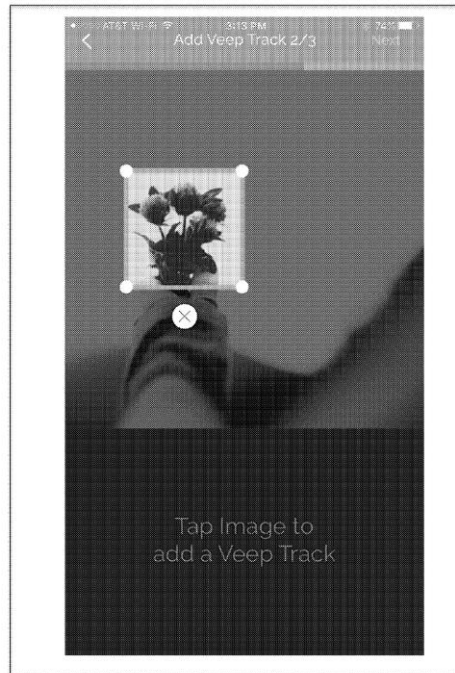


Fig. 38

Ohliger at Fig. 38.

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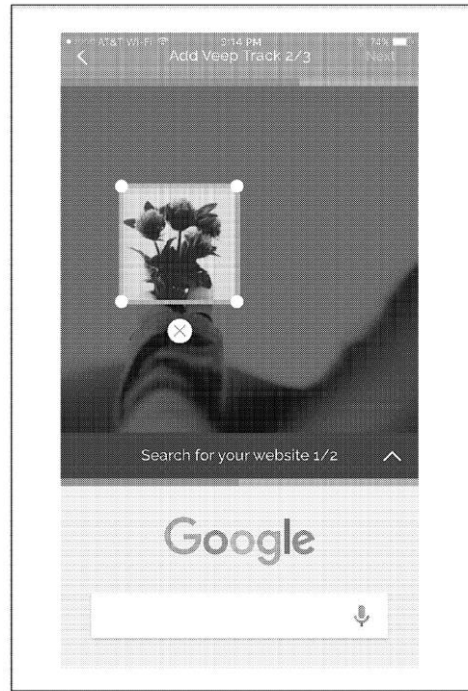


Fig. 39
Ohliger at Fig. 39.

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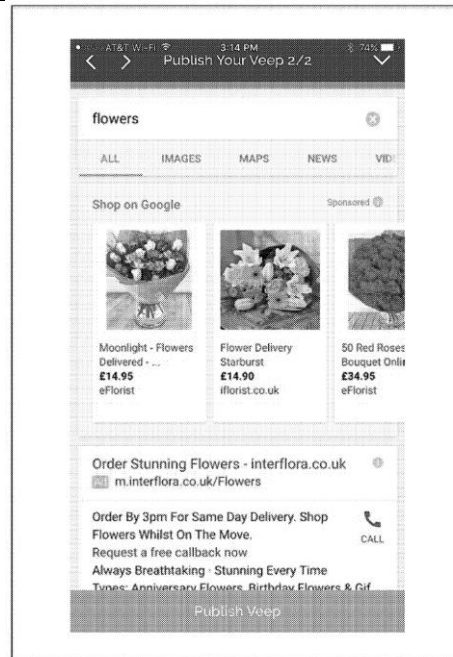


Fig. 41
Ohliger at Fig. 41.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

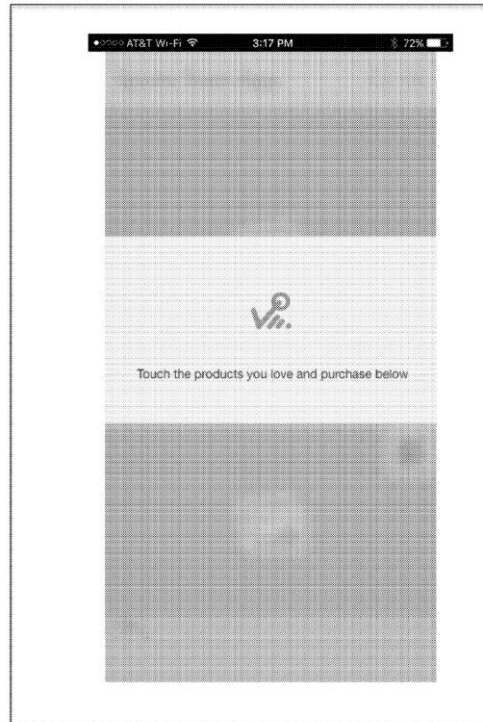


Fig. 46
'46 Patent at Fig. 46.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

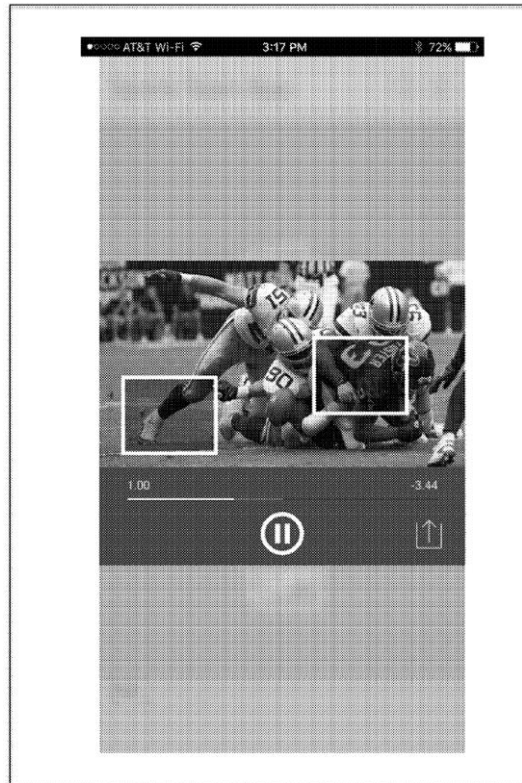


Fig. 48
Ohliger at Fig. 48.

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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

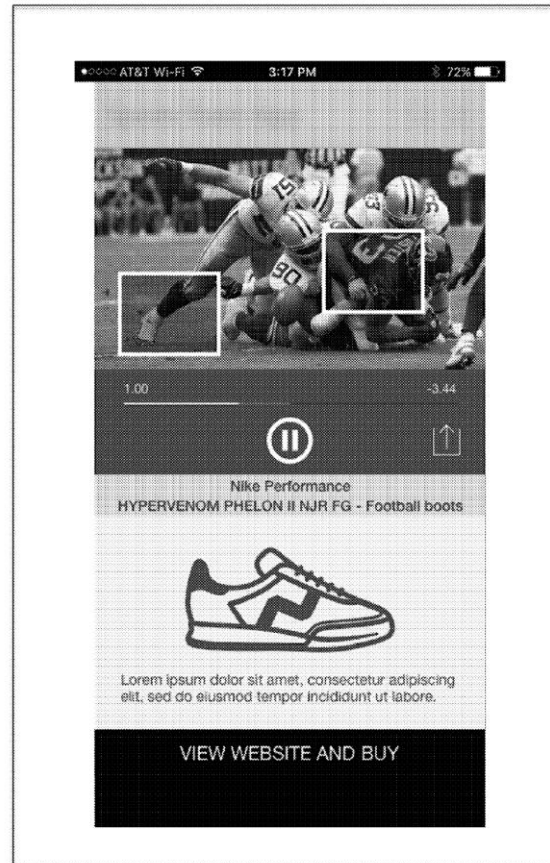


Fig. 49
Ohliger at Fig. 49.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger



Fig. 50

Ohliger at Fig. 50.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger



FIG. 53B

Ohliger at Fig. 53B.

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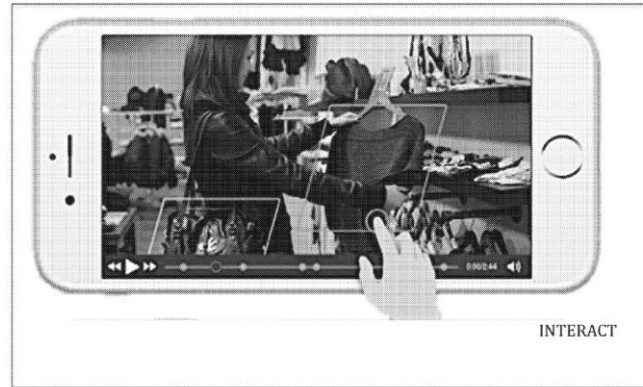


FIG. 53D

Ohliger at Fig. 53D.

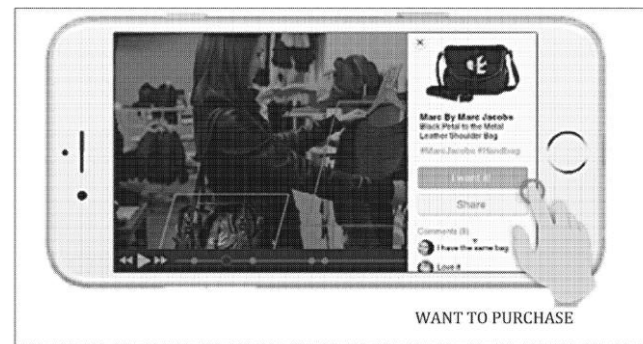


FIG. 53E

Ohliger at Fig. 53E.

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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		 <p style="text-align: center;">FIG. 53F</p> <p>Ohliger at Fig. 53F.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
3[a][ii]	receiving a selection of a given selectable visual indicator of a given item, service, or song of interest from the user to display marketing information of the given item, song, service, or song of interest to the user.	<p>Ohliger discloses “receiving a selection of a given selectable visual indicator of a given item, service, or song of interest from the user to display marketing information of the given item, song, service, or song of interest to the user.” See e.g.:</p> <p>“In step 720, the video objects are compared with objects in an object library, which may be 2D (two-dimensional) or 3D (three-dimensional) wire frame data</p>

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		<p>representing objects within the video. Perspective views from such 2D/3D wire frame models may be advantageous to the automatic object recognition process. This step is optional. If a match is detected then the object is associated with the product description and/or meta-data from the object library. The unmatched video object may be discarded or subjected to a secondary processing application and/or an analyst may manually identify/configure the object boundaries (step 730), and then the object may be subject to another classification step (710) and/or another comparison with objects in the object library (720). The creator of the video can also choose which objects they want to make interactive (705) and they can identify those objects with a dynamic bounding area that will change size proportionate to the change in size of the object from frame to frame as it is tracked by an object tracking algorithm. The creator can also describe, comment and add additional content to an object in the video that they have chosen to make interactive (715). This content will appear to a viewer when they interact with the bounding area around the object in any frame that the object appears by clicking, hovering over, or touching any point within the bounding area.</p> <p>In step 740, the video objects are published to the market exchange and subject to an automated auction process. The auction allows retailers, brands, and affiliates/advertisers to bid for the right to assign a hyperlink to a video object that takes a viewer of the video who has interacted with that object to a website where that object or any object the winning bidder chooses can be purchased, or to any other content the winning bidder would like to associate with that object.</p> <p>In step 745 a video overlay is created which links the video object with the winning bidders provided content, and in step 750 the video overlay with region definition data is transmitted to the video broadcaster 120.</p> <p>In step 760, a video viewer interacts with the video overlay by rolling-over or selecting a video region thereby triggering the display of relevant content associated with the video object. It should be appreciated that rolling over may illicit the display of different relevant content than that displayed when the object is selected. For example, selecting an object may trigger more detailed information than that displayed when the object is simply rolled-over with the pointing device.</p>
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		<p>In step 770 (optional), the VOHE 300 records the viewer interaction with the video objects and updates the viewer's behavioral profile. It should be noted that the video viewer's interactions with the video overlay (and the video objects) generally triggers the display of relevant content from the VOHE 300. This enables the content associated with a video object to be updated on-the-fly without the need to alter the video overlay. The video overlay makes the video interactive by making video regions selectable, the content comes from the object database that stores information submitted from the creator of the video as well as comments by viewers, in addition, content also comes from the VOHE 300 in the form of hyperlinks supplied by the winning bidders.</p> <p>In step 780 (optional), the VOHE 100 completes a sales transaction initiated by the viewer's interactions with the video region representing the video object. As will be explained below in further detail, the VOHE 300 may enable the viewer to complete a sales transaction by following the hyperlink provided by the winning bidder to an online retailer.” Ohliger at 12:4-13:3.</p> <p>“It is important to note that the video objects are used to create selectable regions (hyperlinks) which dynamically track the movement, size and position of the object throughout the video.</p> <p>3D Rotoscoping</p> <p>FIG. 12 is a high level flow diagram for 3-dimensional rotoscoping. The process begins in step 1200 with selecting a given video object.</p> <p>If only one perspective of the video object is available (step 1202A) in the video then a two-dimensional wire frame of the video object is created. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in a video object database (such as object information library 112 (step 1208).</p> <p>If additional perspectives for the video object subsequently become available (step 1202B) then a three-dimensional (3D) wire frame is created (step 1206) or the new perspectives are used to update the existing three-dimensional wireframe. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in the video object database (step 1208).</p>
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		<p>In step 1210 the user (video consumer) is presented with viewing options such as rotating of the object or zoom. It is also possible to “replace” video objects (step 1212) in the video by superimposing a modified or new animated object including light and shadows of surrounding video objects over the existing video object. For example, an obscured appearance of a video object such as a can of Pepsi® can be replaced (superimposed) with an animated object (3-dimensional wireframe of the object) without the need to re-shoot the video. It is even possible to superimpose an animated object (3-dimensional wireframe of the object) of a can of Coca-Cola® over the can of Pepsi.</p> <p>The present invention further includes a system for making an interactive overlay for a video. The system includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server includes one or more video files stored in a video database. The system further includes object inventory database 112 stored on the server 300 and containing information describing a location (size, shape, orientation) of at least one video object within one of the video files. The object inventory database 112 may be compiled using any of the systems or methods disclosed in this specification or equivalents thereof. An overlay generation application (software or firmware) is stored and executed on the server 300. The overlay generation application creates a video overlay including at least one selectable hyperlink whose shape and position (coordinates) track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. In some cases the overlay is transparent; however, as will be explained below in some cases the overlay may include animated representations of video objects which are superimposed over and replace/obscure the underlying video object. The system may optionally include a wireframe database 112A stored on the server 300 or the wireframe database may be included within the object inventory database 112 or any other database stored on the server. The wire frame database 112A stores three-dimensional wireframe representations of at least one video object.</p>
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		<p>The overlay generation application may optionally match occurrences of video objects in the object inventory library with three-dimensional wireframe representations of the video object (stored in the wireframe library database or the object inventory database) and create a video overlay including matched wire frame representations wherein the shape and position of the wireframe representation tracks a dynamic location of the video object in the video. In other words, the wireframe representation of the object is superimposed over the corresponding video object. The superimposed wireframe representation obscures (replaces) the video object.</p> <p>The wire frame library database 112A may optionally include a lighting model which defines/specifies the light distribution on the video object. For each occurrence of a video object in a video frame the lighting model would define/specify the light distribution on the video object.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database 112 stored on (or accessible by) the server and containing information describing a location of at least one video object within one of the video files. The system includes a wireframe database stored on (or accessible by) the server, the wireframe database storing three-dimensional wireframe representations of at least one video object; and an overlay generation application (software or firmware) executed on the server. The overlay generation application matches occurrences of video objects in the object inventory library with corresponding three-dimensional wireframe representations of the video object and creates a video overlay including matched wireframe representations of the video object wherein the shape and position (coordinates) of the wireframe representation track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p>
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Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		<p>According to another embodiment the system for making an interactive overlay for a video includes a server including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database stored on the server and containing information describing coordinates of at least one video object within one of the video files. The system further includes a wireframe database stored on the server, the wireframe database stores three-dimensional wireframe representations of at least one video object. A wireframe generation application (software or firmware) executed on the server selects video objects from the video object inventory database and generates a three-dimensional wire frame of the selected video object from multiple perspective occurrences of the video object in the video file and stores the three-dimensional wireframe in the wireframe database. The wireframe generation application may optionally generate a lighting model for each occurrence of a video object in a video frame from light distribution on the video object.</p> <p>The system may further include an overlay generation application (software or firmware) executed on the server which matches occurrences of video objects in the object inventory library 112 with corresponding three-dimensional wire frame representations stored in the wire frame library 112A. The overlay generation application creates a video overlay including matched wireframe representations of the video objects wherein the shape and position of the wireframe representation tracks the dynamic location of the video object in the video. The overlay generation application stores the overlay on the server. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>The creation of three-dimensional wire frames and lighting models is well known in the art and is disclosed in the following U.S. patents whose disclosure are hereby incorporated by reference: U.S. Pat. No. 7,602,404 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,983,082 entitled Reality-based light environment for digital imaging in motion pictures; U.S. Pat. No. 6,954,202 entitled Image-based methods of representation and rendering of three dimensional object and animated three-dimensional object;</p>
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Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

U.S. Pat. No. 6,919,962 entitled Reflectometry apparatus and method; U.S. Pat. No. 6,858,826 entitled Method and apparatus for scanning three-dimensional objects; U.S. Pat. No. 6,685,326 entitled Realistic scene lighting simulation; U.S. Pat. No. 6,628,298 entitled Apparatus and method for rendering synthetic objects into real scenes using measurements of scene illumination; U.S. Pat. No. 6,529,206 entitled Image processing apparatus and method, and medium therefore; U.S. Pat. No. 6,504,546 entitled Method of modeling objects to synthesize three-dimensional, photo-realistic animations; U.S. Pat. No. 6,434,265 entitled Aligning rectilinear images in 3D through projective registration and calibration; U.S. Pat. No. 6,333,749 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,281,904 entitled Multi-source texture reconstruction and fusion; and U.S. Pat. No. 6,281,903 entitled Methods and apparatus for embedding 2D image content into 3D models.” Ohliger at 18:45-21:16.



Fig. 18
Shop VeePiO

Ohliger at Fig. 18.

Exhibit 316-A13
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Fig. 20
How to Veep



Ohliger at Fig. 20.

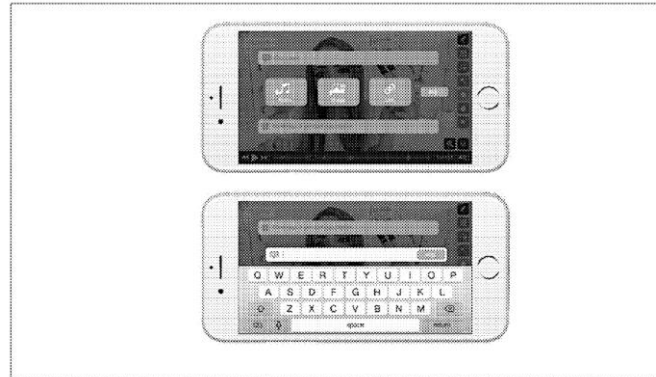
Fig. 21
Veep Editing Room



Ohliger at Fig. 21.

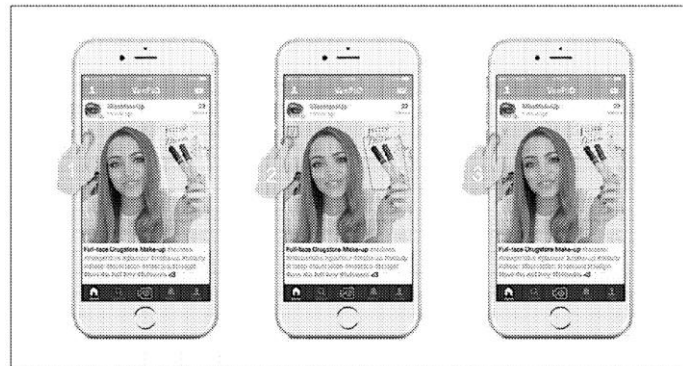
Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Fig. 22
Object Details



Ohliger at Fig. 21.

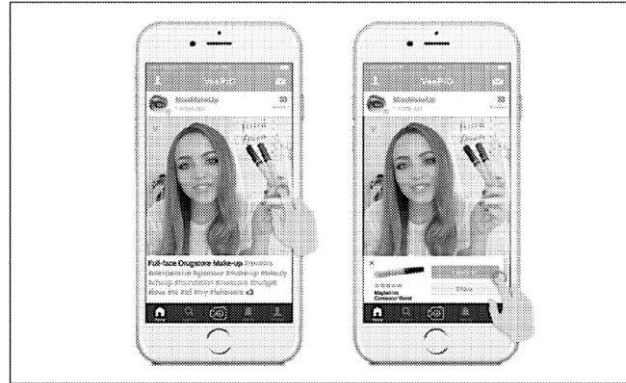
Fig. 23
"V"isibility



Ohliger at Fig. 23.

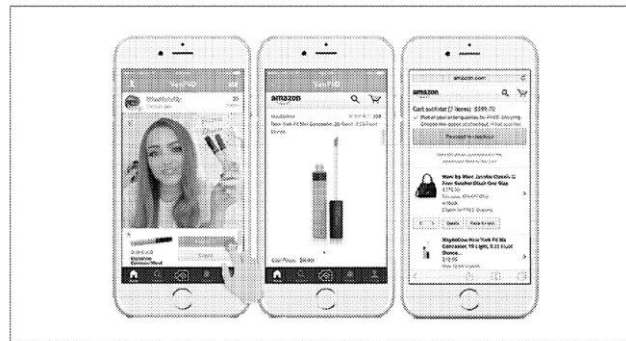
Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Fig. 24
I Want it!



Ohliger at Fig. 24.

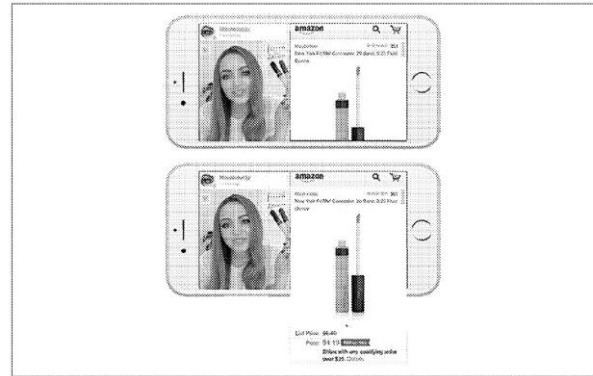
Fig. 25
I Want it! Continued



Ohliger at Fig. 25.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Fig. 28
Buy Via Split Screen



Ohliger at Fig. 28.

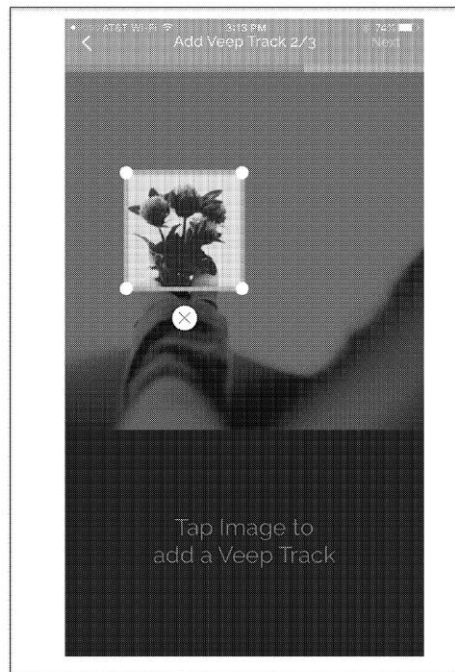


Fig. 38

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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Ohliger at Fig. 38.

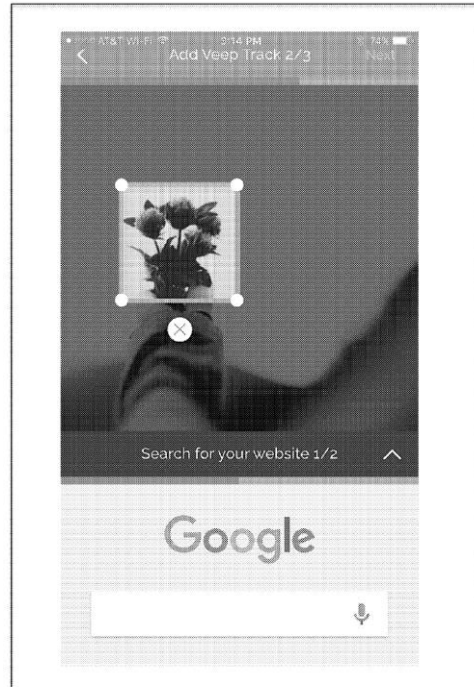


Fig. 39

Ohliger at Fig. 39.

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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

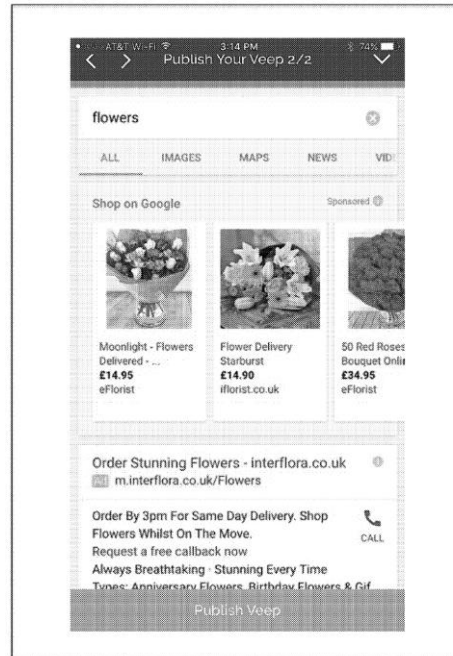


Fig. 41
Ohliger at Fig. 41.

Exhibit 316-A13
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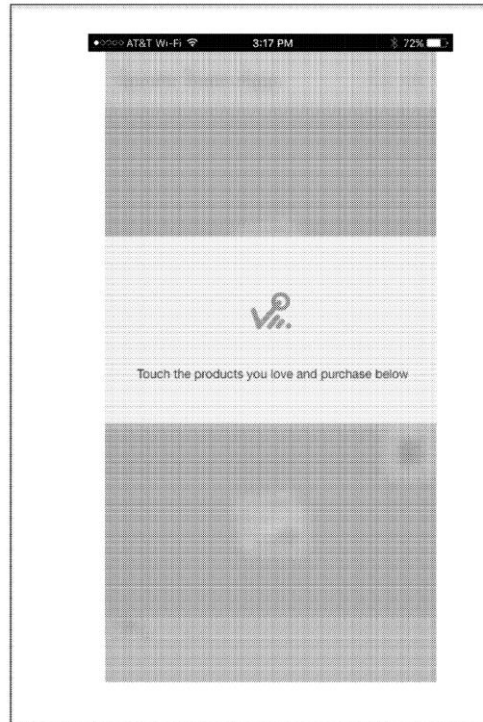


Fig. 46
'46 Patent at Fig. 46.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

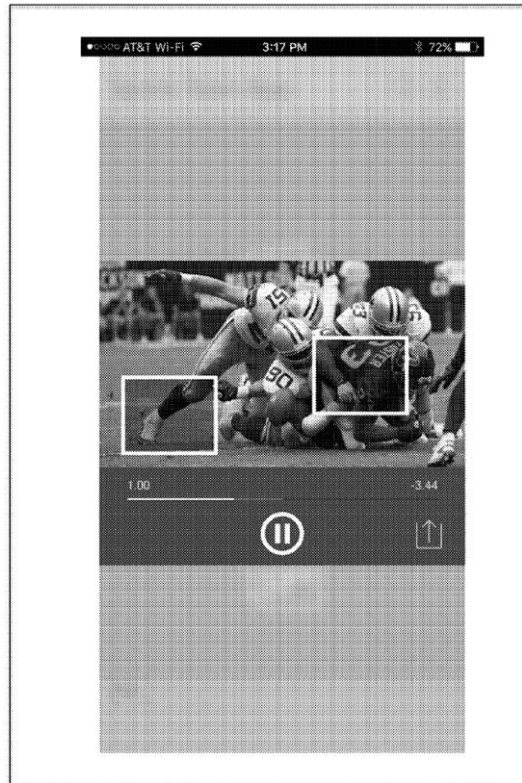


Fig. 48
Ohliger at Fig. 48.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

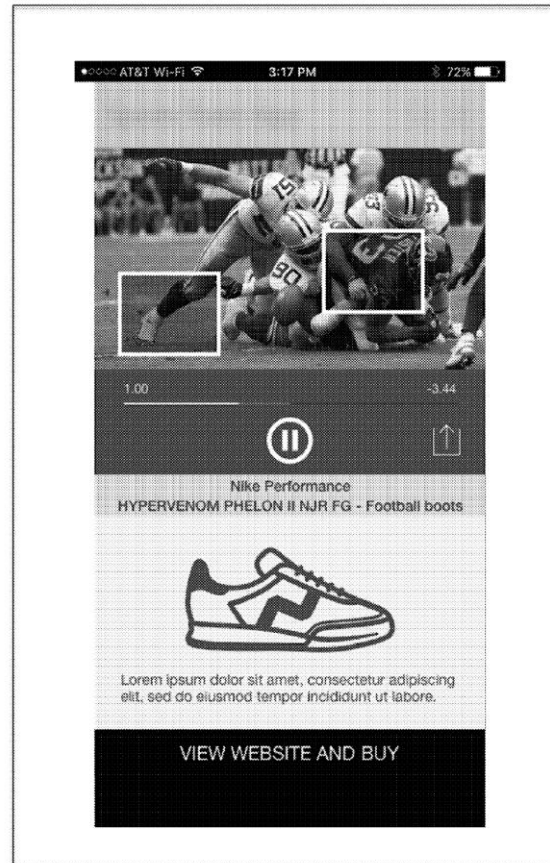


Fig. 49
Ohliger at Fig. 49.

Exhibit 316-A13
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Fig. 50

Ohliger at Fig. 50.

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FIG. 53B

Ohliger at Fig. 53B.

Exhibit 316-A13
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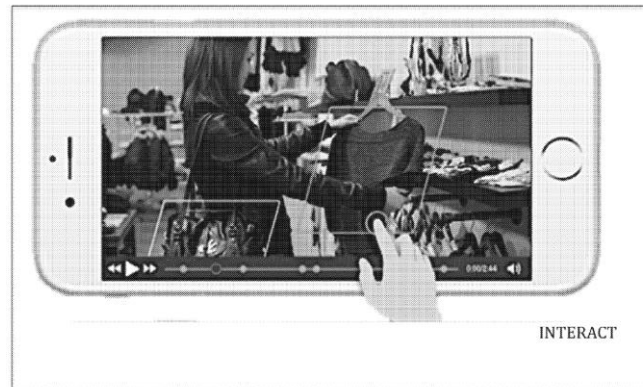


FIG. 53D

Ohliger at Fig. 53D.



FIG. 53E

Ohliger at Fig. 53E.

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		 <p style="text-align: center;">FIG. 53F</p> <p>Ohliger at Fig. 53F.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
4[pre]	The method of claim 3, further comprising	<p>To the extent the preamble is limiting, Ohliger discloses “The method of claim 3, further comprising ” See e.g.:</p> <p><i>See claim 3, supra.</i></p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in</p>

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		Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.
4[a]	enabling the user to purchase the given item, song, or service of interest from the marketing information.	<p>Ohliger discloses “enabling the user to purchase the given item, song, or service of interest from the marketing information.” See e.g.:</p> <p>“A system is provided for identifying objects in video either automatically by using an object database or manually by using information provided by the creator of the video, making the objects interactive in every frame of the video that they appear, allowing the creator to embed information behind the video objects that appears when a viewer hovers over, clicks or touches the object, allowing the creator to describe at least one object that appears in a video, associating a hyperlink with a clickable space around the object in every frame that the object appears in, and electronically auctioning the rights to the hyperlink and what data the hyperlink connects to. The system includes a video server communicating with a consumer server over a distributed network. The video server includes at least one video file, an object inventory database, and relevant content including associated hyperlinks in a database stored on or accessible to the video server. The object inventory database contains information describing a location of at least one video object within at least one video file and the hyperlink that is associated with the object. A video overlay links the relevant content with a given video object and creating a selectable hyperlink whose position tracks a dynamic location of the video object in the video. The consumer server includes a software application for accessing and displaying at least one video file stored in the video database, the software application including means for interacting with the video overlay to select an object displayed in the video file.</p> <p>More specifically, a system is disclosed for viewing video having segmented video objects. The system includes a video server including a computer or mobile device connectable to a distributed network and having a processor, random</p>

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		<p>access memory, read-only memory, and mass storage memory. At least one video file is stored in a video database on or accessible to the video server. An object inventory database is stored on or accessible to the video server, the object inventory database containing information describing a location of at least one video object within the at least one video file. Object description content is stored in a database stored on or accessible to the video server. A video overlay links the object description content with a given video object and creating a selectable hyperlink whose position tracks a dynamic location of the video object in the video, wherein the video overlay is adapted to allow a consumer to interact with the video overlay to select an object displayed in the video file and be displayed content related to the object that has been added by the creator of the video, and/or content that has been added automatically by the system, or content that has been added a viewer or viewers of the video. The system also allows a viewer to click a button that has a hyperlink associated with it that takes the viewer to an online store where a product or products associated with the object in the video can be purchased. The viewer also has the ability to add the selected object to a collection of objects. The viewer also has the ability to share a hyperlink directly associated with the video and the object with other people over a social network, email, the internet, mobile messaging and any other commonly used electronic forms of communication.” Ohliger at 3:9-67.</p> <p>“The present invention is a system 100 for automatically segmenting video into video objects, classifying the video objects either automatically or by the creator of the video, assembling a database of the classified video objects, defining region definition data representing each video object on an interactive layer, auctioning the rights to a hyperlink that is either displayed or associated with a button that appears when an object is interacted with by a viewer of the video, or that is connected directly to the object so that when a viewer clicks or touches the object while watching the video they are directed to a website or other content that the hyperlink is pointing to. Allowing the creator of the video to associate comments, pictures, audio, hyperlinks, and other content with interactive areas around objects in their videos. Allowing viewers of the video to interact with objects in the video by clicking or touching areas around objects in the video, and further allowing</p>
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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

	<p>viewers to comment about those objects, share those objects by way of the internet or social media, and purchase those objects, or other objects associated with the objects by way of the previously mentioned hyperlinks. These hyperlinks associated with video objects are auctioned on a video object hyperlink exchange (hereinafter “VOHE”) 300, and creating a video overlay with region definition data linking relevant content with the video content objects and thereby creating an interactive video. The creator of the video is reimbursed for the content by receiving a mutually agreed to percentage of the profits generated by the auction of the hyperlinks within the creators content. The region is a portion of the video frame which is congruent with the underlying video object. The region definition data defines such portion of the video frame. The system 100 of the present invention consists of several distinct yet related components.” Ohliger at 8:58-9:23.</p> <p>“In step 720, the video objects are compared with objects in an object library, which may be 2D (two-dimensional) or 3D (three-dimensional) wire frame data representing objects within the video. Perspective views from such 2D/3D wire frame models may be advantageous to the automatic object recognition process. This step is optional. If a match is detected then the object is associated with the product description and/or meta-data from the object library. The unmatched video object may be discarded or subjected to a secondary processing application and/or an analyst may manually identify/configure the object boundaries (step 730), and then the object may be subject to another classification step (710) and/or another comparison with objects in the object library (720). The creator of the video can also choose which objects they want to make interactive (705) and they can identify those objects with a dynamic bounding area that will change size proportionate to the change in size of the object from frame to frame as it is tracked by an object tracking algorithm. The creator can also describe, comment and add additional content to an object in the video that they have chosen to make interactive (715). This content will appear to a viewer when they interact with the bounding area around the object in any frame that the object appears by clicking, hovering over, or touching any point within the bounding area.</p>
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		<p>In step 740, the video objects are published to the market exchange and subject to an automated auction process. The auction allows retailers, brands, and affiliates/advertisers to bid for the right to assign a hyperlink to a video object that takes a viewer of the video who has interacted with that object to a website where that object or any object the winning bidder chooses can be purchased, or to any other content the winning bidder would like to associate with that object.</p> <p>In step 745 a video overlay is created which links the video object with the winning bidders provided content, and in step 750 the video overlay with region definition data is transmitted to the video broadcaster 120.</p> <p>In step 760, a video viewer interacts with the video overlay by rolling-over or selecting a video region thereby triggering the display of relevant content associated with the video object. It should be appreciated that rolling over may illicit the display of different relevant content than that displayed when the object is selected. For example, selecting an object may trigger more detailed information than that displayed when the object is simply rolled-over with the pointing device.</p> <p>In step 770 (optional), the VOHE 300 records the viewer interaction with the video objects and updates the viewer's behavioral profile. It should be noted that the video viewer's interactions with the video overlay (and the video objects) generally triggers the display of relevant content from the VOHE 300. This enables the content associated with a video object to be updated on-the-fly without the need to alter the video overlay. The video overlay makes the video interactive by making video regions selectable, the content comes from the object database that stores information submitted from the creator of the video as well as comments by viewers, in addition, content also comes from the VOHE 300 in the form of hyperlinks supplied by the winning bidders.</p> <p>In step 780 (optional), the VOHE 100 completes a sales transaction initiated by the viewer's interactions with the video region representing the video object. As will be explained below in further detail, the VOHE 300 may enable the viewer to complete a sales transaction by following the hyperlink provided by the winning bidder to an online retailer.” Ohliger at 12:4-13:3.</p>
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		<p>“It is important to note that the video objects are used to create selectable regions (hyperlinks) which dynamically track the movement, size and position of the object throughout the video.</p> <p>3D Rotoscoping</p> <p>FIG. 12 is a high level flow diagram for 3-dimensional rotoscoping. The process begins in step 1200 with selecting a given video object.</p> <p>If only one perspective of the video object is available (step 1202A) in the video then a two-dimensional wire frame of the video object is created. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in a video object database (such as object information library 112 (step 1208).</p> <p>If additional perspectives for the video object subsequently become available (step 1202B) then a three-dimensional (3D) wire frame is created (step 1206) or the new perspectives are used to update the existing three-dimensional wireframe. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in the video object database (step 1208).</p> <p>In step 1210 the user (video consumer) is presented with viewing options such as rotating of the object or zoom. It is also possible to “replace” video objects (step 1212) in the video by superimposing a modified or new animated object including light and shadows of surrounding video objects over the existing video object. For example, an obscured appearance of a video object such as a can of Pepsi® can be replaced (superimposed) with an animated object (3-dimensional wireframe of the object) without the need to re-shoot the video. It is even possible to superimpose an animated object (3-dimensional wireframe of the object) of a can of Coca-Cola® over the can of Pepsi.</p> <p>The present invention further includes a system for making an interactive overlay for a video. The system includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server includes one or more video files stored in a video database. The system further includes object inventory database 112 stored on the server 300 and containing information describing a location (size, shape, orientation) of at least one video object within one of the video files. The object inventory</p>
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		<p>database 112 may be compiled using any of the systems or methods disclosed in this specification or equivalents thereof. An overlay generation application (software or firmware) is stored and executed on the server 300. The overlay generation application creates a video overlay including at least one selectable hyperlink whose shape and position (coordinates) track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. In some cases the overlay is transparent; however, as will be explained below in some cases the overlay may include animated representations of video objects which are superimposed over and replace/obscure the underlying video object. The system may optionally include a wireframe database 112A stored on the server 300 or the wireframe database may be included within the object inventory database 112 or any other database stored on the server. The wire frame database 112A stores three-dimensional wireframe representations of at least one video object.</p> <p>The overlay generation application may optionally match occurrences of video objects in the object inventory library with three-dimensional wireframe representations of the video object (stored in the wireframe library database or the object inventory database) and create a video overlay including matched wire frame representations wherein the shape and position of the wireframe representation tracks a dynamic location of the video object in the video. In other words, the wireframe representation of the object is superimposed over the corresponding video object. The superimposed wireframe representation obscures (replaces) the video object.</p> <p>The wire frame library database 112A may optionally include a lighting model which defines/specifies the light distribution on the video object. For each occurrence of a video object in a video frame the lighting model would define/specify the light distribution on the video object.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The</p>
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		<p>system includes an object inventory database 112 stored on (or accessible by) the server and containing information describing a location of at least one video object within one of the video files. The system includes a wireframe database stored on (or accessible by) the server, the wireframe database storing three-dimensional wireframe representations of at least one video object; and an overlay generation application (software or firmware) executed on the server. The overlay generation application matches occurrences of video objects in the object inventory library with corresponding three-dimensional wireframe representations of the video object and creates a video overlay including matched wireframe representations of the video object wherein the shape and position (coordinates) of the wireframe representation track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database stored on the server and containing information describing coordinates of at least one video object within one of the video files. The system further includes a wireframe database stored on the server, the wireframe database stores three-dimensional wireframe representations of at least one video object. A wireframe generation application (software or firmware) executed on the server selects video objects from the video object inventory database and generates a three-dimensional wire frame of the selected video object from multiple perspective occurrences of the video object in the video file and stores the three-dimensional wireframe in the wireframe database. The wireframe generation application may optionally generate a lighting model for each occurrence of a video object in a video frame from light distribution on the video object.</p>
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		<p>The system may further include an overlay generation application (software or firmware) executed on the server which matches occurrences of video objects in the object inventory library 112 with corresponding three-dimensional wire frame representations stored in the wire frame library 112A. The overlay generation application creates a video overlay including matched wireframe representations of the video objects wherein the shape and position of the wireframe representation tracks the dynamic location of the video object in the video. The overlay generation application stores the overlay on the server. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>The creation of three-dimensional wire frames and lighting models is well known in the art and is disclosed in the following U.S. patents whose disclosure are hereby incorporated by reference: U.S. Pat. No. 7,602,404 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,983,082 entitled Reality-based light environment for digital imaging in motion pictures; U.S. Pat. No. 6,954,202 entitled Image-based methods of representation and rendering of three dimensional object and animated three-dimensional object; U.S. Pat. No. 6,919,962 entitled Reflectometry apparatus and method; U.S. Pat. No. 6,858,826 entitled Method and apparatus for scanning three-dimensional objects; U.S. Pat. No. 6,685,326 entitled Realistic scene lighting simulation; U.S. Pat. No. 6,628,298 entitled Apparatus and method for rendering synthetic objects into real scenes using measurements of scene illumination; U.S. Pat. No. 6,529,206 entitled Image processing apparatus and method, and medium therefore; U.S. Pat. No. 6,504,546 entitled Method of modeling objects to synthesize three-dimensional, photo-realistic animations; U.S. Pat. No. 6,434,265 entitled Aligning rectilinear images in 3D through projective registration and calibration; U.S. Pat. No. 6,333,749 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,281,904 entitled Multi-source texture reconstruction and fusion; and U.S. Pat. No. 6,281,903 entitled Methods and apparatus for embedding 2D image content into 3D models.” Ohliger at 18:45-21:16.</p>
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		<p>“In steps 608A and 608B the viewer is viewing the selected content (1700 in FIGS. 6A-6D) and encounters video objects of interest. According to one embodiment pointing at the frame by, e.g., bringing pointer 1701 of pointing device 218 into video frame 1703 (FIG. 6A) will cause the video to slow the video down, which allows the viewer to select an object. In the case of interactive TV or three-dimensional (3D) videos, the viewer can use a variety of pointing means including, but not limited to, a virtual pointer of the type popularized by the Nintendo Wii® which utilizes a glove or the like with sensors capable to determine X, Y, and Z coordinates. In step 608A the viewer merely tags the objects of interest for later review (1702 and 1704 in FIGS. 6B and 6C), whereupon in step 610 the contextual advertising is once again refined (this time in relation to the objects of interest) and the behavioral profile (analytics database) of the viewer is updated. Steps 608A and 610 may be repeated any number of times during the viewing of the video. In step 612, the viewer reviews the list of tagged items from step 608A and either jumps back to the scenes in which the items appear (step 614A and 1704 in FIG. 6C) or learns more about the items selected, e.g., price, features etc (step 614B). In step 616 the viewer selects one or more objects (products) to purchase (from the tagged or identified objects), and in step 618 the viewer completes the transaction (1708 in FIG. 6D). Step 608B is an alternative to step 608A and presents the viewer with the option to immediately jump to 614 and learn more about the object. The information associated with the video object may be displayed as an overlay pop-up or in a field next the video player. Each time the viewer interacts with video objects his/her profile gets updated in the database.” Ohliger at 23:61-24:27.</p> <p>“As described above, the user may be presented with the option to add the video object to a shopping cart (FIG. 9 step 908B and FIG. 10C). Although not specifically illustrated in FIG. 9, the option to purchase may be nested under each of the menu items such that the user may always elect to purchase without having to retrace his/her steps. In fact, each of the menu options described herein may be organized in any number of ways and the inventive concept is not limited to the specific way they are presented. Thus, steps 906A-906D may be nested.</p>
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		<p>The shopping cart may be a conventional electronic shopping cart which enables the user to purchase the object or flag it to the user's wish list for future purchase. The viewer 124, VOHE 300, or system 100 tracks objects purchased by the user and items added to the user's wish list, and such information may be used to analyze the user's buying trends etc. More particularly, an analytics database records the interactions of the consumer. The analytics database stores information regarding the video files or types of video files (genre or the like) accessed by the consumer, the objects selected by the consumer, items purchased by the consumer. The analytics database may be stored on or accessible to (via the distributed network, e.g., internet) the VOHE 300 or system 100. The viewer 124 also enables the user to manually indicate that the user owns a given object even if it was not purchased through the VOHE 300.” Ohliger at 25:17-42.</p> <p>“FIG. 28: No re-direct is required in VeePiO. Users can view product pages via a split screen, giving them a way to browse that product while they watch it in action.” Ohliger at 29:19-21.</p> <p>“FIG. 52 shows a flowchart of a monetization process using the VEEPIO platform. In this example, VEEPIO has a pre-established affiliate relationship with Amazon. The steps of the flowchart are further explained with respect to user interface display screens shown in FIGS. 53A-53H. FIG. 53A shows the flow order of FIGS. 53B-53H.</p> <p>5201: OBJECT LINKED: Object linked in picture or video by content creator. (FIG. 53A)</p> <p>5202: POSTED: Content with linked objects is posted on platform. (FIG. 53B)</p> <p>5203: INTERACT: Viewer taps one of the linked objects in the posted content to open up info. (FIG. 53C)</p> <p>5204: WANT TO PURCHASE: Viewer taps purchase option within object info. (FIG. 53D)</p> <p>5205: PURCHASE PAGE: Viewer automatically navigated to linked e-commerce page. (FIG. 53E)</p> <p>5206: PURCHASE: Viewer purchases object from e-commerce page. (FIG. 53F)</p>
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5027: \$\$\$: Affiliate pays % of revenue for traffic driven to purchase. (FIG. 53G)”
 Ohliger at 43:64-44:16.

Flowchart: high level flowchart video object collection actions

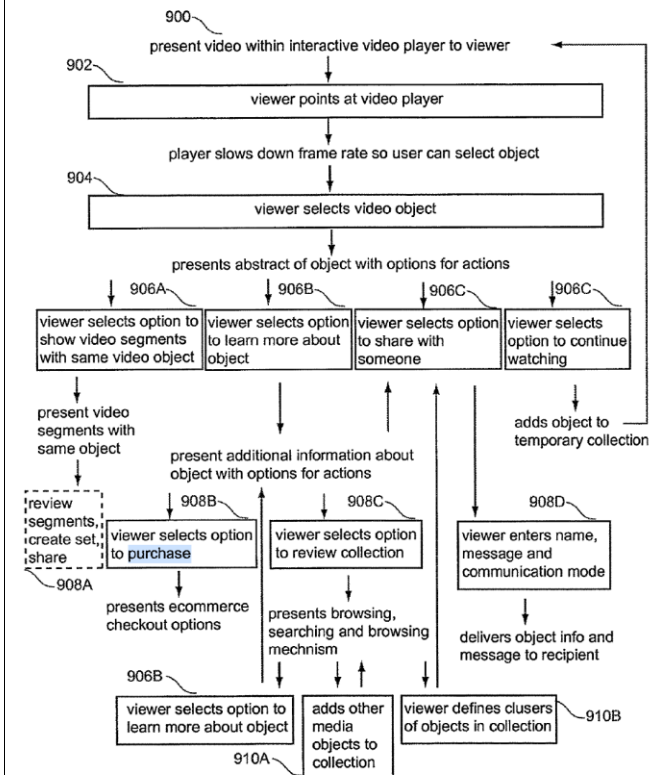


FIG. 9
 Ohliger at Fig. 9.

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Fig. 18
Shop VeePIO

Ohliger at Fig. 18.

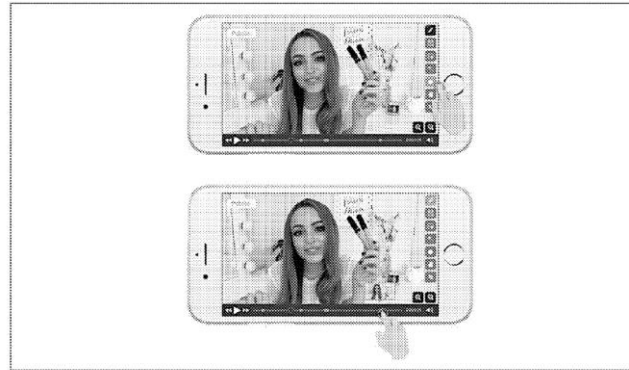
Fig. 20
How to Veep



Ohliger at Fig. 20.

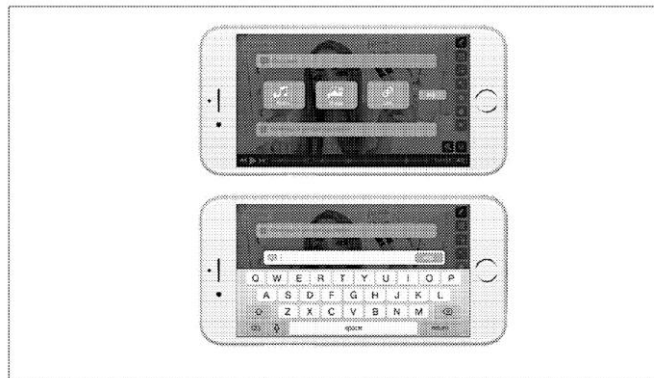
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Fig. 21
Veep Editing Room



Ohliger at Fig. 21.

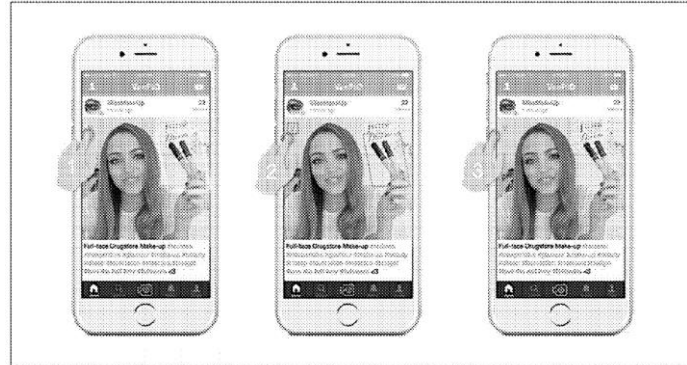
Fig. 22
Object Details



Ohliger at Fig. 21.

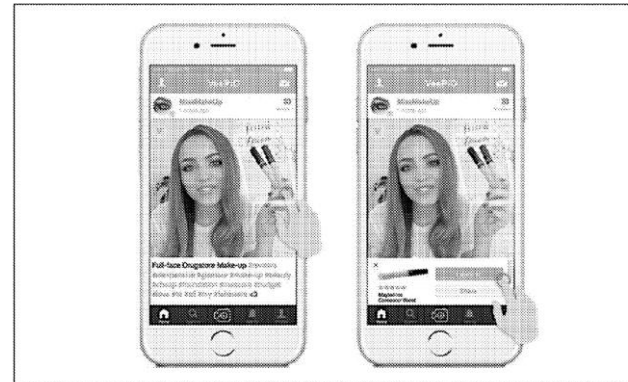
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Fig. 23
"V"isibility



Ohliger at Fig. 23.

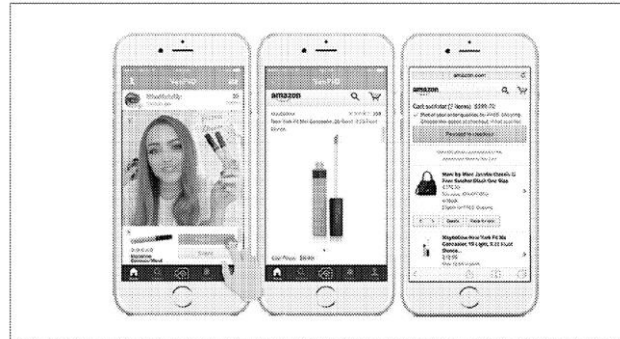
Fig. 24
I Want it!



Ohliger at Fig. 24.

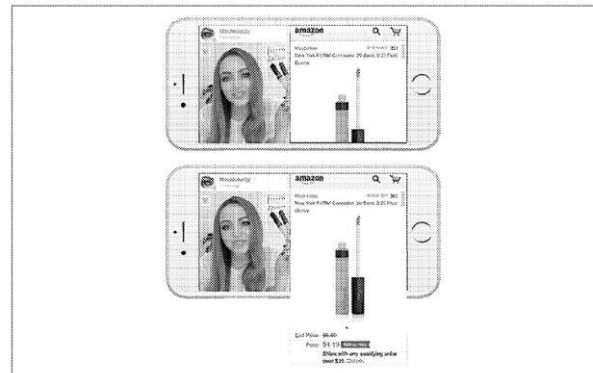
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Fig. 25
I Want it! Continued



Ohliger at Fig. 25.

Fig. 28
Buy Via Split Screen



Ohliger at Fig. 28.

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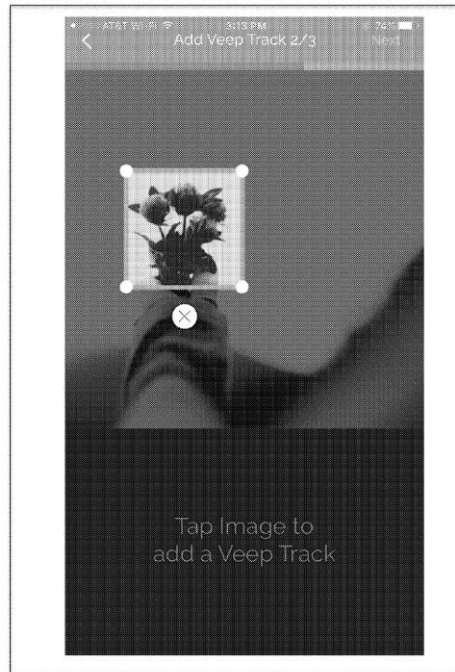


Fig. 38

Ohliger at Fig. 38.

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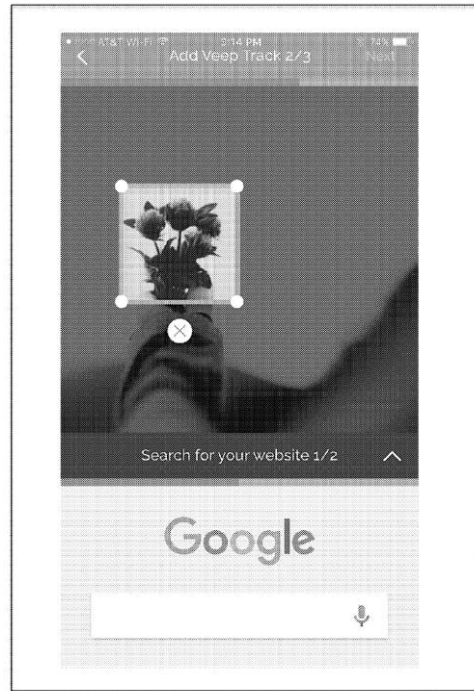


Fig. 39
Ohliger at Fig. 39.

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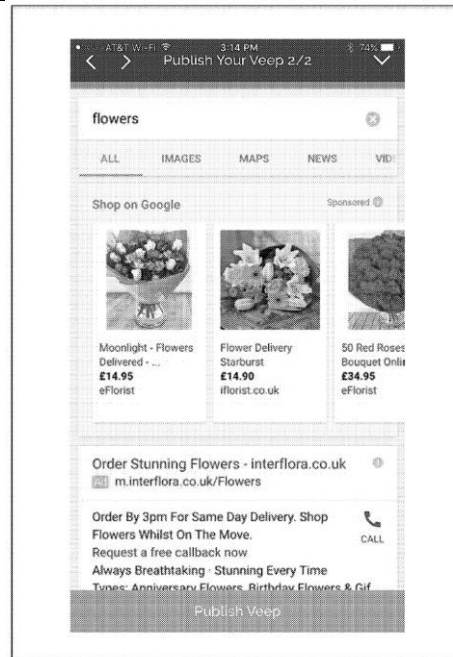


Fig. 41
Ohliger at Fig. 41.

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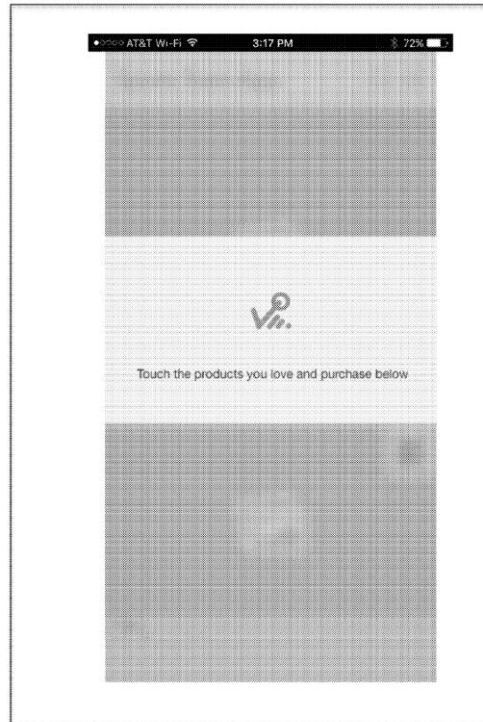


Fig. 46
'46 Patent at Fig. 46.

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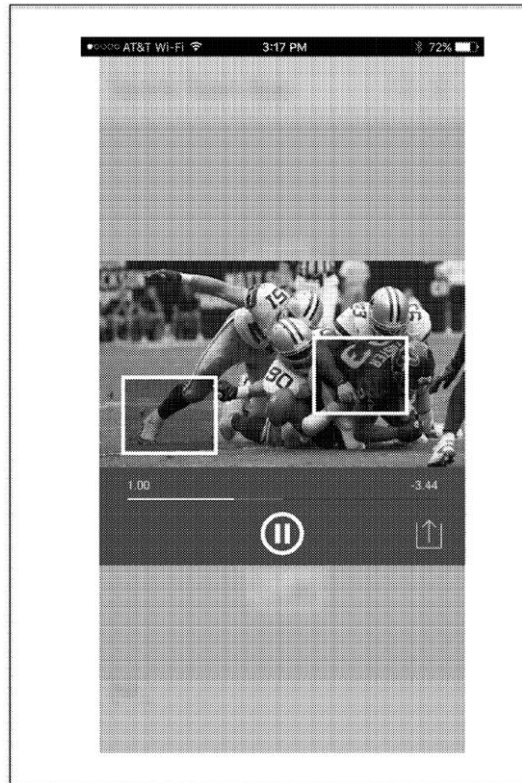


Fig. 48
Ohliger at Fig. 48.

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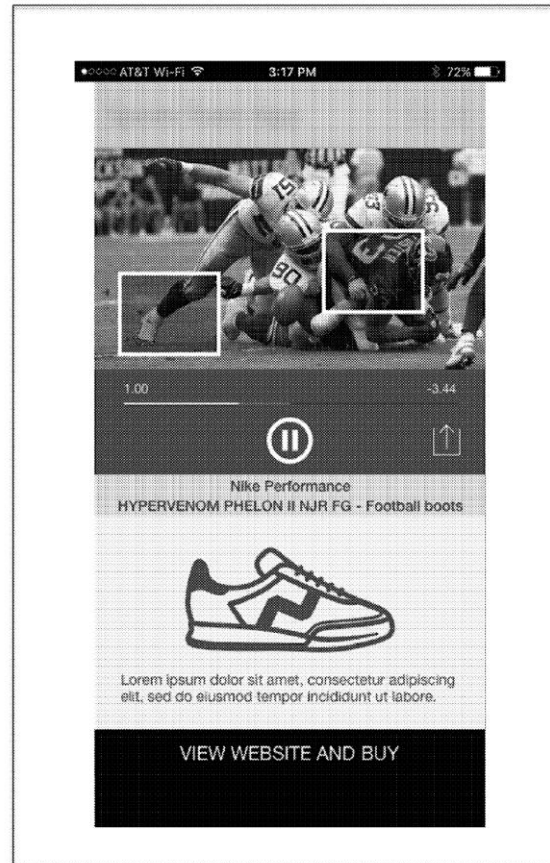


Fig. 49
Ohliger at Fig. 49.

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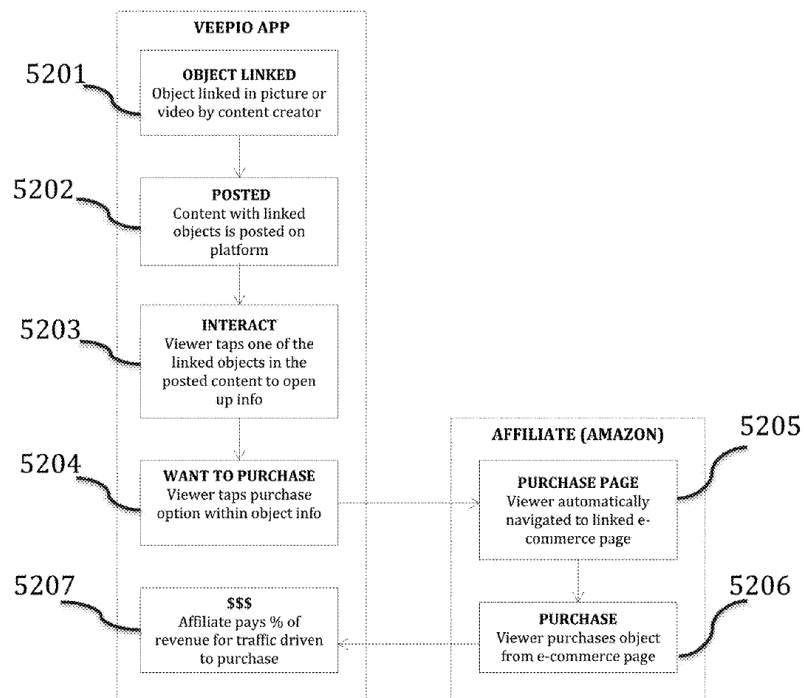
Fig. 50

Ohliger at Fig. 50.

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Fig. 52

Monetization



Ohliger at Fig. 52.

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FIG. 53B

Ohliger at Fig. 53B.

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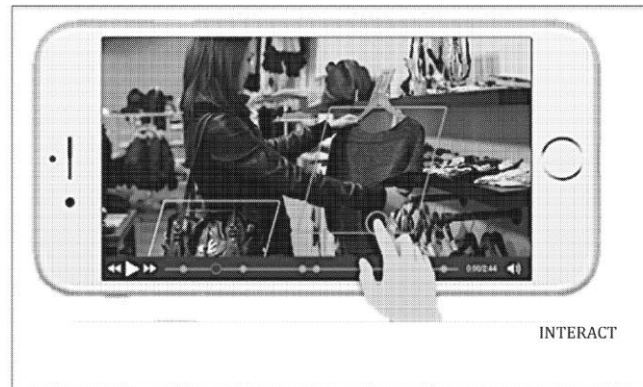


FIG. 53D

Ohliger at Fig. 53D.



FIG. 53E

Ohliger at Fig. 53E.

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		 <p style="text-align: center;">FIG. 53F</p> <p>Ohliger at Fig. 53F.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
5[pre]	The method of claim 4,	<p>To the extent the preamble is limiting, Ohliger discloses “The method of claim 4,” See e.g.:</p> <p><i>See claim 4, supra.</i></p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in</p>

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		Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.
5[a]	wherein the user is enabled to purchase while the video media is being displayed to the user.	<p>Ohliger discloses “wherein the user is enabled to purchase while the video media is being displayed to the user.” See e.g.:</p> <p>“A system is provided for identifying objects in video either automatically by using an object database or manually by using information provided by the creator of the video, making the objects interactive in every frame of the video that they appear, allowing the creator to embed information behind the video objects that appears when a viewer hovers over, clicks or touches the object, allowing the creator to describe at least one object that appears in a video, associating a hyperlink with a clickable space around the object in every frame that the object appears in, and electronically auctioning the rights to the hyperlink and what data the hyperlink connects to. The system includes a video server communicating with a consumer server over a distributed network. The video server includes at least one video file, an object inventory database, and relevant content including associated hyperlinks in a database stored on or accessible to the video server. The object inventory database contains information describing a location of at least one video object within at least one video file and the hyperlink that is associated with the object. A video overlay links the relevant content with a given video object and creating a selectable hyperlink whose position tracks a dynamic location of the video object in the video. The consumer server includes a software application for accessing and displaying at least one video file stored in the video database, the software application including means for interacting with the video overlay to select an object displayed in the video file.</p> <p>More specifically, a system is disclosed for viewing video having segmented video objects. The system includes a video server including a computer or mobile device connectable to a distributed network and having a processor, random</p>

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		<p>access memory, read-only memory, and mass storage memory. At least one video file is stored in a video database on or accessible to the video server. An object inventory database is stored on or accessible to the video server, the object inventory database containing information describing a location of at least one video object within the at least one video file. Object description content is stored in a database stored on or accessible to the video server. A video overlay links the object description content with a given video object and creating a selectable hyperlink whose position tracks a dynamic location of the video object in the video, wherein the video overlay is adapted to allow a consumer to interact with the video overlay to select an object displayed in the video file and be displayed content related to the object that has been added by the creator of the video, and/or content that has been added automatically by the system, or content that has been added a viewer or viewers of the video. The system also allows a viewer to click a button that has a hyperlink associated with it that takes the viewer to an online store where a product or products associated with the object in the video can be purchased. The viewer also has the ability to add the selected object to a collection of objects. The viewer also has the ability to share a hyperlink directly associated with the video and the object with other people over a social network, email, the internet, mobile messaging and any other commonly used electronic forms of communication.” Ohliger at 3:9-67.</p> <p>“The present invention is a system 100 for automatically segmenting video into video objects, classifying the video objects either automatically or by the creator of the video, assembling a database of the classified video objects, defining region definition data representing each video object on an interactive layer, auctioning the rights to a hyperlink that is either displayed or associated with a button that appears when an object is interacted with by a viewer of the video, or that is connected directly to the object so that when a viewer clicks or touches the object while watching the video they are directed to a website or other content that the hyperlink is pointing to. Allowing the creator of the video to associate comments, pictures, audio, hyperlinks, and other content with interactive areas around objects in their videos. Allowing viewers of the video to interact with objects in the video by clicking or touching areas around objects in the video, and further allowing</p>
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	<p>viewers to comment about those objects, share those objects by way of the internet or social media, and purchase those objects, or other objects associated with the objects by way of the previously mentioned hyperlinks. These hyperlinks associated with video objects are auctioned on a video object hyperlink exchange (hereinafter “VOHE”) 300, and creating a video overlay with region definition data linking relevant content with the video content objects and thereby creating an interactive video. The creator of the video is reimbursed for the content by receiving a mutually agreed to percentage of the profits generated by the auction of the hyperlinks within the creators content. The region is a portion of the video frame which is congruent with the underlying video object. The region definition data defines such portion of the video frame. The system 100 of the present invention consists of several distinct yet related components.” Ohliger at 8:58-9:23.</p> <p>“In step 720, the video objects are compared with objects in an object library, which may be 2D (two-dimensional) or 3D (three-dimensional) wire frame data representing objects within the video. Perspective views from such 2D/3D wire frame models may be advantageous to the automatic object recognition process. This step is optional. If a match is detected then the object is associated with the product description and/or meta-data from the object library. The unmatched video object may be discarded or subjected to a secondary processing application and/or an analyst may manually identify/configure the object boundaries (step 730), and then the object may be subject to another classification step (710) and/or another comparison with objects in the object library (720). The creator of the video can also choose which objects they want to make interactive (705) and they can identify those objects with a dynamic bounding area that will change size proportionate to the change in size of the object from frame to frame as it is tracked by an object tracking algorithm. The creator can also describe, comment and add additional content to an object in the video that they have chosen to make interactive (715). This content will appear to a viewer when they interact with the bounding area around the object in any frame that the object appears by clicking, hovering over, or touching any point within the bounding area.</p>
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		<p>In step 740, the video objects are published to the market exchange and subject to an automated auction process. The auction allows retailers, brands, and affiliates/advertisers to bid for the right to assign a hyperlink to a video object that takes a viewer of the video who has interacted with that object to a website where that object or any object the winning bidder chooses can be purchased, or to any other content the winning bidder would like to associate with that object.</p> <p>In step 745 a video overlay is created which links the video object with the winning bidders provided content, and in step 750 the video overlay with region definition data is transmitted to the video broadcaster 120.</p> <p>In step 760, a video viewer interacts with the video overlay by rolling-over or selecting a video region thereby triggering the display of relevant content associated with the video object. It should be appreciated that rolling over may illicit the display of different relevant content than that displayed when the object is selected. For example, selecting an object may trigger more detailed information than that displayed when the object is simply rolled-over with the pointing device.</p> <p>In step 770 (optional), the VOHE 300 records the viewer interaction with the video objects and updates the viewer's behavioral profile. It should be noted that the video viewer's interactions with the video overlay (and the video objects) generally triggers the display of relevant content from the VOHE 300. This enables the content associated with a video object to be updated on-the-fly without the need to alter the video overlay. The video overlay makes the video interactive by making video regions selectable, the content comes from the object database that stores information submitted from the creator of the video as well as comments by viewers, in addition, content also comes from the VOHE 300 in the form of hyperlinks supplied by the winning bidders.</p> <p>In step 780 (optional), the VOHE 100 completes a sales transaction initiated by the viewer's interactions with the video region representing the video object. As will be explained below in further detail, the VOHE 300 may enable the viewer to complete a sales transaction by following the hyperlink provided by the winning bidder to an online retailer.” Ohliger at 12:4-13:3.</p>
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		<p>“It is important to note that the video objects are used to create selectable regions (hyperlinks) which dynamically track the movement, size and position of the object throughout the video.</p> <p>3D Rotoscoping</p> <p>FIG. 12 is a high level flow diagram for 3-dimensional rotoscoping. The process begins in step 1200 with selecting a given video object.</p> <p>If only one perspective of the video object is available (step 1202A) in the video then a two-dimensional wire frame of the video object is created. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in a video object database (such as object information library 112 (step 1208).</p> <p>If additional perspectives for the video object subsequently become available (step 1202B) then a three-dimensional (3D) wire frame is created (step 1206) or the new perspectives are used to update the existing three-dimensional wireframe. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in the video object database (step 1208).</p> <p>In step 1210 the user (video consumer) is presented with viewing options such as rotating of the object or zoom. It is also possible to “replace” video objects (step 1212) in the video by superimposing a modified or new animated object including light and shadows of surrounding video objects over the existing video object. For example, an obscured appearance of a video object such as a can of Pepsi® can be replaced (superimposed) with an animated object (3-dimensional wireframe of the object) without the need to re-shoot the video. It is even possible to superimpose an animated object (3-dimensional wireframe of the object) of a can of Coca-Cola® over the can of Pepsi.</p> <p>The present invention further includes a system for making an interactive overlay for a video. The system includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server includes one or more video files stored in a video database. The system further includes object inventory database 112 stored on the server 300 and containing information describing a location (size, shape, orientation) of at least one video object within one of the video files. The object inventory</p>
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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		<p>database 112 may be compiled using any of the systems or methods disclosed in this specification or equivalents thereof. An overlay generation application (software or firmware) is stored and executed on the server 300. The overlay generation application creates a video overlay including at least one selectable hyperlink whose shape and position (coordinates) track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. In some cases the overlay is transparent; however, as will be explained below in some cases the overlay may include animated representations of video objects which are superimposed over and replace/obscure the underlying video object. The system may optionally include a wireframe database 112A stored on the server 300 or the wireframe database may be included within the object inventory database 112 or any other database stored on the server. The wire frame database 112A stores three-dimensional wireframe representations of at least one video object.</p> <p>The overlay generation application may optionally match occurrences of video objects in the object inventory library with three-dimensional wireframe representations of the video object (stored in the wireframe library database or the object inventory database) and create a video overlay including matched wire frame representations wherein the shape and position of the wireframe representation tracks a dynamic location of the video object in the video. In other words, the wireframe representation of the object is superimposed over the corresponding video object. The superimposed wireframe representation obscures (replaces) the video object.</p> <p>The wire frame library database 112A may optionally include a lighting model which defines/specifies the light distribution on the video object. For each occurrence of a video object in a video frame the lighting model would define/specify the light distribution on the video object.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The</p>
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		<p>system includes an object inventory database 112 stored on (or accessible by) the server and containing information describing a location of at least one video object within one of the video files. The system includes a wireframe database stored on (or accessible by) the server, the wireframe database storing three-dimensional wireframe representations of at least one video object; and an overlay generation application (software or firmware) executed on the server. The overlay generation application matches occurrences of video objects in the object inventory library with corresponding three-dimensional wireframe representations of the video object and creates a video overlay including matched wireframe representations of the video object wherein the shape and position (coordinates) of the wireframe representation track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database stored on the server and containing information describing coordinates of at least one video object within one of the video files. The system further includes a wireframe database stored on the server, the wireframe database stores three-dimensional wireframe representations of at least one video object. A wireframe generation application (software or firmware) executed on the server selects video objects from the video object inventory database and generates a three-dimensional wire frame of the selected video object from multiple perspective occurrences of the video object in the video file and stores the three-dimensional wireframe in the wireframe database. The wireframe generation application may optionally generate a lighting model for each occurrence of a video object in a video frame from light distribution on the video object.</p>
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		<p>The system may further include an overlay generation application (software or firmware) executed on the server which matches occurrences of video objects in the object inventory library 112 with corresponding three-dimensional wire frame representations stored in the wire frame library 112A. The overlay generation application creates a video overlay including matched wireframe representations of the video objects wherein the shape and position of the wireframe representation tracks the dynamic location of the video object in the video. The overlay generation application stores the overlay on the server. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>The creation of three-dimensional wire frames and lighting models is well known in the art and is disclosed in the following U.S. patents whose disclosure are hereby incorporated by reference: U.S. Pat. No. 7,602,404 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,983,082 entitled Reality-based light environment for digital imaging in motion pictures; U.S. Pat. No. 6,954,202 entitled Image-based methods of representation and rendering of three dimensional object and animated three-dimensional object; U.S. Pat. No. 6,919,962 entitled Reflectometry apparatus and method; U.S. Pat. No. 6,858,826 entitled Method and apparatus for scanning three-dimensional objects; U.S. Pat. No. 6,685,326 entitled Realistic scene lighting simulation; U.S. Pat. No. 6,628,298 entitled Apparatus and method for rendering synthetic objects into real scenes using measurements of scene illumination; U.S. Pat. No. 6,529,206 entitled Image processing apparatus and method, and medium therefore; U.S. Pat. No. 6,504,546 entitled Method of modeling objects to synthesize three-dimensional, photo-realistic animations; U.S. Pat. No. 6,434,265 entitled Aligning rectilinear images in 3D through projective registration and calibration; U.S. Pat. No. 6,333,749 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,281,904 entitled Multi-source texture reconstruction and fusion; and U.S. Pat. No. 6,281,903 entitled Methods and apparatus for embedding 2D image content into 3D models.” Ohliger at 18:45-21:16.</p>
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		<p>“In steps 608A and 608B the viewer is viewing the selected content (1700 in FIGS. 6A-6D) and encounters video objects of interest. According to one embodiment pointing at the frame by, e.g., bringing pointer 1701 of pointing device 218 into video frame 1703 (FIG. 6A) will cause the video to slow the video down, which allows the viewer to select an object. In the case of interactive TV or three-dimensional (3D) videos, the viewer can use a variety of pointing means including, but not limited to, a virtual pointer of the type popularized by the Nintendo Wii® which utilizes a glove or the like with sensors capable to determine X, Y, and Z coordinates. In step 608A the viewer merely tags the objects of interest for later review (1702 and 1704 in FIGS. 6B and 6C), whereupon in step 610 the contextual advertising is once again refined (this time in relation to the objects of interest) and the behavioral profile (analytics database) of the viewer is updated. Steps 608A and 610 may be repeated any number of times during the viewing of the video. In step 612, the viewer reviews the list of tagged items from step 608A and either jumps back to the scenes in which the items appear (step 614A and 1704 in FIG. 6C) or learns more about the items selected, e.g., price, features etc (step 614B). In step 616 the viewer selects one or more objects (products) to purchase (from the tagged or identified objects), and in step 618 the viewer completes the transaction (1708 in FIG. 6D). Step 608B is an alternative to step 608A and presents the viewer with the option to immediately jump to 614 and learn more about the object. The information associated with the video object may be displayed as an overlay pop-up or in a field next the video player. Each time the viewer interacts with video objects his/her profile gets updated in the database.” Ohliger at 23:61-24:27.</p> <p>“As described above, the user may be presented with the option to add the video object to a shopping cart (FIG. 9 step 908B and FIG. 10C). Although not specifically illustrated in FIG. 9, the option to purchase may be nested under each of the menu items such that the user may always elect to purchase without having to retrace his/her steps. In fact, each of the menu options described herein may be organized in any number of ways and the inventive concept is not limited to the specific way they are presented. Thus, steps 906A-906D may be nested.</p>
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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		<p>The shopping cart may be a conventional electronic shopping cart which enables the user to purchase the object or flag it to the user's wish list for future purchase. The viewer 124, VOHE 300, or system 100 tracks objects purchased by the user and items added to the user's wish list, and such information may be used to analyze the user's buying trends etc. More particularly, an analytics database records the interactions of the consumer. The analytics database stores information regarding the video files or types of video files (genre or the like) accessed by the consumer, the objects selected by the consumer, items purchased by the consumer. The analytics database may be stored on or accessible to (via the distributed network, e.g., internet) the VOHE 300 or system 100. The viewer 124 also enables the user to manually indicate that the user owns a given object even if it was not purchased through the VOHE 300.” Ohliger at 25:17-42.</p> <p>“FIG. 28: No re-direct is required in VeePiO. Users can view product pages via a split screen, giving them a way to browse that product while they watch it in action.” Ohliger at 29:19-21.</p> <p>“FIG. 52 shows a flowchart of a monetization process using the VEEPIO platform. In this example, VEEPIO has a pre-established affiliate relationship with Amazon. The steps of the flowchart are further explained with respect to user interface display screens shown in FIGS. 53A-53H. FIG. 53A shows the flow order of FIGS. 53B-53H.</p> <p>5201: OBJECT LINKED: Object linked in picture or video by content creator. (FIG. 53A)</p> <p>5202: POSTED: Content with linked objects is posted on platform. (FIG. 53B)</p> <p>5203: INTERACT: Viewer taps one of the linked objects in the posted content to open up info. (FIG. 53C)</p> <p>5204: WANT TO PURCHASE: Viewer taps purchase option within object info. (FIG. 53D)</p> <p>5205: PURCHASE PAGE: Viewer automatically navigated to linked e-commerce page. (FIG. 53E)</p> <p>5206: PURCHASE: Viewer purchases object from e-commerce page. (FIG. 53F)</p>
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5027: \$\$\$: Affiliate pays % of revenue for traffic driven to purchase. (FIG. 53G)”
Ohliger at 43:64-44:16.

Flowchart: high level flowchart video object collection actions

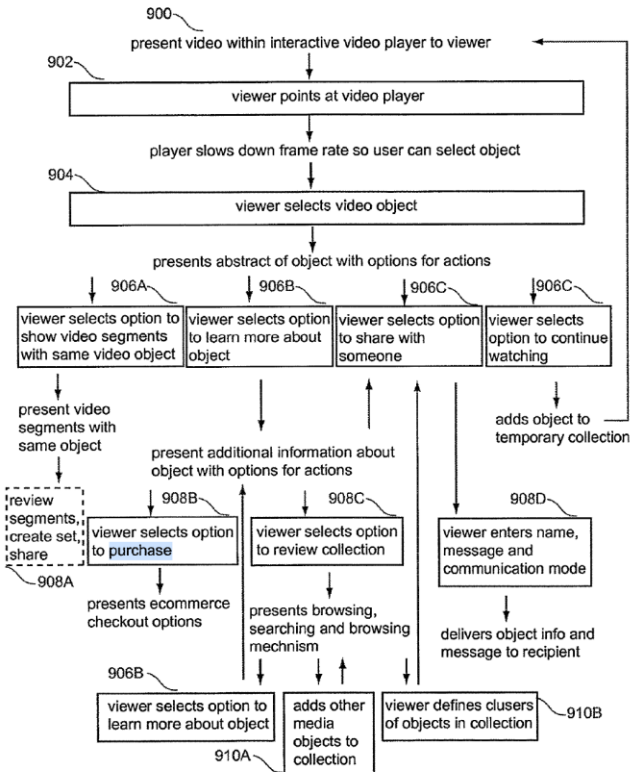


FIG. 9
Ohliger at Fig. 9.

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Fig. 18
Shop VeePIO

Ohliger at Fig. 18.

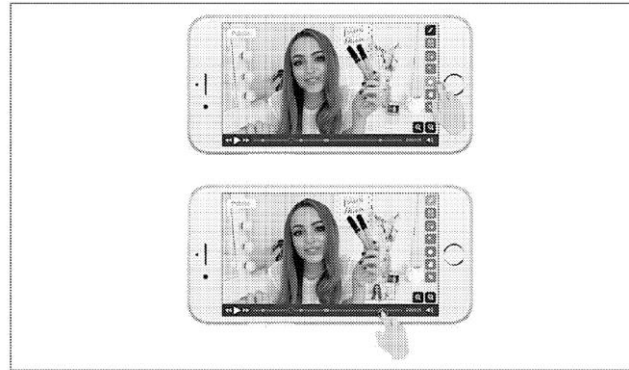
Fig. 20
How to Veep



Ohliger at Fig. 20.

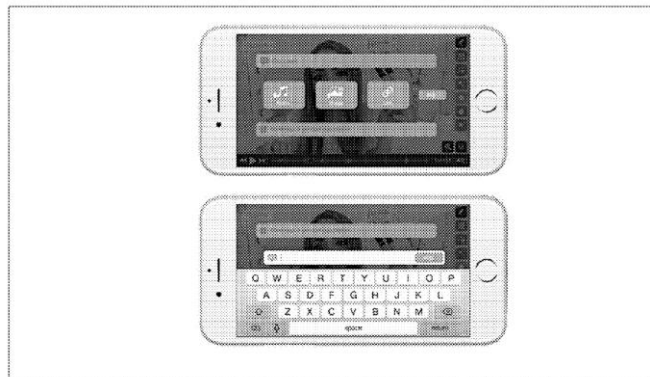
Exhibit 316-A13
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Fig. 21
Veep Editing Room



Ohliger at Fig. 21.

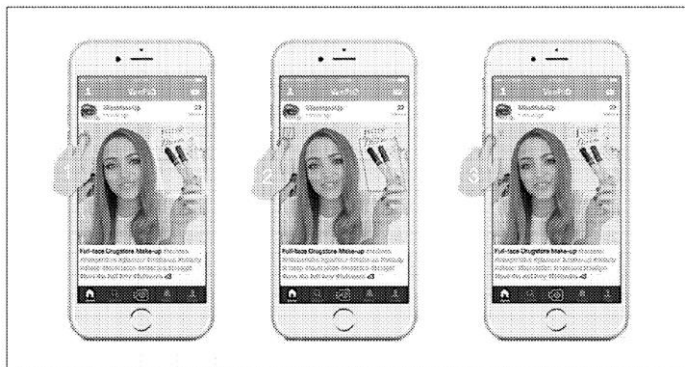
Fig. 22
Object Details



Ohliger at Fig. 21.

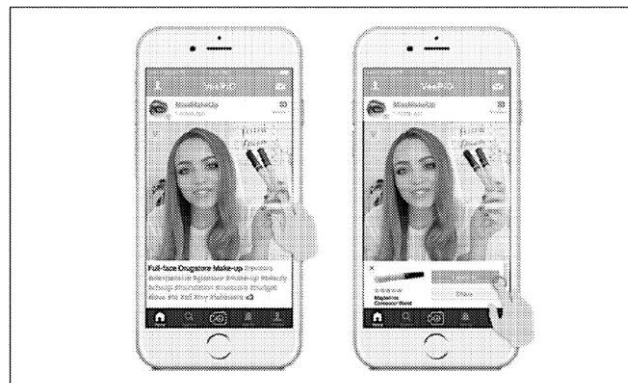
Exhibit 316-A13
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Fig. 23
 "V"isibility



Ohliger at Fig. 23.

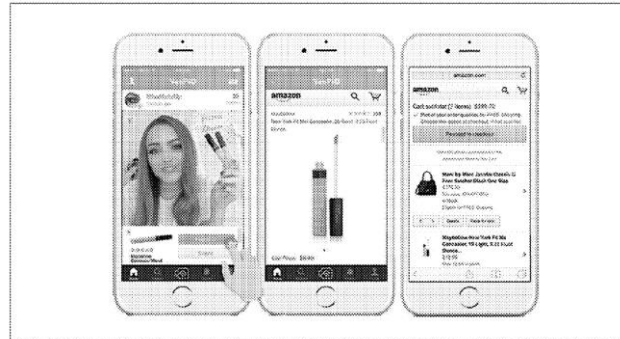
Fig. 24
 I Want it!



Ohliger at Fig. 24.

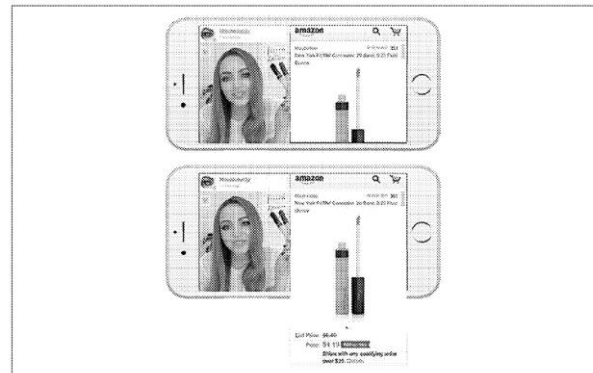
Exhibit 316-A13
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Fig. 25
I Want it! Continued



Ohliger at Fig. 25.

Fig. 28
Buy Via Split Screen



Ohliger at Fig. 28.

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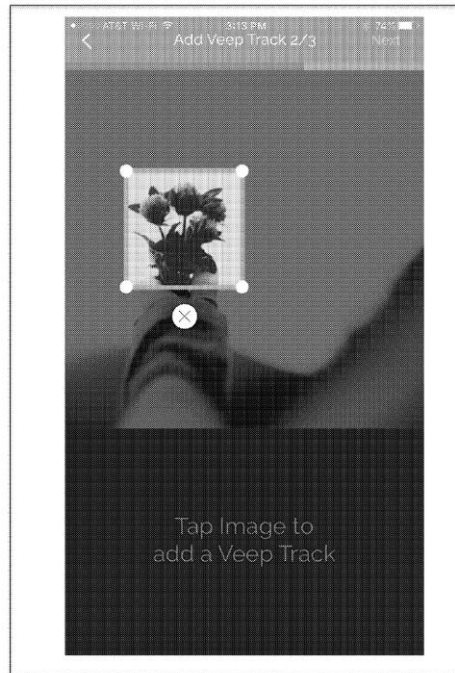


Fig. 38

Ohliger at Fig. 38.

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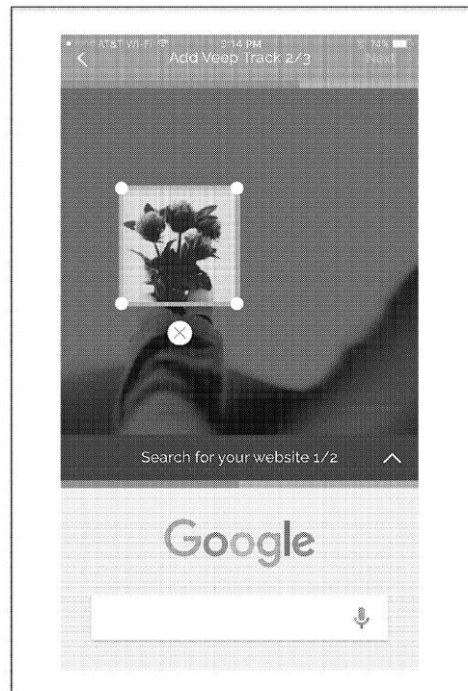


Fig. 39
Ohliger at Fig. 39.

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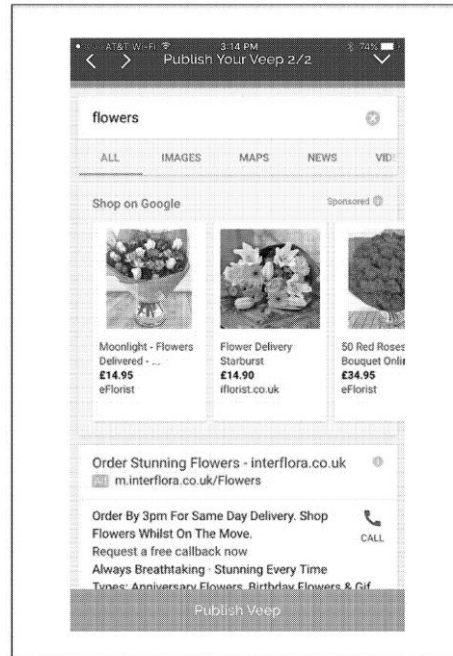


Fig. 41
Ohliger at Fig. 41.

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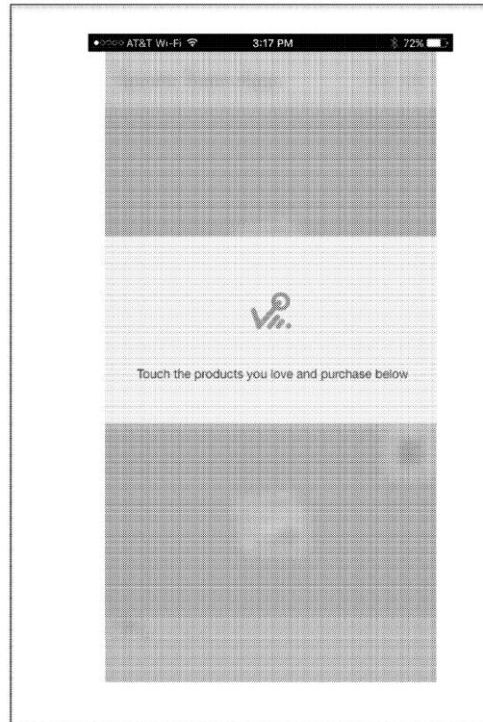


Fig. 46
'46 Patent at Fig. 46.

Exhibit 316-A13
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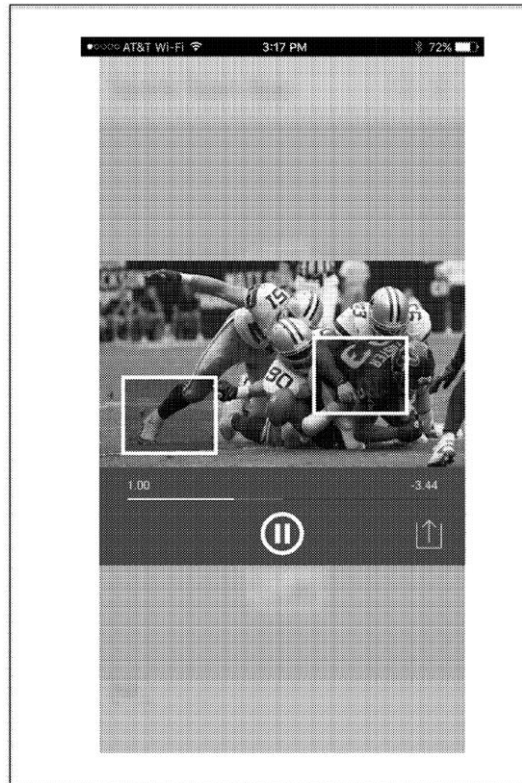


Fig. 48
Ohliger at Fig. 48.

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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

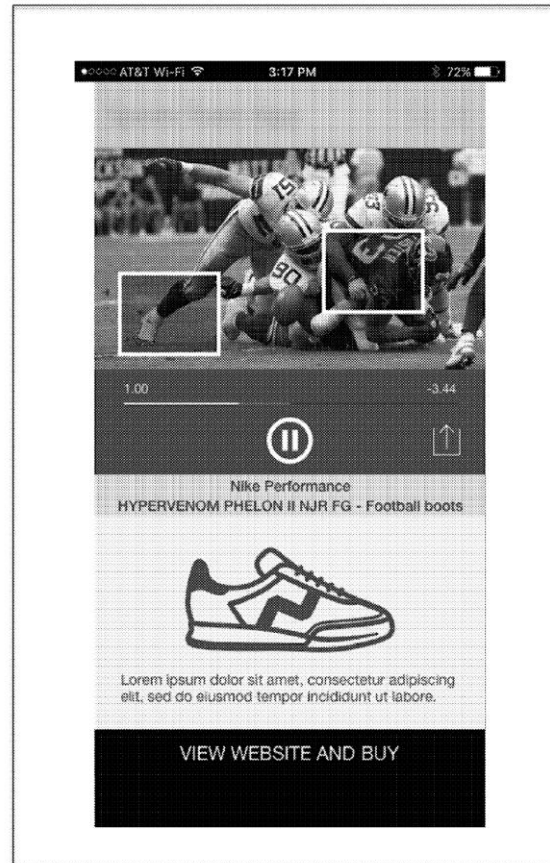


Fig. 49
Ohliger at Fig. 49.

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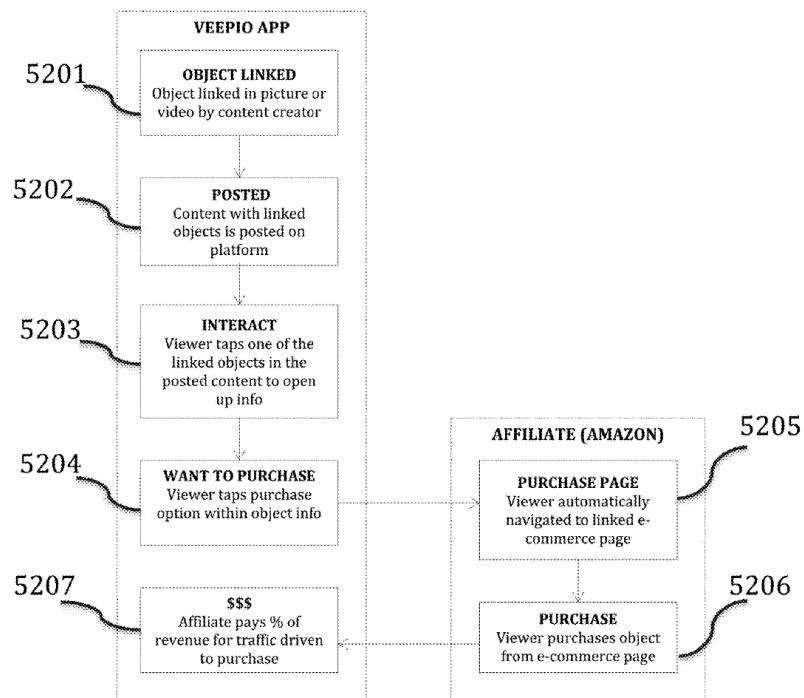
Fig. 50

Ohliger at Fig. 50.

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Fig. 52

Monetization



Ohliger at Fig. 52.

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FIG. 53B

Ohliger at Fig. 53B.

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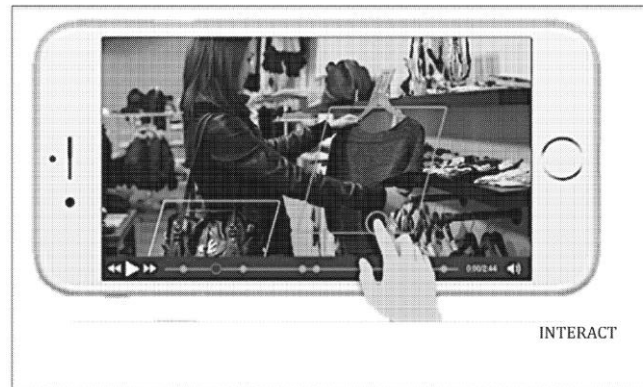


FIG. 53D

Ohliger at Fig. 53D.



FIG. 53E

Ohliger at Fig. 53E.

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		 <p style="text-align: center;">FIG. 53F</p> <p>Ohliger at Fig. 53F.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
6[pre]	To the extent the preamble is limiting, The method of claim 1, further comprising	<p>Ohliger discloses “The method of claim 1, further comprising ” See e.g.:</p> <p><i>See claim 1, supra.</i></p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge</p>

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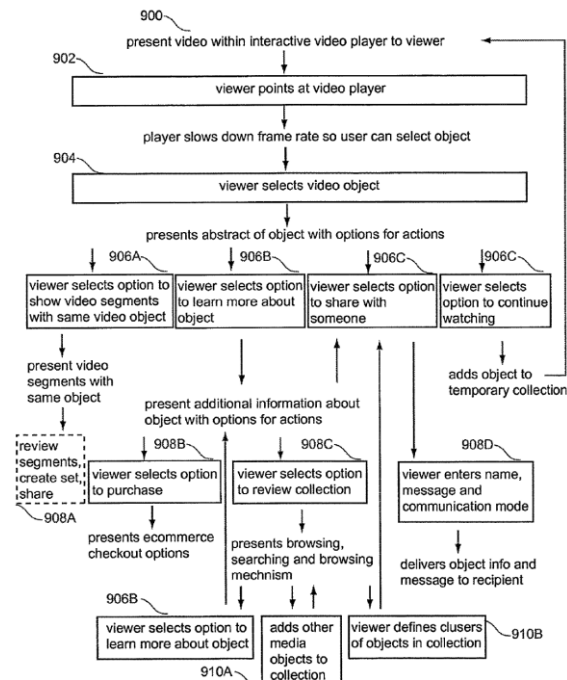
		<p>of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
6[a]	<p>copying a timed portion of the video data to a clip list based on a selection of an item, service, or song of interest by the user.</p>	<p>Ohliger discloses “copying a timed portion of the video data to a clip list based on a selection of an item, service, or song of interest by the user.” See e.g.:</p> <p>“The present invention segments video and animation content into its objects and stores, region definition data such as shape, x, y, and temporal coordinates, or in the case of volumetric video or volumetric animation, the invention stores shape, x, y, z, and temporal coordinates. The term “temporal coordinate” refers to time, video frame or the like. Further, the term “video frame” is intended to convey an instantaneous (still) image frame of the video or animation at a particular time (location within the video stream). All of these coordinates are necessary to specify the video objects within a frame at a given moment in time.” Ohliger at 11:21-31.</p> <p>“The user (viewer of video) 124 is presented with a menu of options (FIG. 10C). For example, the viewer 124 may search for other occurrences of the object in both the current video or in other videos (FIG. 9 step 906A, and FIG. 11B). Moreover, the viewer may expand the search to encompass other objects which have similar classification such as the same make but different models (other Ferragamo shoes), or other red high heeled shoes, etc.” Ohliger at Fig. 24:58-65.</p> <p>“According to another aspect of the invention, the user may organize objects added to the collection of video objects (FIG. 9, step 910B, FIG. 10D, FIG. 11A). For example, the user may define clusters of objects in a collection and share the entire collection instead of sharing individual objects. VOHE 300 allows users to create a “wardrobe collection” with sub-collections. VOHE 300 allows users to tag objects with tags like “I own this”, “I would like to have this”. VOHE 300 keeps track of the purchase history of user and automatically tags objects that have been purchased through VOHE 300 as “I own this”. See FIG. 10D.</p>

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		<p>The user may add other media types to these collections such as an image of an object (FIG. 9, step 910A, and FIG. 11A). By adding a file or a link to a file which contains image information to a collection, VOHE 300 matches the image object with all known video objects and provides the user with the option to search across multimedia data bases for other instances of the object. The user may also add data types that do not contain image information such as an audio file. By sharing a collection with a friend, the user also shares a link to files that do not contain images. The friend receiving the link to the collection may have access to the files that do not contain image information.” Ohliger at 26:7-18.</p> <p>“Also disclosed is a method for ranking videos according to the duration of time a given object appears in the video. The method encompasses providing a database of video files and searching each video file for the occurrence of at least one object. Next, the method entails using software to determine a duration of time that the at least one object was displayed in each the video file; and for each the video file outputting information specifying the title of the video file and the duration of time.” Ohliger at 28:5-13.</p> <p>“The aforementioned method may be used to search each video file for the occurrence of first and second objects and determine a duration of time that each of the first object and the second object were displayed in each the video file. For each video file the software will output information specifying the title of the video file and each the durations of time.” Ohliger at 28:21-26.</p>
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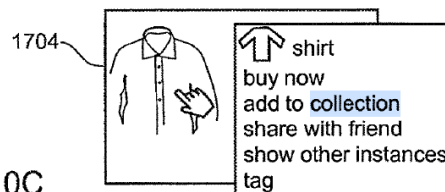
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Flowchart: high level flowchart video object collection actions



Ohliger at Fig. 9.

FIG. 10C



Ohliger at Fig. 10C.

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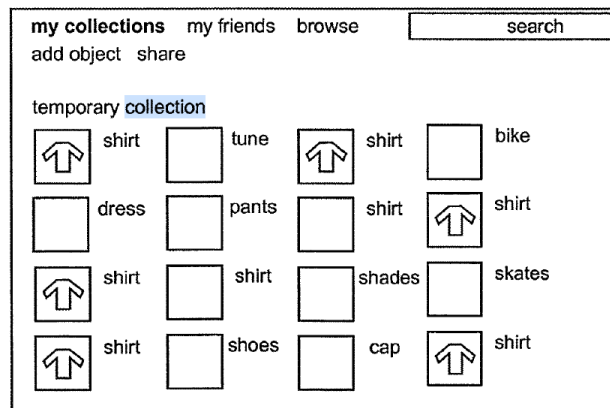


FIG.10D

Ohliger at Fig. 10D.

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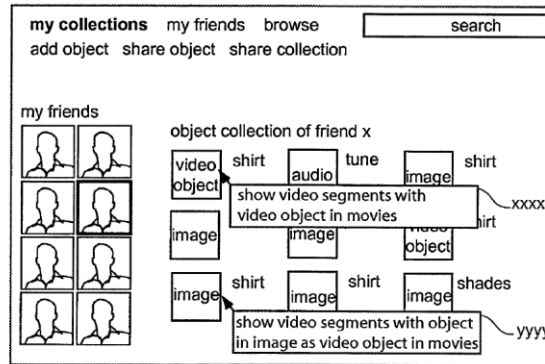


FIG. 11A

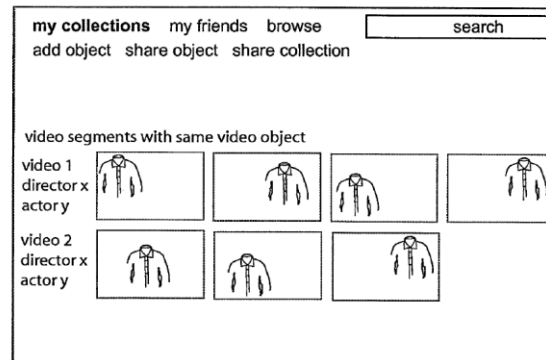


FIG. 11B

Ohliger at Fig. 11A and 11B.

Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further

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		<p>motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
7[pre]	The method of claim 1, further comprising	<p>To the extent the preamble is limiting, Ohliger discloses “The method of claim 1, further comprising ” See e.g.:</p> <p><i>See claim 1, supra.</i></p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
7[a]	collecting data based on actions taken by the user.	<p>Ohliger discloses “collecting data based on actions taken by the user.” See e.g.:</p> <p>“The method also includes a way to search the video database and the object database by analytics related to the content, such as number of views, number of clicks, number of objects clicked, number of clicks on an object, number of shared videos, number of shared objects, total views for other videos created by the same creator, conversion rates, purchases associated with the content, click through rates, and other analytical data commonly used in online vide and social video.</p> <p>The method also includes a way to display the analytical information associated with the video including charts and other graphical ways of displaying data.” Ohliger at 5:62-6:3.</p> <p>“When a viewer clicks on an object and indicates that they want to buy it, a real-time auction occurs in the background. Various information regarding the viewer is made available to the auction participants, such as the number of followers of the viewer and revenue of viewer from previous product purchases, to the extent that such information can be provided by VEEPIO. As viewers make purchases</p>

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over time, VEEPIO learns their demographics. Also, the number of views of the image/video may be provided to the auction participants.” Ohliger at 38:39-48.

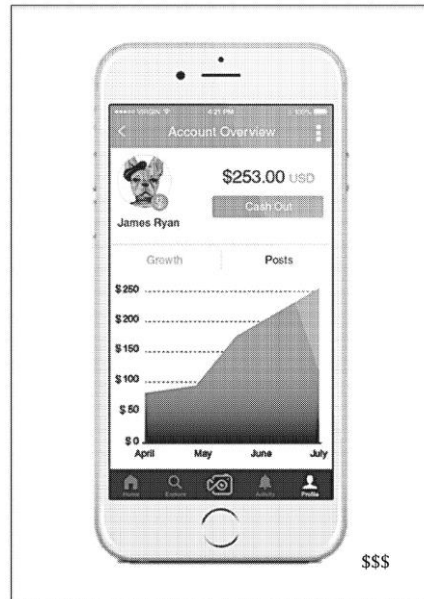


FIG. 53H
Ohliger at Fig. 53H.

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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Fig. 29
VeePiO Account

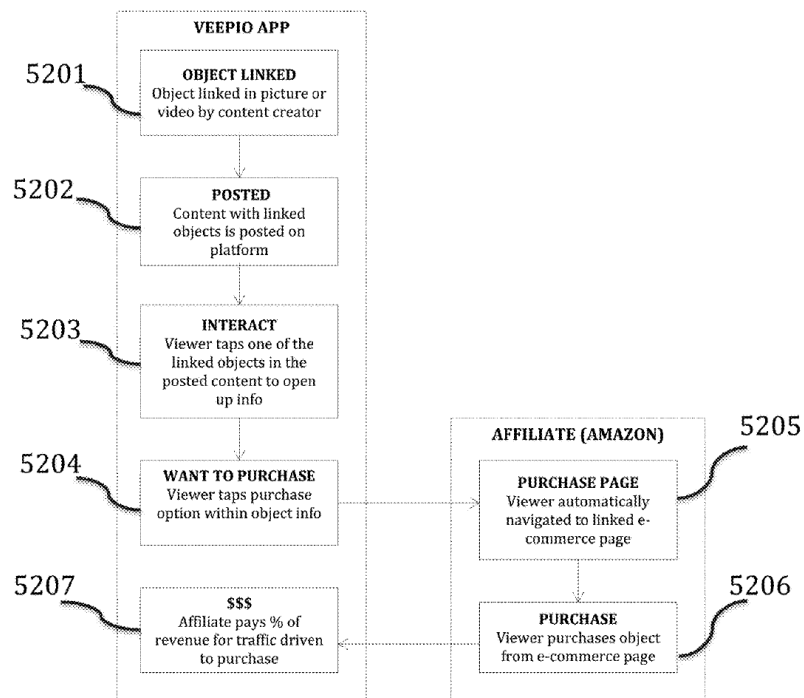


Ohliger at Fig. 29.

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Fig. 52

Monetization



Ohliger at Fig. 52.

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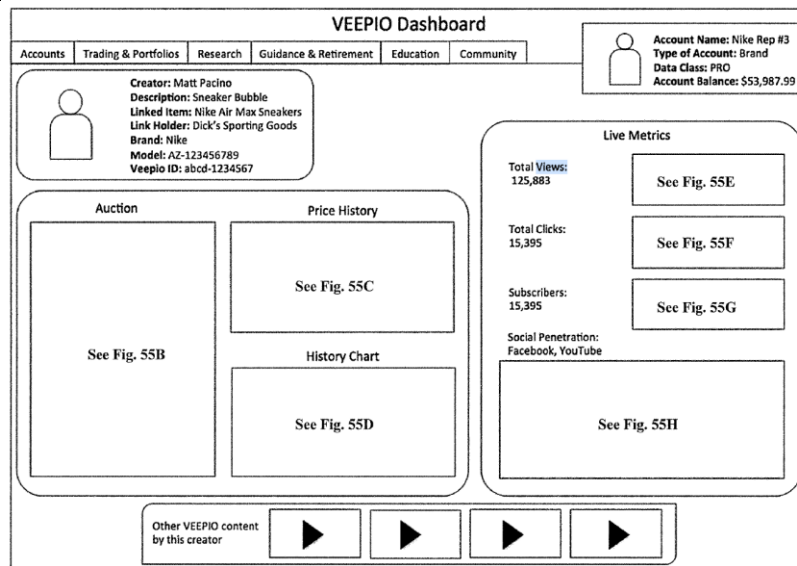


Fig. 55A

Ohliger at Fig. 55A.

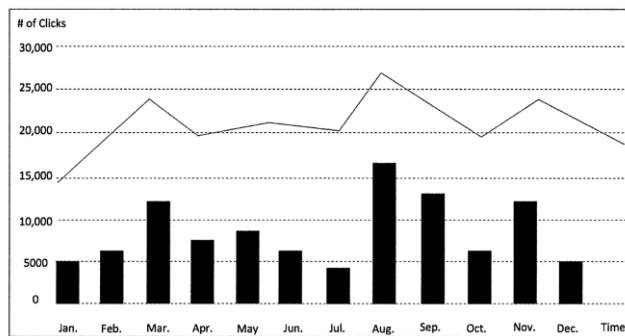


Fig. 55F – "Total Clicks"

Ohliger at Fig. 55F.

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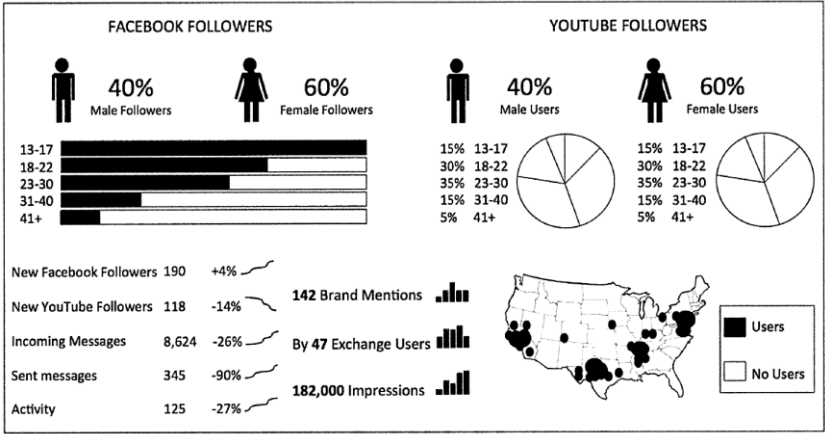
		 <p style="text-align: center;">Fig. 55H – “Social Penetration”</p> <p>Ohliger at Fig. 55H.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
8[pre]	The method of claim 1, further comprising:	<p>To the extent the preamble is limiting, Ohliger discloses “The method of claim 1, further comprising: ” See e.g.:</p> <p><i>See claim 1, supra.</i></p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the</p>

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		knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.
8[a]	removing the product information from the one or more of the plurality of visual or audio objects; and associating different product information with the one or more of the plurality of visual or audio objects.	<p>Ohliger discloses “removing the product information from the one or more of the plurality of visual or audio objects; and associating different product information with the one or more of the plurality of visual or audio objects.” See e.g.:</p> <p>“A system is provided for identifying objects in video either automatically by using an object database or manually by using information provided by the creator of the video, making the objects interactive in every frame of the video that they appear, allowing the creator to embed information behind the video objects that appears when a viewer hovers over, clicks or touches the object, allowing the creator to describe at least one object that appears in a video, associating a hyperlink with a clickable space around the object in every frame that the object appears in, and electronically auctioning the rights to the hyperlink and what data the hyperlink connects to. The system includes a video server communicating with a consumer server over a distributed network. The video server includes at least one video file, an object inventory database, and relevant content including associated hyperlinks in a database stored on or accessible to the video server. The object inventory database contains information describing a location of at least one video object within at least one video file and the hyperlink that is associated with the object. A video overlay links the relevant content with a given video object and creating a selectable hyperlink whose position tracks a dynamic location of the video object in the video. The consumer server includes a software application for accessing and displaying at least one video file stored in the video database, the software application including means for interacting with the video overlay to select an object displayed in the video file.</p> <p>More specifically, a system is disclosed for viewing video having segmented video objects. The system includes a video server including a computer or mobile device connectable to a distributed network and having a processor, random access memory, read-only memory, and mass storage memory. At least one video</p>

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	<p>file is stored in a video database on or accessible to the video server. An object inventory database is stored on or accessible to the video server, the object inventory database containing information describing a location of at least one video object within the at least one video file. Object description content is stored in a database stored on or accessible to the video server. A video overlay links the object description content with a given video object and creating a selectable hyperlink whose position tracks a dynamic location of the video object in the video, wherein the video overlay is adapted to allow a consumer to interact with the video overlay to select an object displayed in the video file and be displayed content related to the object that has been added by the creator of the video, and/or content that has been added automatically by the system, or content that has been added a viewer or viewers of the video. The system also allows a viewer to click a button that has a hyperlink associated with it that takes the viewer to an online store where a product or products associated with the object in the video can be purchased. The viewer also has the ability to add the selected object to a collection of objects. The viewer also has the ability to share a hyperlink directly associated with the video and the object with other people over a social network, email, the internet, mobile messaging and any other commonly used electronic forms of communication.” Ohliger at 3:9-67.</p> <p>“In step 720, the video objects are compared with objects in an object library, which may be 2D (two-dimensional) or 3D (three-dimensional) wire frame data representing objects within the video. Perspective views from such 2D/3D wire frame models may be advantageous to the automatic object recognition process. This step is optional. If a match is detected then the object is associated with the product description and/or meta-data from the object library. The unmatched video object may be discarded or subjected to a secondary processing application and/or an analyst may manually identify/configure the object boundaries (step 730), and then the object may be subject to another classification step (710) and/or another comparison with objects in the object library (720). The creator of the video can also choose which objects they want to make interactive (705) and they can identify those objects with a dynamic bounding area that will change size proportionate to the change in size of the object from frame to frame as it is</p>
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		<p>tracked by an object tracking algorithm. The creator can also describe, comment and add additional content to an object in the video that they have chosen to make interactive (715). This content will appear to a viewer when they interact with the bounding area around the object in any frame that the object appears by clicking, hovering over, or touching any point within the bounding area.</p> <p>In step 740, the video objects are published to the market exchange and subject to an automated auction process. The auction allows retailers, brands, and affiliates/advertisers to bid for the right to assign a hyperlink to a video object that takes a viewer of the video who has interacted with that object to a website where that object or any object the winning bidder chooses can be purchased, or to any other content the winning bidder would like to associate with that object.</p> <p>In step 745 a video overlay is created which links the video object with the winning bidders provided content, and in step 750 the video overlay with region definition data is transmitted to the video broadcaster 120.</p> <p>In step 760, a video viewer interacts with the video overlay by rolling-over or selecting a video region thereby triggering the display of relevant content associated with the video object. It should be appreciated that rolling over may illicit the display of different relevant content than that displayed when the object is selected. For example, selecting an object may trigger more detailed information than that displayed when the object is simply rolled-over with the pointing device.</p> <p>In step 770 (optional), the VOHE 300 records the viewer interaction with the video objects and updates the viewer's behavioral profile. It should be noted that the video viewer's interactions with the video overlay (and the video objects) generally triggers the display of relevant content from the VOHE 300. This enables the content associated with a video object to be updated on-the-fly without the need to alter the video overlay. The video overlay makes the video interactive by making video regions selectable, the content comes from the object database that stores information submitted from the creator of the video as well as comments by viewers, in addition, content also comes from the VOHE 300 in the form of hyperlinks supplied by the winning bidders.</p> <p>In step 780 (optional), the VOHE 100 completes a sales transaction initiated by the viewer's interactions with the video region representing the video object. As</p>
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		<p>will be explained below in further detail, the VOHE 300 may enable the viewer to complete a sales transaction by following the hyperlink provided by the winning bidder to an online retailer.” Ohliger at 12:4-13:3.</p> <p>“It should be noted that the rights being auctioned are different from the traditional banner ads which are “pushed” to the video viewer. Push-advertising is advertising which is displayed on the top (banner) or the side of the viewer's display screen. Push-advertising is pushed to the viewer, i.e., the viewer does not specifically request the advertising. As will be explained below in further detail, according to one embodiment the video viewer pulls the relevant content by interacting with specific regions representing video objects within a video. For example the viewer may point to a video frame, which causes the video to slow down, select or roll-over a video object within the video thereby triggering the VOHE 300 to display contextual information linked or associated with the object as a pop up, overlay or in a field next to the video player. However, the VOHE 300 may combine the pull advertising with conventional push-advertising. For example, the VOHE 300 may push relevant content which relates to the objects as they appear in the video, or the VOHE 300 may push advertising relating to the type of objects with which the viewer has interacted e.g., object which the viewer has rolled-over or selected. The VOHE 300 may also simply provide a hyperlink that is associated with a clickable button that may say “I want this” or “buy this” or “more info” that appears in the content that is displayed post interaction with the video object that has been provided by the creator of the video and that may include comments from other viewers, and the ability to share, write additional comments etc. This is commonly referred to original or organic content.” Ohliger at 14:31-59.</p> <p>“It is important to note that the video objects are used to create selectable regions (hyperlinks) which dynamically track the movement, size and position of the object throughout the video.</p> <p>3D Rotoscoping</p> <p>FIG. 12 is a high level flow diagram for 3-dimensional rotoscoping. The process begins in step 1200 with selecting a given video object.</p>
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		<p>If only one perspective of the video object is available (step 1202A) in the video then a two-dimensional wire frame of the video object is created. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in a video object database (such as object information library 112 (step 1208).</p> <p>If additional perspectives for the video object subsequently become available (step 1202B) then a three-dimensional (3D) wire frame is created (step 1206) or the new perspectives are used to update the existing three-dimensional wireframe. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in the video object database (step 1208).</p> <p>In step 1210 the user (video consumer) is presented with viewing options such as rotating of the object or zoom. It is also possible to “replace” video objects (step 1212) in the video by superimposing a modified or new animated object including light and shadows of surrounding video objects over the existing video object. For example, an obscured appearance of a video object such as a can of Pepsi® can be replaced (superimposed) with an animated object (3-dimensional wireframe of the object) without the need to re-shoot the video. It is even possible to superimpose an animated object (3-dimensional wireframe of the object) of a can of Coca-Cola® over the can of Pepsi.</p> <p>The present invention further includes a system for making an interactive overlay for a video. The system includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server includes one or more video files stored in a video database. The system further includes object inventory database 112 stored on the server 300 and containing information describing a location (size, shape, orientation) of at least one video object within one of the video files. The object inventory database 112 may be compiled using any of the systems or methods disclosed in this specification or equivalents thereof. An overlay generation application (software or firmware) is stored and executed on the server 300. The overlay generation application creates a video overlay including at least one selectable hyperlink whose shape and position (coordinates) track a dynamic location of the video object in the video. The system stores the overlay on the server. As</p>
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		<p>explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. In some cases the overlay is transparent; however, as will be explained below in some cases the overlay may include animated representations of video objects which are superimposed over and replace/obscure the underlying video object. The system may optionally include a wireframe database 112A stored on the server 300 or the wireframe database may be included within the object inventory database 112 or any other database stored on the server. The wire frame database 112A stores three-dimensional wireframe representations of at least one video object.</p> <p>The overlay generation application may optionally match occurrences of video objects in the object inventory library with three-dimensional wireframe representations of the video object (stored in the wireframe library database or the object inventory database) and create a video overlay including matched wire frame representations wherein the shape and position of the wireframe representation tracks a dynamic location of the video object in the video. In other words, the wireframe representation of the object is superimposed over the corresponding video object. The superimposed wireframe representation obscures (replaces) the video object.</p> <p>The wire frame library database 112A may optionally include a lighting model which defines/specifies the light distribution on the video object. For each occurrence of a video object in a video frame the lighting model would define/specify the light distribution on the video object.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database 112 stored on (or accessible by) the server and containing information describing a location of at least one video object within one of the video files. The system includes a wireframe database stored on (or accessible by) the server, the wireframe database storing three-dimensional wireframe representations of at least one video object; and an overlay generation application (software or firmware) executed on the server. The overlay</p>
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		<p>generation application matches occurrences of video objects in the object inventory library with corresponding three-dimensional wireframe representations of the video object and creates a video overlay including matched wireframe representations of the video object wherein the shape and position (coordinates) of the wireframe representation track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database stored on the server and containing information describing coordinates of at least one video object within one of the video files. The system further includes a wireframe database stored on the server, the wireframe database stores three-dimensional wireframe representations of at least one video object. A wireframe generation application (software or firmware) executed on the server selects video objects from the video object inventory database and generates a three-dimensional wire frame of the selected video object from multiple perspective occurrences of the video object in the video file and stores the three-dimensional wireframe in the wireframe database. The wireframe generation application may optionally generate a lighting model for each occurrence of a video object in a video frame from light distribution on the video object.</p> <p>The system may further include an overlay generation application (software or firmware) executed on the server which matches occurrences of video objects in the object inventory library 112 with corresponding three-dimensional wire frame representations stored in the wire frame library 112A. The overlay generation application creates a video overlay including matched wireframe representations of the video objects wherein the shape and position of the wireframe representation tracks the dynamic location of the video object in the video. The</p>
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		<p>overlay generation application stores the overlay on the server. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>The creation of three-dimensional wire frames and lighting models is well known in the art and is disclosed in the following U.S. patents whose disclosure are hereby incorporated by reference: U.S. Pat. No. 7,602,404 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,983,082 entitled Reality-based light environment for digital imaging in motion pictures; U.S. Pat. No. 6,954,202 entitled Image-based methods of representation and rendering of three dimensional object and animated three-dimensional object; U.S. Pat. No. 6,919,962 entitled Reflectometry apparatus and method; U.S. Pat. No. 6,858,826 entitled Method and apparatus for scanning three-dimensional objects; U.S. Pat. No. 6,685,326 entitled Realistic scene lighting simulation; U.S. Pat. No. 6,628,298 entitled Apparatus and method for rendering synthetic objects into real scenes using measurements of scene illumination; U.S. Pat. No. 6,529,206 entitled Image processing apparatus and method, and medium therefore; U.S. Pat. No. 6,504,546 entitled Method of modeling objects to synthesize three-dimensional, photo-realistic animations; U.S. Pat. No. 6,434,265 entitled Aligning rectilinear images in 3D through projective registration and calibration; U.S. Pat. No. 6,333,749 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,281,904 entitled Multi-source texture reconstruction and fusion; and U.S. Pat. No. 6,281,903 entitled Methods and apparatus for embedding 2D image content into 3D models.” Ohliger at 18:45-21:16.</p>
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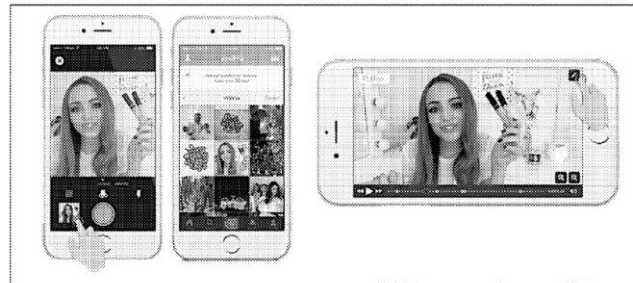
Exhibit 316-A13
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Fig. 18
Shop VeePIO

Ohliger at Fig. 18.

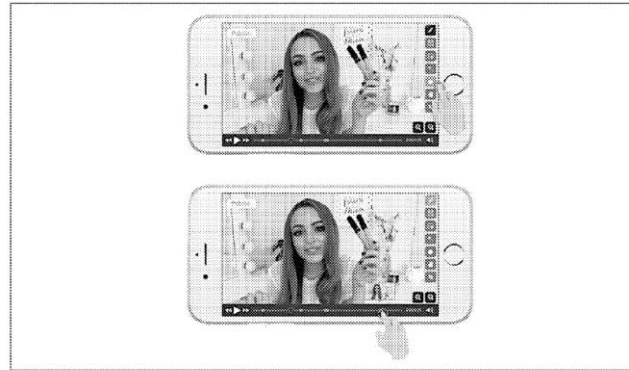
Fig. 20
How to Veep



Ohliger at Fig. 20.

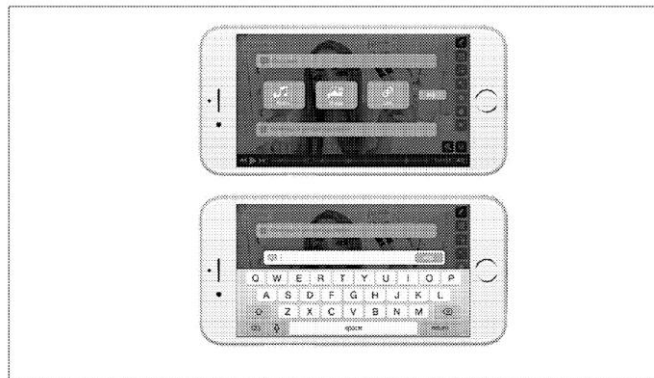
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Fig. 21
Veep Editing Room



Ohliger at Fig. 21.

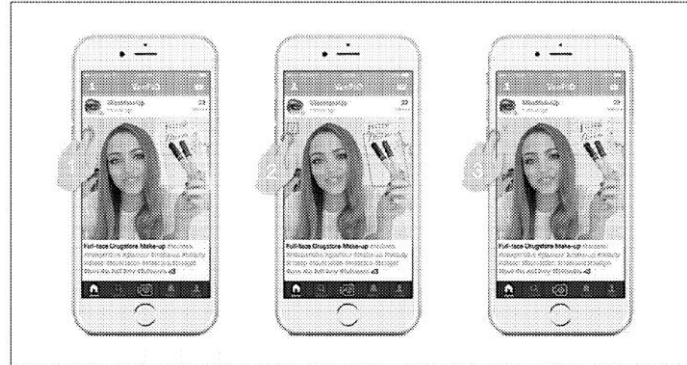
Fig. 22
Object Details



Ohliger at Fig. 21.

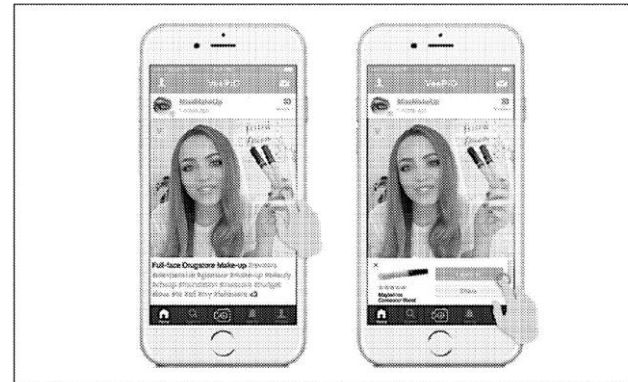
Exhibit 316-A13
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Fig. 23
"V"isibility



Ohliger at Fig. 23.

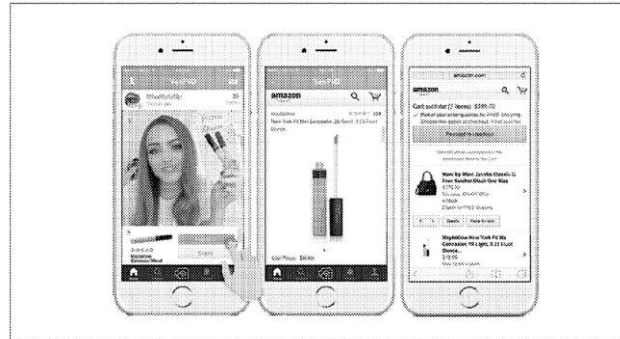
Fig. 24
I Want it!



Ohliger at Fig. 24.

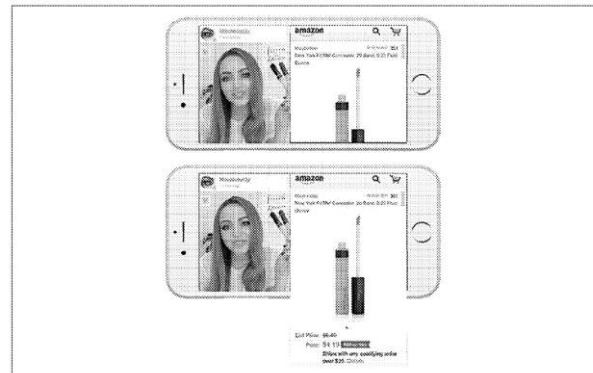
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Fig. 25
I Want it! Continued



Ohliger at Fig. 25.

Fig. 28
Buy Via Split Screen



Ohliger at Fig. 28.

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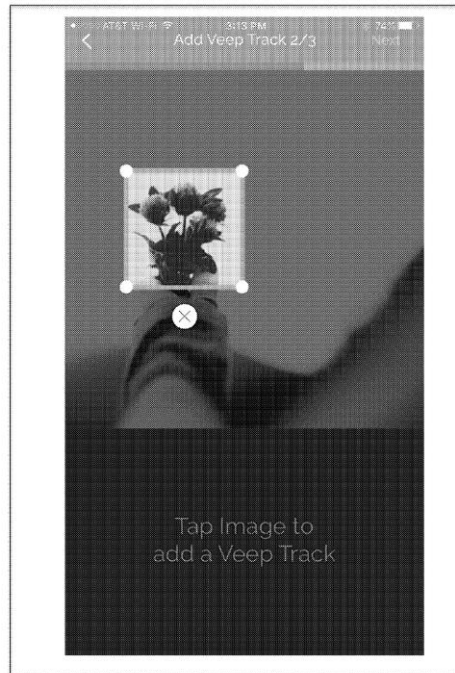


Fig. 38

Ohliger at Fig. 38.

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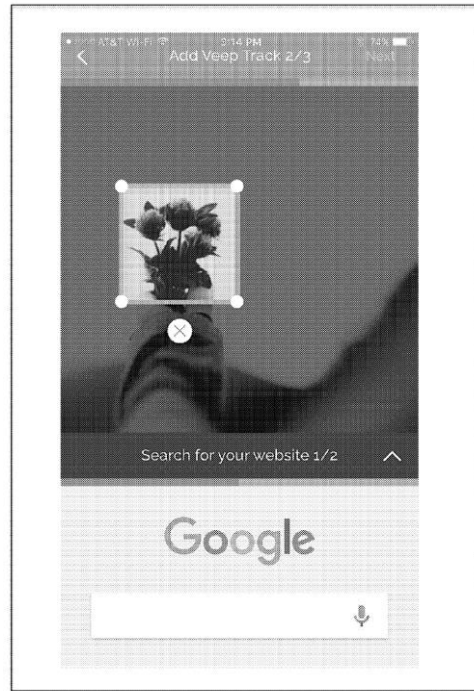


Fig. 39
Ohliger at Fig. 39.

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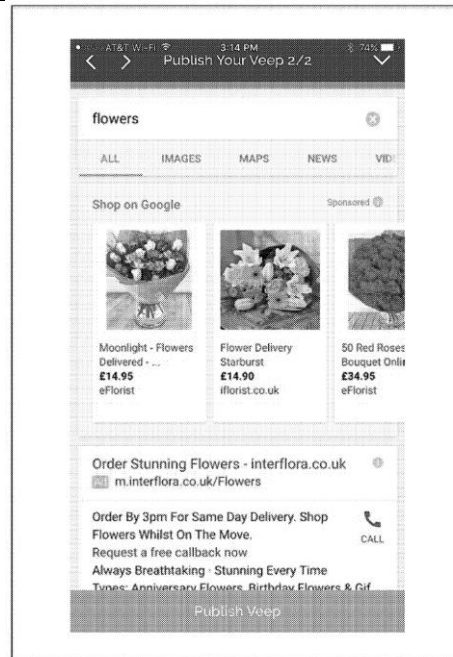


Fig. 41
Ohliger at Fig. 41.

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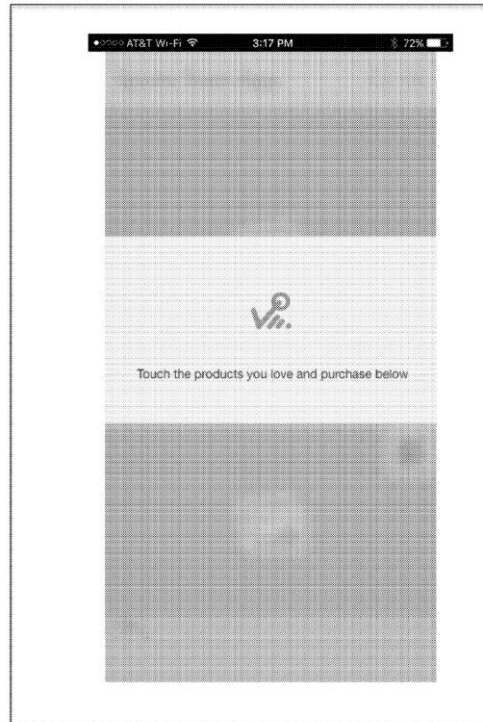


Fig. 46
'46 Patent at Fig. 46.

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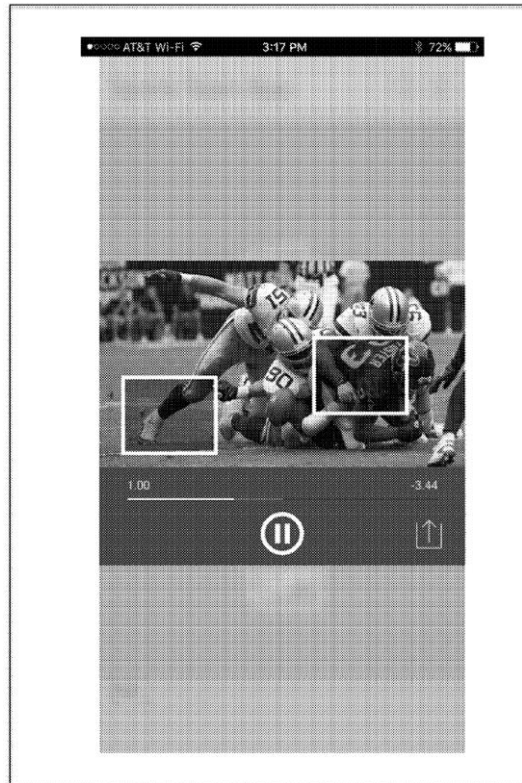


Fig. 48
Ohliger at Fig. 48.

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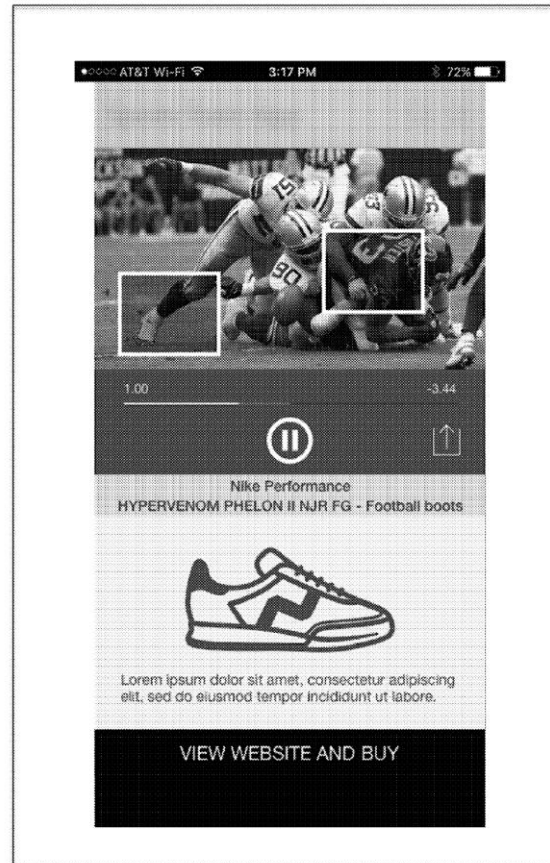


Fig. 49
Ohliger at Fig. 49.

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Fig. 50

Ohliger at Fig. 50.

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FIG. 53B

Ohliger at Fig. 53B.

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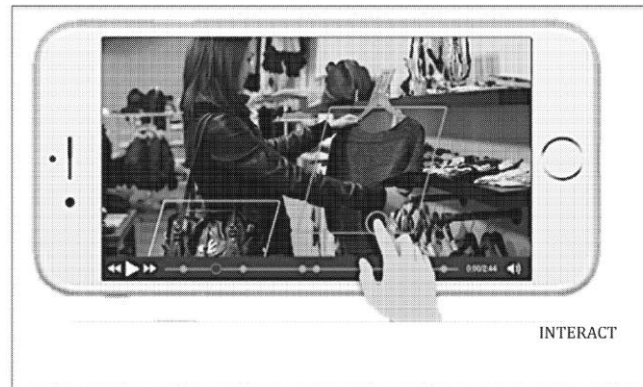


FIG. 53D

Ohliger at Fig. 53D.



FIG. 53E

Ohliger at Fig. 53E.

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		 <p style="text-align: center;">FIG. 53F</p> <p>Ohliger at Fig. 53F.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
9[pre]	The method of claim 1, further comprising	<p>To the extent the preamble is limiting, Ohliger discloses “The method of claim 1, further comprising ” See e.g.:</p> <p><i>See claim 1, supra.</i></p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in</p>

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		Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.
9[a]	providing a third interactive video layer having one or more visual indicators to the server for distribution with the video media to the user.	<p>Ohliger discloses “providing a third interactive video layer having one or more visual indicators to the server for distribution with the video media to the user.” See e.g.:</p> <p>“A system is provided for identifying objects in video either automatically by using an object database or manually by using information provided by the creator of the video, making the objects interactive in every frame of the video that they appear, allowing the creator to embed information behind the video objects that appears when a viewer hovers over, clicks or touches the object, allowing the creator to describe at least one object that appears in a video, associating a hyperlink with a clickable space around the object in every frame that the object appears in, and electronically auctioning the rights to the hyperlink and what data the hyperlink connects to. The system includes a video server communicating with a consumer server over a distributed network. The video server includes at least one video file, an object inventory database, and relevant content including associated hyperlinks in a database stored on or accessible to the video server. The object inventory database contains information describing a location of at least one video object within at least one video file and the hyperlink that is associated with the object. A video overlay links the relevant content with a given video object and creating a selectable hyperlink whose position tracks a dynamic location of the video object in the video. The consumer server includes a software application for accessing and displaying at least one video file stored in the video database, the software application including means for interacting with the video overlay to select an object displayed in the video file.</p> <p>More specifically, a system is disclosed for viewing video having segmented video objects. The system includes a video server including a computer or mobile</p>

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		<p>device connectable to a distributed network and having a processor, random access memory, read-only memory, and mass storage memory. At least one video file is stored in a video database on or accessible to the video server. An object inventory database is stored on or accessible to the video server, the object inventory database containing information describing a location of at least one video object within the at least one video file. Object description content is stored in a database stored on or accessible to the video server. A video overlay links the object description content with a given video object and creating a selectable hyperlink whose position tracks a dynamic location of the video object in the video, wherein the video overlay is adapted to allow a consumer to interact with the video overlay to select an object displayed in the video file and be displayed content related to the object that has been added by the creator of the video, and/or content that has been added automatically by the system, or content that has been added a viewer or viewers of the video. The system also allows a viewer to click a button that has a hyperlink associated with it that takes the viewer to an online store where a product or products associated with the object in the video can be purchased. The viewer also has the ability to add the selected object to a collection of objects. The viewer also has the ability to share a hyperlink directly associated with the video and the object with other people over a social network, email, the internet, mobile messaging and any other commonly used electronic forms of communication.” Ohliger at 3:9-67.</p> <p>“In step 720, the video objects are compared with objects in an object library, which may be 2D (two-dimensional) or 3D (three-dimensional) wire frame data representing objects within the video. Perspective views from such 2D/3D wire frame models may be advantageous to the automatic object recognition process. This step is optional. If a match is detected then the object is associated with the product description and/or meta-data from the object library. The unmatched video object may be discarded or subjected to a secondary processing application and/or an analyst may manually identify/configure the object boundaries (step 730), and then the object may be subject to another classification step (710) and/or another comparison with objects in the object library (720). The creator of the video can also choose which objects they want to make interactive (705) and</p>
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		<p>they can identify those objects with a dynamic bounding area that will change size proportionate to the change in size of the object from frame to frame as it is tracked by an object tracking algorithm. The creator can also describe, comment and add additional content to an object in the video that they have chosen to make interactive (715). This content will appear to a viewer when they interact with the bounding area around the object in any frame that the object appears by clicking, hovering over, or touching any point within the bounding area.</p> <p>In step 740, the video objects are published to the market exchange and subject to an automated auction process. The auction allows retailers, brands, and affiliates/advertisers to bid for the right to assign a hyperlink to a video object that takes a viewer of the video who has interacted with that object to a website where that object or any object the winning bidder chooses can be purchased, or to any other content the winning bidder would like to associate with that object.</p> <p>In step 745 a video overlay is created which links the video object with the winning bidders provided content, and in step 750 the video overlay with region definition data is transmitted to the video broadcaster 120.</p> <p>In step 760, a video viewer interacts with the video overlay by rolling-over or selecting a video region thereby triggering the display of relevant content associated with the video object. It should be appreciated that rolling over may illicit the display of different relevant content than that displayed when the object is selected. For example, selecting an object may trigger more detailed information than that displayed when the object is simply rolled-over with the pointing device.</p> <p>In step 770 (optional), the VOHE 300 records the viewer interaction with the video objects and updates the viewer's behavioral profile. It should be noted that the video viewer's interactions with the video overlay (and the video objects) generally triggers the display of relevant content from the VOHE 300. This enables the content associated with a video object to be updated on-the-fly without the need to alter the video overlay. The video overlay makes the video interactive by making video regions selectable, the content comes from the object database that stores information submitted from the creator of the video as well as comments by viewers, in addition, content also comes from the VOHE 300 in the form of hyperlinks supplied by the winning bidders.</p>
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	<p>In step 780 (optional), the VOHE 100 completes a sales transaction initiated by the viewer's interactions with the video region representing the video object. As will be explained below in further detail, the VOHE 300 may enable the viewer to complete a sales transaction by following the hyperlink provided by the winning bidder to an online retailer.” Ohliger at 12:4-13:3.</p> <p>“It should be noted that the rights being auctioned are different from the traditional banner ads which are “pushed” to the video viewer. Push-advertising is advertising which is displayed on the top (banner) or the side of the viewer's display screen. Push-advertising is pushed to the viewer, i.e., the viewer does not specifically request the advertising. As will be explained below in further detail, according to one embodiment the video viewer pulls the relevant content by interacting with specific regions representing video objects within a video. For example the viewer may point to a video frame, which causes the video to slow down, select or roll-over a video object within the video thereby triggering the VOHE 300 to display contextual information linked or associated with the object as a pop up, overlay or in a field next to the video player. However, the VOHE 300 may combine the pull advertising with conventional push-advertising. For example, the VOHE 300 may push relevant content which relates to the objects as they appear in the video, or the VOHE 300 may push advertising relating to the type of objects with which the viewer has interacted e.g., object which the viewer has rolled-over or selected. The VOHE 300 may also simply provide a hyperlink that is associated with a clickable button that may say “I want this” or “buy this” or “more info” that appears in the content that is displayed post interaction with the video object that has been provided by the creator of the video and that may include comments from other viewers, and the ability to share, write additional comments etc. This is commonly referred to original or organic content.” Ohliger at 14:31-59.</p> <p>“It is important to note that the video objects are used to create selectable regions (hyperlinks) which dynamically track the movement, size and position of the object throughout the video.</p> <p>3D Rotoscoping</p>
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		<p>FIG. 12 is a high level flow diagram for 3-dimensional rotoscoping. The process begins in step 1200 with selecting a given video object.</p> <p>If only one perspective of the video object is available (step 1202A) in the video then a two-dimensional wire frame of the video object is created. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in a video object database (such as object information library 112 (step 1208).</p> <p>If additional perspectives for the video object subsequently become available (step 1202B) then a three-dimensional (3D) wire frame is created (step 1206) or the new perspectives are used to update the existing three-dimensional wireframe. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in the video object database (step 1208).</p> <p>In step 1210 the user (video consumer) is presented with viewing options such as rotating of the object or zoom. It is also possible to “replace” video objects (step 1212) in the video by superimposing a modified or new animated object including light and shadows of surrounding video objects over the existing video object. For example, an obscured appearance of a video object such as a can of Pepsi® can be replaced (superimposed) with an animated object (3-dimensional wireframe of the object) without the need to re-shoot the video. It is even possible to superimpose an animated object (3-dimensional wireframe of the object) of a can of Coca-Cola® over the can of Pepsi.</p> <p>The present invention further includes a system for making an interactive overlay for a video. The system includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server includes one or more video files stored in a video database. The system further includes object inventory database 112 stored on the server 300 and containing information describing a location (size, shape, orientation) of at least one video object within one of the video files. The object inventory database 112 may be compiled using any of the systems or methods disclosed in this specification or equivalents thereof. An overlay generation application (software or firmware) is stored and executed on the server 300. The overlay generation application creates a video overlay including at least one selectable</p>
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	<p>hyperlink whose shape and position (coordinates) track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. In some cases the overlay is transparent; however, as will be explained below in some cases the overlay may include animated representations of video objects which are superimposed over and replace/obscure the underlying video object. The system may optionally include a wireframe database 112A stored on the server 300 or the wireframe database may be included within the object inventory database 112 or any other database stored on the server. The wire frame database 112A stores three-dimensional wireframe representations of at least one video object.</p> <p>The overlay generation application may optionally match occurrences of video objects in the object inventory library with three-dimensional wireframe representations of the video object (stored in the wireframe library database or the object inventory database) and create a video overlay including matched wire frame representations wherein the shape and position of the wireframe representation tracks a dynamic location of the video object in the video. In other words, the wireframe representation of the object is superimposed over the corresponding video object. The superimposed wireframe representation obscures (replaces) the video object.</p> <p>The wire frame library database 112A may optionally include a lighting model which defines/specifies the light distribution on the video object. For each occurrence of a video object in a video frame the lighting model would define/specify the light distribution on the video object.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database 112 stored on (or accessible by) the server and containing information describing a location of at least one video object within one of the video files. The system includes a wireframe database stored on (or accessible by) the server, the wireframe database storing three-</p>
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		<p>dimensional wireframe representations of at least one video object; and an overlay generation application (software or firmware) executed on the server. The overlay generation application matches occurrences of video objects in the object inventory library with corresponding three-dimensional wireframe representations of the video object and creates a video overlay including matched wireframe representations of the video object wherein the shape and position (coordinates) of the wireframe representation track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database stored on the server and containing information describing coordinates of at least one video object within one of the video files. The system further includes a wireframe database stored on the server, the wireframe database stores three-dimensional wireframe representations of at least one video object. A wireframe generation application (software or firmware) executed on the server selects video objects from the video object inventory database and generates a three-dimensional wire frame of the selected video object from multiple perspective occurrences of the video object in the video file and stores the three-dimensional wireframe in the wireframe database. The wireframe generation application may optionally generate a lighting model for each occurrence of a video object in a video frame from light distribution on the video object.</p> <p>The system may further include an overlay generation application (software or firmware) executed on the server which matches occurrences of video objects in the object inventory library 112 with corresponding three-dimensional wire frame representations stored in the wire frame library 112A. The overlay generation application creates a video overlay including matched wireframe representations</p>
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		<p>of the video objects wherein the shape and position of the wireframe representation tracks the dynamic location of the video object in the video. The overlay generation application stores the overlay on the server. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>The creation of three-dimensional wire frames and lighting models is well known in the art and is disclosed in the following U.S. patents whose disclosure are hereby incorporated by reference: U.S. Pat. No. 7,602,404 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,983,082 entitled Reality-based light environment for digital imaging in motion pictures; U.S. Pat. No. 6,954,202 entitled Image-based methods of representation and rendering of three dimensional object and animated three-dimensional object; U.S. Pat. No. 6,919,962 entitled Reflectometry apparatus and method; U.S. Pat. No. 6,858,826 entitled Method and apparatus for scanning three-dimensional objects; U.S. Pat. No. 6,685,326 entitled Realistic scene lighting simulation; U.S. Pat. No. 6,628,298 entitled Apparatus and method for rendering synthetic objects into real scenes using measurements of scene illumination; U.S. Pat. No. 6,529,206 entitled Image processing apparatus and method, and medium therefore; U.S. Pat. No. 6,504,546 entitled Method of modeling objects to synthesize three-dimensional, photo-realistic animations; U.S. Pat. No. 6,434,265 entitled Aligning rectilinear images in 3D through projective registration and calibration; U.S. Pat. No. 6,333,749 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,281,904 entitled Multi-source texture reconstruction and fusion; and U.S. Pat. No. 6,281,903 entitled Methods and apparatus for embedding 2D image content into 3D models.” Ohliger at 18:45-21:16.</p> <p>“To summarize, the first preferred embodiment provides a system and method for identifying objects in video either automatically by using an object database or manually by using information provided by the creator of the video, making the objects interactive in every frame of the video that they appear, allowing the creator to embed information behind the video objects that appears when a viewer hovers over, clicks or touches the object, allowing the creator to describe at least</p>
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one object that appears in a video, associating a hyperlink with a clickable space around the object in every frame that the object appears in, and electronically auctioning the rights to the hyperlink and what data the hyperlink connects to. The system includes a video server communicating with a consumer server over a distributed network. The video server includes at least one video file, an object inventory database, and relevant content including associated hyperlinks in a database stored on or accessible to the video server. The object inventory database contains information describing a location of at least one video object within at least one video file and the hyperlink that is associated with the object. A video overlay links the relevant content with a given video object and creating a selectable hyperlink whose position tracks a dynamic location of the video object in the video. The consumer server includes a software application for accessing and displaying at least one video file stored in the video database, the software application including means for interacting with the video overlay to select an object displayed in the video file.” Ohliger at 33:9-36.



Fig. 18
Shop VeePiO

Ohliger at Fig. 18.

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Fig. 20
How to Veep



Ohliger at Fig. 20.

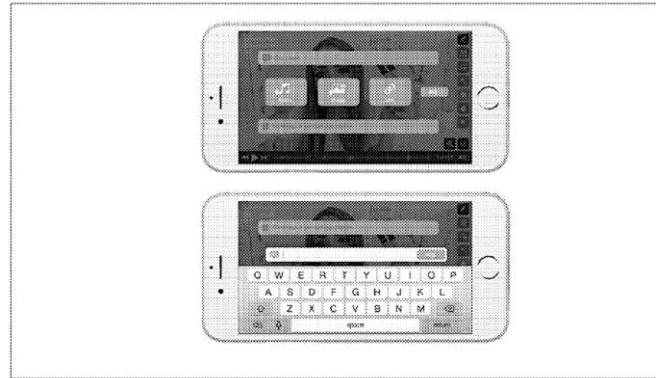
Fig. 21
Veep Editing Room



Ohliger at Fig. 21.

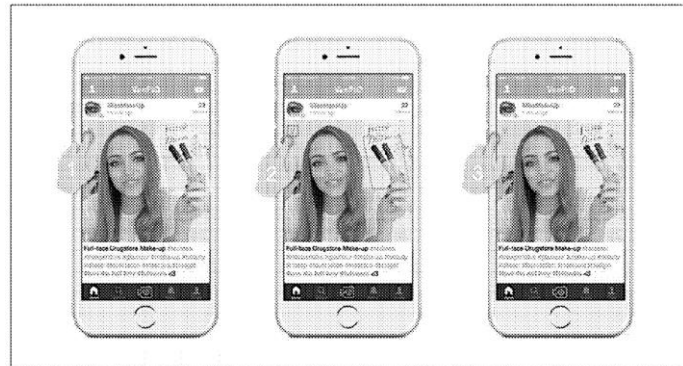
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Fig. 22
Object Details



Ohliger at Fig. 21.

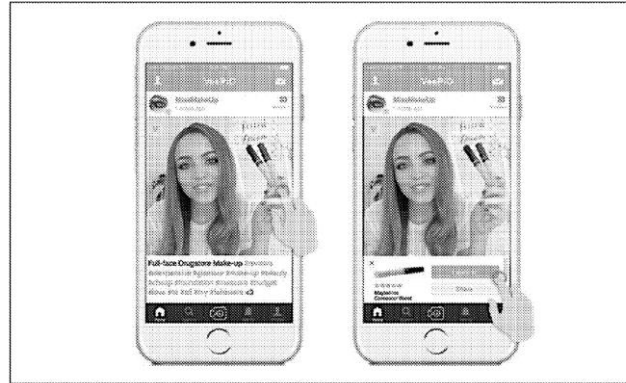
Fig. 23
"V"isibility



Ohliger at Fig. 23.

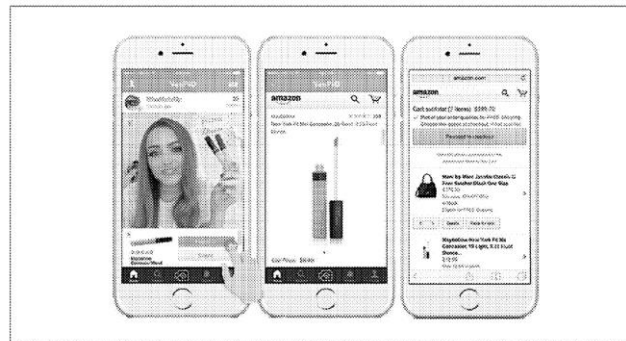
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Fig. 24
I Want it!



Ohliger at Fig. 24.

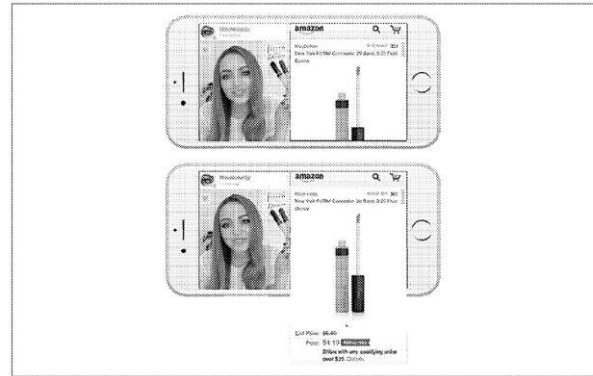
Fig. 25
I Want it! Continued



Ohliger at Fig. 25.

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Fig. 28
Buy Via Split Screen



Ohliger at Fig. 28.

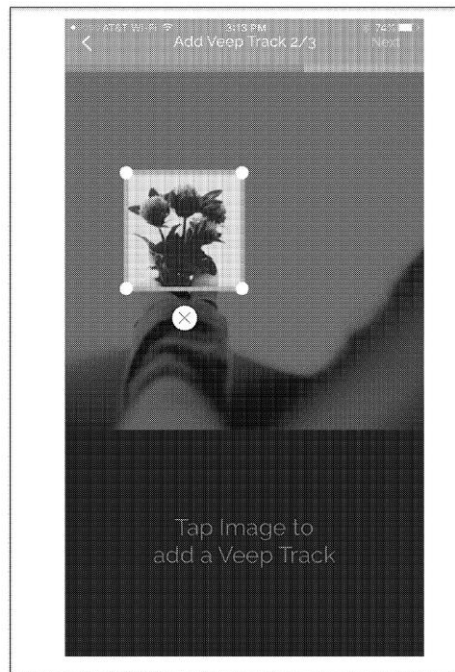


Fig. 38

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Ohliger at Fig. 38.

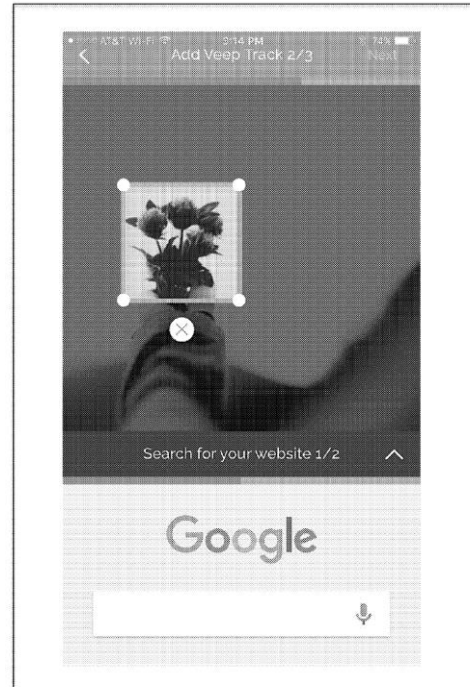


Fig. 39

Ohliger at Fig. 39.

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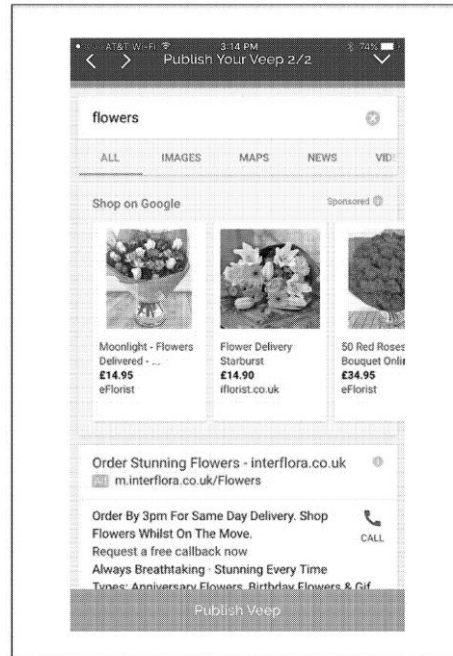


Fig. 41
Ohliger at Fig. 41.

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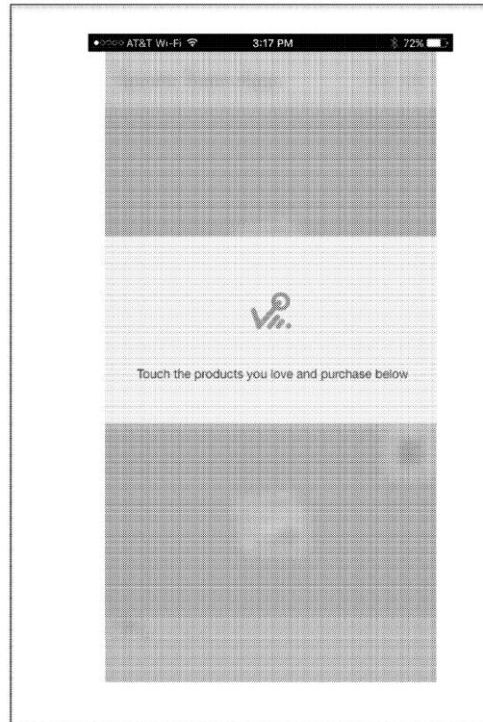


Fig. 46
'46 Patent at Fig. 46.

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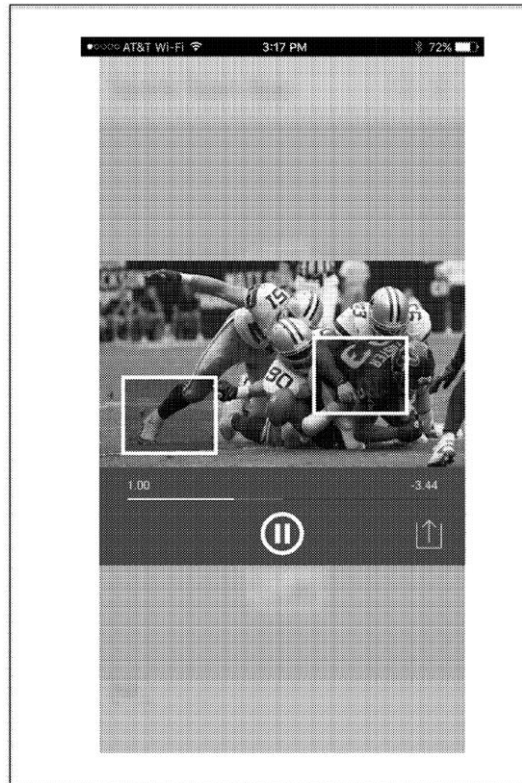


Fig. 48
Ohliger at Fig. 48.

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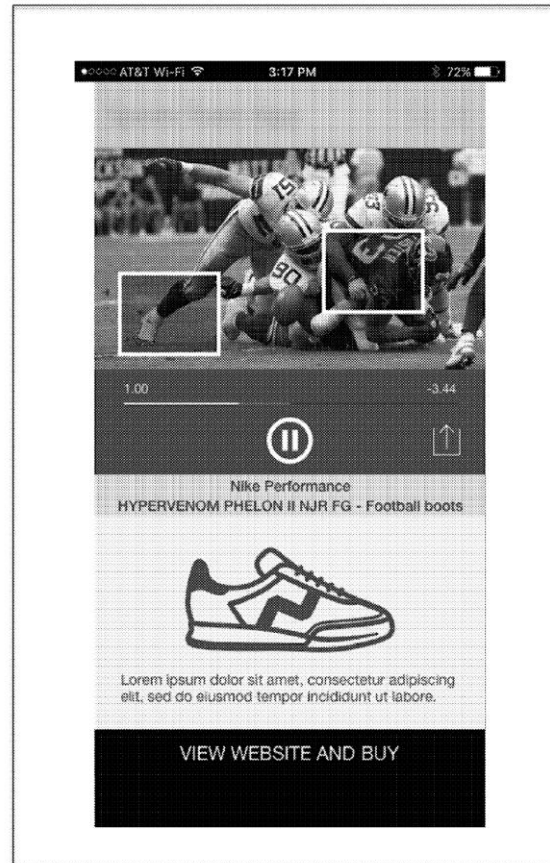


Fig. 49
Ohliger at Fig. 49.

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Fig. 50

Ohliger at Fig. 50.

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FIG. 53B

Ohliger at Fig. 53B.

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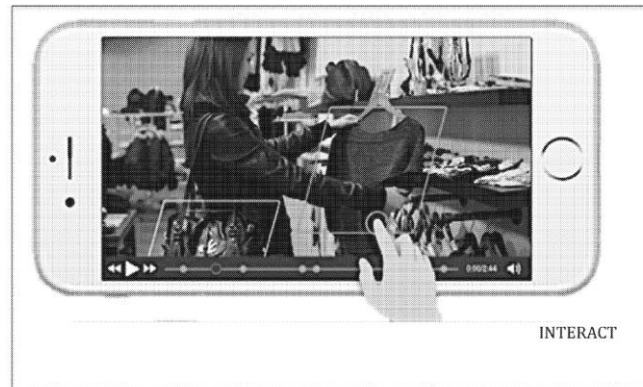


FIG. 53D

Ohliger at Fig. 53D.



FIG. 53E

Ohliger at Fig. 53E.

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		 <p style="text-align: center;">FIG. 53F</p> <p>Ohliger at Fig. 53F.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
10[pre]	The method of claim 9,	<p>To the extent the preamble is limiting, Ohliger discloses “The method of claim 9,” See e.g.:</p> <p><i>See claim 9, supra.</i></p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in</p>

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		Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.
10[a]	wherein the one or more visual indicators include a link for one or more of a second video media, a side room digital layer, a promotional video, a game, and/or merchandise.	<p>Ohliger discloses “wherein the one or more visual indicators include a link for one or more of a second video media, a side room digital layer, a promotional video, a game, and/or merchandise.” See e.g.:</p> <p>“A system is provided for identifying objects in video either automatically by using an object database or manually by using information provided by the creator of the video, making the objects interactive in every frame of the video that they appear, allowing the creator to embed information behind the video objects that appears when a viewer hovers over, clicks or touches the object, allowing the creator to describe at least one object that appears in a video, associating a hyperlink with a clickable space around the object in every frame that the object appears in, and electronically auctioning the rights to the hyperlink and what data the hyperlink connects to. The system includes a video server communicating with a consumer server over a distributed network. The video server includes at least one video file, an object inventory database, and relevant content including associated hyperlinks in a database stored on or accessible to the video server. The object inventory database contains information describing a location of at least one video object within at least one video file and the hyperlink that is associated with the object. A video overlay links the relevant content with a given video object and creating a selectable hyperlink whose position tracks a dynamic location of the video object in the video. The consumer server includes a software application for accessing and displaying at least one video file stored in the video database, the software application including means for interacting with the video overlay to select an object displayed in the video file.</p> <p>More specifically, a system is disclosed for viewing video having segmented video objects. The system includes a video server including a computer or mobile</p>

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		<p>device connectable to a distributed network and having a processor, random access memory, read-only memory, and mass storage memory. At least one video file is stored in a video database on or accessible to the video server. An object inventory database is stored on or accessible to the video server, the object inventory database containing information describing a location of at least one video object within the at least one video file. Object description content is stored in a database stored on or accessible to the video server. A video overlay links the object description content with a given video object and creating a selectable hyperlink whose position tracks a dynamic location of the video object in the video, wherein the video overlay is adapted to allow a consumer to interact with the video overlay to select an object displayed in the video file and be displayed content related to the object that has been added by the creator of the video, and/or content that has been added automatically by the system, or content that has been added a viewer or viewers of the video. The system also allows a viewer to click a button that has a hyperlink associated with it that takes the viewer to an online store where a product or products associated with the object in the video can be purchased. The viewer also has the ability to add the selected object to a collection of objects. The viewer also has the ability to share a hyperlink directly associated with the video and the object with other people over a social network, email, the internet, mobile messaging and any other commonly used electronic forms of communication.” Ohliger at 3:9-67.</p> <p>“In step 720, the video objects are compared with objects in an object library, which may be 2D (two-dimensional) or 3D (three-dimensional) wire frame data representing objects within the video. Perspective views from such 2D/3D wire frame models may be advantageous to the automatic object recognition process. This step is optional. If a match is detected then the object is associated with the product description and/or meta-data from the object library. The unmatched video object may be discarded or subjected to a secondary processing application and/or an analyst may manually identify/configure the object boundaries (step 730), and then the object may be subject to another classification step (710) and/or another comparison with objects in the object library (720). The creator of the video can also choose which objects they want to make interactive (705) and</p>
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		<p>they can identify those objects with a dynamic bounding area that will change size proportionate to the change in size of the object from frame to frame as it is tracked by an object tracking algorithm. The creator can also describe, comment and add additional content to an object in the video that they have chosen to make interactive (715). This content will appear to a viewer when they interact with the bounding area around the object in any frame that the object appears by clicking, hovering over, or touching any point within the bounding area.</p> <p>In step 740, the video objects are published to the market exchange and subject to an automated auction process. The auction allows retailers, brands, and affiliates/advertisers to bid for the right to assign a hyperlink to a video object that takes a viewer of the video who has interacted with that object to a website where that object or any object the winning bidder chooses can be purchased, or to any other content the winning bidder would like to associate with that object.</p> <p>In step 745 a video overlay is created which links the video object with the winning bidders provided content, and in step 750 the video overlay with region definition data is transmitted to the video broadcaster 120.</p> <p>In step 760, a video viewer interacts with the video overlay by rolling-over or selecting a video region thereby triggering the display of relevant content associated with the video object. It should be appreciated that rolling over may illicit the display of different relevant content than that displayed when the object is selected. For example, selecting an object may trigger more detailed information than that displayed when the object is simply rolled-over with the pointing device.</p> <p>In step 770 (optional), the VOHE 300 records the viewer interaction with the video objects and updates the viewer's behavioral profile. It should be noted that the video viewer's interactions with the video overlay (and the video objects) generally triggers the display of relevant content from the VOHE 300. This enables the content associated with a video object to be updated on-the-fly without the need to alter the video overlay. The video overlay makes the video interactive by making video regions selectable, the content comes from the object database that stores information submitted from the creator of the video as well as comments by viewers, in addition, content also comes from the VOHE 300 in the form of hyperlinks supplied by the winning bidders.</p>
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	<p>In step 780 (optional), the VOHE 100 completes a sales transaction initiated by the viewer's interactions with the video region representing the video object. As will be explained below in further detail, the VOHE 300 may enable the viewer to complete a sales transaction by following the hyperlink provided by the winning bidder to an online retailer.” Ohliger at 12:4-13:3.</p> <p>“It should be noted that the rights being auctioned are different from the traditional banner ads which are “pushed” to the video viewer. Push-advertising is advertising which is displayed on the top (banner) or the side of the viewer's display screen. Push-advertising is pushed to the viewer, i.e., the viewer does not specifically request the advertising. As will be explained below in further detail, according to one embodiment the video viewer pulls the relevant content by interacting with specific regions representing video objects within a video. For example the viewer may point to a video frame, which causes the video to slow down, select or roll-over a video object within the video thereby triggering the VOHE 300 to display contextual information linked or associated with the object as a pop up, overlay or in a field next to the video player. However, the VOHE 300 may combine the pull advertising with conventional push-advertising. For example, the VOHE 300 may push relevant content which relates to the objects as they appear in the video, or the VOHE 300 may push advertising relating to the type of objects with which the viewer has interacted e.g., object which the viewer has rolled-over or selected. The VOHE 300 may also simply provide a hyperlink that is associated with a clickable button that may say “I want this” or “buy this” or “more info” that appears in the content that is displayed post interaction with the video object that has been provided by the creator of the video and that may include comments from other viewers, and the ability to share, write additional comments etc. This is commonly referred to original or organic content.” Ohliger at 14:31-59.</p> <p>“It is important to note that the video objects are used to create selectable regions (hyperlinks) which dynamically track the movement, size and position of the object throughout the video.</p> <p>3D Rotoscoping</p>
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Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

	<p>FIG. 12 is a high level flow diagram for 3-dimensional rotoscoping. The process begins in step 1200 with selecting a given video object.</p> <p>If only one perspective of the video object is available (step 1202A) in the video then a two-dimensional wire frame of the video object is created. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in a video object database (such as object information library 112 (step 1208).</p> <p>If additional perspectives for the video object subsequently become available (step 1202B) then a three-dimensional (3D) wire frame is created (step 1206) or the new perspectives are used to update the existing three-dimensional wireframe. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in the video object database (step 1208).</p> <p>In step 1210 the user (video consumer) is presented with viewing options such as rotating of the object or zoom. It is also possible to “replace” video objects (step 1212) in the video by superimposing a modified or new animated object including light and shadows of surrounding video objects over the existing video object. For example, an obscured appearance of a video object such as a can of Pepsi® can be replaced (superimposed) with an animated object (3-dimensional wireframe of the object) without the need to re-shoot the video. It is even possible to superimpose an animated object (3-dimensional wireframe of the object) of a can of Coca-Cola® over the can of Pepsi.</p> <p>The present invention further includes a system for making an interactive overlay for a video. The system includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server includes one or more video files stored in a video database. The system further includes object inventory database 112 stored on the server 300 and containing information describing a location (size, shape, orientation) of at least one video object within one of the video files. The object inventory database 112 may be compiled using any of the systems or methods disclosed in this specification or equivalents thereof. An overlay generation application (software or firmware) is stored and executed on the server 300. The overlay generation application creates a video overlay including at least one selectable</p>
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Exhibit 316-A13
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	<p>hyperlink whose shape and position (coordinates) track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. In some cases the overlay is transparent; however, as will be explained below in some cases the overlay may include animated representations of video objects which are superimposed over and replace/obscure the underlying video object. The system may optionally include a wireframe database 112A stored on the server 300 or the wireframe database may be included within the object inventory database 112 or any other database stored on the server. The wire frame database 112A stores three-dimensional wireframe representations of at least one video object.</p> <p>The overlay generation application may optionally match occurrences of video objects in the object inventory library with three-dimensional wireframe representations of the video object (stored in the wireframe library database or the object inventory database) and create a video overlay including matched wire frame representations wherein the shape and position of the wireframe representation tracks a dynamic location of the video object in the video. In other words, the wireframe representation of the object is superimposed over the corresponding video object. The superimposed wireframe representation obscures (replaces) the video object.</p> <p>The wire frame library database 112A may optionally include a lighting model which defines/specifies the light distribution on the video object. For each occurrence of a video object in a video frame the lighting model would define/specify the light distribution on the video object.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database 112 stored on (or accessible by) the server and containing information describing a location of at least one video object within one of the video files. The system includes a wireframe database stored on (or accessible by) the server, the wireframe database storing three-</p>
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	<p>dimensional wireframe representations of at least one video object; and an overlay generation application (software or firmware) executed on the server. The overlay generation application matches occurrences of video objects in the object inventory library with corresponding three-dimensional wireframe representations of the video object and creates a video overlay including matched wireframe representations of the video object wherein the shape and position (coordinates) of the wireframe representation track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database stored on the server and containing information describing coordinates of at least one video object within one of the video files. The system further includes a wireframe database stored on the server, the wireframe database stores three-dimensional wireframe representations of at least one video object. A wireframe generation application (software or firmware) executed on the server selects video objects from the video object inventory database and generates a three-dimensional wire frame of the selected video object from multiple perspective occurrences of the video object in the video file and stores the three-dimensional wireframe in the wireframe database. The wireframe generation application may optionally generate a lighting model for each occurrence of a video object in a video frame from light distribution on the video object.</p> <p>The system may further include an overlay generation application (software or firmware) executed on the server which matches occurrences of video objects in the object inventory library 112 with corresponding three-dimensional wire frame representations stored in the wire frame library 112A. The overlay generation application creates a video overlay including matched wireframe representations</p>
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Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		<p>of the video objects wherein the shape and position of the wireframe representation tracks the dynamic location of the video object in the video. The overlay generation application stores the overlay on the server. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>The creation of three-dimensional wire frames and lighting models is well known in the art and is disclosed in the following U.S. patents whose disclosure are hereby incorporated by reference: U.S. Pat. No. 7,602,404 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,983,082 entitled Reality-based light environment for digital imaging in motion pictures; U.S. Pat. No. 6,954,202 entitled Image-based methods of representation and rendering of three dimensional object and animated three-dimensional object; U.S. Pat. No. 6,919,962 entitled Reflectometry apparatus and method; U.S. Pat. No. 6,858,826 entitled Method and apparatus for scanning three-dimensional objects; U.S. Pat. No. 6,685,326 entitled Realistic scene lighting simulation; U.S. Pat. No. 6,628,298 entitled Apparatus and method for rendering synthetic objects into real scenes using measurements of scene illumination; U.S. Pat. No. 6,529,206 entitled Image processing apparatus and method, and medium therefore; U.S. Pat. No. 6,504,546 entitled Method of modeling objects to synthesize three-dimensional, photo-realistic animations; U.S. Pat. No. 6,434,265 entitled Aligning rectilinear images in 3D through projective registration and calibration; U.S. Pat. No. 6,333,749 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,281,904 entitled Multi-source texture reconstruction and fusion; and U.S. Pat. No. 6,281,903 entitled Methods and apparatus for embedding 2D image content into 3D models.” Ohliger at 18:45-21:16.</p>
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Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger



Fig. 18
Shop VeePIO

Ohliger at Fig. 18.

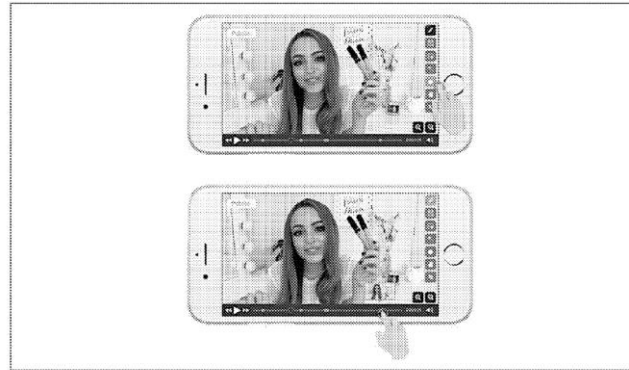
Fig. 20
How to Veep



Ohliger at Fig. 20.

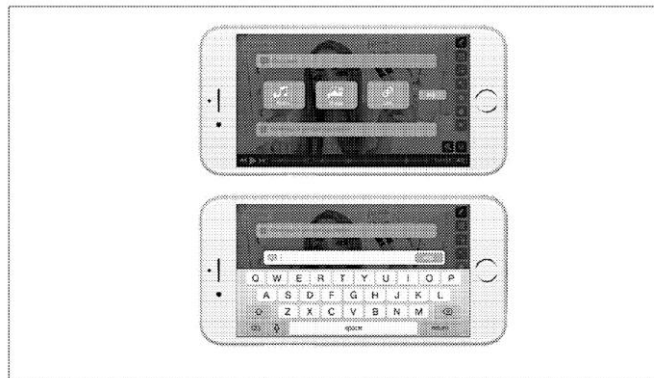
Exhibit 316-A13
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Fig. 21
Veep Editing Room



Ohliger at Fig. 21.

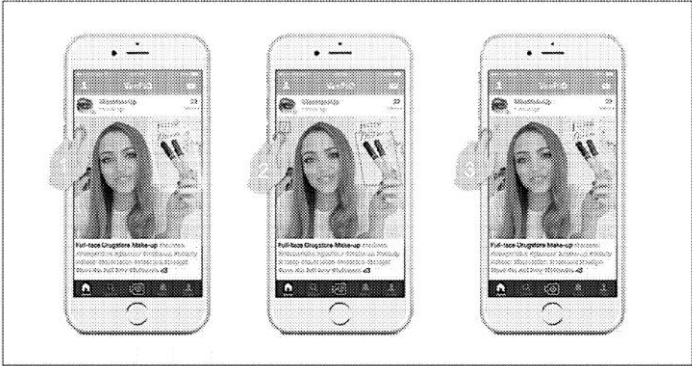
Fig. 22
Object Details



Ohliger at Fig. 21.

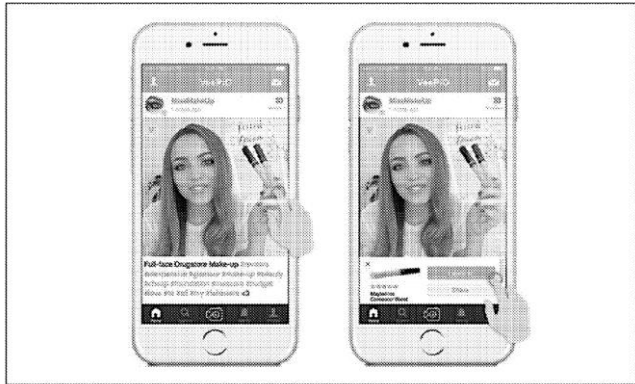
Exhibit 316-A13
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Fig. 23
"V"isibility



Ohliger at Fig. 23.

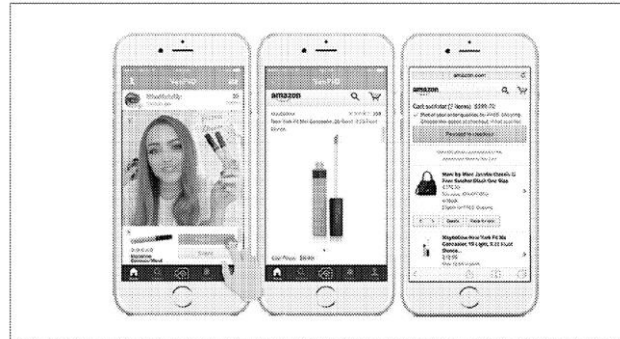
Fig. 24
I Want it!



Ohliger at Fig. 24.

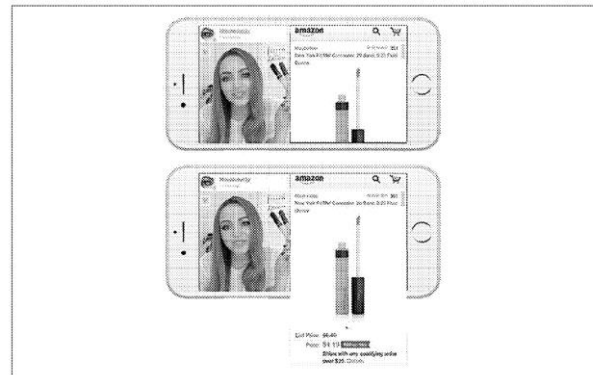
Exhibit 316-A13
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Fig. 25
I Want it! Continued



Ohliger at Fig. 25.

Fig. 28
Buy Via Split Screen



Ohliger at Fig. 28.

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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

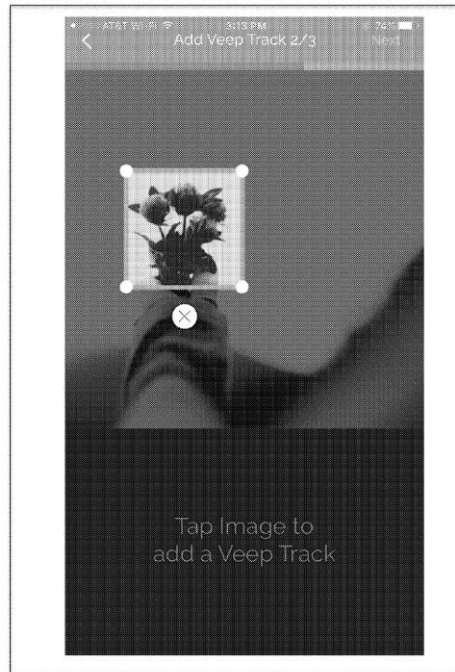


Fig. 38

Ohliger at Fig. 38.

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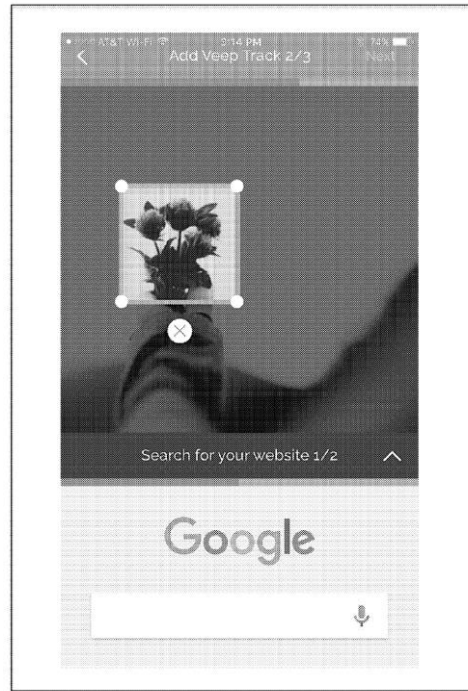


Fig. 39
Ohliger at Fig. 39.

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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

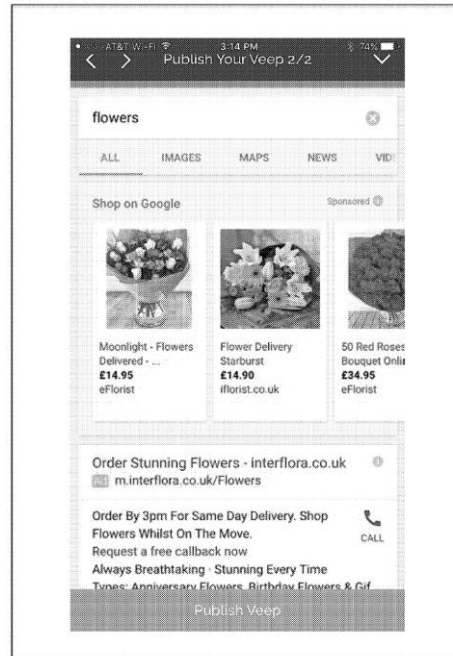


Fig. 41
Ohliger at Fig. 41.

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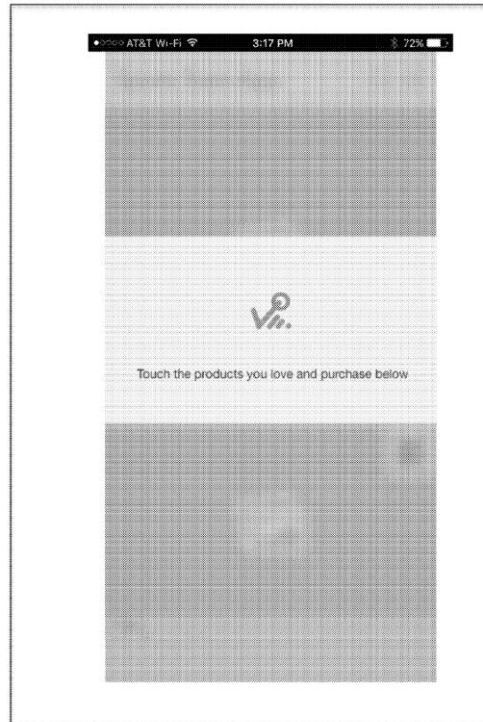


Fig. 46
'46 Patent at Fig. 46.

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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

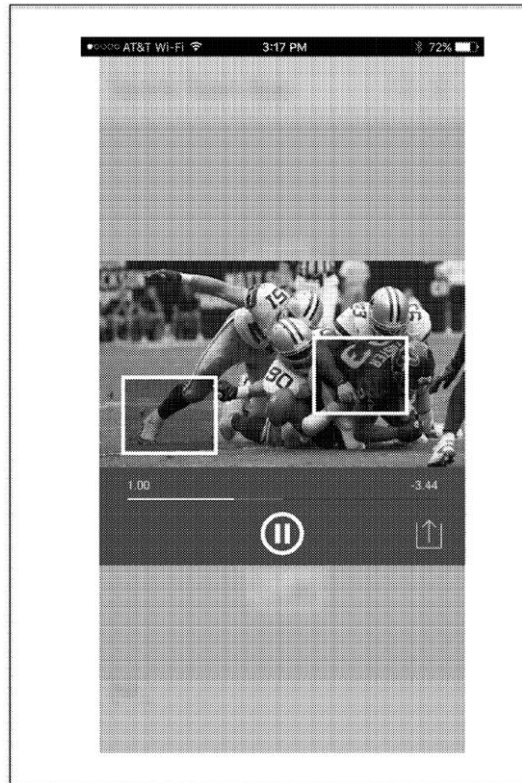


Fig. 48
Ohliger at Fig. 48.

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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

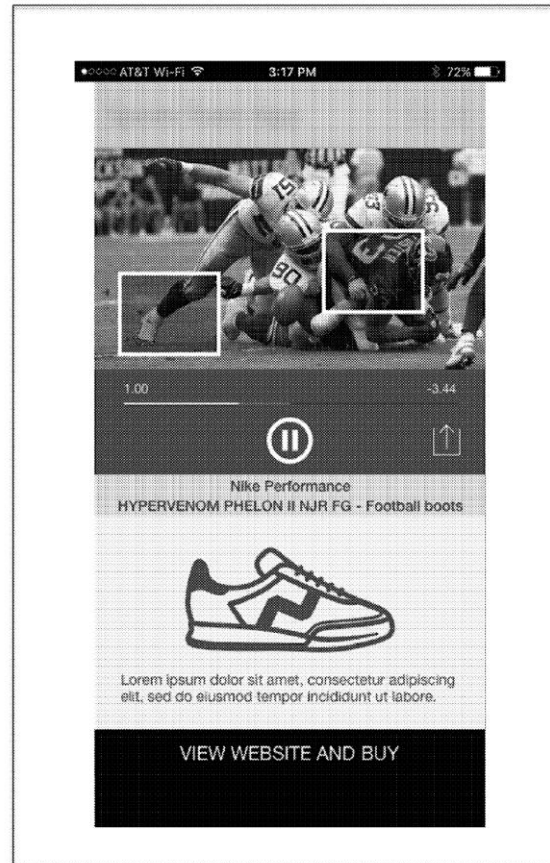


Fig. 49
Ohliger at Fig. 49.

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Fig. 50

Ohliger at Fig. 50.

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FIG. 53B

Ohliger at Fig. 53B.

Exhibit 316-A13
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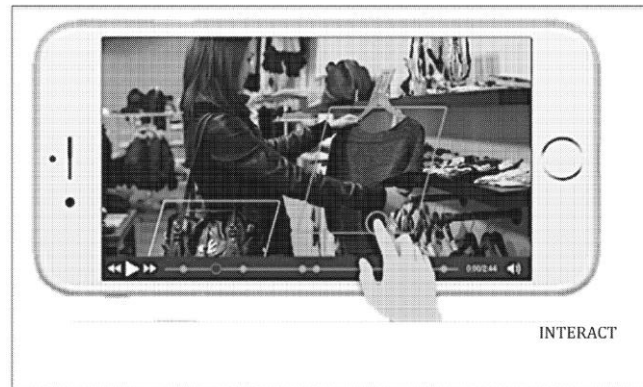


FIG. 53D

Ohliger at Fig. 53D.



FIG. 53E

Ohliger at Fig. 53E.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		 <p style="text-align: center;">FIG. 53F</p> <p>Ohliger at Fig. 53F.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
11[pre]	The method of claim 1,	<p>To the extent the preamble is limiting, Ohliger discloses “The method of claim 1,” See e.g.:</p> <p><i>See claim 1, supra.</i></p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in</p>

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.
11[a]	wherein the video data includes a third interactive video layer, wherein the third interactive video layer comprises one or more visual indicators.	<p>Ohliger discloses “wherein the video data includes a third interactive video layer, wherein the third interactive video layer comprises one or more visual indicators.” See e.g.:</p> <p>“In step 720, the video objects are compared with objects in an object library, which may be 2D (two-dimensional) or 3D (three-dimensional) wire frame data representing objects within the video. Perspective views from such 2D/3D wire frame models may be advantageous to the automatic object recognition process. This step is optional. If a match is detected then the object is associated with the product description and/or meta-data from the object library. The unmatched video object may be discarded or subjected to a secondary processing application and/or an analyst may manually identify/configure the object boundaries (step 730), and then the object may be subject to another classification step (710) and/or another comparison with objects in the object library (720). The creator of the video can also choose which objects they want to make interactive (705) and they can identify those objects with a dynamic bounding area that will change size proportionate to the change in size of the object from frame to frame as it is tracked by an object tracking algorithm. The creator can also describe, comment and add additional content to an object in the video that they have chosen to make interactive (715). This content will appear to a viewer when they interact with the bounding area around the object in any frame that the object appears by clicking, hovering over, or touching any point within the bounding area.</p> <p>In step 740, the video objects are published to the market exchange and subject to an automated auction process. The auction allows retailers, brands, and affiliates/advertisers to bid for the right to assign a hyperlink to a video object that takes a viewer of the video who has interacted with that object to a website where</p>

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

	<p>that object or any object the winning bidder chooses can be purchased, or to any other content the winning bidder would like to associate with that object. In step 745 a video overlay is created which links the video object with the winning bidders provided content, and in step 750 the video overlay with region definition data is transmitted to the video broadcaster 120.</p> <p>In step 760, a video viewer interacts with the video overlay by rolling-over or selecting a video region thereby triggering the display of relevant content associated with the video object. It should be appreciated that rolling over may illicit the display of different relevant content than that displayed when the object is selected. For example, selecting an object may trigger more detailed information than that displayed when the object is simply rolled-over with the pointing device.</p> <p>In step 770 (optional), the VOHE 300 records the viewer interaction with the video objects and updates the viewer's behavioral profile. It should be noted that the video viewer's interactions with the video overlay (and the video objects) generally triggers the display of relevant content from the VOHE 300. This enables the content associated with a video object to be updated on-the-fly without the need to alter the video overlay. The video overlay makes the video interactive by making video regions selectable, the content comes from the object database that stores information submitted from the creator of the video as well as comments by viewers, in addition, content also comes from the VOHE 300 in the form of hyperlinks supplied by the winning bidders.</p> <p>In step 780 (optional), the VOHE 100 completes a sales transaction initiated by the viewer's interactions with the video region representing the video object. As will be explained below in further detail, the VOHE 300 may enable the viewer to complete a sales transaction by following the hyperlink provided by the winning bidder to an online retailer.” Ohliger at 12:4-13:3.</p> <p>“It is important to note that the video objects are used to create selectable regions (hyperlinks) which dynamically track the movement, size and position of the object throughout the video.</p> <p>3D Rotoscoping</p>
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Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

	<p>FIG. 12 is a high level flow diagram for 3-dimensional rotoscoping. The process begins in step 1200 with selecting a given video object.</p> <p>If only one perspective of the video object is available (step 1202A) in the video then a two-dimensional wire frame of the video object is created. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in a video object database (such as object information library 112 (step 1208).</p> <p>If additional perspectives for the video object subsequently become available (step 1202B) then a three-dimensional (3D) wire frame is created (step 1206) or the new perspectives are used to update the existing three-dimensional wireframe. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in the video object database (step 1208).</p> <p>In step 1210 the user (video consumer) is presented with viewing options such as rotating of the object or zoom. It is also possible to “replace” video objects (step 1212) in the video by superimposing a modified or new animated object including light and shadows of surrounding video objects over the existing video object. For example, an obscured appearance of a video object such as a can of Pepsi® can be replaced (superimposed) with an animated object (3-dimensional wireframe of the object) without the need to re-shoot the video. It is even possible to superimpose an animated object (3-dimensional wireframe of the object) of a can of Coca-Cola® over the can of Pepsi.</p> <p>The present invention further includes a system for making an interactive overlay for a video. The system includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server includes one or more video files stored in a video database. The system further includes object inventory database 112 stored on the server 300 and containing information describing a location (size, shape, orientation) of at least one video object within one of the video files. The object inventory database 112 may be compiled using any of the systems or methods disclosed in this specification or equivalents thereof. An overlay generation application (software or firmware) is stored and executed on the server 300. The overlay generation application creates a video overlay including at least one selectable</p>
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Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

	<p>hyperlink whose shape and position (coordinates) track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. In some cases the overlay is transparent; however, as will be explained below in some cases the overlay may include animated representations of video objects which are superimposed over and replace/obscure the underlying video object. The system may optionally include a wireframe database 112A stored on the server 300 or the wireframe database may be included within the object inventory database 112 or any other database stored on the server. The wire frame database 112A stores three-dimensional wireframe representations of at least one video object.</p> <p>The overlay generation application may optionally match occurrences of video objects in the object inventory library with three-dimensional wireframe representations of the video object (stored in the wireframe library database or the object inventory database) and create a video overlay including matched wire frame representations wherein the shape and position of the wireframe representation tracks a dynamic location of the video object in the video. In other words, the wireframe representation of the object is superimposed over the corresponding video object. The superimposed wireframe representation obscures (replaces) the video object.</p> <p>The wire frame library database 112A may optionally include a lighting model which defines/specifies the light distribution on the video object. For each occurrence of a video object in a video frame the lighting model would define/specify the light distribution on the video object.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database 112 stored on (or accessible by) the server and containing information describing a location of at least one video object within one of the video files. The system includes a wireframe database stored on (or accessible by) the server, the wireframe database storing three-</p>
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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		<p>dimensional wireframe representations of at least one video object; and an overlay generation application (software or firmware) executed on the server. The overlay generation application matches occurrences of video objects in the object inventory library with corresponding three-dimensional wireframe representations of the video object and creates a video overlay including matched wireframe representations of the video object wherein the shape and position (coordinates) of the wireframe representation track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database stored on the server and containing information describing coordinates of at least one video object within one of the video files. The system further includes a wireframe database stored on the server, the wireframe database stores three-dimensional wireframe representations of at least one video object. A wireframe generation application (software or firmware) executed on the server selects video objects from the video object inventory database and generates a three-dimensional wire frame of the selected video object from multiple perspective occurrences of the video object in the video file and stores the three-dimensional wireframe in the wireframe database. The wireframe generation application may optionally generate a lighting model for each occurrence of a video object in a video frame from light distribution on the video object.</p> <p>The system may further include an overlay generation application (software or firmware) executed on the server which matches occurrences of video objects in the object inventory library 112 with corresponding three-dimensional wire frame representations stored in the wire frame library 112A. The overlay generation application creates a video overlay including matched wireframe representations</p>
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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		<p>of the video objects wherein the shape and position of the wireframe representation tracks the dynamic location of the video object in the video. The overlay generation application stores the overlay on the server. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>The creation of three-dimensional wire frames and lighting models is well known in the art and is disclosed in the following U.S. patents whose disclosure are hereby incorporated by reference: U.S. Pat. No. 7,602,404 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,983,082 entitled Reality-based light environment for digital imaging in motion pictures; U.S. Pat. No. 6,954,202 entitled Image-based methods of representation and rendering of three dimensional object and animated three-dimensional object; U.S. Pat. No. 6,919,962 entitled Reflectometry apparatus and method; U.S. Pat. No. 6,858,826 entitled Method and apparatus for scanning three-dimensional objects; U.S. Pat. No. 6,685,326 entitled Realistic scene lighting simulation; U.S. Pat. No. 6,628,298 entitled Apparatus and method for rendering synthetic objects into real scenes using measurements of scene illumination; U.S. Pat. No. 6,529,206 entitled Image processing apparatus and method, and medium therefore; U.S. Pat. No. 6,504,546 entitled Method of modeling objects to synthesize three-dimensional, photo-realistic animations; U.S. Pat. No. 6,434,265 entitled Aligning rectilinear images in 3D through projective registration and calibration; U.S. Pat. No. 6,333,749 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,281,904 entitled Multi-source texture reconstruction and fusion; and U.S. Pat. No. 6,281,903 entitled Methods and apparatus for embedding 2D image content into 3D models.” Ohliger at 18:45-21:16.</p>
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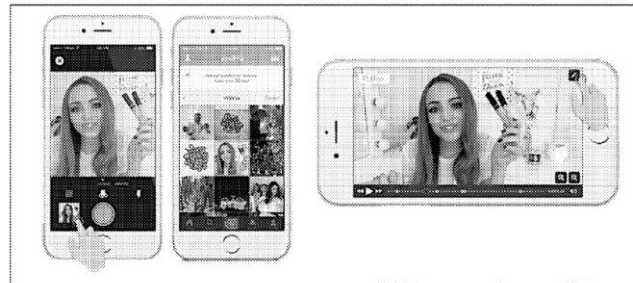
Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger



Fig. 18
Shop VeePIO

Ohliger at Fig. 18.

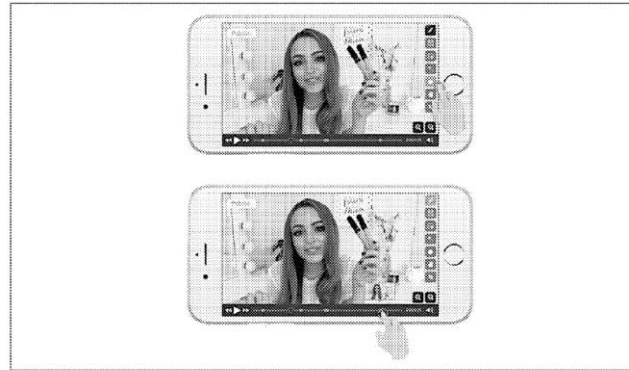
Fig. 20
How to Veep



Ohliger at Fig. 20.

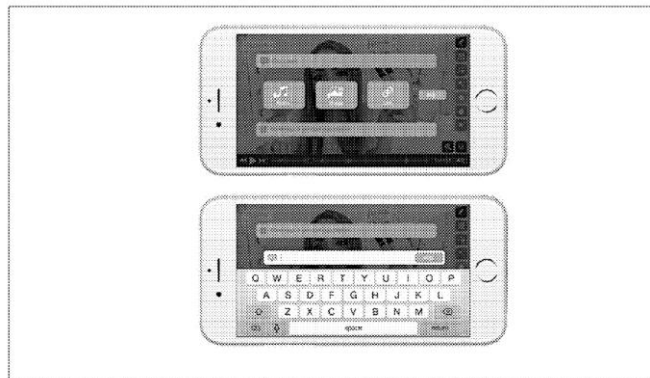
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Fig. 21
Veep Editing Room



Ohliger at Fig. 21.

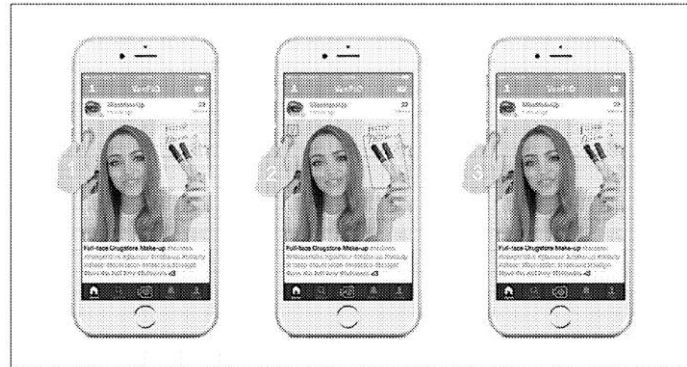
Fig. 22
Object Details



Ohliger at Fig. 21.

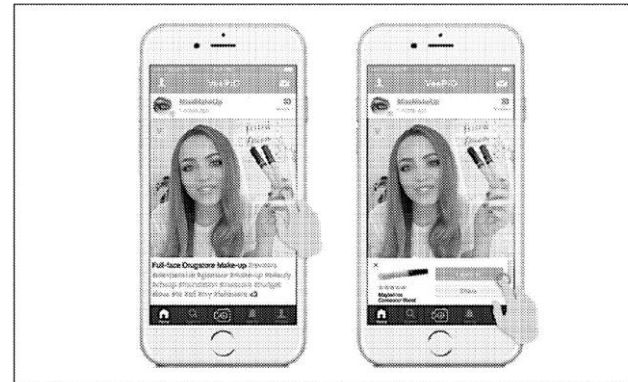
Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Fig. 23
"V"isibility



Ohliger at Fig. 23.

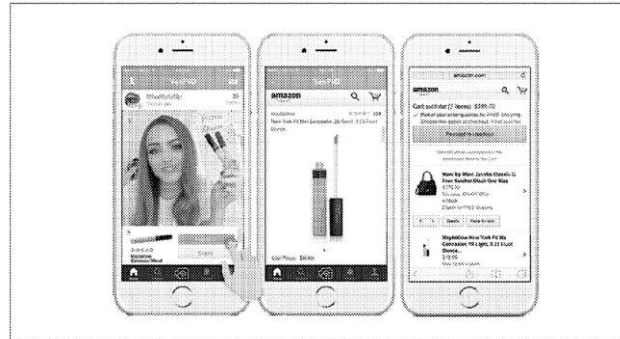
Fig. 24
I Want it!



Ohliger at Fig. 24.

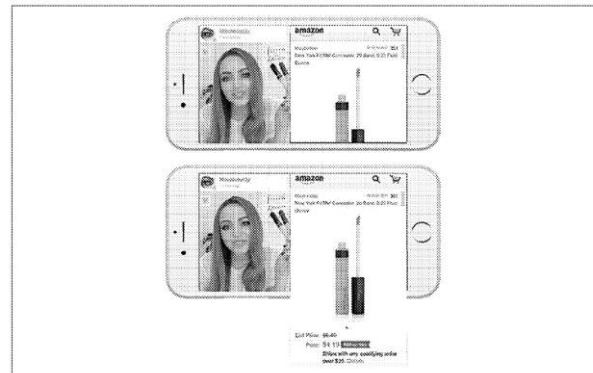
Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Fig. 25
I Want it! Continued



Ohliger at Fig. 25.

Fig. 28
Buy Via Split Screen



Ohliger at Fig. 28.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

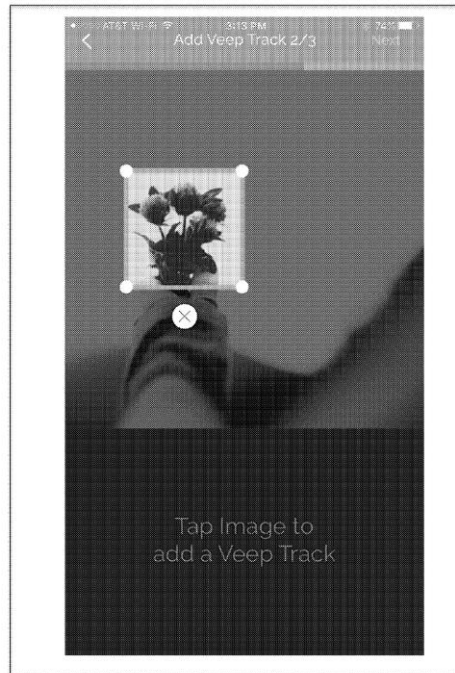


Fig. 38

Ohliger at Fig. 38.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

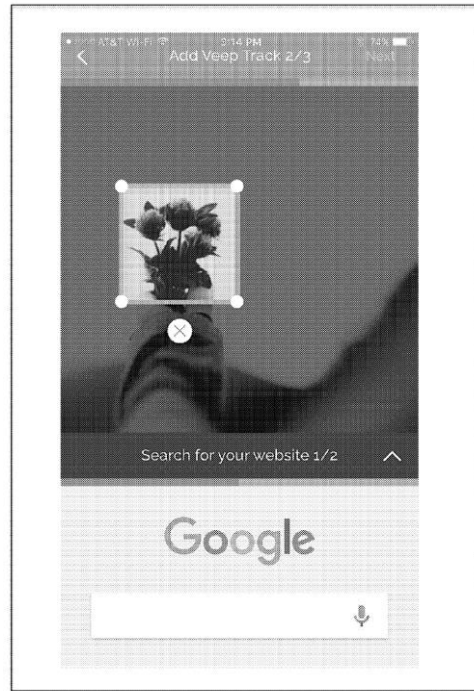


Fig. 39
Ohliger at Fig. 39.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

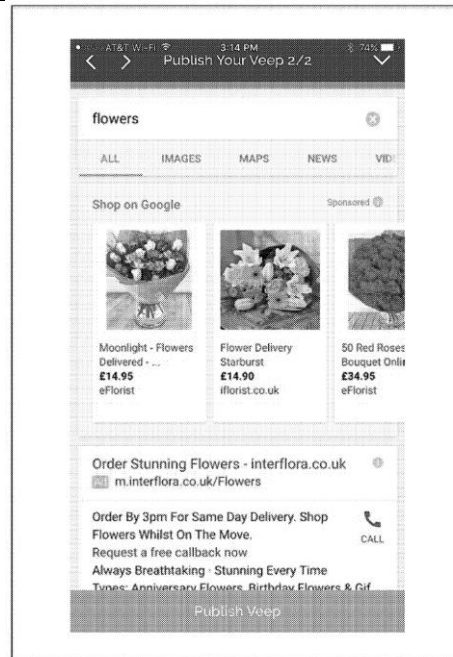


Fig. 41
Ohliger at Fig. 41.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

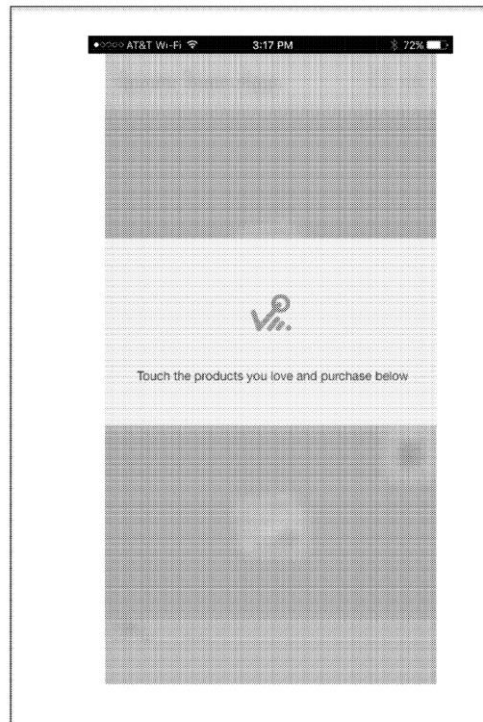


Fig. 46
'46 Patent at Fig. 46.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

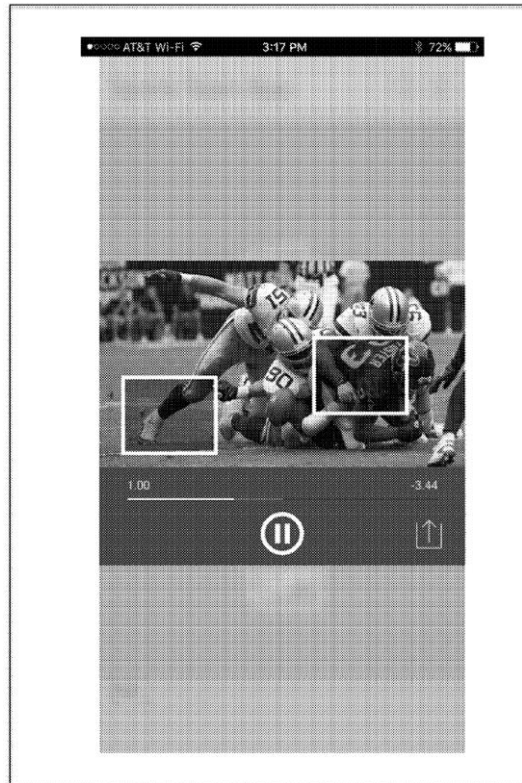


Fig. 48
Ohliger at Fig. 48.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

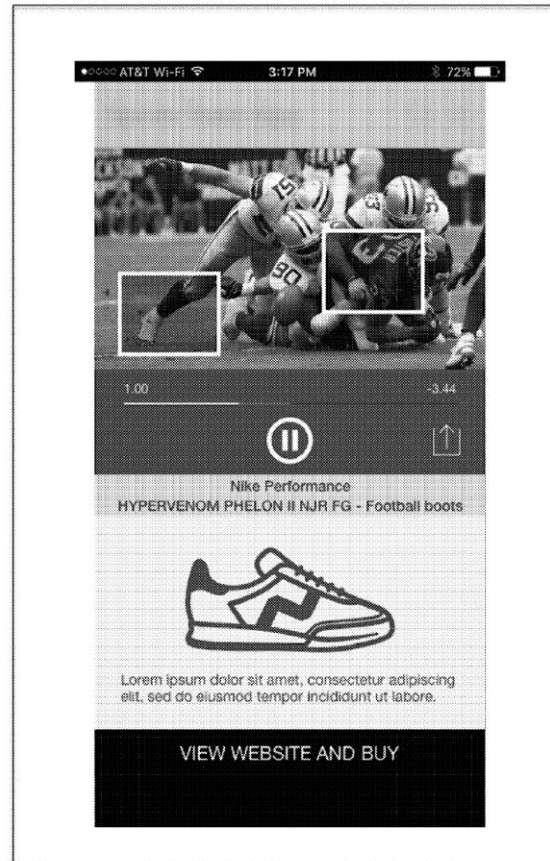


Fig. 49
Ohliger at Fig. 49.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger



Fig. 50

Ohliger at Fig. 50.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger



FIG. 53B

Ohliger at Fig. 53B.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

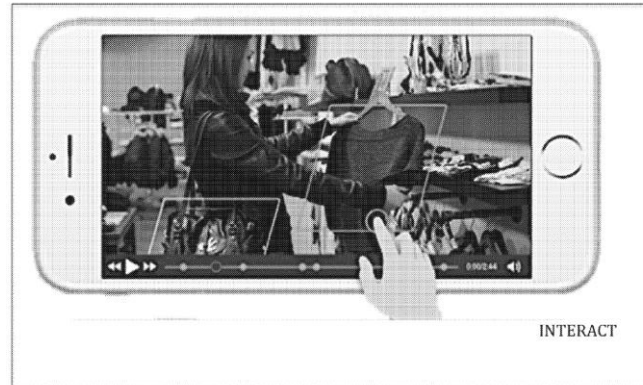


FIG. 53D

Ohliger at Fig. 53D.

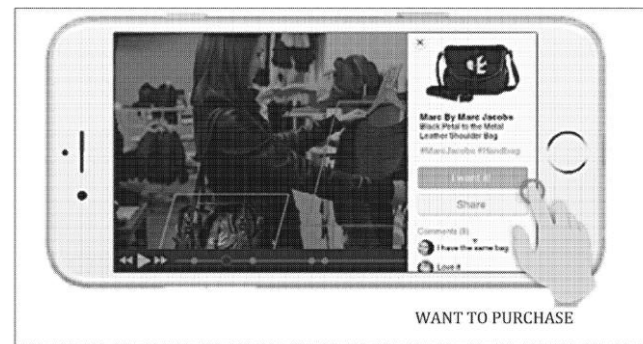


FIG. 53E

Ohliger at Fig. 53E.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		 <p style="text-align: center;">FIG. 53F</p> <p>Ohliger at Fig. 53F.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
12[pre]	The method of claim 1,	<p>To the extent the preamble is limiting, Ohliger discloses “The method of claim 1,” See e.g.:</p> <p><i>See claim 1, supra.</i></p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in</p>

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.
12[a]	wherein the video media includes one of a television episode or a movie.	<p>Ohliger discloses “wherein the video media includes one of a television episode or a movie.” See e.g.:</p> <p>“In one embodiment retailers/brands/affiliates/advertisers can upload a database of images, video objects or 2D/3D wire frames to find matches in movies across multiple databases. The retailer/brand/affiliate/advertiser then can select objects, target groups and viewing context to bid on.” Ohliger at 13:51-55.</p> <p>“Regardless of the starting point (manual or automated identification of objects, the end product is a database (video content inventory) 114 listing object id, frame id, coordinates of object and may include a semantic model for each identified object within a given media presentation (movie clip). This inventory 114 may be offered on a video object hyperlink exchange (VOHE) for retailers/brands/affiliates/advertisers to bid on.</p> <p>Retailers/brands/affiliates/advertisers will bid on inventory based on contextual information and multifaceted viewer profile of the viewer viewing the video content and the inventory description of the video.” Ohliger at 23:7-17.</p>

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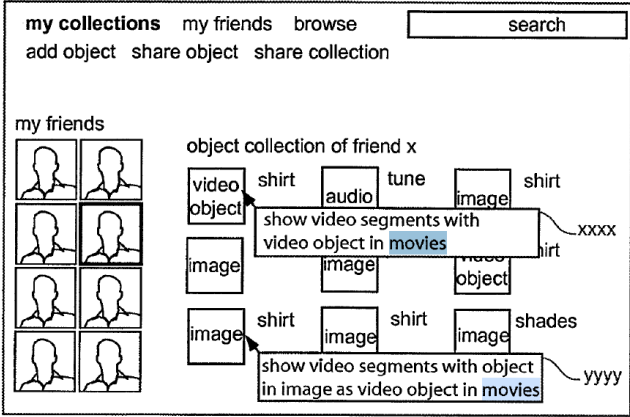
		 <p>FIG. 11A Ohliger at Fig. 11A.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
13[pre]	The method of claim 1,	<p>To the extent the preamble is limiting, Ohliger discloses “The method of claim 1,” See e.g.:</p> <p><i>See claim 1, supra.</i></p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the</p>

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.
13[a]	wherein the identifying one or more of the plurality of visual or audio objects is performed manually through input of spatial and/or temporal data for each of the one or more items, services, or songs of interest within the video media.	<p>Ohliger discloses “wherein the identifying one or more of the plurality of visual or audio objects is performed manually through input of spatial and/or temporal data for each of the one or more items, services, or songs of interest within the video media.” See e.g.:</p> <p>“One aspect of the invention relates to the creation of an inventory of video objects and corresponding region definition data. The video object inventory 114 is a database containing region definition data in form of pointers or references to video objects within video or animation files. Importantly, the region definition data is used to make the video interactive by providing the ability to link supplemental information with a specific video object within a video. For example, the video viewer can select a shirt displayed within the video and learn the brand and model of the shirt and other relevant information. Further, the viewer can also see comments, pictures, audio, and other content associated with the object by the creator of the video. The invention associates the relevant information with the video object thereby making the object a selectable hyperlink, meaning that the viewer can click or touch the object in any frame of the video in which the object appears and the related content will be revealed. In one embodiment of the invention, recognized video objects are represented by 3D vector graphics data such as wire frame models FIG. 8D. The representation is created by computing the difference between perspective views FIG. 8A-8C on the object and then specifying each edge of the physical object where two mathematically continuous smooth surfaces meet, or by connecting an object's constituent vertices using straight lines or curves. If not all views are available, then only a partial 3D model is created but completed once the missing views become available in additional videos. These 3D wireframe models may be used to improve the recognition of video objects but also may be used to represent the video objects as outlines of perspective views of the three-dimensional wireframe FIG. 8E. Such an</p>

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	<p>embodiment allows users to rotate the view of the video object once selected. Furthermore, this embodiment allows additional animated 3D objects to be placed in videos complementing or superimposing original video objects.” Ohliger at 9:24-60.</p> <p>“In steps 700 and 710 a video is segmented and classified using an automated or manual segmentation and classification application to create a list or table of objects. The segmentation process 700 yields a list of video objects throughout the video (including the temporal coordinates and region definition data for each object) and the classification process 710 matches occurrences of the same object in different frames of the video thereby eliminating duplication/redundancy. It should be noted that the location, size and shape of a video object can and usually will vary throughout a video. The size of an object varies depending on its proximity which will vary as the object moves throughout the video. Similarly, the shape of an object may vary depending on the perspective or vantage point from which it is seen, e.g. frontal view versus side view. Moreover, the system of the invention is able to segment, track and classify a moving object. Thus the location of the video object dynamically changes as the underlying object moves, which is represented in the region definition data.</p> <p>In step 720, the video objects are compared with objects in an object library, which may be 2D (two-dimensional) or 3D (three-dimensional) wire frame data representing objects within the video. Perspective views from such 2D/3D wire frame models may be advantageous to the automatic object recognition process. This step is optional. If a match is detected then the object is associated with the product description and/or meta-data from the object library. The unmatched video object may be discarded or subjected to a secondary processing application and/or an analyst may manually identify/configure the object boundaries (step 730), and then the object may be subject to another classification step (710) and/or another comparison with objects in the object library (720). The creator of the video can also choose which objects they want to make interactive (705) and they can identify those objects with a dynamic bounding area that will change size proportionate to the change in size of the object from frame to frame as it is tracked by an object tracking algorithm. The creator can also describe, comment</p>
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Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		<p>and add additional content to an object in the video that they have chosen to make interactive (715). This content will appear to a viewer when they interact with the bounding area around the object in any frame that the object appears by clicking, hovering over, or touching any point within the bounding area.” Ohliger at 11:52-12:28.</p> <p>“An inventory 114 of video objects is assembled by segmenting and classifying the raw video content from database 108 (or 102) to identify video objects therein. More particularly, the video content analysis application 106 segments the raw video content to yield a list of all the video objects in a given video. Then the video content analysis application 106 (which may be embodied in software or in a circuit, i.e. hardware or firmware) classifies the list of video objects to resolve occurrences of the same video object throughout the video. VOHE 300 may be provided with separate software applications for performing segmentation and classification, or a single software application may perform both segmentation and classification.” Ohliger at 16:19-31.</p> <p>“The video content analysis application 106 may access an object information library 112 which is a database stored on or accessible to server 300. For example, the object information library 112 may be stored on a memory device such as memory device 206 and/or RAM 210 used to store the program instructions for the video content analysis application 106. The library 112 stores images of objects from different viewing angles or 3D models of the objects. The image information may be used as the index or key to link descriptive information with the video object. The library 112 further contains one or more of an object identifier, label, and or meta-data description of the video object which may be used to describe the video content object to prospective bidders. Alternatively, the content analysis application 106 may utilize logic to identify video content objects without recourse to object information library 112. Applicant hereby incorporates by reference to U.S. Pat. No. 6,625,310 entitled “Video segmentation using statistical pixel modeling” which discloses one of many methods for segmenting video data into foreground and background portions which utilizes statistical modeling of the pixels. A statistical model of the</p>
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		<p>background is built for each pixel, and each pixel in an incoming video frame is compared with the background statistical model for that pixel. Pixels are determined to be foreground or background based on the comparisons.</p> <p>Applicant hereby incorporates by reference to U.S. Pat. No. 6,462,754 entitled “Method and apparatus for authoring and linking video documents” which discloses an authoring method for video documents, involves creating anchorable information unit file based on boundaries of objects of interest such that objects interest are used to identify portions of video data.</p> <p>Applicant hereby incorporates by reference to U.S. Pat. No. 7,325,245 entitled “Linking to video information” which discloses a system which enables dynamic linking between a variety of video formats including television broadcasts, web pages, and video displays which are stored on magnetic or optical media. Each frame of the video information is identified together with a plurality of locations within that frame. The locations selected by the user, for example using a pointing device, are then used to access associated information either within the system itself or on an external system.</p> <p>U.S. Patent Publication 2008/0294694 (Maghfourian) entitled “Method, apparatus, system, medium, and signals for producing interactive video content,” which is incorporated herein by reference, discloses a method for producing interactive video content on a content publisher computer. The method involves associating indicia with at least one image portion in the video content, the indicia being operably configured to follow the at least one image portion as a display position of the image portion changes in the video content. The method also involves associating an image portion identifier with the indicia, and associating link properties with the indicia, the link properties being operable to cause transmission of a content location request to a registration server in response to selection of the indicia by a viewer of the interactive video content. The content location request includes the image portion identifier.</p> <p>In case of a manual or semi-automated process, the inventory 114 may be created by the content analysis application 106 with the assistance and/or review of a human analyst 110 who may be the creator of the video. The analyst 110 may manually identify a given instance of a video object by, for example, viewing a still image of the video and tracing the video object (manual process), and then</p>
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Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

	<p>utilize the content analysis application 106 (semi-automated process) to identify other occurrences of the video object in the video. Additionally or alternatively, an analyst 110 may review and refine the boundaries of an unmatched video object, and then subject the object to a second round of classification and/or second round of matching the object with objects in the object library. Alternatively, the analyst 110 may review and edit objects which were automatically identified by the content analysis application 106.” Ohliger at 17:27-18:38.</p> <p>“According to another embodiment, the system for automatically segmenting and classifying video content into objects includes a server such as server 300 including a computer connectable to a distributed network and having a processor, random access memory, read-only memory, and mass storage memory, the video segmenting and classification server including one or more video files stored in a video database. The system includes a wireframe database stored on or accessible to the server. The wire frame database stores three-dimensional wireframe representations of at least one video object and at least one of descriptive information and semantic information used to describe the object. The descriptive information and semantic information is the same information described elsewhere in this disclosure in the context of segmenting and classifying video objects. The system further includes an object inventory database containing information describing a location of at least one video object within one of the video files. A video content analysis application executed on the processor, segments the video files to identify locations of video objects. The application searches for a matching (corresponding) occurrence of the video object in the wireframe database. For each match, the application retrieves information describing the video object from the wireframe database, and stores in the object inventory database 112 information describing the dynamic location of the video object within the video and information describing the video object.” Ohliger at 21:17-44.</p> <p>“a. Instagram Embodiment: Steps of a Manual Process (Performed by Content Owner (Content Provider))</p>
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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		<p>i. Place finger or pointer on an object in the Instagram image and indicate that you wish “track” the object.</p> <p>ii. In a separate window, a search engine opens up and the content owner manually enters search terms to attempt to locate the object at an e-commerce site (e.g., AMAZON®, Lands End®).</p> <p>iii. If the object is located in the search results, the content owner navigates to the site in the search results hit. The URL of the search results hit (typically a very long string of characters) appears in the location bar, as is well-known. For example, here is the URL of CREST Whitestrips on Amazon.com: http://www.amazon.com/Crest-White-Whitestrips-Professional-Effects/dp/B00336EUTK</p> <p>iv. The content owner associates the URL with the tracked object in the image. The link itself is not shown in the image.</p> <p>v. A database associated with the Veepio platform maintains an association with the tracked object in the content owner's image and the URL. This database record is unique to the user's image (“personalized object”). The database record may also include additional description added by the user about the object, as well as a social media feed regarding the object in the user's image.</p> <p>After completion of these steps, a subsequent viewer of the Instagram image will be provided with a visual cue that one or more objects in the image are clickable. If clicked, a browser is opened that automatically navigates to the previously stored URL of the e-commerce site so that the items can be purchased, and the viewer may also see whatever user description or social media feed may exist for the tracked object. (The URL is not viewable within the image.)” Ohliger at 36:40-37:6.</p> <p>“b. Instagram Embodiment: Steps of an Automated Process</p> <p>i. The content owner indicates that they want to “track” the objects in an Instagram image that is on the display by selecting an “auto-track” option.</p> <p>ii. The Instagram image is uploaded to Veepio's platform and an auto-recognition process identifies all of the objects in the image that match objects in the platform's library.</p>
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Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

	<p>iii. The content owner is presented with a list of the objects and selects the objects that they wish to “track” for their Instagram image.</p> <p>iv. (same as step v. above) A database associated with the Veepio platform maintains an association with the tracked object(s) in the content owner's image and the URL. This database record is unique to the content owner's image (“personalized object”). The database record may also include additional description added by the content owner about the object(s), as well as a social media feed regarding the object(s) in the content owner's image.</p> <p>In both manual and automated embodiments, the content owner receives a portion of the proceeds of any e-commerce purchase.</p> <p>In both embodiments, a cookie travels with the link to the e-commerce site. As known in the art, e-commerce sites that employ affiliate marketing programs use a cookie of the last place that a person navigated to so as to identify where a potential purchaser came from. Since the viewer is inside of the VEEPIO app, the cookie is used to identify that the purchaser was referred by VEEPIO. VEEPIO has an omnibus account for use with the e-commerce sites and each VEEPIO content owner has a sub-account within the omnibus account for crediting to the content owners of any monetization that may result from the e-commerce activity.” Ohliger at 37:37-38:3.</p> <p>“The same manual and automated processes occur as described above. Once an object is identified, it is followed (tracked) throughout the video.</p> <p>In the manual process, the content owner freeze-frames the video and identifies the object(s). Backward tracking also occurs so the object(s) are tracked and clickable in previous video frames that contain the object(s). “Key frames” are referred to herein as the frames that the object is in.</p> <p>2. Object Warehouse</p> <p>This is the database discussed above that is associated with the Veepio platform. It maintains an association with all tracked objects in the content owner's images/video. Each database record is unique to the content owner's image or video (“personalized object”). The database record may also include additional description added by the content owner about the object, as well as a social media feed regarding the object in the content owner's image or video. If the same object</p>
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Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

appears in a different image or video, it is maintained in a different database record and has its own content owner description and social media feed.” Ohliger at 38:5-27.

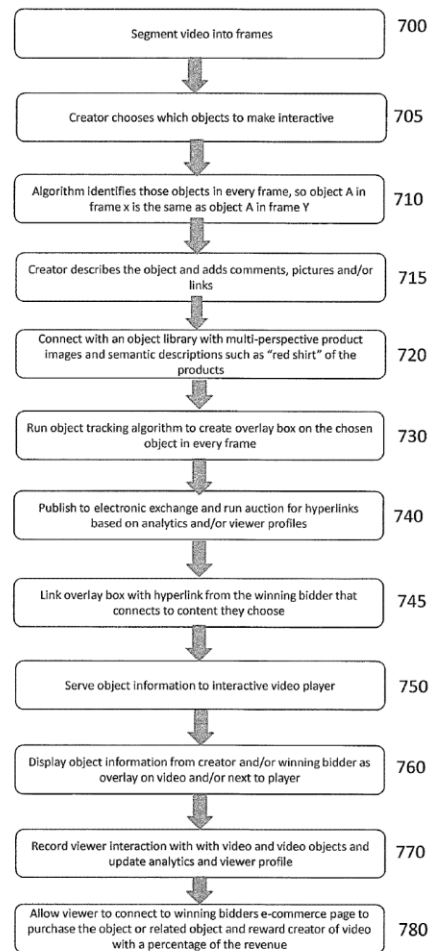


Fig. 1

Ohliger at Fig. 1.

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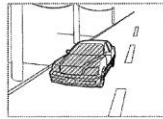


FIG. 8A

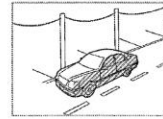


FIG. 8B

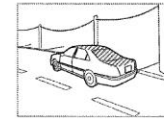


FIG. 8C

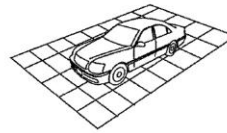


FIG. 8D

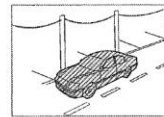


FIG. 8E

Ohliger at Fig. 8A-E.

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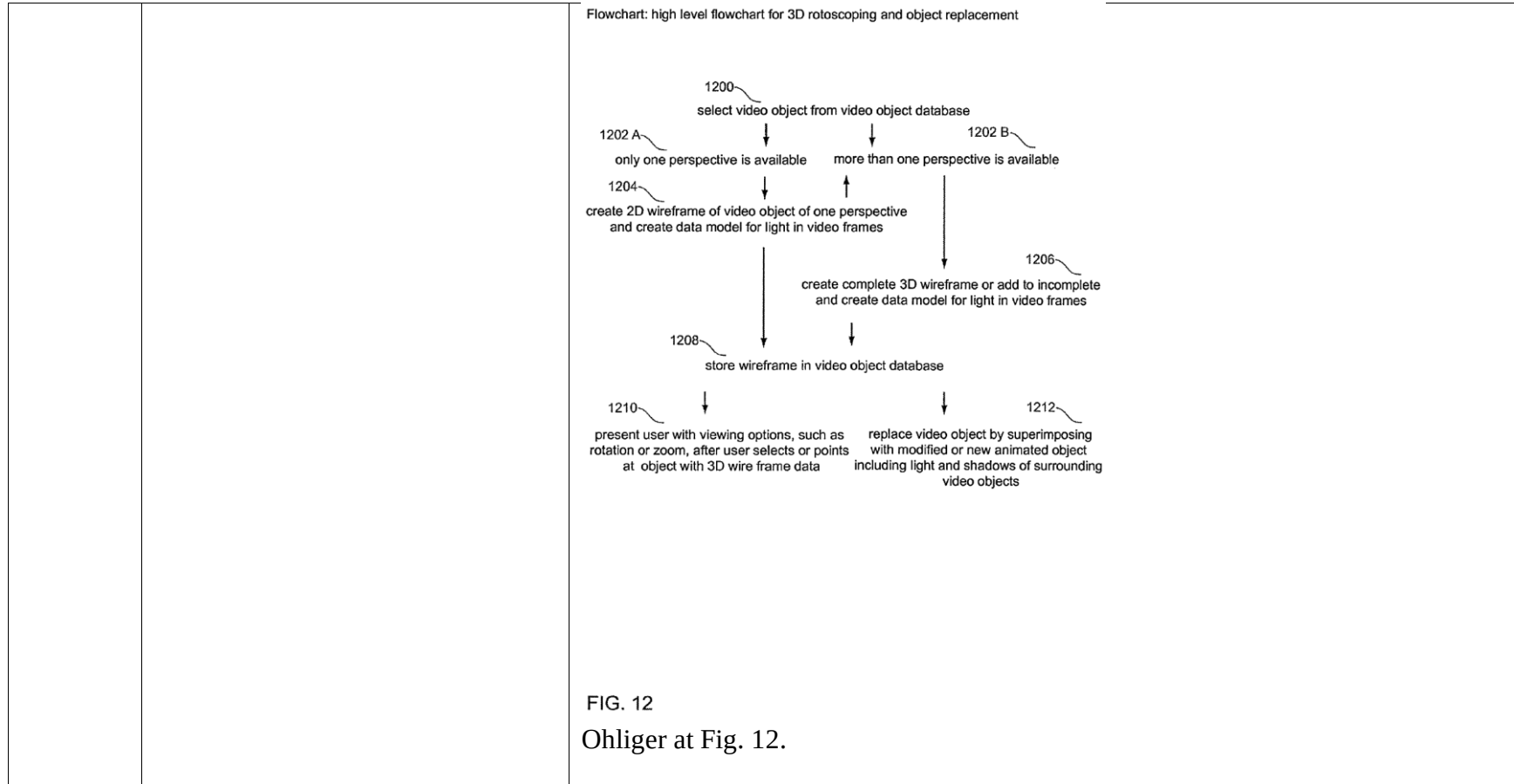


Exhibit 316-A13
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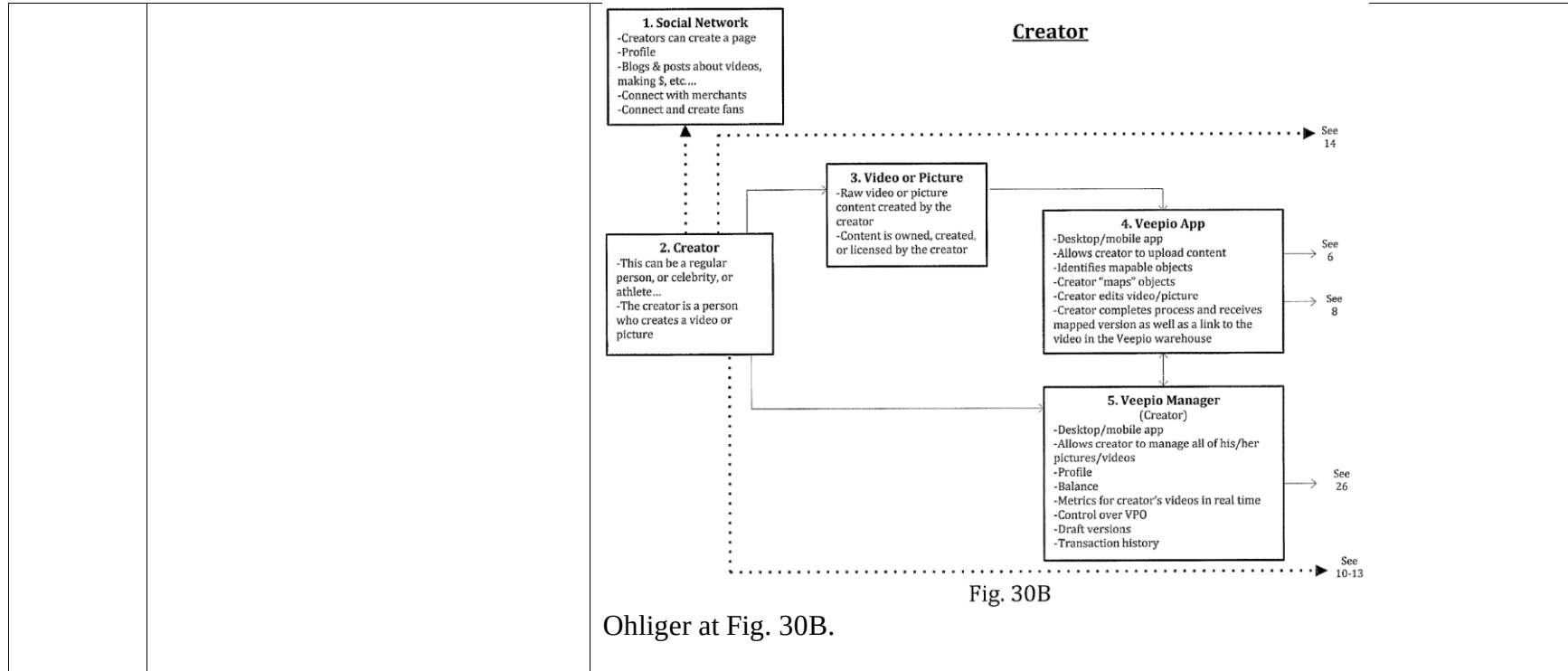
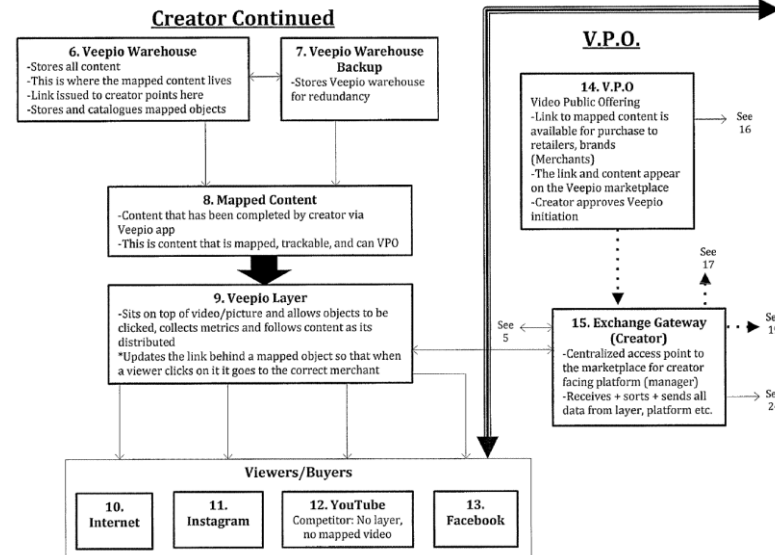


Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

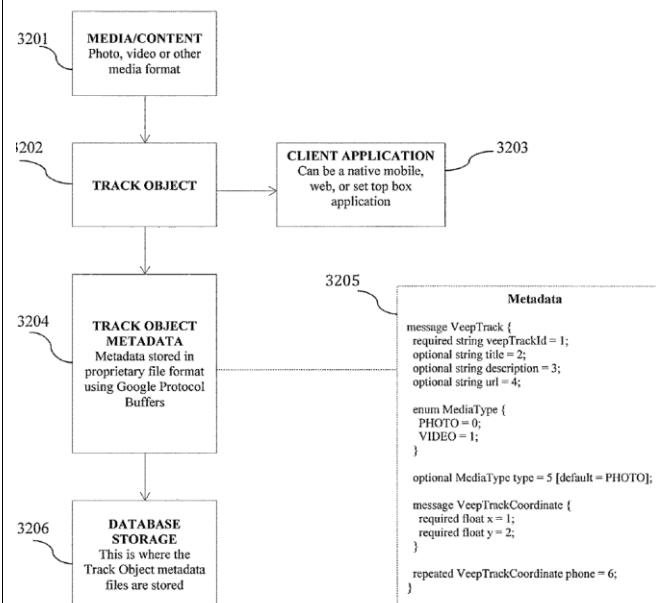


Ohliger at Fig. 30C.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

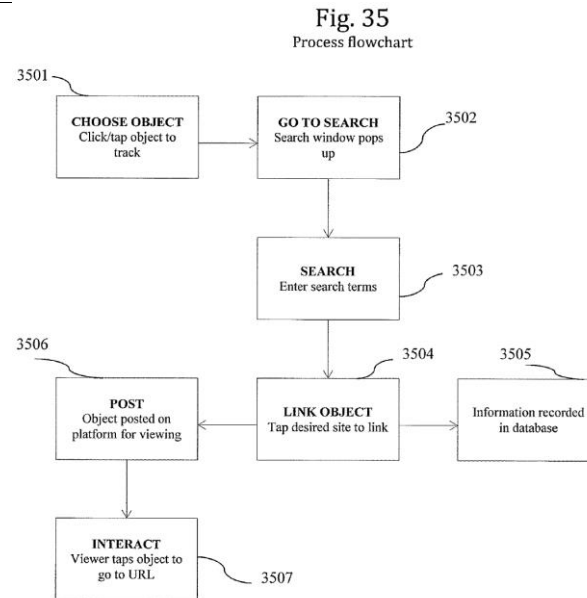
Fig. 32

"Track" Feature



Ohliger at Fig. 32.

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Ohliger at Fig. 35.



Fig. 18
Shop VeePiO

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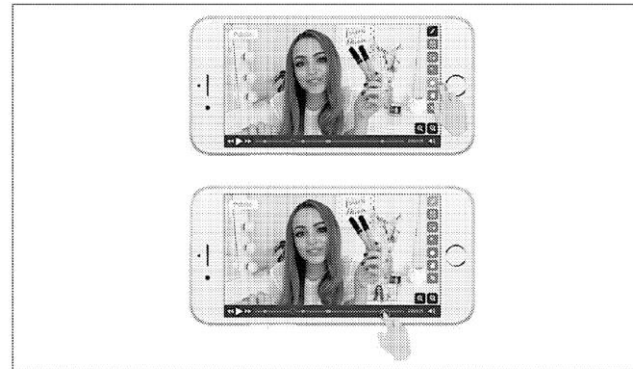
Ohliger at Fig. 18.

Fig. 20
How to Veep



Ohliger at Fig. 20.

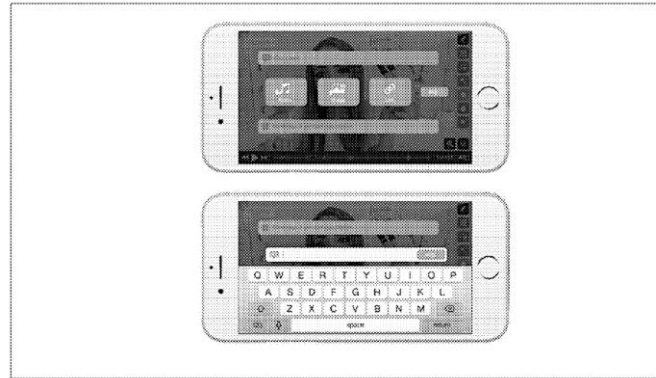
Fig. 21
Veep Editing Room



Ohliger at Fig. 21.

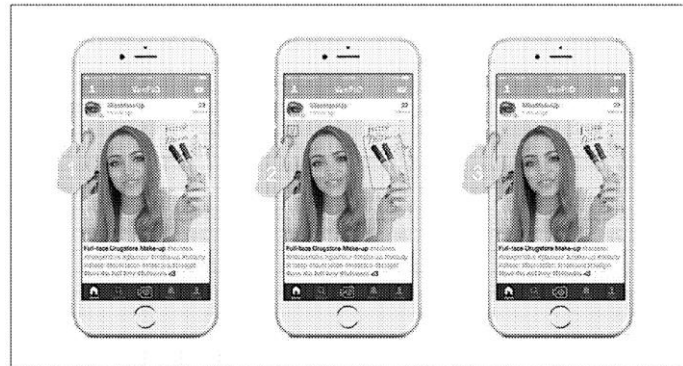
Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Fig. 22
Object Details



Ohliger at Fig. 21.

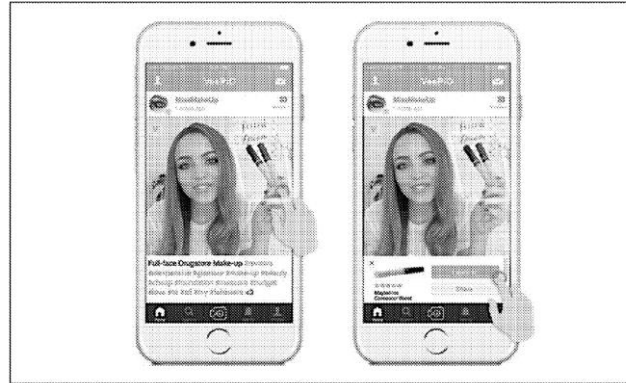
Fig. 23
"V"isibility



Ohliger at Fig. 23.

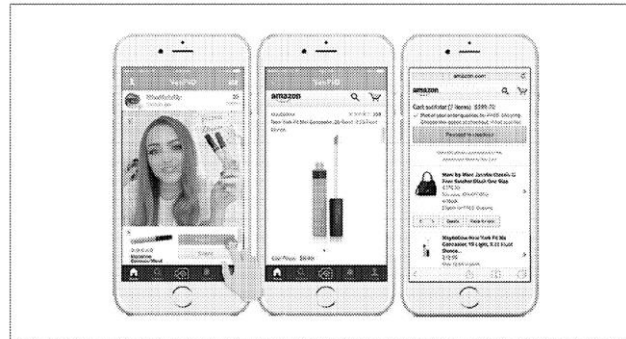
Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Fig. 24
I Want it!



Ohliger at Fig. 24.

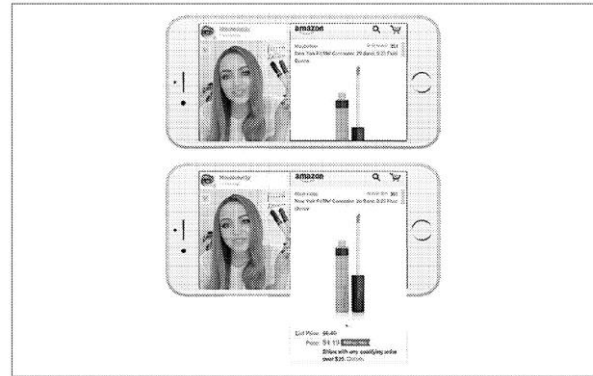
Fig. 25
I Want it! Continued



Ohliger at Fig. 25.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Fig. 28
Buy Via Split Screen



Ohliger at Fig. 28.

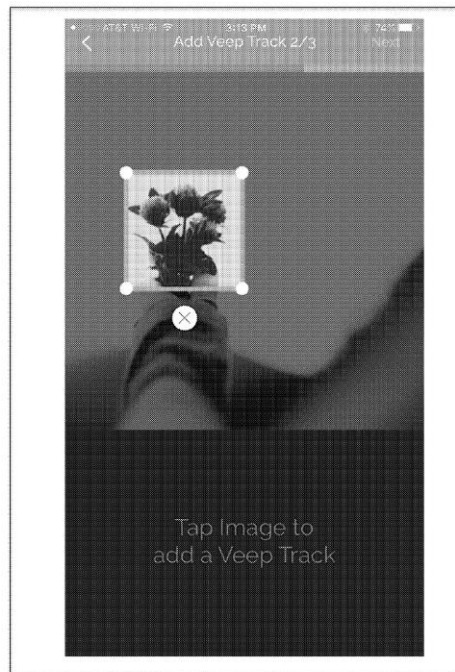


Fig. 38

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Ohliger at Fig. 38.

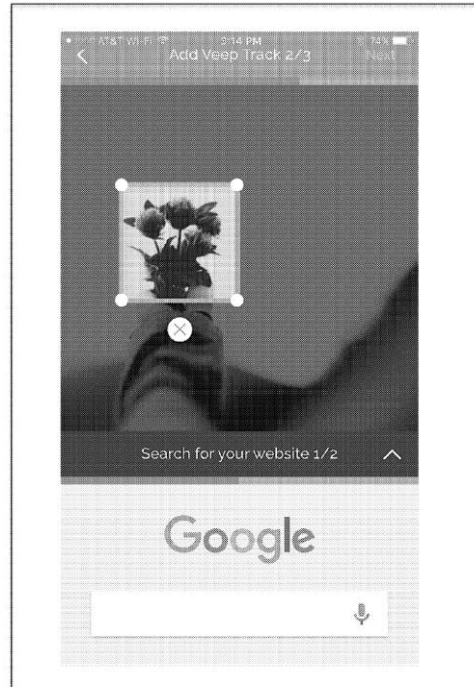


Fig. 39

Ohliger at Fig. 39.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

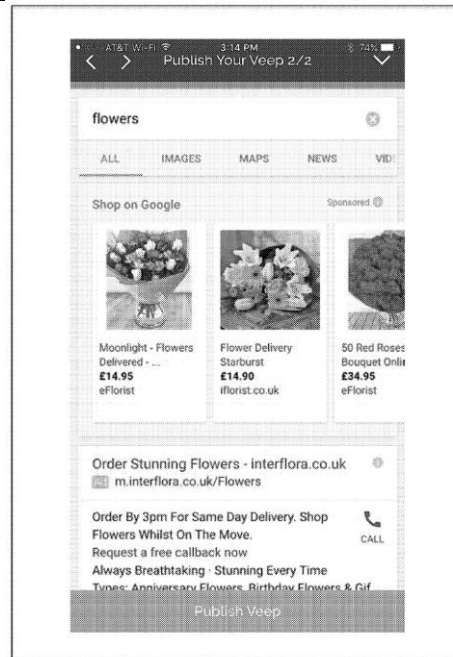


Fig. 41
Ohliger at Fig. 41.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

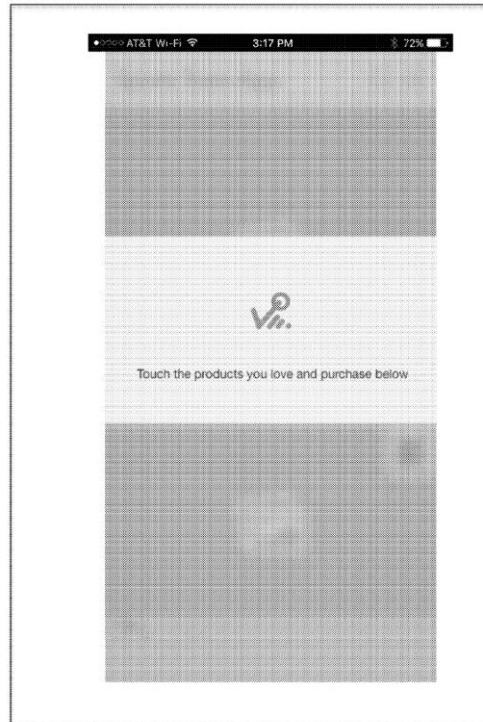


Fig. 46
'46 Patent at Fig. 46.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

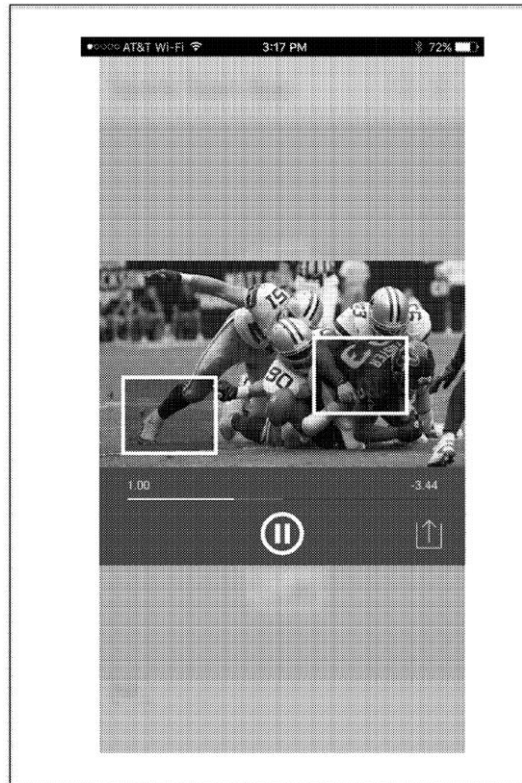


Fig. 48
Ohliger at Fig. 48.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

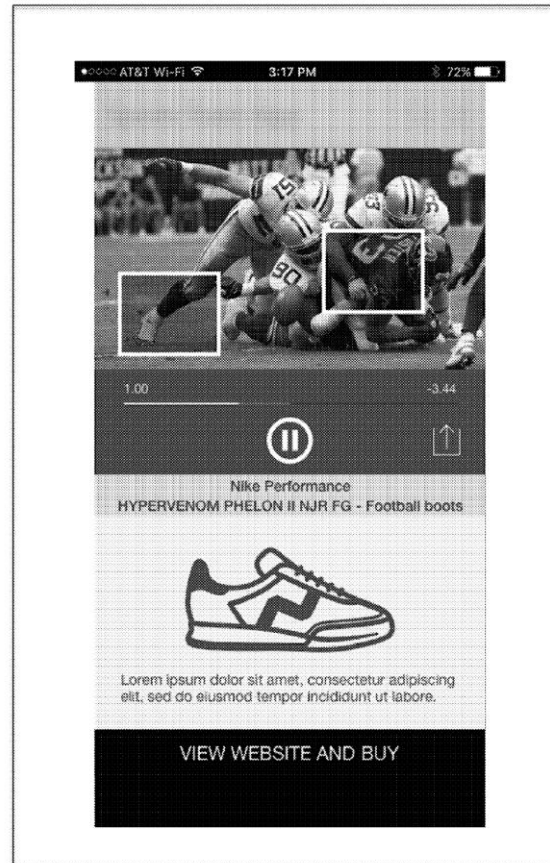


Fig. 49
Ohliger at Fig. 49.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger



Fig. 50

Ohliger at Fig. 50.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger



FIG. 53B

Ohliger at Fig. 53B.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

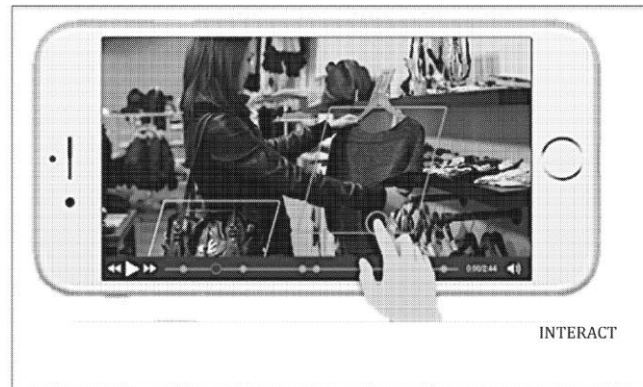


FIG. 53D

Ohliger at Fig. 53D.



FIG. 53E

Ohliger at Fig. 53E.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		 <p style="text-align: center;">FIG. 53F</p> <p>Ohliger at Fig. 53F.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
14[pre]	The method of claim 1,	<p>To the extent the preamble is limiting, Ohliger discloses “The method of claim 1,” See e.g.:</p> <p><i>See claim 1, supra.</i></p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in</p>

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.
14[a]	wherein identifying one or more of the plurality of visual or audio objects is performed automatically by a computer program for visual and/or audio recognition and mapping.	<p>Ohliger discloses “wherein identifying one or more of the plurality of visual or audio objects is performed automatically by a computer program for visual and/or audio recognition and mapping.” See e.g.:</p> <p>“One aspect of the invention relates to the creation of an inventory of video objects and corresponding region definition data. The video object inventory 114 is a database containing region definition data in form of pointers or references to video objects within video or animation files. Importantly, the region definition data is used to make the video interactive by providing the ability to link supplemental information with a specific video object within a video. For example, the video viewer can select a shirt displayed within the video and learn the brand and model of the shirt and other relevant information. Further, the viewer can also see comments, pictures, audio, and other content associated with the object by the creator of the video. The invention associates the relevant information with the video object thereby making the object a selectable hyperlink, meaning that the viewer can click or touch the object in any frame of the video in which the object appears and the related content will be revealed. In one embodiment of the invention, recognized video objects are represented by 3D vector graphics data such as wire frame models FIG. 8D. The representation is created by computing the difference between perspective views FIG. 8A-8C on the object and then specifying each edge of the physical object where two mathematically continuous smooth surfaces meet, or by connecting an object's constituent vertices using straight lines or curves. If not all views are available, then only a partial 3D model is created but completed once the missing views become available in additional videos. These 3D wireframe models may be used to improve the recognition of video objects but also may be used to represent the video objects as outlines of</p>

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		<p>perspective views of the three-dimensional wireframe FIG. 8E. Such an embodiment allows users to rotate the view of the video object once selected. Furthermore, this embodiment allows additional animated 3D objects to be placed in videos complementing or superimposing original video objects.” Ohliger at 9:24-60.</p> <p>“In steps 700 and 710 a video is segmented and classified using an automated or manual segmentation and classification application to create a list or table of objects. The segmentation process 700 yields a list of video objects throughout the video (including the temporal coordinates and region definition date for each object) and the classification process 710 matches occurrences of the same object in different frames of the video thereby eliminating duplication/redundancy. It should be noted that the location, size and shape of a video object can and usually will vary throughout a video. The size of an object varies depending on its proximity which will vary as the object moves throughout the video. Similarly, the shape of an object may vary depending on the perspective or vantage point from which it is seen, e.g. frontal view versus side view. Moreover, the system of the invention is able to segment, track and classify a moving object. Thus the location of the video object dynamically changes as the underlying object moves, which is represented in the region definition data.</p> <p>In step 720, the video objects are compared with objects in an object library, which may be 2D (two-dimensional) or 3D (three-dimensional) wire frame data representing objects within the video. Perspective views from such 2D/3D wire frame models may be advantageous to the automatic object recognition process. This step is optional. If a match is detected then the object is associated with the product description and/or meta-data from the object library. The unmatched video object may be discarded or subjected to a secondary processing application and/or an analyst may manually identify/configure the object boundaries (step 730), and then the object may be subject to another classification step (710) and/or another comparison with objects in the object library (720). The creator of the video can also choose which objects they want to make interactive (705) and they can identify those objects with a dynamic bounding area that will change size proportionate to the change in size of the object from frame to frame as it is</p>
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Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

	<p>tracked by an object tracking algorithm. The creator can also describe, comment and add additional content to an object in the video that they have chosen to make interactive (715). This content will appear to a viewer when they interact with the bounding area around the object in any frame that the object appears by clicking, hovering over, or touching any point within the bounding area.” Ohliger at 11:52-12:28.</p> <p>“An inventory 114 of video objects is assembled by segmenting and classifying the raw video content from database 108 (or 102) to identify video objects therein. More particularly, the video content analysis application 106 segments the raw video content to yield a list of all the video objects in a given video. Then the video content analysis application 106 (which may be embodied in software or in a circuit, i.e. hardware or firmware) classifies the list of video objects to resolve occurrences of the same video object throughout the video. VOHE 300 may be provided with separate software applications for performing segmentation and classification, or a single software application may perform both segmentation and classification.” Ohliger at 16:19-31.</p> <p>“The video content analysis application 106 may access an object information library 112 which is a database stored on or accessible to server 300. For example, the object information library 112 may be stored on a memory device such as memory device 206 and/or RAM 210 used to store the program instructions for the video content analysis application 106. The library 112 stores images of objects from different viewing angles or 3D models of the objects. The image information may be used as the index or key to link descriptive information with the video object. The library 112 further contains one or more of an object identifier, label, and or meta-data description of the video object which may be used to describe the video content object to prospective bidders.</p> <p>Alternatively, the content analysis application 106 may utilize logic to identify video content objects without recourse to object information library 112.</p> <p>Applicant hereby incorporates by reference to U.S. Pat. No. 6,625,310 entitled “Video segmentation using statistical pixel modeling” which discloses one of many methods for segmenting video data into foreground and background</p>
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Exhibit 316-A13
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	<p>portions which utilizes statistical modeling of the pixels. A statistical model of the background is built for each pixel, and each pixel in an incoming video frame is compared with the background statistical model for that pixel. Pixels are determined to be foreground or background based on the comparisons.</p> <p>Applicant hereby incorporates by reference to U.S. Pat. No. 6,462,754 entitled “Method and apparatus for authoring and linking video documents” which discloses an authoring method for video documents, involves creating anchorable information unit file based on boundaries of objects of interest such that objects interest are used to identify portions of video data.</p> <p>Applicant hereby incorporates by reference to U.S. Pat. No. 7,325,245 entitled “Linking to video information” which discloses a system which enables dynamic linking between a variety of video formats including television broadcasts, web pages, and video displays which are stored on magnetic or optical media. Each frame of the video information is identified together with a plurality of locations within that frame. The locations selected by the user, for example using a pointing device, are then used to access associated information either within the system itself or on an external system.</p> <p>U.S. Patent Publication 2008/0294694 (Maghfourian) entitled “Method, apparatus, system, medium, and signals for producing interactive video content,” which is incorporated herein by reference, discloses a method for producing interactive video content on a content publisher computer. The method involves associating indicia with at least one image portion in the video content, the indicia being operably configured to follow the at least one image portion as a display position of the image portion changes in the video content. The method also involves associating an image portion identifier with the indicia, and associating link properties with the indicia, the link properties being operable to cause transmission of a content location request to a registration server in response to selection of the indicia by a viewer of the interactive video content. The content location request includes the image portion identifier.</p> <p>In case of a manual or semi-automated process, the inventory 114 may be created by the content analysis application 106 with the assistance and/or review of a human analyst 110 who may be the creator of the video. The analyst 110 may manually identify a given instance of a video object by, for example, viewing a</p>
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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		<p>still image of the video and tracing the video object (manual process), and then utilize the content analysis application 106 (semi-automated process) to identify other occurrences of the video object in the video. Additionally or alternatively, an analyst 110 may review and refine the boundaries of an unmatched video object, and then subject the object to a second round of classification and/or second round of matching the object with objects in the object library. Alternatively, the analyst 110 may review and edit objects which were automatically identified by the content analysis application 106.” Ohliger at 17:27-18:38.</p> <p>“According to another embodiment, the system for automatically segmenting and classifying video content into objects includes a server such as server 300 including a computer connectable to a distributed network and having a processor, random access memory, read-only memory, and mass storage memory, the video segmenting and classification server including one or more video files stored in a video database. The system includes a wireframe database stored on or accessible to the server. The wire frame database stores three-dimensional wireframe representations of at least one video object and at least one of descriptive information and semantic information used to describe the object. The descriptive information and semantic information is the same information described elsewhere in this disclosure in the context of segmenting and classifying video objects. The system further includes an object inventory database containing information describing a location of at least one video object within one of the video files. A video content analysis application executed on the processor, segments the video files to identify locations of video objects. The application searches for a matching (corresponding) occurrence of the video object in the wireframe database. For each match, the application retrieves information describing the video object from the wireframe database, and stores in the object inventory database 112 information describing the dynamic location of the video object within the video and information describing the video object.” Ohliger at 21:17-44.</p>
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		<p>“a. Instagram Embodiment: Steps of a Manual Process (Performed by Content Owner (Content Provider))</p> <p>i. Place finger or pointer on an object in the Instagram image and indicate that you wish “track” the object.</p> <p>ii. In a separate window, a search engine opens up and the content owner manually enters search terms to attempt to locate the object at an e-commerce site (e.g., AMAZON®, Lands End®).</p> <p>iii. If the object is located in the search results, the content owner navigates to the site in the search results hit. The URL of the search results hit (typically a very long string of characters) appears in the location bar, as is well-known. For example, here is the URL of CREST Whitestrips on Amazon.com: http://www.amazon.com/Crest-White-Whitestrips-Professional-Effects/dp/B00336EUTK</p> <p>iv. The content owner associates the URL with the tracked object in the image. The link itself is not shown in the image.</p> <p>v. A database associated with the Veepio platform maintains an association with the tracked object in the content owner's image and the URL. This database record is unique to the user's image (“personalized object”). The database record may also include additional description added by the user about the object, as well as a social media feed regarding the object in the user's image.</p> <p>After completion of these steps, a subsequent viewer of the Instagram image will be provided with a visual cue that one or more objects in the image are clickable. If clicked, a browser is opened that automatically navigates to the previously stored URL of the e-commerce site so that the items can be purchased, and the viewer may also see whatever user description or social media feed may exist for the tracked object. (The URL is not viewable within the image.)” Ohliger at 36:40-37:6.</p> <p>“b. Instagram Embodiment: Steps of an Automated Process</p> <p>i. The content owner indicates that they want to “track” the objects in an Instagram image that is on the display by selecting an “auto-track” option.</p>
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Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		<p>ii. The Instagram image is uploaded to Veepio's platform and an auto-recognition process identifies all of the objects in the image that match objects in the platform's library.</p> <p>iii. The content owner is presented with a list of the objects and selects the objects that they wish to “track” for their Instagram image.</p> <p>iv. (same as step v. above) A database associated with the Veepio platform maintains an association with the tracked object(s) in the content owner's image and the URL. This database record is unique to the content owner's image (“personalized object”). The database record may also include additional description added by the content owner about the object(s), as well as a social media feed regarding the object(s) in the content owner's image.</p> <p>In both manual and automated embodiments, the content owner receives a portion of the proceeds of any e-commerce purchase.</p> <p>In both embodiments, a cookie travels with the link to the e-commerce site. As known in the art, e-commerce sites that employ affiliate marketing programs use a cookie of the last place that a person navigated to so as to identify where a potential purchaser came from. Since the viewer is inside of the VEEPIO app, the cookie is used to identify that the purchaser was referred by VEEPIO. VEEPIO has an omnibus account for use with the e-commerce sites and each VEEPIO content owner has a sub-account within the omnibus account for crediting to the content owners of any monetization that may result from the e-commerce activity.” Ohliger at 37:37-38:3.</p> <p>“The same manual and automated processes occur as described above. Once an object is identified, it is followed (tracked) throughout the video.</p> <p>In the manual process, the content owner freeze-frames the video and identifies the object(s). Backward tracking also occurs so the object(s) are tracked and clickable in previous video frames that contain the object(s). “Key frames” are referred to herein as the frames that the object is in.</p> <p>2. Object Warehouse</p> <p>This is the database discussed above that is associated with the Veepio platform. It maintains an association with all tracked objects in the content owner's images/video. Each database record is unique to the content owner's image or</p>
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Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

video (“personalized object”). The database record may also include additional description added by the content owner about the object, as well as a social media feed regarding the object in the content owner's image or video. If the same object appears in a different image or video, it is maintained in a different database record and has its own content owner description and social media feed.” Ohliger at 38:5-27.

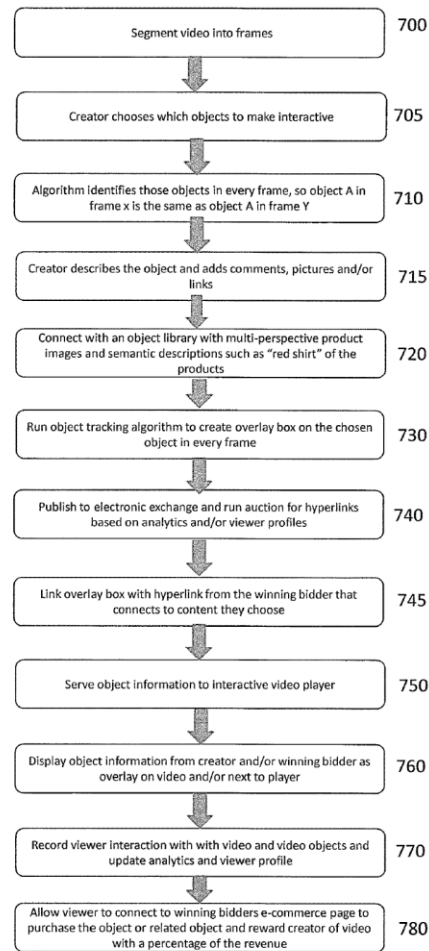


Fig. 1

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Ohliger at Fig. 1.

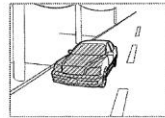


FIG. 8A

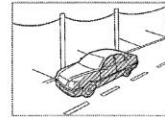


FIG. 8B

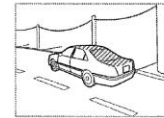


FIG. 8C

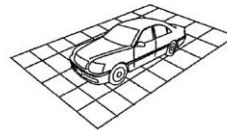


FIG. 8D

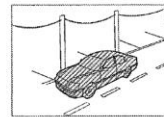


FIG. 8E

Ohliger at Fig. 8A-E.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

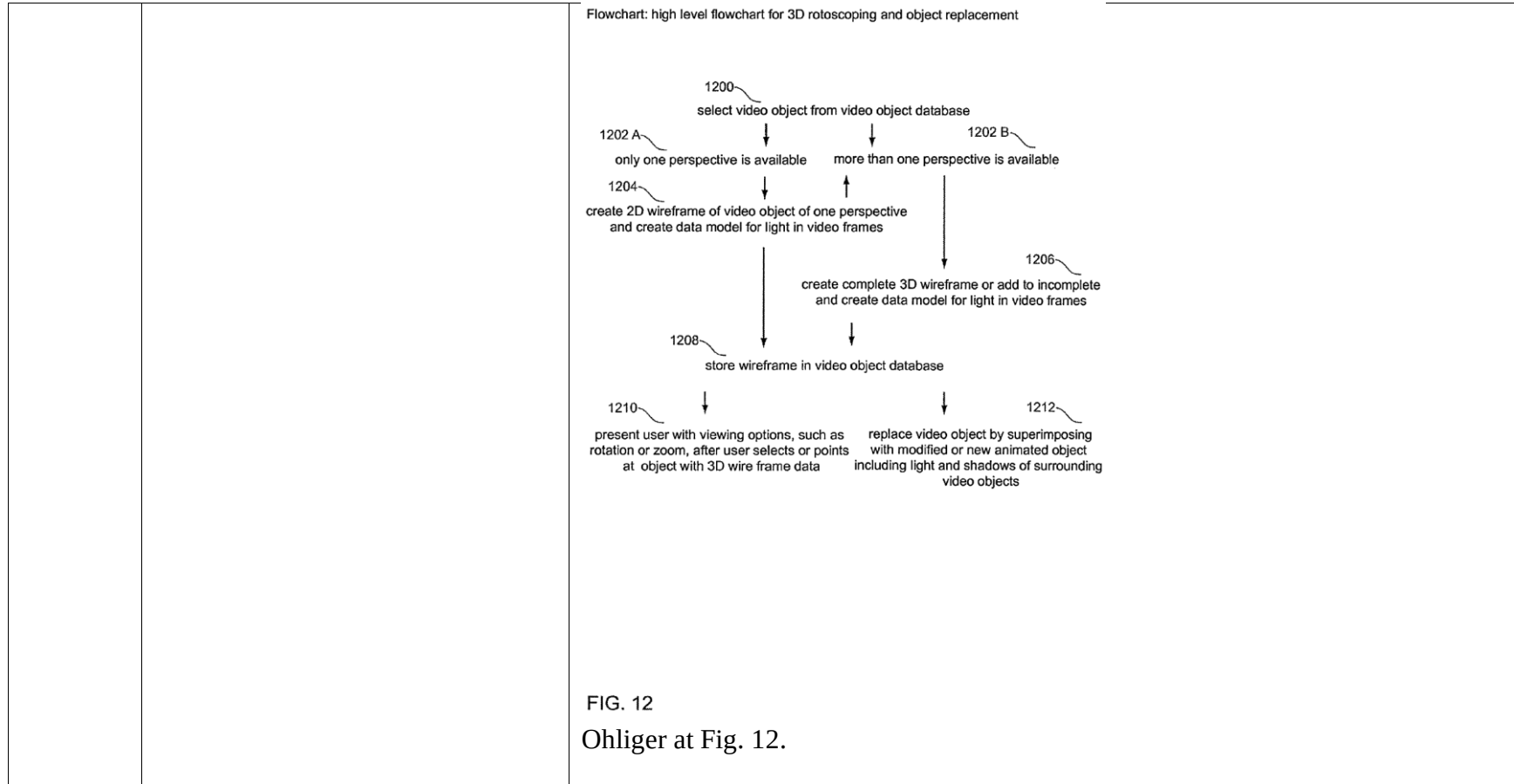


Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

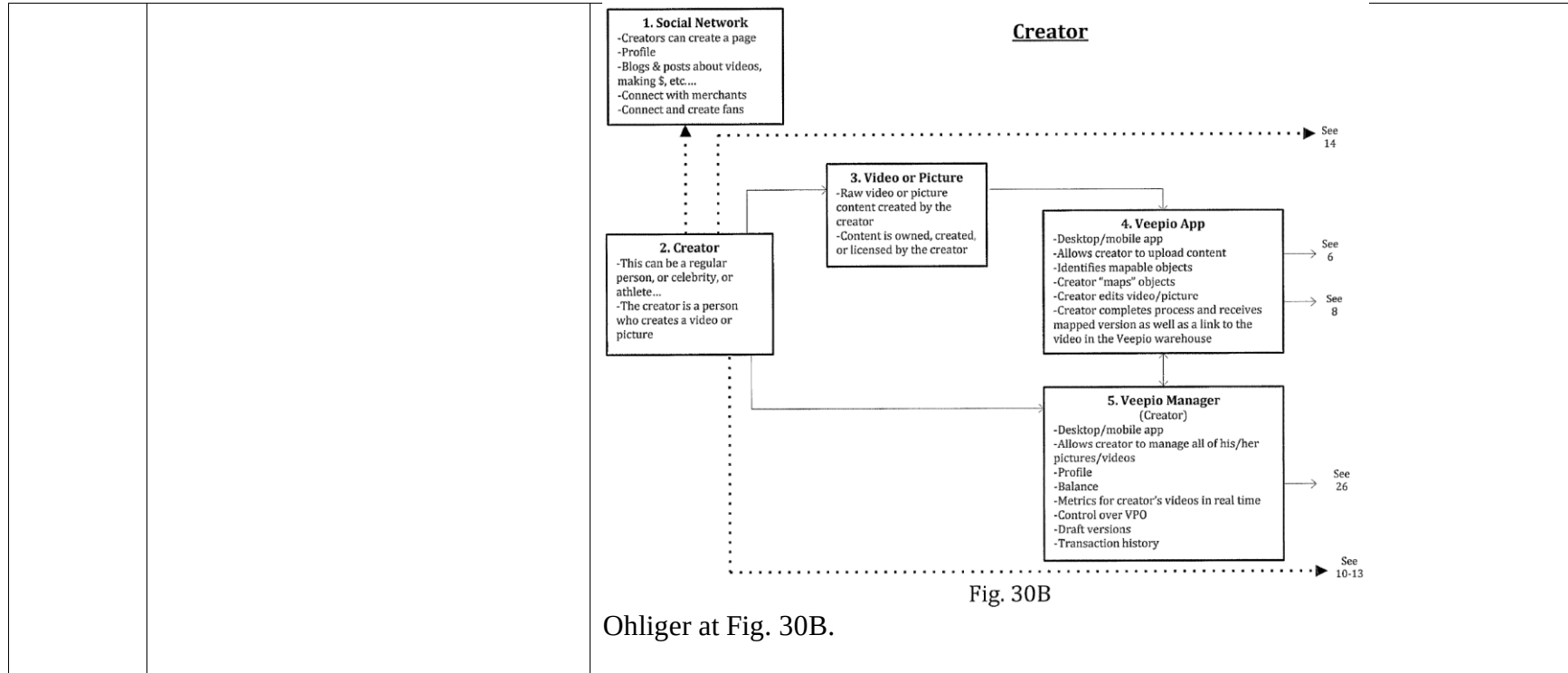


Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

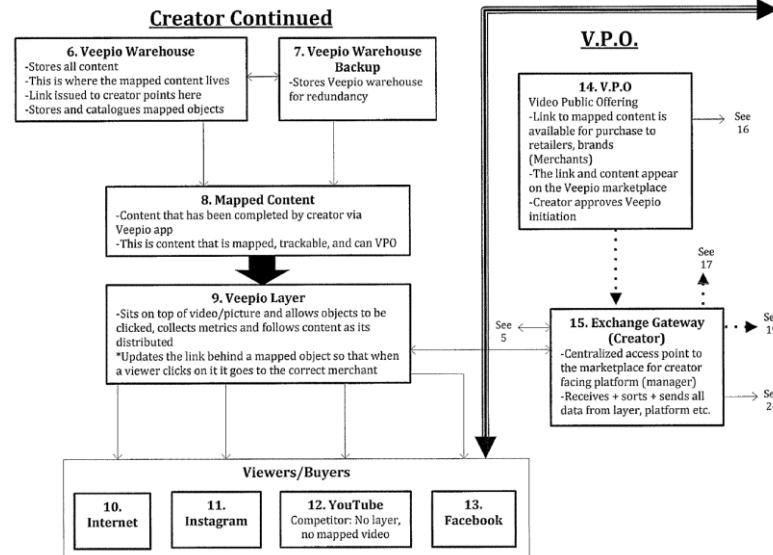


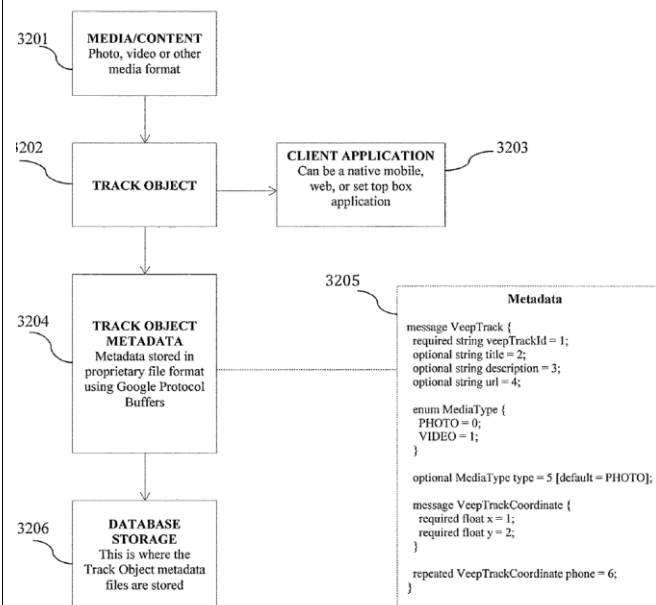
Fig. 30C

Ohliger at Fig. 30C.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

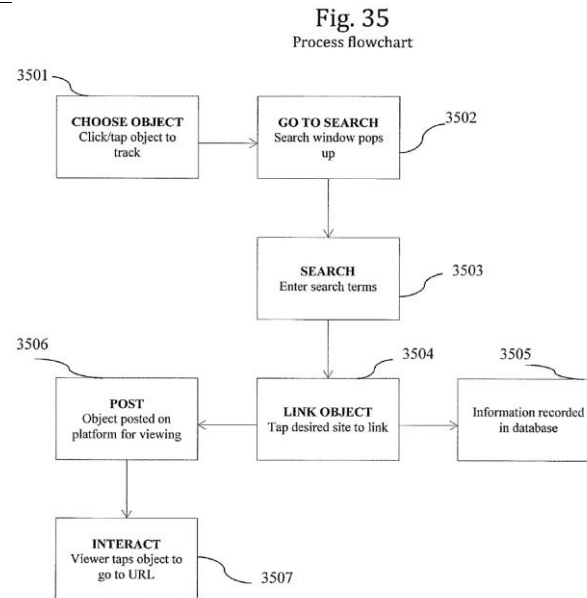
Fig. 32

"Track" Feature



Ohliger at Fig. 32.

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Ohliger at Fig. 35.



Fig. 18
Shop VeePiO

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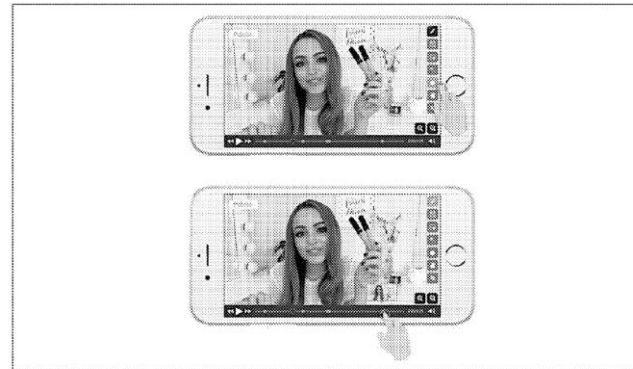
Ohliger at Fig. 18.

Fig. 20
How to Veep



Ohliger at Fig. 20.

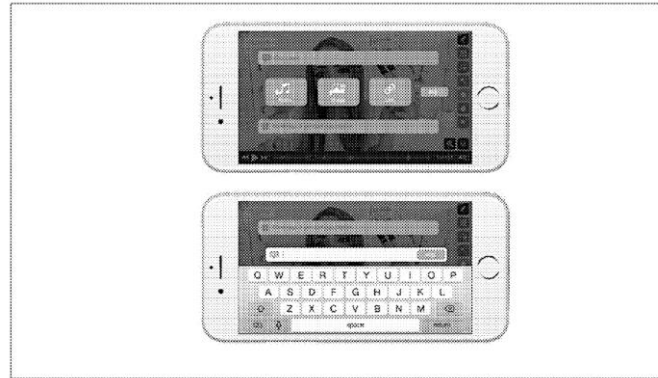
Fig. 21
Veep Editing Room



Ohliger at Fig. 21.

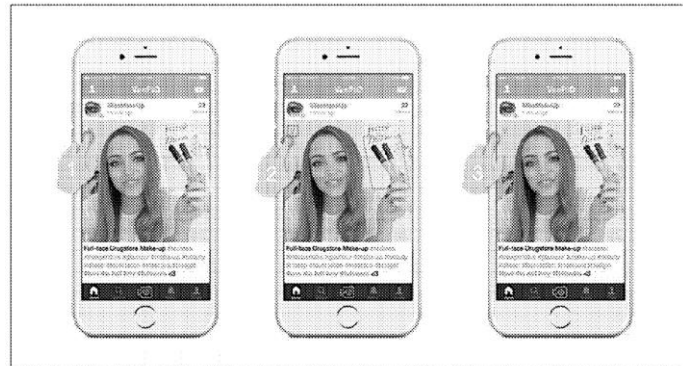
Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Fig. 22
Object Details



Ohliger at Fig. 21.

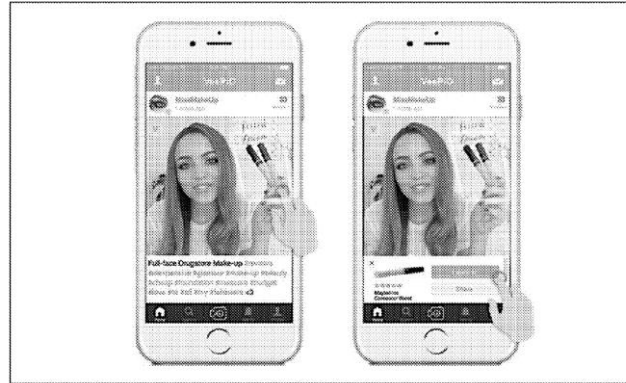
Fig. 23
"V"isibility



Ohliger at Fig. 23.

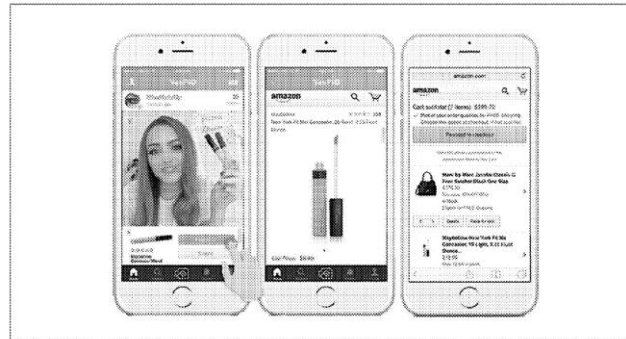
Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Fig. 24
I Want it!



Ohliger at Fig. 24.

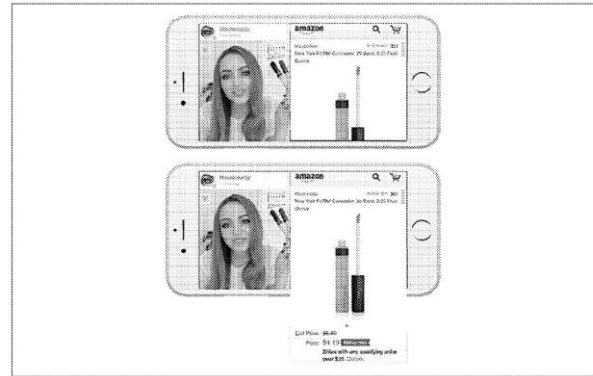
Fig. 25
I Want it! Continued



Ohliger at Fig. 25.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Fig. 28
Buy Via Split Screen



Ohliger at Fig. 28.

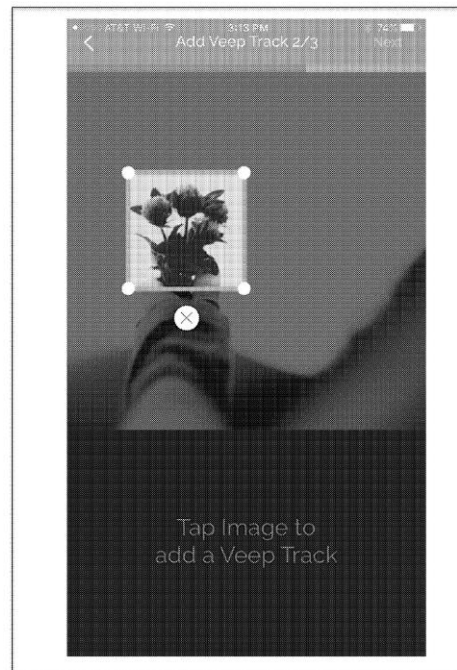


Fig. 38

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Ohliger at Fig. 38.

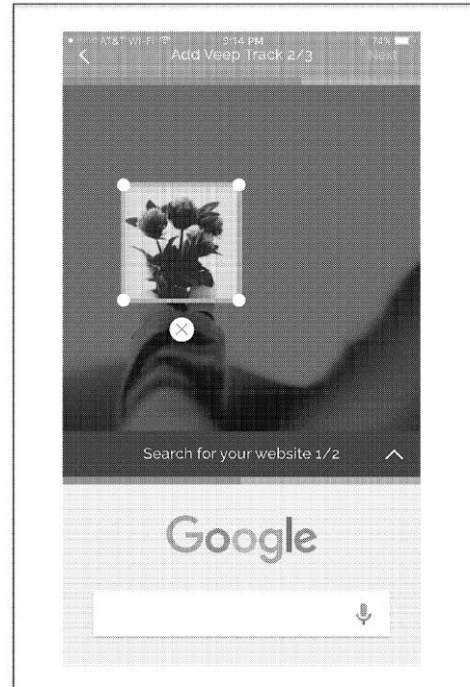


Fig. 39

Ohliger at Fig. 39.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

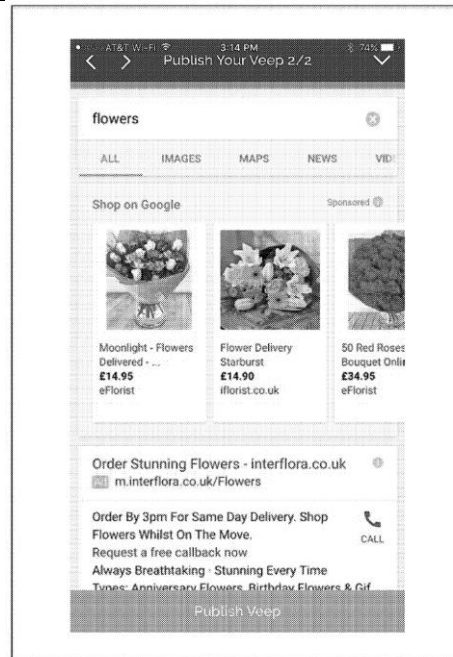


Fig. 41
Ohliger at Fig. 41.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

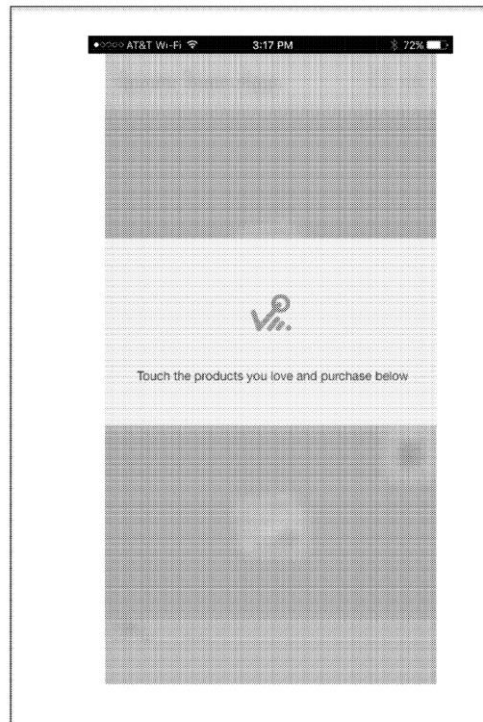


Fig. 46
'46 Patent at Fig. 46.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

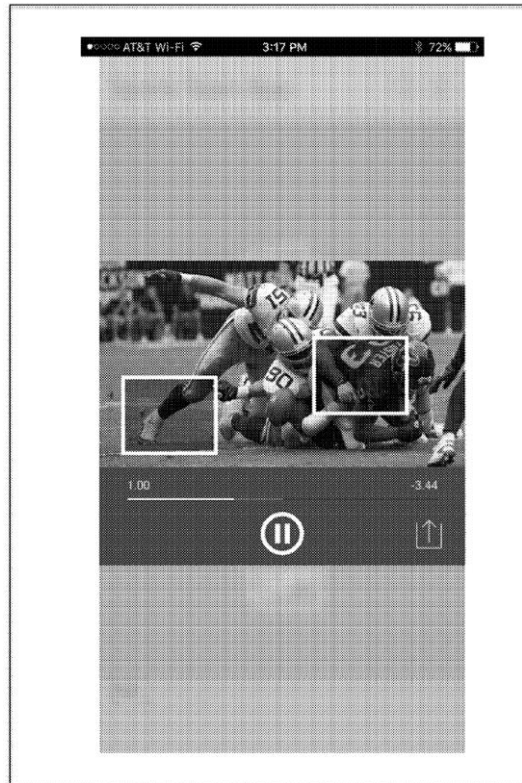


Fig. 48
Ohliger at Fig. 48.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

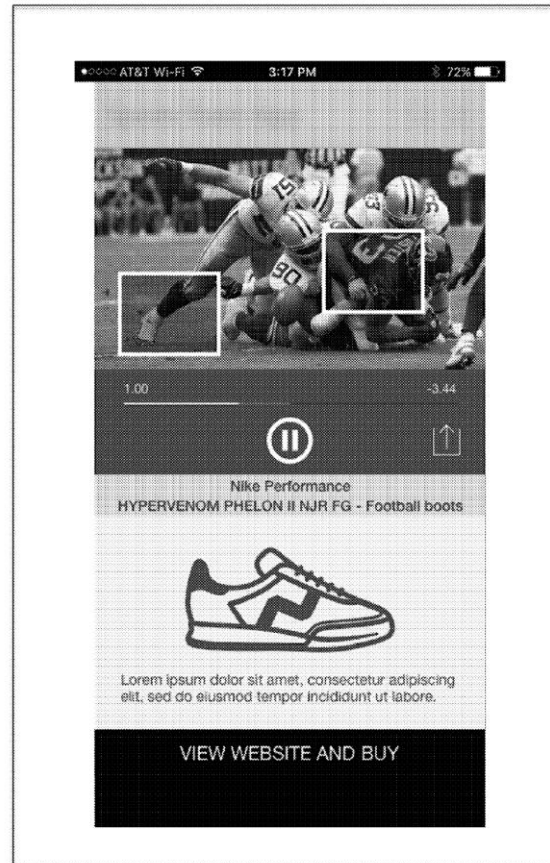


Fig. 49
Ohliger at Fig. 49.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger



Fig. 50

Ohliger at Fig. 50.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger



FIG. 53B

Ohliger at Fig. 53B.

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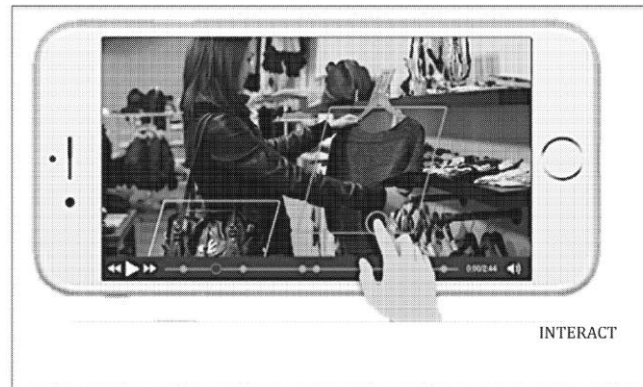


FIG. 53D

Ohliger at Fig. 53D.



FIG. 53E

Ohliger at Fig. 53E.

Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further

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		<p>motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
15[pre]	The method of claim 1,	<p>To the extent the preamble is limiting, Ohliger discloses “The method of claim 1,” See e.g.:</p> <p><i>See claim 1, supra.</i></p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
15[a]	wherein the first and second interactive layers are unaffected by ad blocking software.	<p>Ohliger discloses “wherein the first and second interactive layers are unaffected by ad blocking software” See e.g.:</p> <p>“In step 720, the video objects are compared with objects in an object library, which may be 2D (two-dimensional) or 3D (three-dimensional) wire frame data representing objects within the video. Perspective views from such 2D/3D wire frame models may be advantageous to the automatic object recognition process. This step is optional. If a match is detected then the object is associated with the product description and/or meta-data from the object library. The unmatched video object may be discarded or subjected to a secondary processing application and/or an analyst may manually identify/configure the object boundaries (step 730), and then the object may be subject to another classification step (710) and/or another comparison with objects in the object library (720). The creator of the video can also choose which objects they want to make interactive (705) and they can identify those objects with a dynamic bounding area that will change size proportionate to the change in size of the object from frame to frame as it is tracked by an object tracking algorithm. The creator can also describe, comment</p>

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		<p>and add additional content to an object in the video that they have chosen to make interactive (715). This content will appear to a viewer when they interact with the bounding area around the object in any frame that the object appears by clicking, hovering over, or touching any point within the bounding area.</p> <p>In step 740, the video objects are published to the market exchange and subject to an automated auction process. The auction allows retailers, brands, and affiliates/advertisers to bid for the right to assign a hyperlink to a video object that takes a viewer of the video who has interacted with that object to a website where that object or any object the winning bidder chooses can be purchased, or to any other content the winning bidder would like to associate with that object.</p> <p>In step 745 a video overlay is created which links the video object with the winning bidders provided content, and in step 750 the video overlay with region definition data is transmitted to the video broadcaster 120.</p> <p>In step 760, a video viewer interacts with the video overlay by rolling-over or selecting a video region thereby triggering the display of relevant content associated with the video object. It should be appreciated that rolling over may illicit the display of different relevant content than that displayed when the object is selected. For example, selecting an object may trigger more detailed information than that displayed when the object is simply rolled-over with the pointing device.</p> <p>In step 770 (optional), the VOHE 300 records the viewer interaction with the video objects and updates the viewer's behavioral profile. It should be noted that the video viewer's interactions with the video overlay (and the video objects) generally triggers the display of relevant content from the VOHE 300. This enables the content associated with a video object to be updated on-the-fly without the need to alter the video overlay. The video overlay makes the video interactive by making video regions selectable, the content comes from the object database that stores information submitted from the creator of the video as well as comments by viewers, in addition, content also comes from the VOHE 300 in the form of hyperlinks supplied by the winning bidders.</p> <p>In step 780 (optional), the VOHE 100 completes a sales transaction initiated by the viewer's interactions with the video region representing the video object. As will be explained below in further detail, the VOHE 300 may enable the viewer to</p>
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		<p>complete a sales transaction by following the hyperlink provided by the winning bidder to an online retailer.” Ohliger at 12:4-13:3.</p> <p>“It is important to note that the video objects are used to create selectable regions (hyperlinks) which dynamically track the movement, size and position of the object throughout the video.</p> <p>3D Rotoscoping</p> <p>FIG. 12 is a high level flow diagram for 3-dimensional rotoscoping. The process begins in step 1200 with selecting a given video object.</p> <p>If only one perspective of the video object is available (step 1202A) in the video then a two-dimensional wire frame of the video object is created. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in a video object database (such as object information library 112 (step 1208).</p> <p>If additional perspectives for the video object subsequently become available (step 1202B) then a three-dimensional (3D) wire frame is created (step 1206) or the new perspectives are used to update the existing three-dimensional wireframe. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in the video object database (step 1208).</p> <p>In step 1210 the user (video consumer) is presented with viewing options such as rotating of the object or zoom. It is also possible to “replace” video objects (step 1212) in the video by superimposing a modified or new animated object including light and shadows of surrounding video objects over the existing video object. For example, an obscured appearance of a video object such as a can of Pepsi® can be replaced (superimposed) with an animated object (3-dimensional wireframe of the object) without the need to re-shoot the video. It is even possible to superimpose an animated object (3-dimensional wireframe of the object) of a can of Coca-Cola® over the can of Pepsi.</p> <p>The present invention further includes a system for making an interactive overlay for a video. The system includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server includes one or more video files stored in a video database.</p>
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		<p>The system further includes object inventory database 112 stored on the server 300 and containing information describing a location (size, shape, orientation) of at least one video object within one of the video files. The object inventory database 112 may be compiled using any of the systems or methods disclosed in this specification or equivalents thereof. An overlay generation application (software or firmware) is stored and executed on the server 300. The overlay generation application creates a video overlay including at least one selectable hyperlink whose shape and position (coordinates) track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. In some cases the overlay is transparent; however, as will be explained below in some cases the overlay may include animated representations of video objects which are superimposed over and replace/obscure the underlying video object. The system may optionally include a wireframe database 112A stored on the server 300 or the wireframe database may be included within the object inventory database 112 or any other database stored on the server. The wire frame database 112A stores three-dimensional wireframe representations of at least one video object.</p> <p>The overlay generation application may optionally match occurrences of video objects in the object inventory library with three-dimensional wireframe representations of the video object (stored in the wireframe library database or the object inventory database) and create a video overlay including matched wire frame representations wherein the shape and position of the wireframe representation tracks a dynamic location of the video object in the video. In other words, the wireframe representation of the object is superimposed over the corresponding video object. The superimposed wireframe representation obscures (replaces) the video object.</p> <p>The wire frame library database 112A may optionally include a lighting model which defines/specifies the light distribution on the video object. For each occurrence of a video object in a video frame the lighting model would define/specify the light distribution on the video object.</p>
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		<p>According to another embodiment the system for making an interactive overlay for a video includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database 112 stored on (or accessible by) the server and containing information describing a location of at least one video object within one of the video files. The system includes a wireframe database stored on (or accessible by) the server, the wireframe database storing three-dimensional wireframe representations of at least one video object; and an overlay generation application (software or firmware) executed on the server. The overlay generation application matches occurrences of video objects in the object inventory library with corresponding three-dimensional wireframe representations of the video object and creates a video overlay including matched wireframe representations of the video object wherein the shape and position (coordinates) of the wireframe representation track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database stored on the server and containing information describing coordinates of at least one video object within one of the video files. The system further includes a wireframe database stored on the server, the wireframe database stores three-dimensional wireframe representations of at least one video object. A wireframe generation application (software or firmware) executed on the server selects video objects from the video object inventory database and generates a three-dimensional wire frame of the selected video object from multiple perspective occurrences of the video object in the video file and stores the three-dimensional wireframe in the wireframe database. The</p>
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		<p>wireframe generation application may optionally generate a lighting model for each occurrence of a video object in a video frame from light distribution on the video object.</p> <p>The system may further include an overlay generation application (software or firmware) executed on the server which matches occurrences of video objects in the object inventory library 112 with corresponding three-dimensional wire frame representations stored in the wire frame library 112A. The overlay generation application creates a video overlay including matched wireframe representations of the video objects wherein the shape and position of the wireframe representation tracks the dynamic location of the video object in the video. The overlay generation application stores the overlay on the server. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>The creation of three-dimensional wire frames and lighting models is well known in the art and is disclosed in the following U.S. patents whose disclosure are hereby incorporated by reference: U.S. Pat. No. 7,602,404 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,983,082 entitled Reality-based light environment for digital imaging in motion pictures; U.S. Pat. No. 6,954,202 entitled Image-based methods of representation and rendering of three dimensional object and animated three-dimensional object; U.S. Pat. No. 6,919,962 entitled Reflectometry apparatus and method; U.S. Pat. No. 6,858,826 entitled Method and apparatus for scanning three-dimensional objects; U.S. Pat. No. 6,685,326 entitled Realistic scene lighting simulation; U.S. Pat. No. 6,628,298 entitled Apparatus and method for rendering synthetic objects into real scenes using measurements of scene illumination; U.S. Pat. No. 6,529,206 entitled Image processing apparatus and method, and medium therefore; U.S. Pat. No. 6,504,546 entitled Method of modeling objects to synthesize three-dimensional, photo-realistic animations; U.S. Pat. No. 6,434,265 entitled Aligning rectilinear images in 3D through projective registration and calibration; U.S. Pat. No. 6,333,749 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,281,904 entitled Multi-source texture reconstruction and fusion; and U.S. Pat. No. 6,281,903</p>
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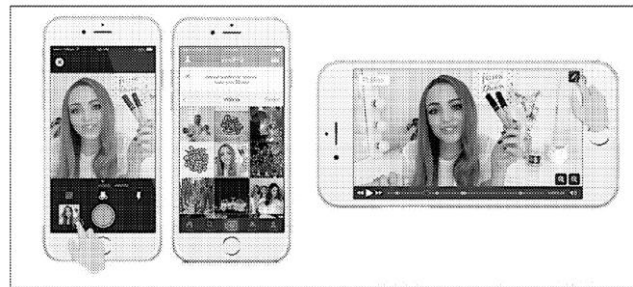
entitled Methods and apparatus for embedding 2D image content into 3D models.” Ohliger at 18:45-21:16.



Fig. 18
Shop VeePiO

Ohliger at Fig. 18.

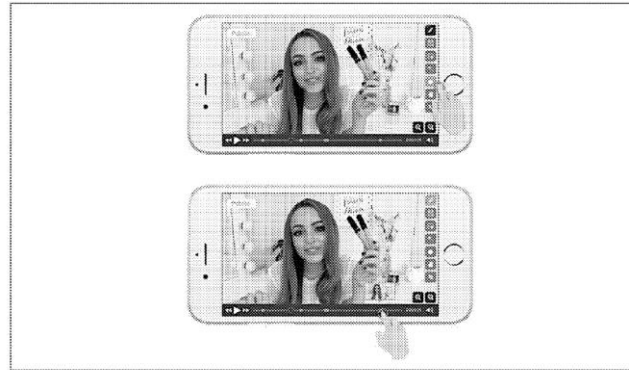
Fig. 20
How to Veep



Ohliger at Fig. 20.

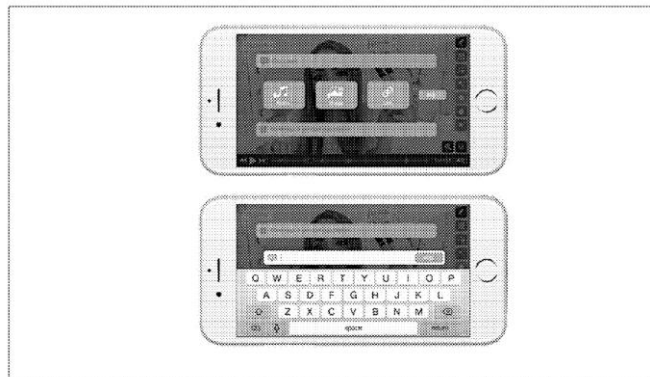
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Fig. 21
Veep Editing Room



Ohliger at Fig. 21.

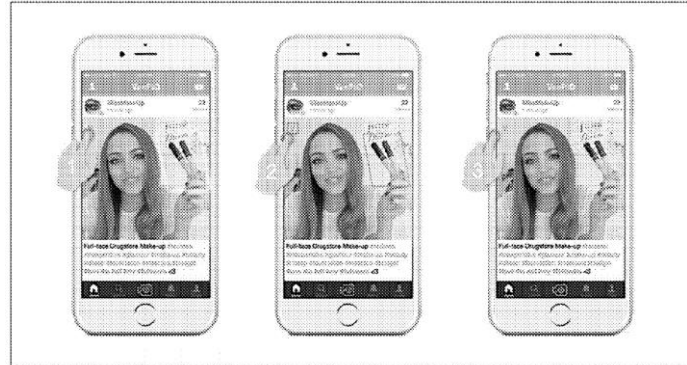
Fig. 22
Object Details



Ohliger at Fig. 21.

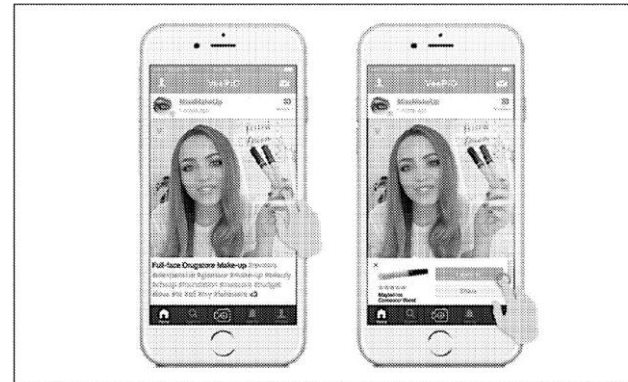
Exhibit 316-A13
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Fig. 23
"V"isibility



Ohliger at Fig. 23.

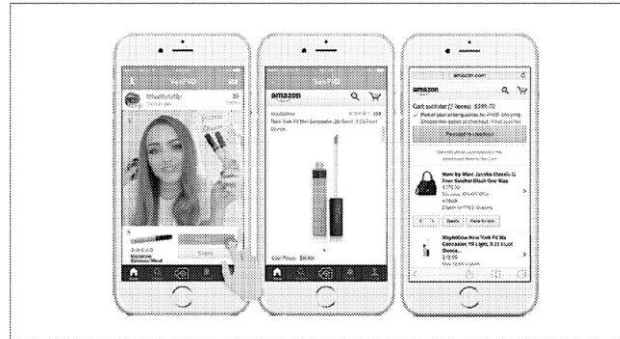
Fig. 24
I Want it!



Ohliger at Fig. 24.

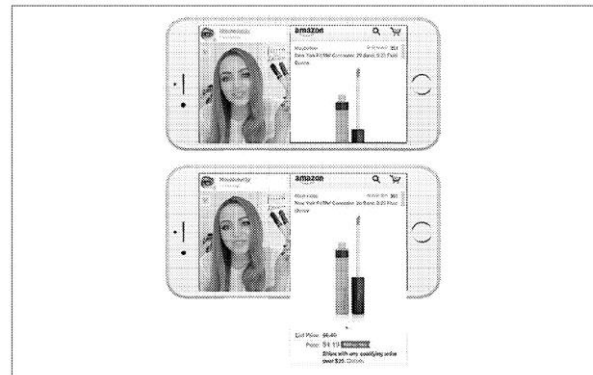
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Fig. 25
I Want it! Continued



Ohliger at Fig. 25.

Fig. 28
Buy Via Split Screen



Ohliger at Fig. 28.

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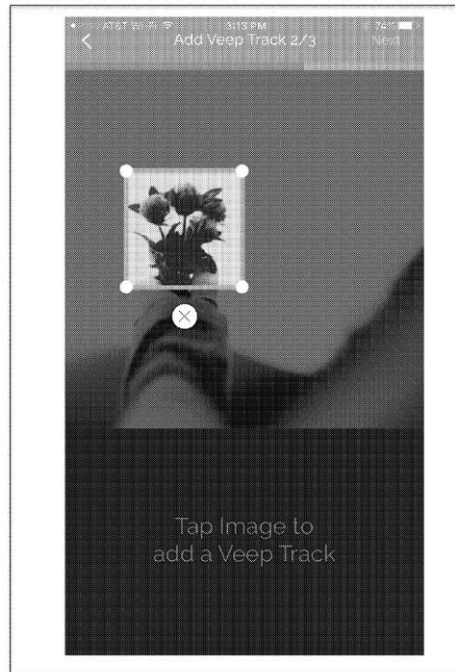


Fig. 38

Ohliger at Fig. 38.

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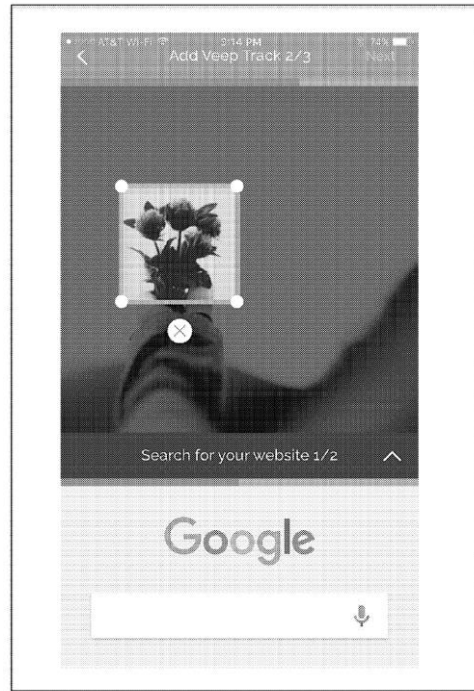


Fig. 39
Ohliger at Fig. 39.

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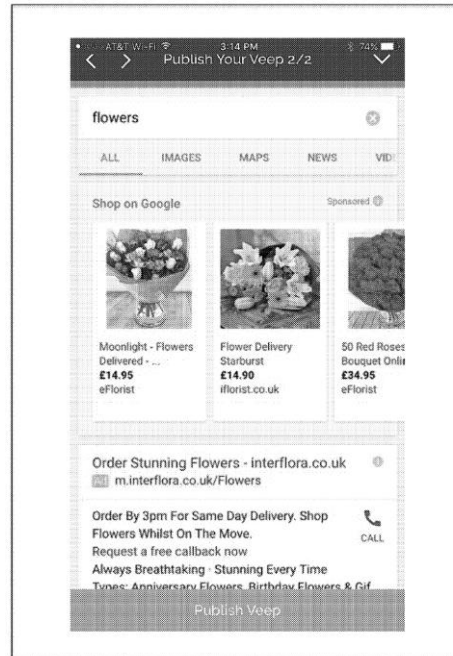


Fig. 41
Ohliger at Fig. 41.

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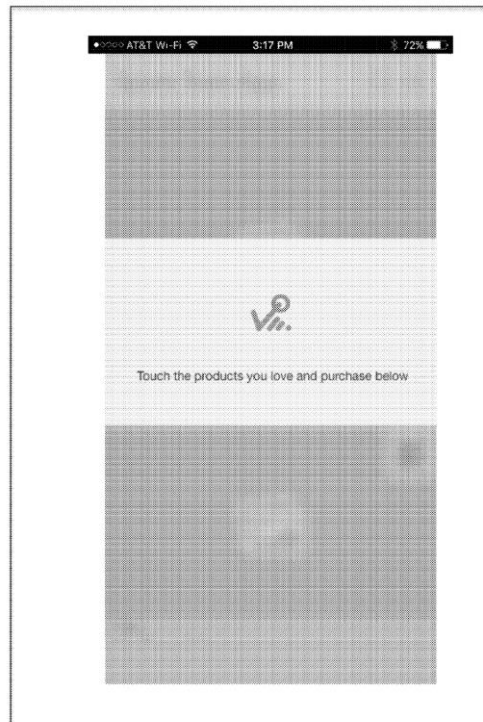


Fig. 46
'46 Patent at Fig. 46.

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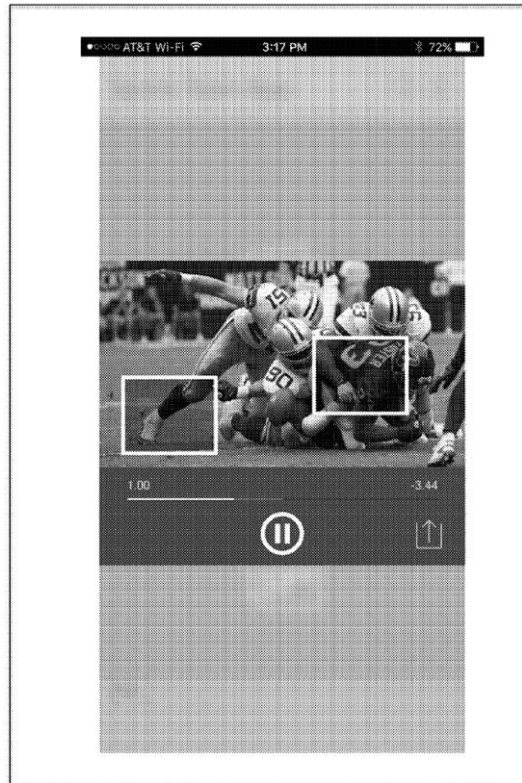


Fig. 48
Ohliger at Fig. 48.

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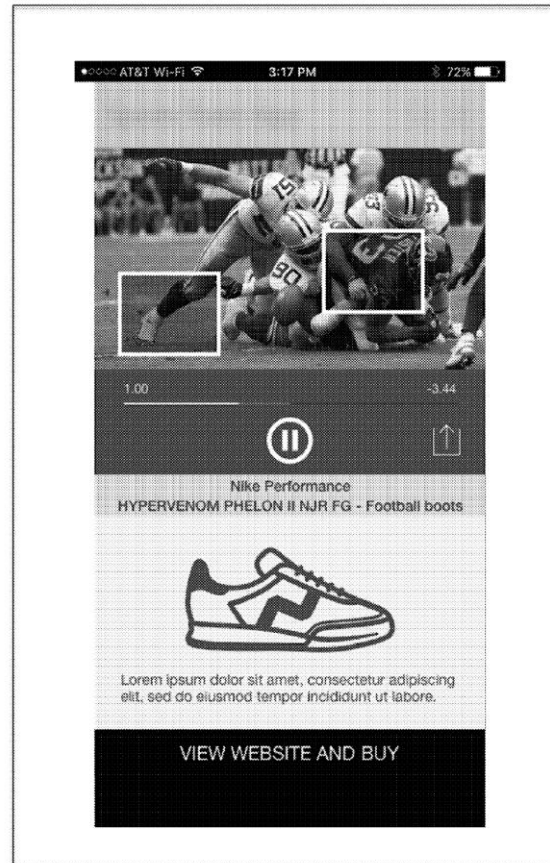


Fig. 49
Ohliger at Fig. 49.

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Fig. 50

Ohliger at Fig. 50.

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FIG. 53B

Ohliger at Fig. 53B.

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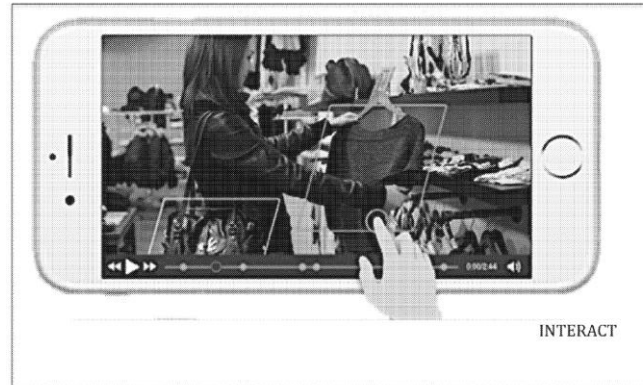


FIG. 53D

Ohliger at Fig. 53D.



FIG. 53E

Ohliger at Fig. 53E.

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		 <p style="text-align: center;">FIG. 53F</p> <p>Ohliger at Fig. 53F.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
16[pre]	The method of claim 1,	<p>To the extent the preamble is limiting, Ohliger discloses “The method of claim 1,” See e.g.:</p> <p><i>See claim 1, supra.</i></p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in</p>

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		Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.
16[a][i]	wherein the interaction and the past interaction activity comprise a public or private conversation between the user and the at least one guest,	<p>Ohliger discloses “wherein the interaction and the past interaction activity comprise a public or private conversation between the user and the at least one guest,” See e.g.:</p> <p>“The present invention is a system 100 for automatically segmenting video into video objects, classifying the video objects either automatically or by the creator of the video, assembling a database of the classified video objects, defining region definition data representing each video object on an interactive layer, auctioning the rights to a hyperlink that is either displayed or associated with a button that appears when an object is interacted with by a viewer of the video, or that is connected directly to the object so that when a viewer clicks or touches the object while watching the video they are directed to a website or other content that the hyperlink is pointing to. Allowing the creator of the video to associate comments, pictures, audio, hyperlinks, and other content with interactive areas around objects in their videos. Allowing viewers of the video to interact with objects in the video by clicking or touching areas around objects in the video, and further allowing viewers to comment about those objects, share those objects by way of the internet or social media, and purchase those objects, or other objects associated with the objects by way of the previously mentioned hyperlinks. These hyperlinks associated with video objects are auctioned on a video object hyperlink exchange (hereinafter “VOHE”) 300, and creating a video overlay with region definition data linking relevant content with the video content objects and thereby creating an interactive video. The creator of the video is reimbursed for the content by receiving a mutually agreed to percentage of the profits generated by the auction of the hyperlinks within the creators content. The region is a portion of the video frame which is congruent with the underlying video object. The region definition</p>

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		<p>data defines such portion of the video frame. The system 100 of the present invention consists of several distinct yet related components.</p> <p>One aspect of the invention relates to the creation of an inventory of video objects and corresponding region definition data. The video object inventory 114 is a database containing region definition data in form of pointers or references to video objects within video or animation files. Importantly, the region definition data is used to make the video interactive by providing the ability to link supplemental information with a specific video object within a video. For example, the video viewer can select a shirt displayed within the video and learn the brand and model of the shirt and other relevant information. Further, the viewer can also see comments, pictures, audio, and other content associated with the object by the creator of the video. The invention associates the relevant information with the video object thereby making the object a selectable hyperlink, meaning that the viewer can click or touch the object in any frame of the video in which the object appears and the related content will be revealed.” Ohliger at 8:58-9:41.</p> <p>“The invention also includes giving video viewers the ability to comment and communicate with each other and with the creator of the video in regards to a specific interactive object in the video. This is referred to as “sub-comments” and it differs from current comments on the internet and on social media in that sub-comments are accessed by viewers within the content related to the interaction of the viewer with a specific object within a video as opposed to comments that relate to the video as a whole.” Ohliger at 11:11-20.</p> <p>“The viewer 124 uses a computer, mobile phone or another electronic device that connects to the internet or to a social network 400 (FIG. 3) to access the video content made available by broadcaster 120 on a web site or social network or application or the like accessible over a distributed network such as the Internet. Computer 400 includes a processor 202 which is connected via BUS 204 to a mass storage device 206, Read-Only-Memory (ROM) 208 and Random Access Memory (RAM) 210 (which may be volatile or nonvolatile). A web browser executes on the processor and is used to access web sites on the Internet. The</p>
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	<p>viewer 124 interacts with the video overlay by selecting or rolling over a region representing a video object using a conventional pointing device 218, and/or using a touch sensitive screen 214 such as is known in the art. Interaction by the video viewer 124 triggers display of supplemental content such as information provided by the creator of the video, comments by other viewers, or any other associated content including original, organic, advertising, links to other content, and/or paid content by retailers/brands/affiliates/advertisers that purchased rights on the VOHE. The retailers/brands/affiliates/advertisers 122 are bidding on the right to supply the relevant content using an embedded hyperlink.” Ohliger at 22:27-50.</p> <p>“A further aspect of the invention will be described with reference to FIGS. 9-11. FIG. 9 is a high level flowchart showing the interactions of a viewer with the VOHE 300. FIGS. 10A-10D and 11A-11B are a graphical depiction of various steps in the flowchart of FIG. 9. In step 900 the viewer 124 views video content having video objects. As described above, the video presentation slows or stops as the user points at or rolls-over (step 902) the presentation screen, and selects a video object using a pointing device such as a mouse or a finger (or the like) on a display screen which may be touch sensitive (FIG. 9 step 904 and FIG. 10A). Selecting refers to both rolling-over the object with the pointing device (without a mouse click or a keyboard command) and to positioning the pointing device over the object and actuating one of the buttons on the mouse or keyboard. In a traditional TV setting the user may use the 5-star control of a remote controller to select a video object.</p> <p>Once the object has been selected (FIG. 9 step 904 and FIG. 10B), the viewer displays an abstract of the video object in the form of an overlay on top of the current viewing window or on a new window adjacent the current viewing panel. The Abstract may include descriptive information (relevant content) about the object (name, brand name, make, model, vendor, price, etc) and classification information about the object or it may be information provided by the creator of the video like a comment about the object, a picture, comments by other viewers, and/or the ability to share the video, video object, or associated content over the internet or through social networks.</p>
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		<p>The user (viewer of video) 124 is presented with a menu of options (FIG. 10C). For example, the viewer 124 may search for other occurrences of the object in both the current video or in other videos (FIG. 9 step 906A, and FIG. 11B). Moreover, the viewer may expand the search to encompass other objects which have similar classification such as the same make but different models (other Ferragamo shoes), or other red high heeled shoes, etc.</p> <p>In step 908A, the user is presented with a list of viewable video segments containing the selected video object. At this point the user can choose to view any of the segments and/or proceed to steps 906B, 906C or 906D.</p> <p>The viewer 124 may be presented with an option to retrieve more detailed information about the object (step 906B). Such information may include details about the materials or specifications of the object. The user may also be presented with the option to view a three-dimensional wire frame rendering of the object. The 3D wire frame is created by the VOHE 300 when the object is initially identified and classified. Depending on how many perspective facets of an object are available, a complete or partial 3D wire frame may exist for a given object. The viewer 124 presents the user with various options to manipulate and interact with the 3D wire frame. For example, the viewer 124 may rotate and zoom the 3D wire frame to display the rendering from different perspectives.</p> <p>As described above, the user may be presented with the option to add the video object to a shopping cart (FIG. 9 step 908B and FIG. 10C). Although not specifically illustrated in FIG. 9, the option to purchase may be nested under each of the menu items such that the user may always elect to purchase without having to retrace his/her steps. In fact, each of the menu options described herein may be organized in any number of ways and the inventive concept is not limited to the specific way they are presented. Thus, steps 906A-906D may be nested.</p> <p>The shopping cart may be a conventional electronic shopping cart which enables the user to purchase the object or flag it to the user's wish list for future purchase. The viewer 124, VOHE 300, or system 100 tracks objects purchased by the user and items added to the user's wish list, and such information may be used to analyze the user's buying trends etc. More particularly, an analytics database records the interactions of the consumer. The analytics database stores information regarding the video files or types of video files (genre or the like)</p>
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	<p>accessed by the consumer, the objects selected by the consumer, items purchased by the consumer. The analytics database may be stored on or accessible to (via the distributed network, e.g., internet) the VOHE 300 or system 100. The viewer 124 also enables the user to manually indicate that the user owns a given object even if it was not purchased through the VOHE 300.</p> <p>The VOHE 300 allows the user to share individual video objects or create and share a collection of video objects with one or more friends by selecting the video objects or the collection of objects and selecting individual friends or sets of friends (FIG. 9 steps 906C and 910B, and FIG. 10C). The viewer 124 may include a software plug-in application for a social networking site (Facebook® application, Twitter® application, Instagram® application, Vine® application, Snapchat® application) or the like which enables the user to add the video object to the user's social network account without leaving the portal (VOHE 300) through which the user was viewing the video. As used herein the term social networking site is equivalent in all respects to social networking server and encompasses Facebook application, Twitter application, etc. which enable a user to share information to a wide audience with or without specifying individual recipients.</p> <p>The plug-in application also enables the user to share the image/video segment etc with one or more social networking contacts ("Facebook friends, Instagram followers, etc."). The plug-in application is software. The plug-in may share data linking or pointing to the video object or library of such objects. The video object or library of video objects may be stored on the YOM 300 or on the user's computer 400. Data transferred to Facebook or other social networking sites may also be stored on a 3d party server such as or the like, or the social networking site may simply store a link to data stored on the VOHE 300." Ohliger at 24:29-26:3.</p> <p>"FIG. 16: The feed is a dynamic stream of user-created content. Each video plays on a constant loop. Hashtags help VeePiO users brand and sort their Veep'd videos. Viewers can like, comment on, and re-VeeP any video.</p>
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FIG. 17: VeePiO thrives on community. Commenting is easy and encouraged via standard pathways like the feed, and through product sub-comments. Beyond that VeePiO media can be shared anywhere online.

FIG. 18: VeePiO is simple to use. Tap any Veep'd object and instantly gain the ability to make it your own. (1st screen) Veepio users can also share and view comments for individual objects. (2nd screen) Tapping “I want it!” walks users through an easy in-app purchase flow. (2nd and 3rd screen)” Ohliger at 28:38-56.

“FIG. 26: Veepio users can also share and view sub-comments related to individual products.” Ohliger at 29:15-16.

“i. Creators of the video and viewers of the video are able to post comments related to the video and/or the at least one interactive object in the video that are displayed when the overlay that tracks the interactive object is clicked or touched. The comments are specific to only the interactive object they are related to.

ii. The creators of the video are able to associate other content like comments, pictures, links, audio files to the interactive objects. This content appears when the objects are hovered over, clicked or touched.” Ohliger at 30:55-64.

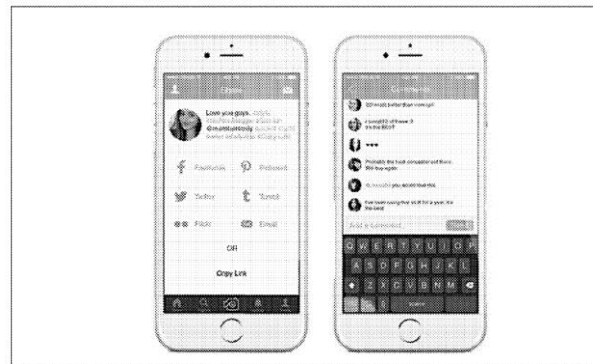


Fig. 17

Comment & Share

Ohliger at Fig. 17.

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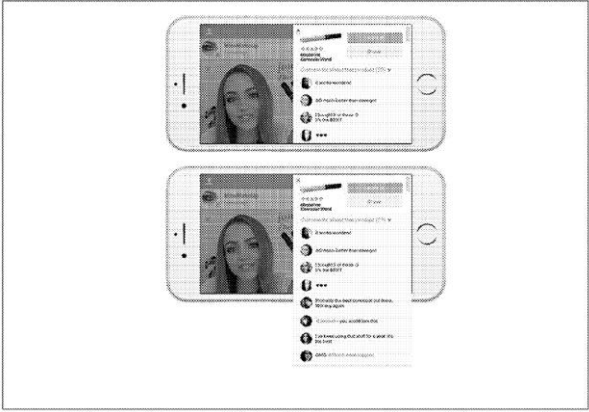
		<p style="text-align: center;">Fig. 26 Share & Comment</p>  <p>Ohliger at Fig. 26.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
16[a][ii]	<p>wherein the plurality of different conversations comprises at least a public conversation which enables all viewers of the video media to join and a private conversation which enables a permitted subset of all viewers of the video media to join.</p>	<p>Ohliger discloses “wherein the plurality of different conversations comprises at least a public conversation which enables all viewers of the video media to join and a private conversation which enables a permitted subset of all viewers of the video media to join.” See e.g.:</p> <p>“The present invention is a system 100 for automatically segmenting video into video objects, classifying the video objects either automatically or by the creator of the video, assembling a database of the classified video objects, defining region definition data representing each video object on an interactive layer, auctioning the rights to a hyperlink that is either displayed or associated with a button that</p>

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	<p>appears when an object is interacted with by a viewer of the video, or that is connected directly to the object so that when a viewer clicks or touches the object while watching the video they are directed to a website or other content that the hyperlink is pointing to. Allowing the creator of the video to associate comments, pictures, audio, hyperlinks, and other content with interactive areas around objects in their videos. Allowing viewers of the video to interact with objects in the video by clicking or touching areas around objects in the video, and further allowing viewers to comment about those objects, share those objects by way of the internet or social media, and purchase those objects, or other objects associated with the objects by way of the previously mentioned hyperlinks. These hyperlinks associated with video objects are auctioned on a video object hyperlink exchange (hereinafter “VOHE”) 300, and creating a video overlay with region definition data linking relevant content with the video content objects and thereby creating an interactive video. The creator of the video is reimbursed for the content by receiving a mutually agreed to percentage of the profits generated by the auction of the hyperlinks within the creators content. The region is a portion of the video frame which is congruent with the underlying video object. The region definition data defines such portion of the video frame. The system 100 of the present invention consists of several distinct yet related components.</p> <p>One aspect of the invention relates to the creation of an inventory of video objects and corresponding region definition data. The video object inventory 114 is a database containing region definition data in form of pointers or references to video objects within video or animation files. Importantly, the region definition data is used to make the video interactive by providing the ability to link supplemental information with a specific video object within a video. For example, the video viewer can select a shirt displayed within the video and learn the brand and model of the shirt and other relevant information. Further, the viewer can also see comments, pictures, audio, and other content associated with the object by the creator of the video. The invention associates the relevant information with the video object thereby making the object a selectable hyperlink, meaning that the viewer can click or touch the object in any frame of the video in which the object appears and the related content will be revealed.” Ohliger at 8:58-9:41.</p>
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		<p>“The invention also includes giving video viewers the ability to comment and communicate with each other and with the creator of the video in regards to a specific interactive object in the video. This is referred to as “sub-comments” and it differs from current comments on the internet and on social media in that sub-comments are accessed by viewers within the content related to the interaction of the viewer with a specific object within a video as opposed to comments that relate to the video as a whole.” Ohliger at 11:11-20.</p> <p>“The viewer 124 uses a computer, mobile phone or another electronic device that connects to the internet or to a social network 400 (FIG. 3) to access the video content made available by broadcaster 120 on a web site or social network or application or the like accessible over a distributed network such as the Internet. Computer 400 includes a processor 202 which is connected via BUS 204 to a mass storage device 206, Read-Only-Memory (ROM) 208 and Random Access Memory (RAM) 210 (which may be volatile or nonvolatile). A web browser executes on the processor and is used to access web sites on the Internet. The viewer 124 interacts with the video overlay by selecting or rolling over a region representing a video object using a conventional pointing device 218, and/or using a touch sensitive screen 214 such as is known in the art. Interaction by the video viewer 124 triggers display of supplemental content such as information provided by the creator of the video, comments by other viewers, or any other associated content including original, organic, advertising, links to other content, and/or paid content by retailers/brands/affiliates/advertisers that purchased rights on the VOHE. The retailers/brands/affiliates/advertisers 122 are bidding on the right to supply the relevant content using an embedded hyperlink.” Ohliger at 22:27-50.</p> <p>“A further aspect of the invention will be described with reference to FIGS. 9-11. FIG. 9 is a high level flowchart showing the interactions of a viewer with the VOHE 300. FIGS. 10A-10D and 11A-11B are a graphical depiction of various steps in the flowchart of FIG. 9. In step 900 the viewer 124 views video content having video objects. As described above, the video presentation slows or stops as</p>
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		<p>the user points at or rolls-over (step 902) the presentation screen, and selects a video object using a pointing device such as a mouse or a finger (or the like) on a display screen which may be touch sensitive (FIG. 9 step 904 and FIG. 10A). Selecting refers to both rolling-over the object with the pointing device (without a mouse click or a keyboard command) and to positioning the pointing device over the object and actuating one of the buttons on the mouse or keyboard. In a traditional TV setting the user may use the 5-star control of a remote controller to select a video object.</p> <p>Once the object has been selected (FIG. 9 step 904 and FIG. 10B), the viewer displays an abstract of the video object in the form of an overlay on top of the current viewing window or on a new window adjacent the current viewing panel. The Abstract may include descriptive information (relevant content) about the object (name, brand name, make, model, vendor, price, etc) and classification information about the object or it may be information provided by the creator of the video like a comment about the object, a picture, comments by other viewers, and/or the ability to share the video, video object, or associated content over the internet or through social networks.</p> <p>The user (viewer of video) 124 is presented with a menu of options (FIG. 10C). For example, the viewer 124 may search for other occurrences of the object in both the current video or in other videos (FIG. 9 step 906A, and FIG. 11B). Moreover, the viewer may expand the search to encompass other objects which have similar classification such as the same make but different models (other Ferragamo shoes), or other red high heeled shoes, etc.</p> <p>In step 908A, the user is presented with a list of viewable video segments containing the selected video object. At this point the user can choose to view any of the segments and/or proceed to steps 906B, 906C or 906D.</p> <p>The viewer 124 may be presented with an option to retrieve more detailed information about the object (step 906B). Such information may include details about the materials or specifications of the object. The user may also be presented with the option to view a three-dimensional wire frame rendering of the object. The 3D wire frame is created by the VOHE 300 when the object is initially identified and classified. Depending on how many perspective facets of an object are available, a complete or partial 3D wire frame may exist for a given object.</p>
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		<p>The viewer 124 presents the user with various options to manipulate and interact with the 3D wire frame. For example, the viewer 124 may rotate and zoom the 3D wire frame to display the rendering from different perspectives.</p> <p>As described above, the user may be presented with the option to add the video object to a shopping cart (FIG. 9 step 908B and FIG. 10C). Although not specifically illustrated in FIG. 9, the option to purchase may be nested under each of the menu items such that the user may always elect to purchase without having to retrace his/her steps. In fact, each of the menu options described herein may be organized in any number of ways and the inventive concept is not limited to the specific way they are presented. Thus, steps 906A-906D may be nested.</p> <p>The shopping cart may be a conventional electronic shopping cart which enables the user to purchase the object or flag it to the user's wish list for future purchase. The viewer 124, VOHE 300, or system 100 tracks objects purchased by the user and items added to the user's wish list, and such information may be used to analyze the user's buying trends etc. More particularly, an analytics database records the interactions of the consumer. The analytics database stores information regarding the video files or types of video files (genre or the like) accessed by the consumer, the objects selected by the consumer, items purchased by the consumer. The analytics database may be stored on or accessible to (via the distributed network, e.g., internet) the VOHE 300 or system 100. The viewer 124 also enables the user to manually indicate that the user owns a given object even if it was not purchased through the VOHE 300.</p> <p>The VOHE 300 allows the user to share individual video objects or create and share a collection of video objects with one or more friends by selecting the video objects or the collection of objects and selecting individual friends or sets of friends (FIG. 9 steps 906C and 910B, and FIG. 10C). The viewer 124 may include a software plug-in application for a social networking site (Facebook® application, Twitter® application, Instagram® application, Vine® application, Snapchat® application) or the like which enables the user to add the video object to the user's social network account without leaving the portal (VOHE 300) through which the user was viewing the video. As used herein the term social networking site is equivalent in all respects to social networking server and encompasses Facebook application, Twitter application, etc. which enable a user</p>
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		<p>to share information to a wide audience with or without specifying individual recipients.</p> <p>The plug-in application also enables the user to share the image/video segment etc with one or more social networking contacts (“Facebook friends, Instagram followers, etc.”). The plug-in application is software. The plug-in may share data linking or pointing to the video object or library of such objects. The video object or library of video objects may be stored on the YOM 300 or on the user's computer 400. Data transferred to Facebook or other social networking sites may also be stored on a 3d party server such as or the like, or the social networking site may simply store a link to data stored on the VOHE 300.” Ohliger at 24:29-26:3.</p> <p>“FIG. 16: The feed is a dynamic stream of user-created content. Each video plays on a constant loop. Hashtags help VeePiO users brand and sort their Veep'd videos. Viewers can like, comment on, and re-VeeP any video.</p> <p>FIG. 17: VeePiO thrives on community. Commenting is easy and encouraged via standard pathways like the feed, and through product sub-comments. Beyond that VeePiO media can be shared anywhere online.</p> <p>FIG. 18: VeePiO is simple to use. Tap any Veep'd object and instantly gain the ability to make it your own. (1st screen) Veepio users can also share and view comments for individual objects. (2nd screen) Tapping “I want it!” walks users through an easy in-app purchase flow. (2nd and 3rd screen)” Ohliger at 28:38-56.</p> <p>“FIG. 26: Veepio users can also share and view sub-comments related to individual products.” Ohliger at 29:15-16.</p> <p>“i. Creators of the video and viewers of the video are able to post comments related to the video and/or the at least one interactive object in the video that are displayed when the overlay that tracks the interactive object is clicked or touched. The comments are specific to only the interactive object they are related to.</p> <p>ii. The creators of the video are able to associate other content like comments, pictures, links, audio files to the interactive objects. This content appears when the objects are hovered over, clicked or touched.” Ohliger at 30:55-64.</p>
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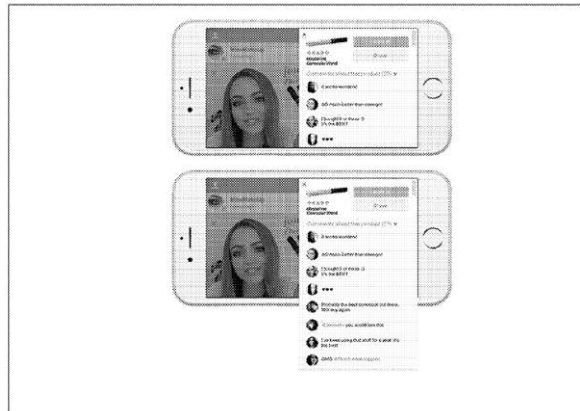
Fig. 17

Comment & Share

Ohliger at Fig. 17.

Fig. 26

Share & Comment



Ohliger at Fig. 26.

Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in

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		Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.
17[pre]	A non-transitory computer readable media encoded with instructions that, when executed by a processor, cause the processor to carry out at least the following steps:	To the extent the preamble is limiting, Ohliger discloses “A non-transitory computer readable media encoded with instructions that, when executed by a processor, cause the processor to carry out at least the following steps:” See e.g.:

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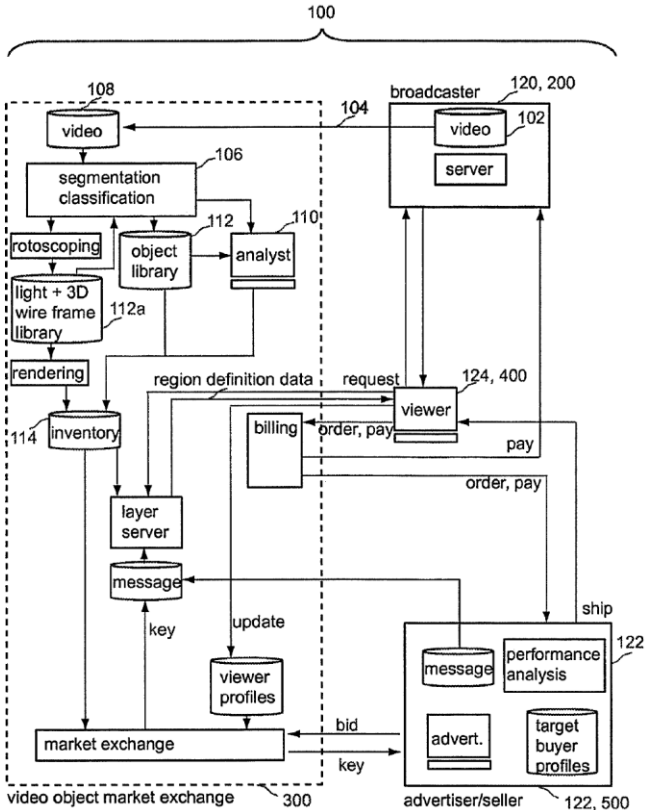


FIG. 2
Ohliger at Fig. 2.

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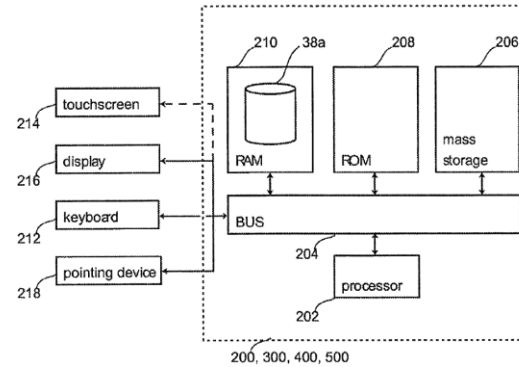


FIG. 3
Ohliger at Fig. 3.

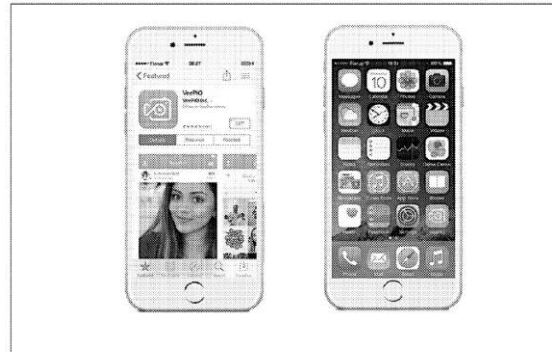


Fig. 13
App Store
Ohliger at Fig. 13.

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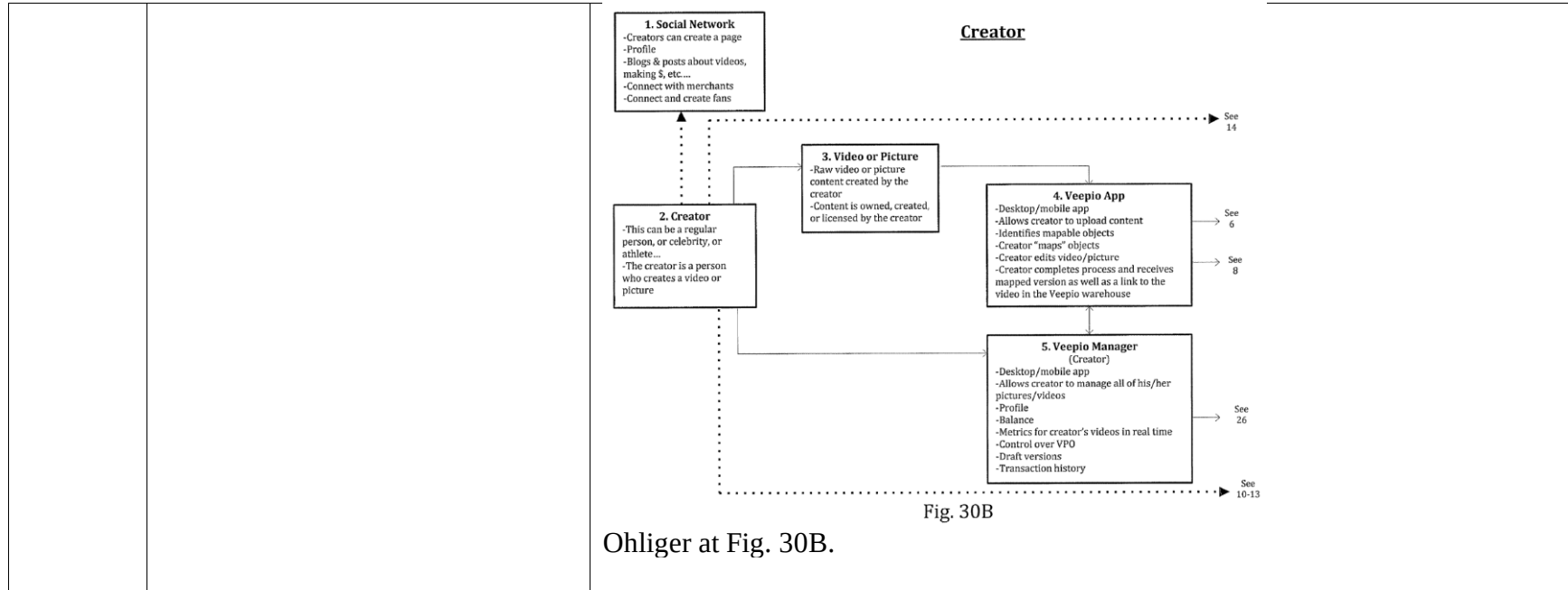


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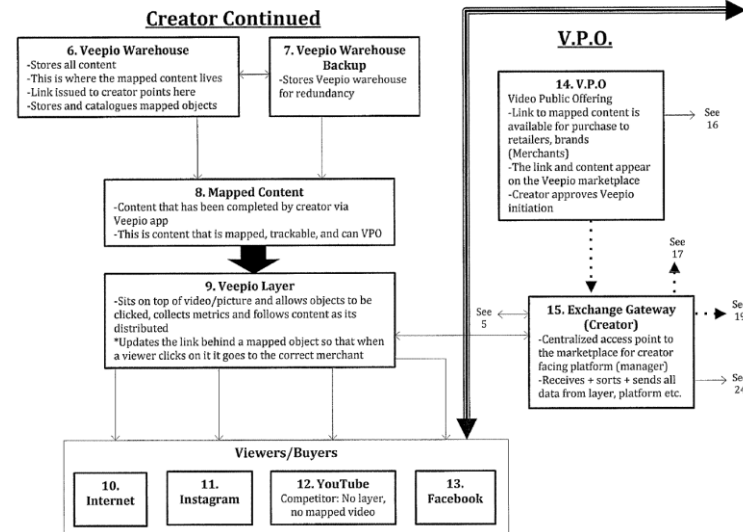


Fig. 30C

Ohliger at Fig. 30C.

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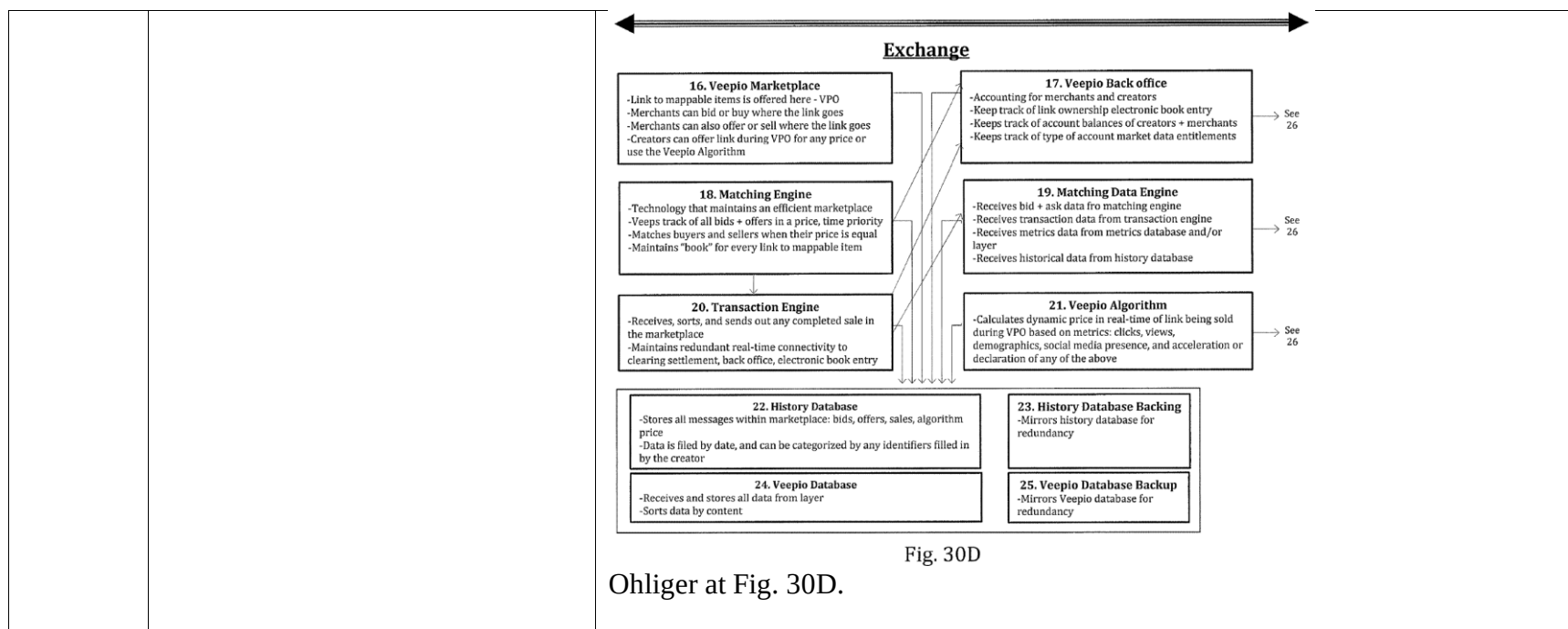


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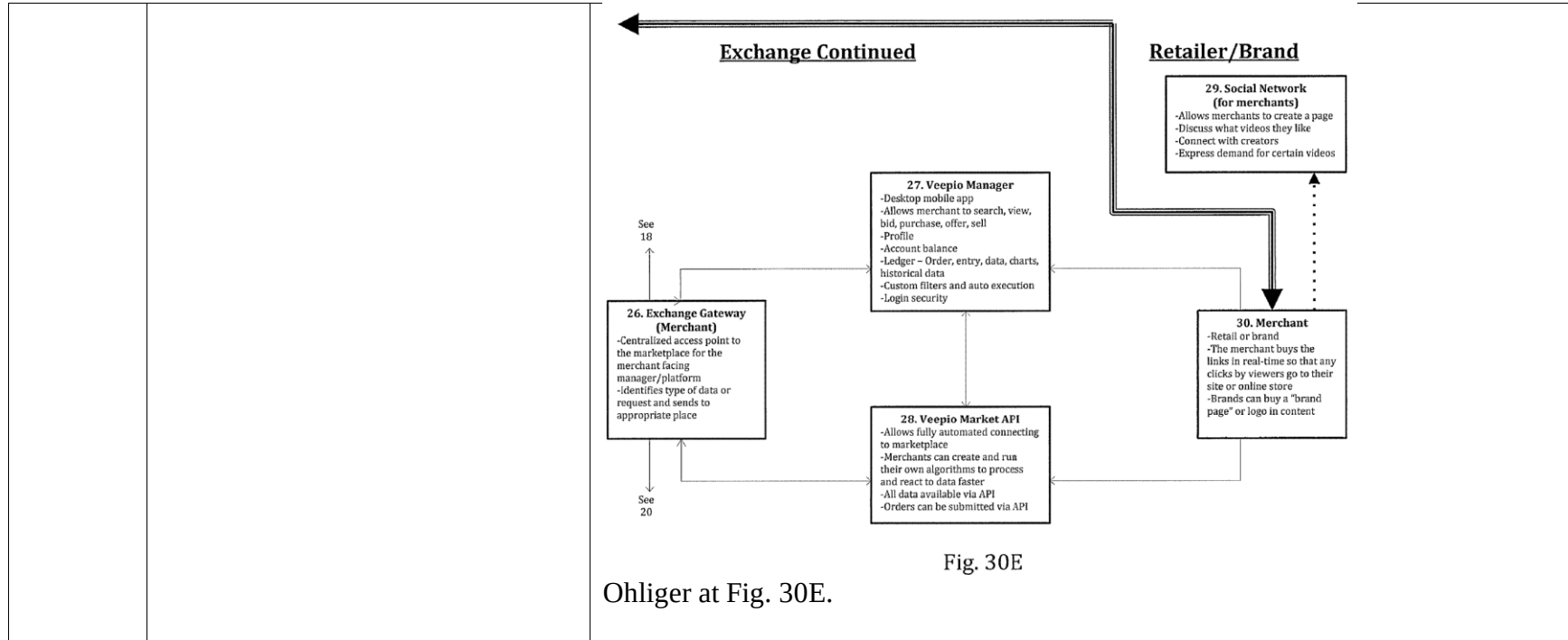


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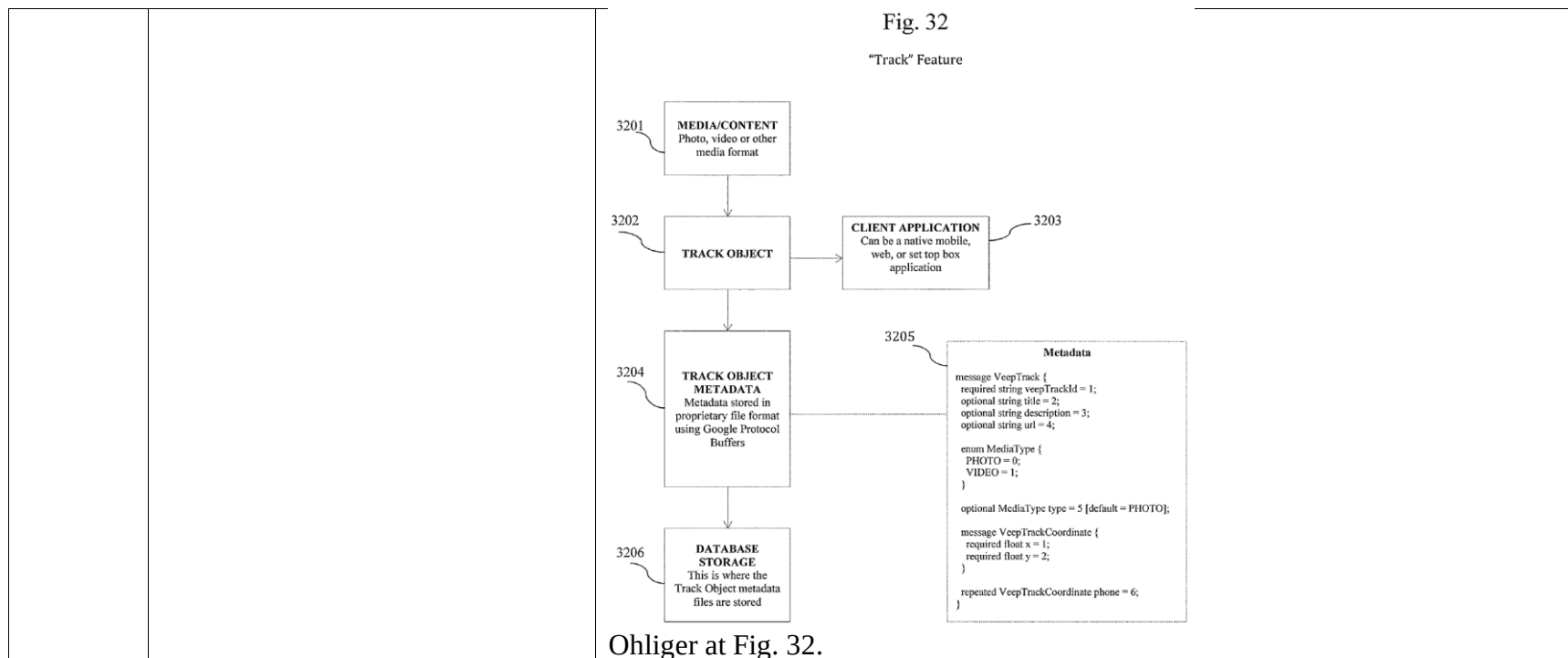
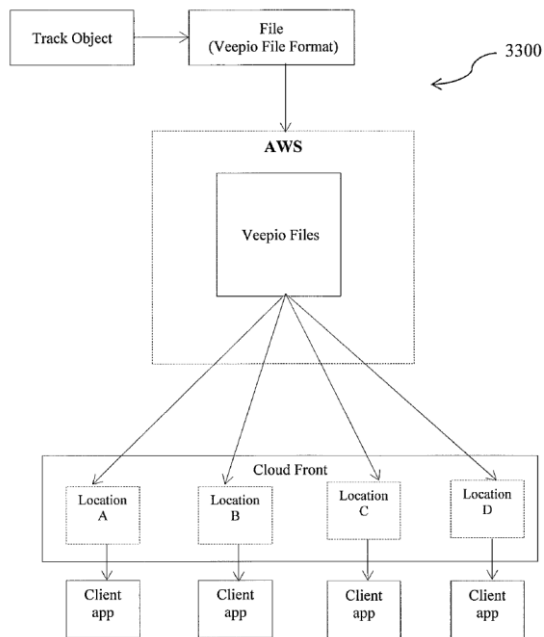


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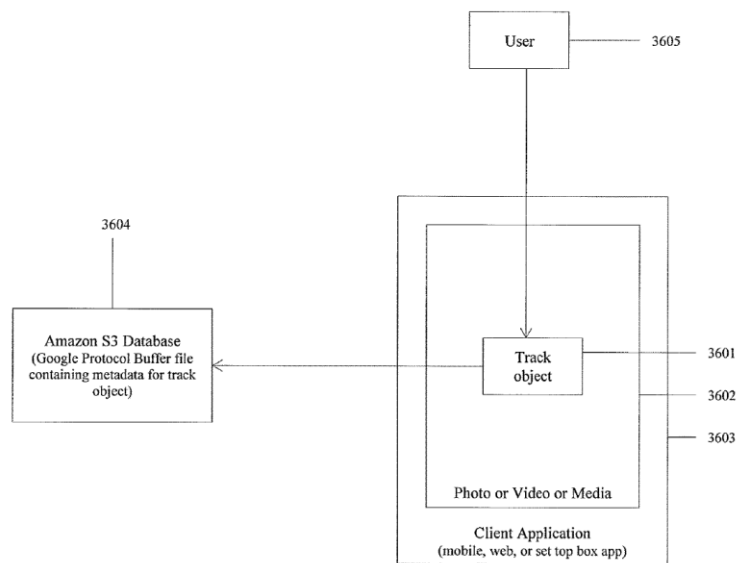
Fig. 33



Ohliger at Fig. 33.

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Fig. 36



Ohliger at Fig. 36.



Fig. 50

Ohliger at Fig.50.

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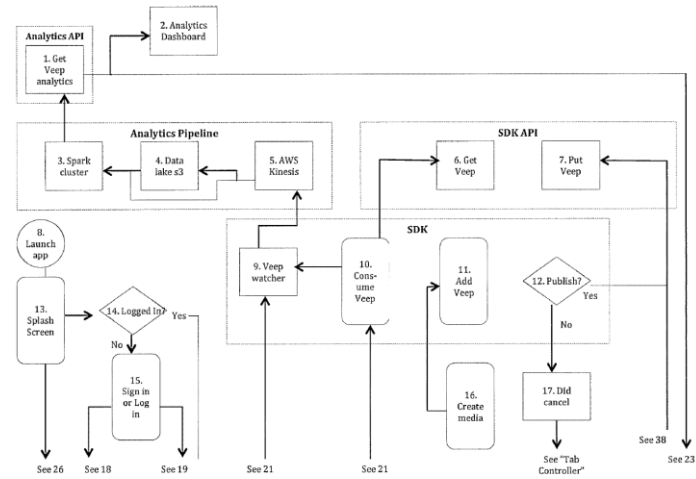


Fig. 51B

Ohliger at Fig. 51B.

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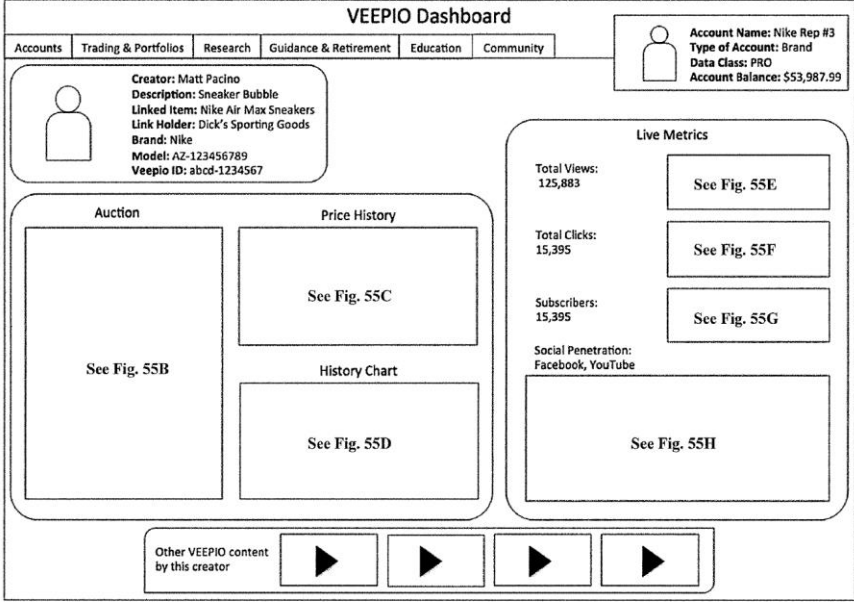
		 <p style="text-align: center;">Fig. 55A</p> <p>Ohliger at Fig. 55A.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
17[a]	(a) processing video media to generate a first interactive video layer, wherein the processing includes:	<p>Ohliger discloses “processing video media to generate a first interactive video layer, wherein the processing includes:” See e.g.:</p> <p>See 1[b], <i>supra</i>.</p>

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		<p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
17[a][i]	i. identifying one or more of the plurality of visual or audio objects within the video media;	<p>Ohliger discloses “identifying one or more of the plurality of visual or audio objects within the video media;” See e.g.:</p> <p>See 1[b][i], <i>supra</i>.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
17[a][ii]	ii. associating product information to the one or more of the plurality of visual or audio objects to correspondingly form one or more items, services, or songs of interest;	<p>Ohliger discloses “associating product information to the one or more of the plurality of visual or audio objects to correspondingly form one or more items, services, or songs of interest;” See e.g.:</p> <p>See 1[b][ii], <i>supra</i>.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further</p>

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		<p>motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
17[a][iii]	<p>iii. tracking the one or more items, services, or songs of interest through the one or more frames of the video media; and</p>	<p>Ohliger discloses “tracking the one or more items, services, or songs of interest through the one or more frames of the video media; and” See e.g.:</p> <p>See 1[b][iii], <i>supra</i>.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
17[a][iv]	<p>iv. assigning a selectable visual indicator for each of the one or more items, services, or songs of interest, wherein the first interactive video layer is configured to display the selectable visual indicator; and</p>	<p>Ohliger discloses “assigning a selectable visual indicator for each of the one or more items, services, or songs of interest, wherein the first interactive video layer is configured to display the selectable visual indicator; and” See e.g.:</p> <p>See 1[b][iv], <i>supra</i>.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
17[b]	<p>(b) generating a video data comprising the video media, the first interactive video layer, and a second interactive video layer,</p>	<p>Ohliger discloses “generating a video data comprising the video media, the first interactive video layer, and a second interactive video layer,” See e.g.:</p> <p>See 1[c], <i>supra</i>.</p>

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		<p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
17[b][i]	<p>wherein the video data is configured to be provided to a user via a first media playback device and to at least one guest via a second media playback device,</p>	<p>Ohliger discloses “wherein the video data is configured to be provided to a user via a first media playback device and to at least one guest via a second media playback device, ” See e.g.:</p> <p>See 1[c][i], <i>supra</i>.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
17[b][ii]	<p>wherein the second interactive video layer comprises a social media portion controllable by the user via the first media playback device, so as to interact with the at least one guest that is also a viewer of the video media through an interface displayed in the second interactive video layer via the second media playback device,</p>	<p>Ohliger discloses “wherein the second interactive video layer comprises a social media portion controllable by the user via the first media playback device, so as to interact with the at least one guest that is also a viewer of the video media through an interface displayed in the second interactive video layer via the second media playback device, ” See e.g.:</p> <p>See 1[c][ii], <i>supra</i>.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in</p>

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		Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.
17[b][iii]	wherein the second interactive video layer displays an interaction between the user and the at least one guest, and	<p>Ohliger discloses “wherein the second interactive video layer displays an interaction between the user and the at least one guest, and ” See e.g.:</p> <p>See 1[c][iii], <i>supra</i>.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
17[b][iv]	past interaction activity between a plurality of users in the social media portion, and	<p>Ohliger discloses “past interaction activity between a plurality of users in the social media portion, and ” See e.g.:</p> <p>See 1[c][iv], <i>supra</i>.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>

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17[b][v]	wherein the user is capable of maintaining and toggling between a plurality of different conversations displayable in the social media portion in the second interactive video layer as an overlay to the video media displayed by the first media playback device,	<p>Ohliger discloses “wherein the user is capable of maintaining and toggling between a plurality of different conversations displayable in the social media portion in the second interactive video layer as an overlay to the video media displayed by the first media playback device.” See e.g.:</p> <p>See 1[c][v], <i>supra</i>.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
17[b][vi]	wherein the plurality of users either includes the user or does not include the user.	<p>Ohliger discloses “wherein the plurality of users either includes the user or does not include the user.” See e.g.:</p> <p>See 1[c][vi], <i>supra</i>.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
18[pre]	A computer-implemented system comprising: a digital processing device comprising: at least one processor, an operating system configured to perform executable	<p>To the extent the preamble is limiting, Ohliger discloses “A computer-implemented system comprising: a digital processing device comprising: at least one processor, an operating system configured to perform executable instructions, a memory, and a computer program including instructions executable by the</p>

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instructions, a memory, and a computer program including instructions executable by the digital processing device to create an application for providing information on items, services, or songs in a video media, the application comprising:

digital processing device to create an application for providing information on items, services, or songs in a video media, the application comprising:” See e.g.:

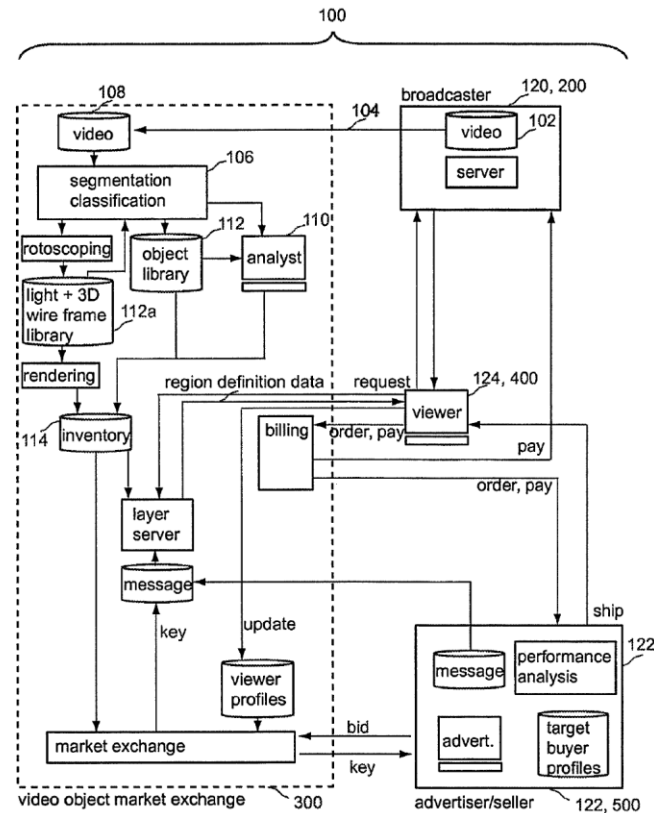


FIG. 2
 Ohliger at Fig. 2.

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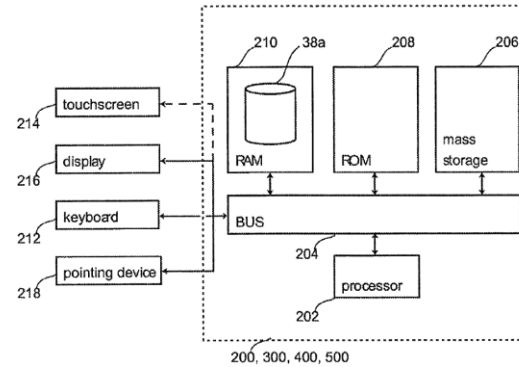


FIG. 3
Ohliger at Fig. 3.

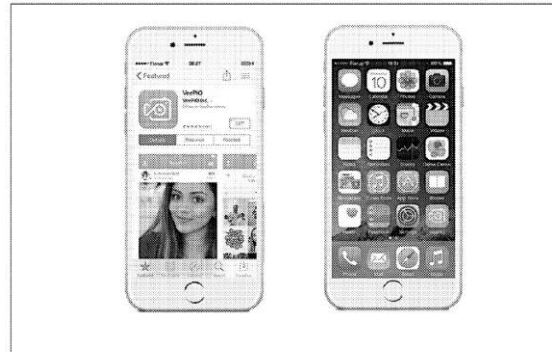


Fig. 13
App Store
Ohliger at Fig. 13.

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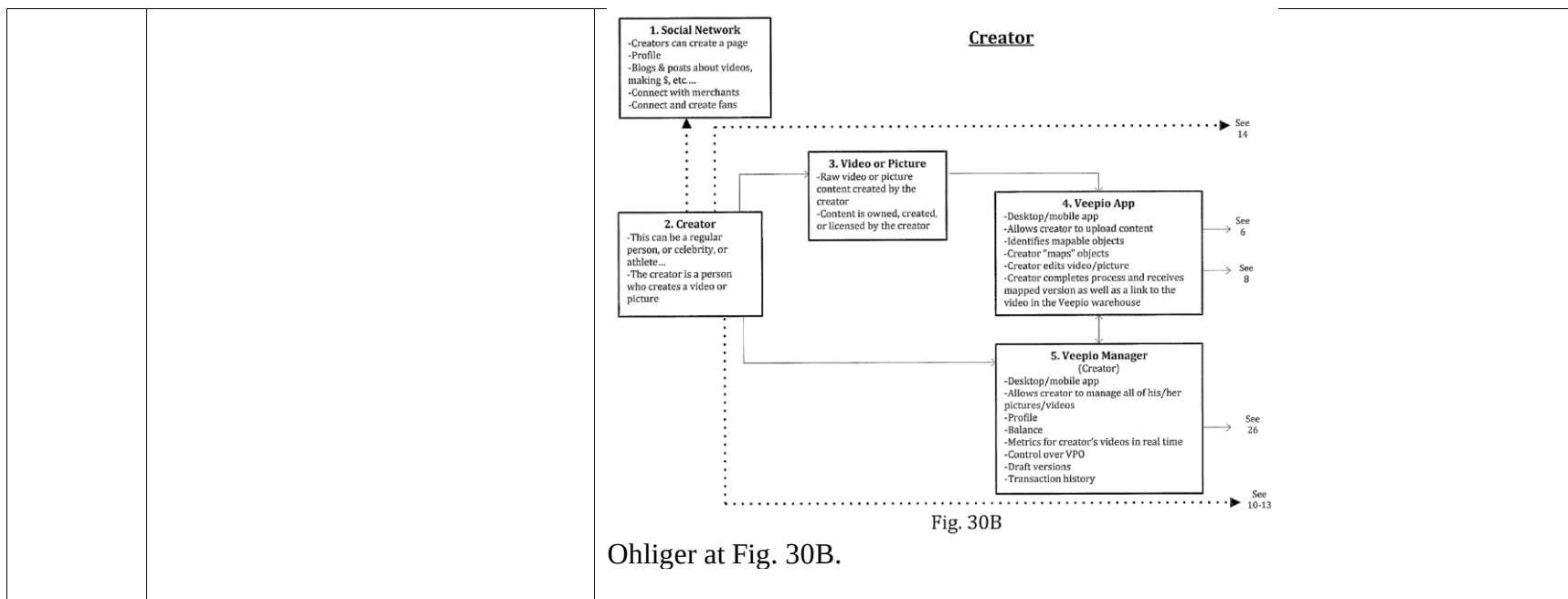


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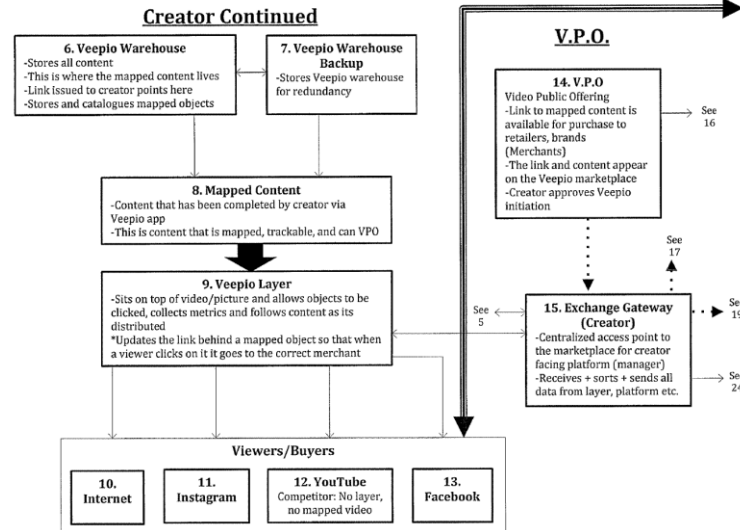


Fig. 30C

Ohliger at Fig. 30C.

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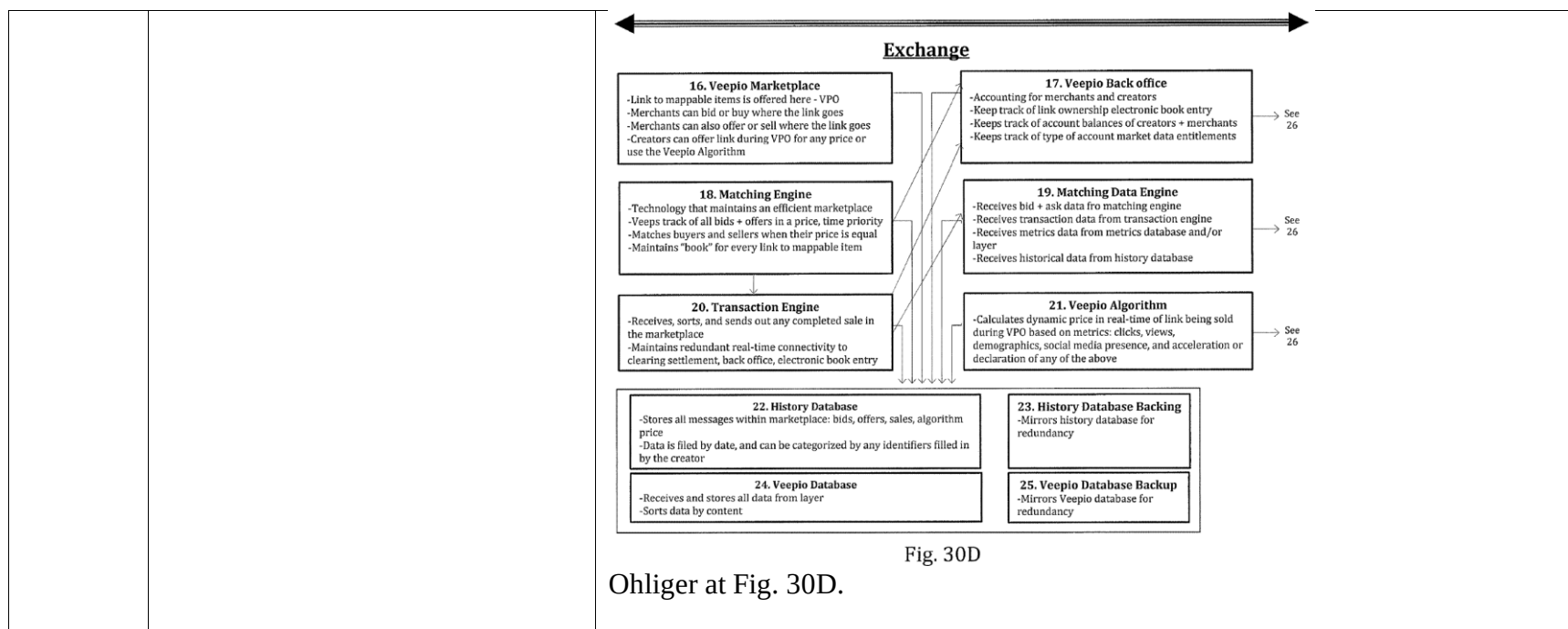


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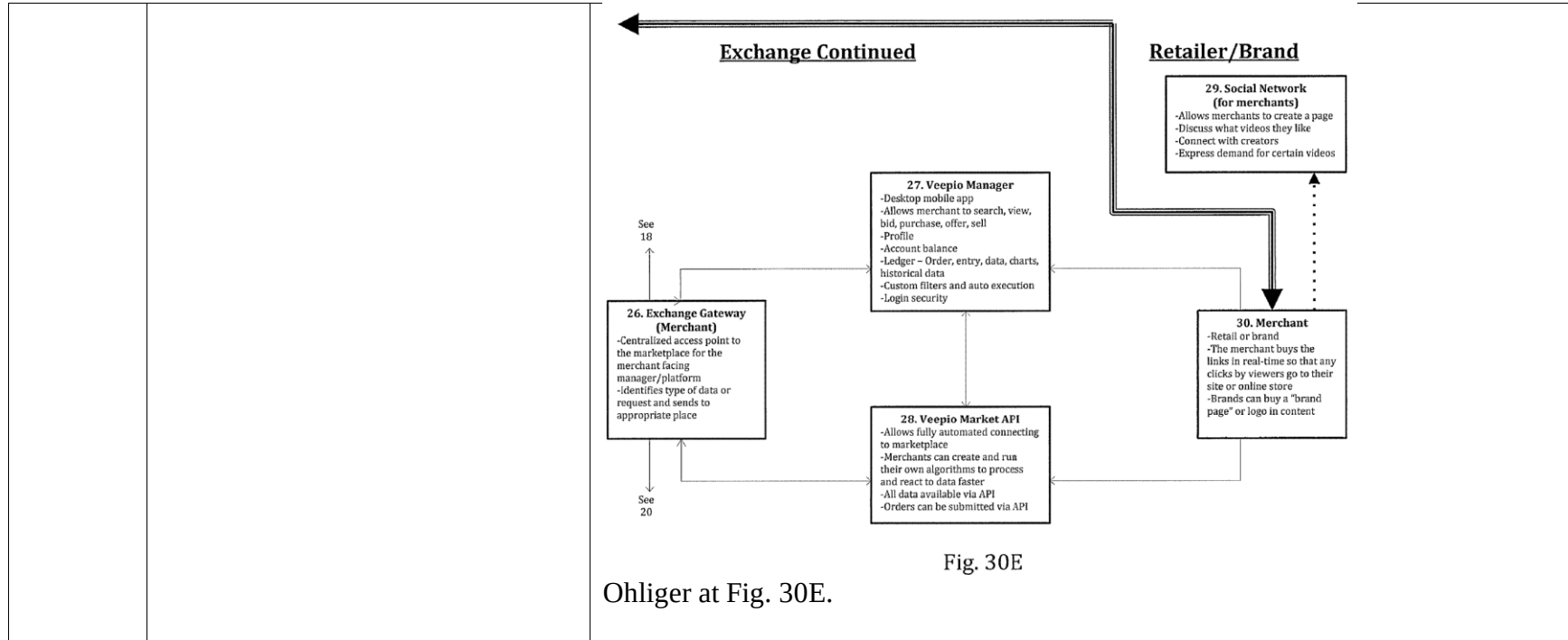


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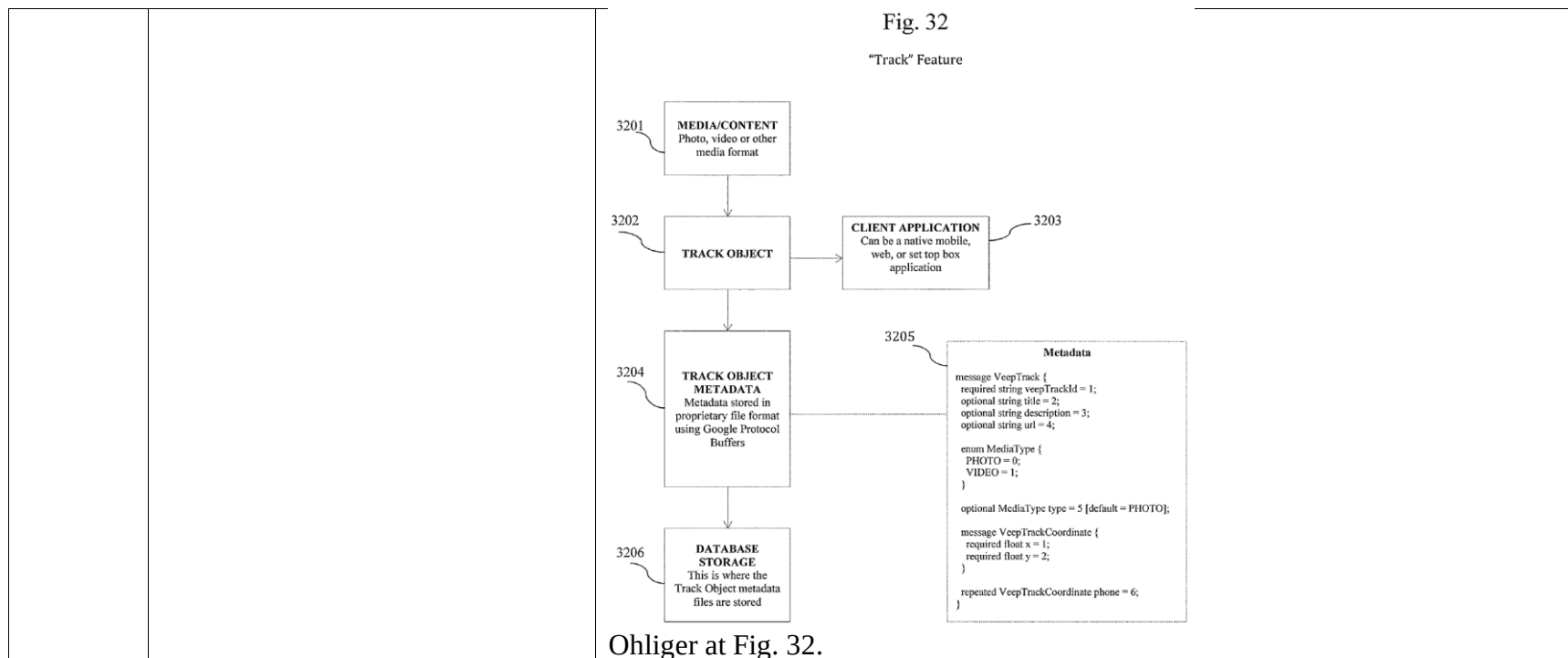
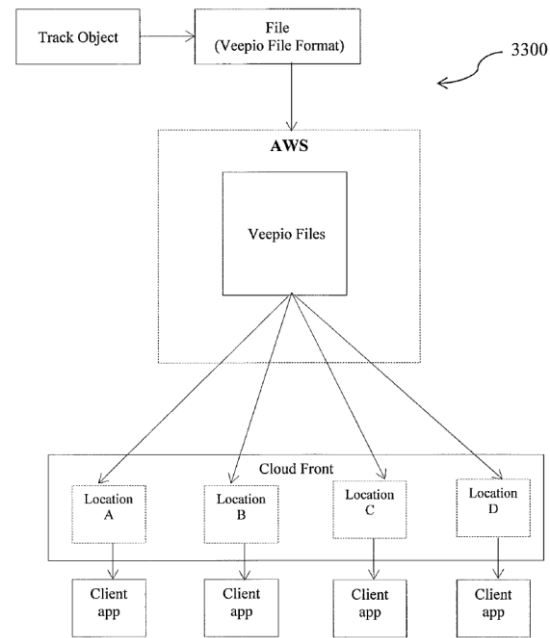


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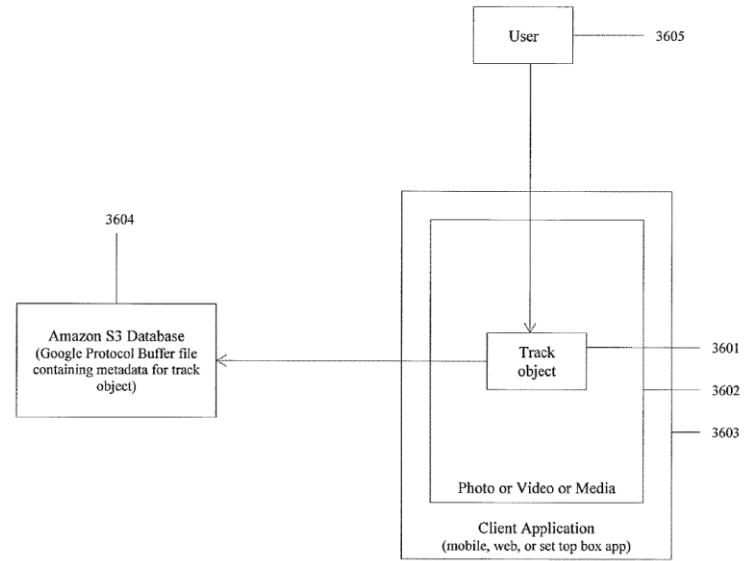
Fig. 33



Ohliger at Fig. 33.

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Fig. 36



Ohliger at Fig. 36.



Fig. 50

Ohliger at Fig.50.

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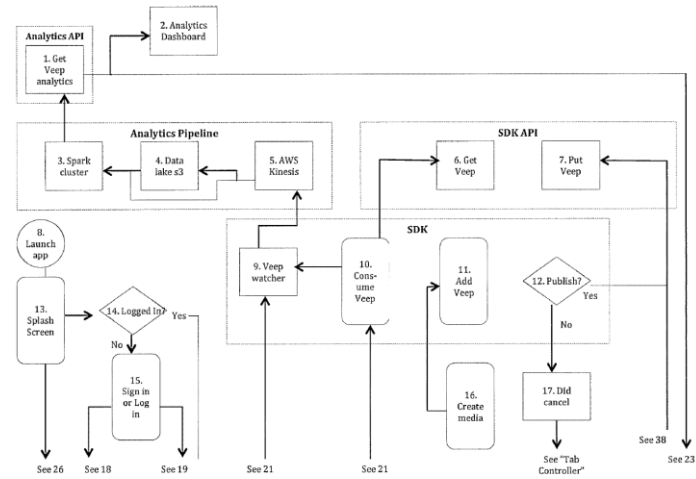


Fig. 51B

Ohliger at Fig. 51B.

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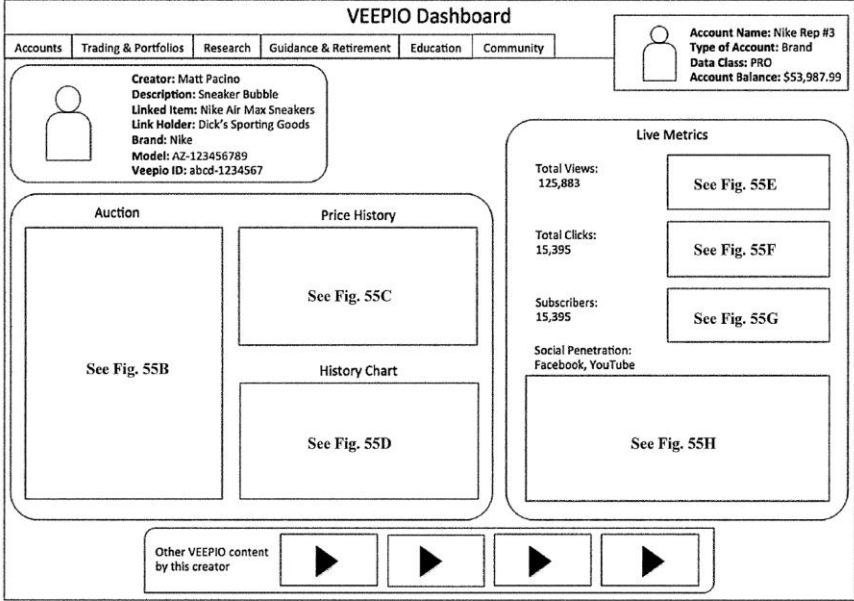
		 <p>The screenshot shows the VEEPIO Dashboard for a user named Nike Rep #3. The dashboard includes a navigation bar with tabs for Accounts, Trading & Portfolios, Research, Guidance & Retirement, Education, and Community. The main content area is divided into several sections: a user profile section with details like Creator (Matt Pacino), Description (Sneaker Bubble), and Veepio ID; a Live Metrics section showing Total Views (125,883), Total Clicks (15,395), and Subscribers (15,395); and a central area with an Auction, Price History, and History Chart. The bottom of the dashboard features a section for 'Other VEEPIO content by this creator' with four video thumbnails.</p>
		<p style="text-align: center;">Fig. 55A</p> <p>Ohliger at Fig. 55A.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
18[a]	a) a software module for receiving a request for the generation of information regarding items, services, or songs presented in a	Ohliger discloses “a software module for receiving a request for the generation of information regarding items, services, or songs presented in a video media from a first processing device of a user;” See e.g.:

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	<p>video media from a first processing device of a user;</p>	<p>“One aspect of the invention relates to the creation of an inventory of video objects and corresponding region definition data. The video object inventory 114 is a database containing region definition data in form of pointers or references to video objects within video or animation files. Importantly, the region definition data is used to make the video interactive by providing the ability to link supplemental information with a specific video object within a video. For example, the video viewer can select a shirt displayed within the video and learn the brand and model of the shirt and other relevant information. Further, the viewer can also see comments, pictures, audio, and other content associated with the object by the creator of the video. The invention associates the relevant information with the video object thereby making the object a selectable hyperlink, meaning that the viewer can click or touch the object in any frame of the video in which the object appears and the related content will be revealed. In one embodiment of the invention, recognized video objects are represented by 3D vector graphics data such as wire frame models FIG. 8D. The representation is created by computing the difference between perspective views FIG. 8A-8C on the object and then specifying each edge of the physical object where two mathematically continuous smooth surfaces meet, or by connecting an object's constituent vertices using straight lines or curves. If not all views are available, then only a partial 3D model is created but completed once the missing views become available in additional videos. These 3D wireframe models may be used to improve the recognition of video objects but also may be used to represent the video objects as outlines of perspective views of the three-dimensional wireframe FIG. 8E. Such an embodiment allows users to rotate the view of the video object once selected. Furthermore, this embodiment allows additional animated 3D objects to be placed in videos complementing or superimposing original video objects.” Ohliger at 9:24-60.</p> <p>“In steps 700 and 710 a video is segmented and classified using an automated or manual segmentation and classification application to create a list or table of objects. The segmentation process 700 yields a list of video objects throughout the video (including the temporal coordinates and region definition date for each</p>
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	<p>object) and the classification process 710 matches occurrences of the same object in different frames of the video thereby eliminating duplication/redundancy. It should be noted that the location, size and shape of a video object can and usually will vary throughout a video. The size of an object varies depending on its proximity which will vary as the object moves throughout the video. Similarly, the shape of an object may vary depending on the perspective or vantage point from which it is seen, e.g. frontal view versus side view. Moreover, the system of the invention is able to segment, track and classify a moving object. Thus the location of the video object dynamically changes as the underlying object moves, which is represented in the region definition data.</p> <p>In step 720, the video objects are compared with objects in an object library, which may be 2D (two-dimensional) or 3D (three-dimensional) wire frame data representing objects within the video. Perspective views from such 2D/3D wire frame models may be advantageous to the automatic object recognition process. This step is optional. If a match is detected then the object is associated with the product description and/or meta-data from the object library. The unmatched video object may be discarded or subjected to a secondary processing application and/or an analyst may manually identify/configure the object boundaries (step 730), and then the object may be subject to another classification step (710) and/or another comparison with objects in the object library (720). The creator of the video can also choose which objects they want to make interactive (705) and they can identify those objects with a dynamic bounding area that will change size proportionate to the change in size of the object from frame to frame as it is tracked by an object tracking algorithm. The creator can also describe, comment and add additional content to an object in the video that they have chosen to make interactive (715). This content will appear to a viewer when they interact with the bounding area around the object in any frame that the object appears by clicking, hovering over, or touching any point within the bounding area.” Ohliger at 11:52-12:28.</p> <p>“An inventory 114 of video objects is assembled by segmenting and classifying the raw video content from database 108 (or 102) to identify video objects therein. More particularly, the video content analysis application 106 segments</p>
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	<p>the raw video content to yield a list of all the video objects in a given video. Then the video content analysis application 106 (which may be embodied in software or in a circuit, i.e. hardware or firmware) classifies the list of video objects to resolve occurrences of the same video object throughout the video. VOHE 300 may be provided with separate software applications for performing segmentation and classification, or a single software application may perform both segmentation and classification.” Ohliger at 16:19-31.</p> <p>“The video content analysis application 106 may access an object information library 112 which is a database stored on or accessible to server 300. For example, the object information library 112 may be stored on a memory device such as memory device 206 and/or RAM 210 used to store the program instructions for the video content analysis application 106. The library 112 stores images of objects from different viewing angles or 3D models of the objects. The image information may be used as the index or key to link descriptive information with the video object. The library 112 further contains one or more of an object identifier, label, and or meta-data description of the video object which may be used to describe the video content object to prospective bidders. Alternatively, the content analysis application 106 may utilize logic to identify video content objects without recourse to object information library 112. Applicant hereby incorporates by reference to U.S. Pat. No. 6,625,310 entitled “Video segmentation using statistical pixel modeling” which discloses one of many methods for segmenting video data into foreground and background portions which utilizes statistical modeling of the pixels. A statistical model of the background is built for each pixel, and each pixel in an incoming video frame is compared with the background statistical model for that pixel. Pixels are determined to be foreground or background based on the comparisons. Applicant hereby incorporates by reference to U.S. Pat. No. 6,462,754 entitled “Method and apparatus for authoring and linking video documents” which discloses an authoring method for video documents, involves creating anchorable information unit file based on boundaries of objects of interest such that objects interest are used to identify portions of video data.</p>
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	<p>Applicant hereby incorporates by reference to U.S. Pat. No. 7,325,245 entitled “Linking to video information” which discloses a system which enables dynamic linking between a variety of video formats including television broadcasts, web pages, and video displays which are stored on magnetic or optical media. Each frame of the video information is identified together with a plurality of locations within that frame. The locations selected by the user, for example using a pointing device, are then used to access associated information either within the system itself or on an external system.</p> <p>U.S. Patent Publication 2008/0294694 (Maghfourian) entitled “Method, apparatus, system, medium, and signals for producing interactive video content,” which is incorporated herein by reference, discloses a method for producing interactive video content on a content publisher computer. The method involves associating indicia with at least one image portion in the video content, the indicia being operably configured to follow the at least one image portion as a display position of the image portion changes in the video content. The method also involves associating an image portion identifier with the indicia, and associating link properties with the indicia, the link properties being operable to cause transmission of a content location request to a registration server in response to selection of the indicia by a viewer of the interactive video content. The content location request includes the image portion identifier.</p> <p>In case of a manual or semi-automated process, the inventory 114 may be created by the content analysis application 106 with the assistance and/or review of a human analyst 110 who may be the creator of the video. The analyst 110 may manually identify a given instance of a video object by, for example, viewing a still image of the video and tracing the video object (manual process), and then utilize the content analysis application 106 (semi-automated process) to identify other occurrences of the video object in the video. Additionally or alternatively, an analyst 110 may review and refine the boundaries of an unmatched video object, and then subject the object to a second round of classification and/or second round of matching the object with objects in the object library.</p> <p>Alternatively, the analyst 110 may review and edit objects which were automatically identified by the content analysis application 106.” Ohliger at 17:27-18:38.</p>
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		<p>“According to another embodiment, the system for automatically segmenting and classifying video content into objects includes a server such as server 300 including a computer connectable to a distributed network and having a processor, random access memory, read-only memory, and mass storage memory, the video segmenting and classification server including one or more video files stored in a video database. The system includes a wireframe database stored on or accessible to the server. The wire frame database stores three-dimensional wireframe representations of at least one video object and at least one of descriptive information and semantic information used to describe the object. The descriptive information and semantic information is the same information described elsewhere in this disclosure in the context of segmenting and classifying video objects. The system further includes an object inventory database containing information describing a location of at least one video object within one of the video files. A video content analysis application executed on the processor, segments the video files to identify locations of video objects. The application searches for a matching (corresponding) occurrence of the video object in the wireframe database. For each match, the application retrieves information describing the video object from the wireframe database, and stores in the object inventory database 112 information describing the dynamic location of the video object within the video and information describing the video object.” Ohliger at 21:17-44.</p> <p>“a. Instagram Embodiment: Steps of a Manual Process (Performed by Content Owner (Content Provider))</p> <ol style="list-style-type: none"> i. Place finger or pointer on an object in the Instagram image and indicate that you wish “track” the object. ii. In a separate window, a search engine opens up and the content owner manually enters search terms to attempt to locate the object at an e-commerce site (e.g., AMAZON®, Lands End®). iii. If the object is located in the search results, the content owner navigates to the site in the search results hit. The URL of the search results hit (typically a very long string of characters) appears in the location bar, as is well-known. For
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		<p>example, here is the URL of CREST Whitestrips on Amazon.com: http://www.amazon.com/Crest-White-Whitestrips-Professional-Effects/dp/B00336EUTK</p> <p>iv. The content owner associates the URL with the tracked object in the image. The link itself is not shown in the image.</p> <p>v. A database associated with the Veepio platform maintains an association with the tracked object in the content owner's image and the URL. This database record is unique to the user's image ("personalized object"). The database record may also include additional description added by the user about the object, as well as a social media feed regarding the object in the user's image.</p> <p>After completion of these steps, a subsequent viewer of the Instagram image will be provided with a visual cue that one or more objects in the image are clickable. If clicked, a browser is opened that automatically navigates to the previously stored URL of the e-commerce site so that the items can be purchased, and the viewer may also see whatever user description or social media feed may exist for the tracked object. (The URL is not viewable within the image.)" Ohliger at 36:40-37:6.</p> <p>"b. Instagram Embodiment: Steps of an Automated Process</p> <p>i. The content owner indicates that they want to "track" the objects in an Instagram image that is on the display by selecting an "auto-track" option.</p> <p>ii. The Instagram image is uploaded to Veepio's platform and an auto-recognition process identifies all of the objects in the image that match objects in the platform's library.</p> <p>iii. The content owner is presented with a list of the objects and selects the objects that they wish to "track" for their Instagram image.</p> <p>iv. (same as step v. above) A database associated with the Veepio platform maintains an association with the tracked object(s) in the content owner's image and the URL. This database record is unique to the content owner's image ("personalized object"). The database record may also include additional description added by the content owner about the object(s), as well as a social media feed regarding the object(s) in the content owner's image.</p>
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		<p>In both manual and automated embodiments, the content owner receives a portion of the proceeds of any e-commerce purchase.</p> <p>In both embodiments, a cookie travels with the link to the e-commerce site. As known in the art, e-commerce sites that employ affiliate marketing programs use a cookie of the last place that a person navigated to so as to identify where a potential purchaser came from. Since the viewer is inside of the VEEPIO app, the cookie is used to identify that the purchaser was referred by VEEPIO. VEEPIO has an omnibus account for use with the e-commerce sites and each VEEPIO content owner has a sub-account within the omnibus account for crediting to the content owners of any monetization that may result from the e-commerce activity.” Ohliger at 37:37-38:3.</p> <p>“The same manual and automated processes occur as described above. Once an object is identified, it is followed (tracked) throughout the video.</p> <p>In the manual process, the content owner freeze-frames the video and identifies the object(s). Backward tracking also occurs so the object(s) are tracked and clickable in previous video frames that contain the object(s). “Key frames” are referred to herein as the frames that the object is in.</p> <p>2. Object Warehouse</p> <p>This is the database discussed above that is associated with the Veepio platform. It maintains an association with all tracked objects in the content owner's images/video. Each database record is unique to the content owner's image or video (“personalized object”). The database record may also include additional description added by the content owner about the object, as well as a social media feed regarding the object in the content owner's image or video. If the same object appears in a different image or video, it is maintained in a different database record and has its own content owner description and social media feed.” Ohliger at 38:5-27.</p>
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Fig. 18
Shop VeePIO

Ohliger at Fig. 18.

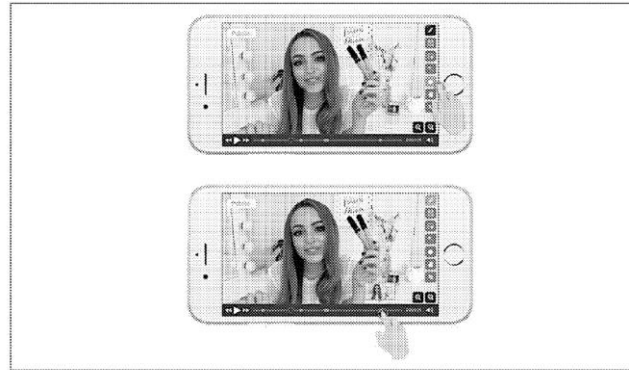
Fig. 20
How to Veep



Ohliger at Fig. 20.

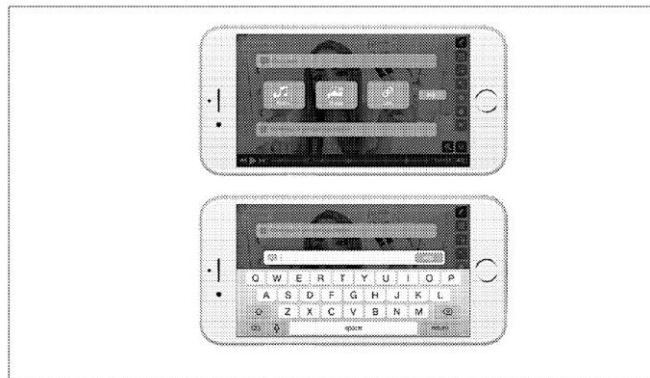
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Fig. 21
Veep Editing Room



Ohliger at Fig. 21.

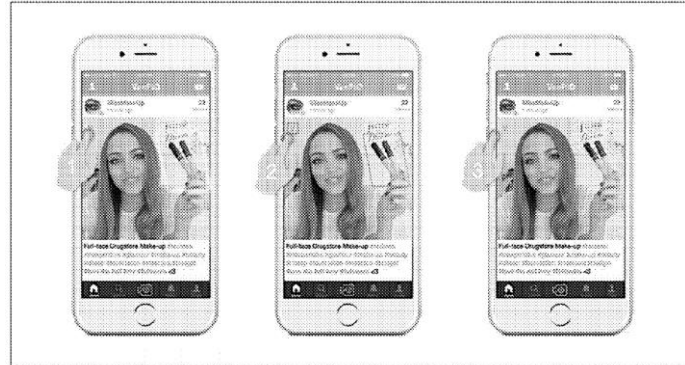
Fig. 22
Object Details



Ohliger at Fig. 21.

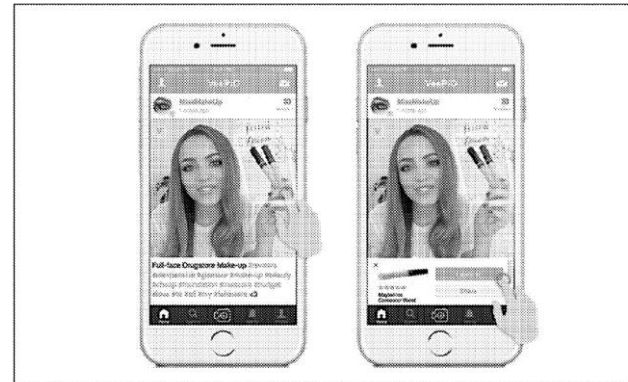
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Fig. 23
"V"isibility



Ohliger at Fig. 23.

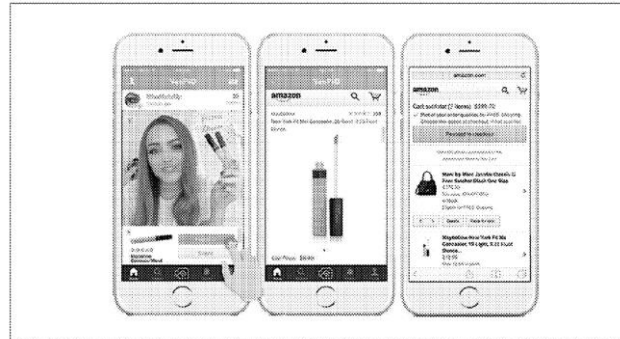
Fig. 24
I Want it!



Ohliger at Fig. 24.

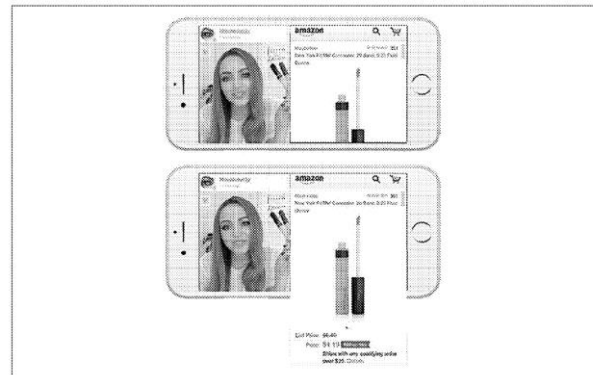
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Fig. 25
I Want it! Continued



Ohliger at Fig. 25.

Fig. 28
Buy Via Split Screen



Ohliger at Fig. 28.

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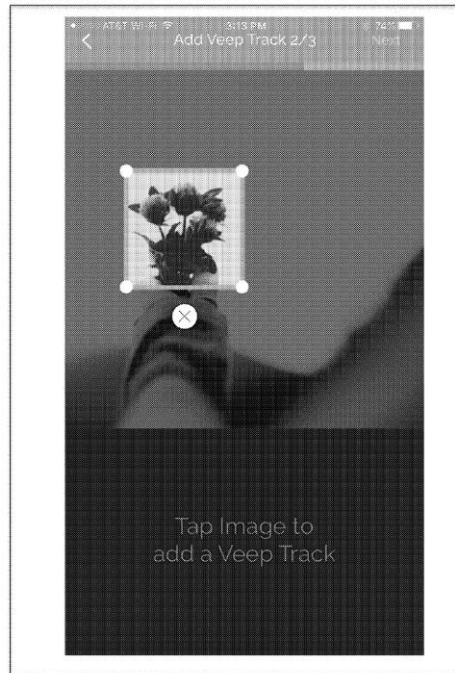


Fig. 38

Ohliger at Fig. 38.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

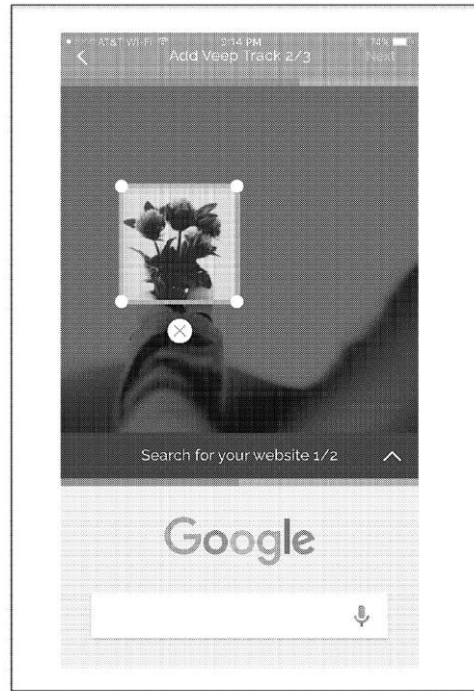


Fig. 39
Ohliger at Fig. 39.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

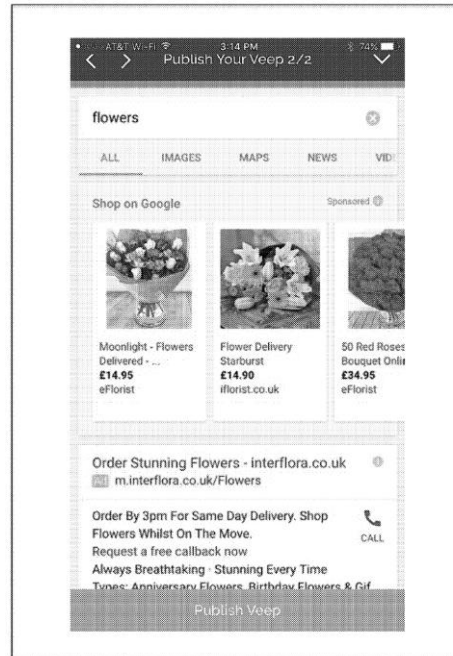


Fig. 41
Ohliger at Fig. 41.

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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

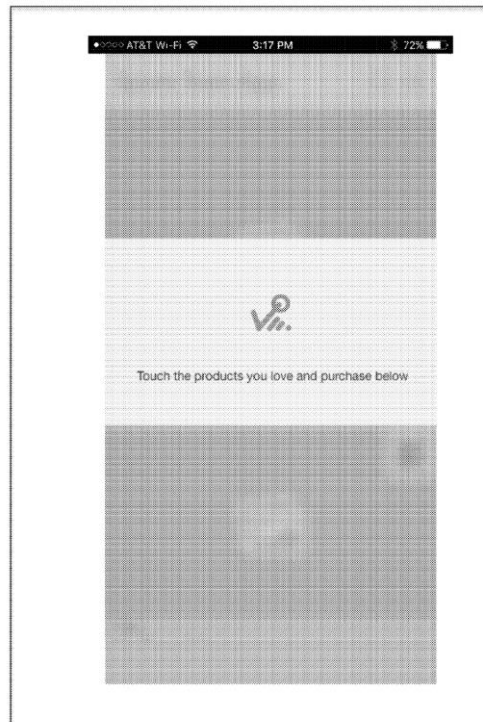


Fig. 46
'46 Patent at Fig. 46.

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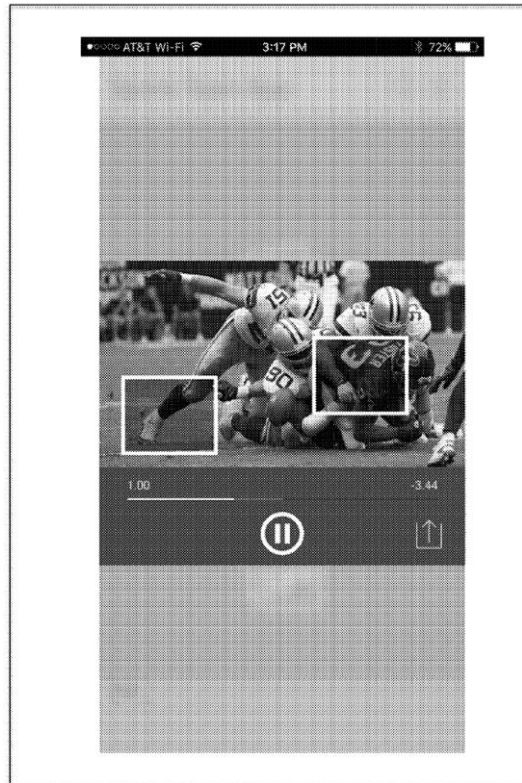


Fig. 48
Ohliger at Fig. 48.

Exhibit 316-A13
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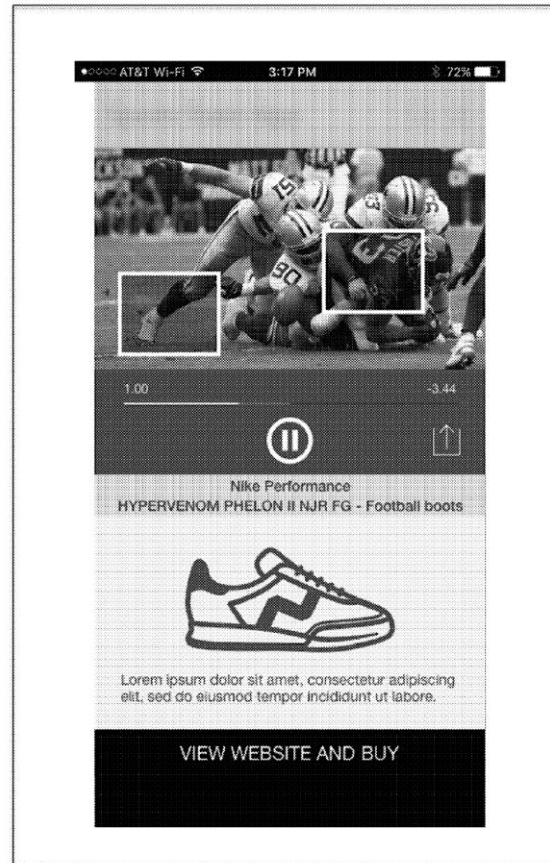


Fig. 49
Ohliger at Fig. 49.

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Fig. 50

Ohliger at Fig. 50.

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FIG. 53B

Ohliger at Fig. 53B.

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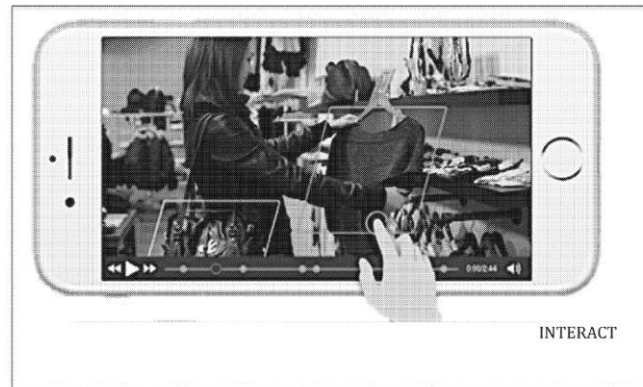


FIG. 53D

Ohliger at Fig. 53D.



FIG. 53E

Ohliger at Fig. 53E.

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		 <p style="text-align: center;">FIG. 53F</p> <p>Ohliger at Fig. 53F.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
18[b]	b) a software module for linking the items, services, or songs with marketing and/or purchasing information;	<p>Ohliger discloses “a software module for linking the items, services, or songs with marketing and/or purchasing information;” See e.g.:</p> <p>“One aspect of the invention relates to the creation of an inventory of video objects and corresponding region definition data. The video object inventory 114 is a database containing region definition data in form of pointers or references to video objects within video or animation files. Importantly, the region definition</p>

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		<p>data is used to make the video interactive by providing the ability to link supplemental information with a specific video object within a video. For example, the video viewer can select a shirt displayed within the video and learn the brand and model of the shirt and other relevant information. Further, the viewer can also see comments, pictures, audio, and other content associated with the object by the creator of the video. The invention associates the relevant information with the video object thereby making the object a selectable hyperlink, meaning that the viewer can click or touch the object in any frame of the video in which the object appears and the related content will be revealed. In one embodiment of the invention, recognized video objects are represented by 3D vector graphics data such as wire frame models FIG. 8D. The representation is created by computing the difference between perspective views FIG. 8A-8C on the object and then specifying each edge of the physical object where two mathematically continuous smooth surfaces meet, or by connecting an object's constituent vertices using straight lines or curves.</p> <p>If not all views are available, then only a partial 3D model is created but completed once the missing views become available in additional videos. These 3D wireframe models may be used to improve the recognition of video objects but also may be used to represent the video objects as outlines of perspective views of the three-dimensional wireframe FIG. 8E. Such an embodiment allows users to rotate the view of the video object once selected. Furthermore, this embodiment allows additional animated 3D objects to be placed in videos complementing or superimposing original video objects.” Ohliger at 9:24-60.</p> <p>“In steps 700 and 710 a video is segmented and classified using an automated or manual segmentation and classification application to create a list or table of objects. The segmentation process 700 yields a list of video objects throughout the video (including the temporal coordinates and region definition date for each object) and the classification process 710 matches occurrences of the same object in different frames of the video thereby eliminating duplication/redundancy. It should be noted that the location, size and shape of a video object can and usually will vary throughout a video. The size of an object varies depending on its</p>
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	<p>proximity which will vary as the object moves throughout the video. Similarly, the shape of an object may vary depending on the perspective or vantage point from which it is seen, e.g. frontal view versus side view. Moreover, the system of the invention is able to segment, track and classify a moving object. Thus the location of the video object dynamically changes as the underlying object moves, which is represented in the region definition data.</p> <p>In step 720, the video objects are compared with objects in an object library, which may be 2D (two-dimensional) or 3D (three-dimensional) wire frame data representing objects within the video. Perspective views from such 2D/3D wire frame models may be advantageous to the automatic object recognition process. This step is optional. If a match is detected then the object is associated with the product description and/or meta-data from the object library. The unmatched video object may be discarded or subjected to a secondary processing application and/or an analyst may manually identify/configure the object boundaries (step 730), and then the object may be subject to another classification step (710) and/or another comparison with objects in the object library (720). The creator of the video can also choose which objects they want to make interactive (705) and they can identify those objects with a dynamic bounding area that will change size proportionate to the change in size of the object from frame to frame as it is tracked by an object tracking algorithm. The creator can also describe, comment and add additional content to an object in the video that they have chosen to make interactive (715). This content will appear to a viewer when they interact with the bounding area around the object in any frame that the object appears by clicking, hovering over, or touching any point within the bounding area.” Ohliger at 11:52-12:28.</p> <p>“An inventory 114 of video objects is assembled by segmenting and classifying the raw video content from database 108 (or 102) to identify video objects therein. More particularly, the video content analysis application 106 segments the raw video content to yield a list of all the video objects in a given video. Then the video content analysis application 106 (which may be embodied in software or in a circuit, i.e. hardware or firmware) classifies the list of video objects to resolve occurrences of the same video object throughout the video. VOHE 300</p>
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		<p>may be provided with separate software applications for performing segmentation and classification, or a single software application may perform both segmentation and classification.” Ohliger at 16:19-31.</p> <p>“The video content analysis application 106 may access an object information library 112 which is a database stored on or accessible to server 300. For example, the object information library 112 may be stored on a memory device such as memory device 206 and/or RAM 210 used to store the program instructions for the video content analysis application 106. The library 112 stores images of objects from different viewing angles or 3D models of the objects. The image information may be used as the index or key to link descriptive information with the video object. The library 112 further contains one or more of an object identifier, label, and or meta-data description of the video object which may be used to describe the video content object to prospective bidders. Alternatively, the content analysis application 106 may utilize logic to identify video content objects without recourse to object information library 112. Applicant hereby incorporates by reference to U.S. Pat. No. 6,625,310 entitled “Video segmentation using statistical pixel modeling” which discloses one of many methods for segmenting video data into foreground and background portions which utilizes statistical modeling of the pixels. A statistical model of the background is built for each pixel, and each pixel in an incoming video frame is compared with the background statistical model for that pixel. Pixels are determined to be foreground or background based on the comparisons. Applicant hereby incorporates by reference to U.S. Pat. No. 6,462,754 entitled “Method and apparatus for authoring and linking video documents” which discloses an authoring method for video documents, involves creating anchorable information unit file based on boundaries of objects of interest such that objects interest are used to identify portions of video data. Applicant hereby incorporates by reference to U.S. Pat. No. 7,325,245 entitled “Linking to video information” which discloses a system which enables dynamic linking between a variety of video formats including television broadcasts, web pages, and video displays which are stored on magnetic or optical media. Each frame of the video information is identified together with a plurality of locations</p>
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		<p>within that frame. The locations selected by the user, for example using a pointing device, are then used to access associated information either within the system itself or on an external system.</p> <p>U.S. Patent Publication 2008/0294694 (Maghfourian) entitled “Method, apparatus, system, medium, and signals for producing interactive video content,” which is incorporated herein by reference, discloses a method for producing interactive video content on a content publisher computer. The method involves associating indicia with at least one image portion in the video content, the indicia being operably configured to follow the at least one image portion as a display position of the image portion changes in the video content. The method also involves associating an image portion identifier with the indicia, and associating link properties with the indicia, the link properties being operable to cause transmission of a content location request to a registration server in response to selection of the indicia by a viewer of the interactive video content. The content location request includes the image portion identifier.</p> <p>In case of a manual or semi-automated process, the inventory 114 may be created by the content analysis application 106 with the assistance and/or review of a human analyst 110 who may be the creator of the video. The analyst 110 may manually identify a given instance of a video object by, for example, viewing a still image of the video and tracing the video object (manual process), and then utilize the content analysis application 106 (semi-automated process) to identify other occurrences of the video object in the video. Additionally or alternatively, an analyst 110 may review and refine the boundaries of an unmatched video object, and then subject the object to a second round of classification and/or second round of matching the object with objects in the object library.</p> <p>Alternatively, the analyst 110 may review and edit objects which were automatically identified by the content analysis application 106.” Ohliger at 17:27-18:38.</p> <p>“According to another embodiment, the system for automatically segmenting and classifying video content into objects includes a server such as server 300 including a computer connectable to a distributed network and having a processor, random access memory, read-only memory, and mass storage memory,</p>
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		<p>the video segmenting and classification server including one or more video files stored in a video database. The system includes a wireframe database stored on or accessible to the server. The wire frame database stores three-dimensional wireframe representations of at least one video object and at least one of descriptive information and semantic information used to describe the object. The descriptive information and semantic information is the same information described elsewhere in this disclosure in the context of segmenting and classifying video objects. The system further includes an object inventory database containing information describing a location of at least one video object within one of the video files. A video content analysis application executed on the processor, segments the video files to identify locations of video objects. The application searches for a matching (corresponding) occurrence of the video object in the wireframe database. For each match, the application retrieves information describing the video object from the wireframe database, and stores in the object inventory database 112 information describing the dynamic location of the video object within the video and information describing the video object.” Ohliger at 21:17-44.</p> <p>“a. Instagram Embodiment: Steps of a Manual Process (Performed by Content Owner (Content Provider))</p> <ol style="list-style-type: none"> i. Place finger or pointer on an object in the Instagram image and indicate that you wish “track” the object. ii. In a separate window, a search engine opens up and the content owner manually enters search terms to attempt to locate the object at an e-commerce site (e.g., AMAZON®, Lands End®). iii. If the object is located in the search results, the content owner navigates to the site in the search results hit. The URL of the search results hit (typically a very long string of characters) appears in the location bar, as is well-known. For example, here is the URL of CREST Whitestrips on Amazon.com: http://www.amazon.com/Crest-White-Whitestrips-Professional-Effects/dp/B00336EUTK iv. The content owner associates the URL with the tracked object in the image. The link itself is not shown in the image.
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	<p>v. A database associated with the Veepio platform maintains an association with the tracked object in the content owner's image and the URL. This database record is unique to the user's image ("personalized object"). The database record may also include additional description added by the user about the object, as well as a social media feed regarding the object in the user's image.</p> <p>After completion of these steps, a subsequent viewer of the Instagram image will be provided with a visual cue that one or more objects in the image are clickable. If clicked, a browser is opened that automatically navigates to the previously stored URL of the e-commerce site so that the items can be purchased, and the viewer may also see whatever user description or social media feed may exist for the tracked object. (The URL is not viewable within the image.)" Ohliger at 36:40-37:6.</p> <p>"b. Instagram Embodiment: Steps of an Automated Process</p> <p>i. The content owner indicates that they want to "track" the objects in an Instagram image that is on the display by selecting an "auto-track" option.</p> <p>ii. The Instagram image is uploaded to Veepio's platform and an auto-recognition process identifies all of the objects in the image that match objects in the platform's library.</p> <p>iii. The content owner is presented with a list of the objects and selects the objects that they wish to "track" for their Instagram image.</p> <p>iv. (same as step v. above) A database associated with the Veepio platform maintains an association with the tracked object(s) in the content owner's image and the URL. This database record is unique to the content owner's image ("personalized object"). The database record may also include additional description added by the content owner about the object(s), as well as a social media feed regarding the object(s) in the content owner's image.</p> <p>In both manual and automated embodiments, the content owner receives a portion of the proceeds of any e-commerce purchase.</p> <p>In both embodiments, a cookie travels with the link to the e-commerce site. As known in the art, e-commerce sites that employ affiliate marketing programs use a cookie of the last place that a person navigated to so as to identify where a potential purchaser came from. Since the viewer is inside of the VEEPIO app, the</p>
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	<p>cookie is used to identify that the purchaser was referred by VEEPIO. VEEPIO has an omnibus account for use with the e-commerce sites and each VEEPIO content owner has a sub-account within the omnibus account for crediting to the content owners of any monetization that may result from the e-commerce activity.” Ohliger at 37:37-38:3.</p> <p>“The same manual and automated processes occur as described above. Once an object is identified, it is followed (tracked) throughout the video. In the manual process, the content owner freeze-frames the video and identifies the object(s). Backward tracking also occurs so the object(s) are tracked and clickable in previous video frames that contain the object(s). “Key frames” are referred to herein as the frames that the object is in.</p> <p>2. Object Warehouse</p> <p>This is the database discussed above that is associated with the Veepio platform. It maintains an association with all tracked objects in the content owner's images/video. Each database record is unique to the content owner's image or video (“personalized object”). The database record may also include additional description added by the content owner about the object, as well as a social media feed regarding the object in the content owner's image or video. If the same object appears in a different image or video, it is maintained in a different database record and has its own content owner description and social media feed.” Ohliger at 38:5-27.</p> <p>“In step 720, the video objects are compared with objects in an object library, which may be 2D (two-dimensional) or 3D (three-dimensional) wire frame data representing objects within the video. Perspective views from such 2D/3D wire frame models may be advantageous to the automatic object recognition process. This step is optional. If a match is detected then the object is associated with the product description and/or meta-data from the object library. The unmatched video object may be discarded or subjected to a secondary processing application and/or an analyst may manually identify/configure the object boundaries (step 730), and then the object may be subject to another classification step (710)</p>
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		<p>and/or another comparison with objects in the object library (720). The creator of the video can also choose which objects they want to make interactive (705) and they can identify those objects with a dynamic bounding area that will change size proportionate to the change in size of the object from frame to frame as it is tracked by an object tracking algorithm. The creator can also describe, comment and add additional content to an object in the video that they have chosen to make interactive (715). This content will appear to a viewer when they interact with the bounding area around the object in any frame that the object appears by clicking, hovering over, or touching any point within the bounding area.</p> <p>In step 740, the video objects are published to the market exchange and subject to an automated auction process. The auction allows retailers, brands, and affiliates/advertisers to bid for the right to assign a hyperlink to a video object that takes a viewer of the video who has interacted with that object to a website where that object or any object the winning bidder chooses can be purchased, or to any other content the winning bidder would like to associate with that object.</p> <p>In step 745 a video overlay is created which links the video object with the winning bidders provided content, and in step 750 the video overlay with region definition data is transmitted to the video broadcaster 120.</p> <p>In step 760, a video viewer interacts with the video overlay by rolling-over or selecting a video region thereby triggering the display of relevant content associated with the video object. It should be appreciated that rolling over may illicit the display of different relevant content than that displayed when the object is selected. For example, selecting an object may trigger more detailed information than that displayed when the object is simply rolled-over with the pointing device.</p> <p>In step 770 (optional), the VOHE 300 records the viewer interaction with the video objects and updates the viewer's behavioral profile. It should be noted that the video viewer's interactions with the video overlay (and the video objects) generally triggers the display of relevant content from the VOHE 300. This enables the content associated with a video object to be updated on-the-fly without the need to alter the video overlay. The video overlay makes the video interactive by making video regions selectable, the content comes from the object database that stores information submitted from the creator of the video as well as</p>
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	<p>comments by viewers, in addition, content also comes from the VOHE 300 in the form of hyperlinks supplied by the winning bidders.</p> <p>In step 780 (optional), the VOHE 100 completes a sales transaction initiated by the viewer's interactions with the video region representing the video object. As will be explained below in further detail, the VOHE 300 may enable the viewer to complete a sales transaction by following the hyperlink provided by the winning bidder to an online retailer.” Ohliger at 12:4-13:3.</p> <p>“It is important to note that the video objects are used to create selectable regions (hyperlinks) which dynamically track the movement, size and position of the object throughout the video.</p> <p>3D Rotoscoping</p> <p>FIG. 12 is a high level flow diagram for 3-dimensional rotoscoping. The process begins in step 1200 with selecting a given video object.</p> <p>If only one perspective of the video object is available (step 1202A) in the video then a two-dimensional wire frame of the video object is created. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in a video object database (such as object information library 112 (step 1208).</p> <p>If additional perspectives for the video object subsequently become available (step 1202B) then a three-dimensional (3D) wire frame is created (step 1206) or the new perspectives are used to update the existing three-dimensional wireframe. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in the video object database (step 1208).</p> <p>In step 1210 the user (video consumer) is presented with viewing options such as rotating of the object or zoom. It is also possible to “replace” video objects (step 1212) in the video by superimposing a modified or new animated object including light and shadows of surrounding video objects over the existing video object. For example, an obscured appearance of a video object such as a can of Pepsi® can be replaced (superimposed) with an animated object (3-dimensional wireframe of the object) without the need to re-shoot the video. It is even possible to superimpose</p>
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	<p>an animated object (3-dimensional wireframe of the object) of a can of Coca-Cola® over the can of Pepsi.</p> <p>The present invention further includes a system for making an interactive overlay for a video. The system includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server includes one or more video files stored in a video database. The system further includes object inventory database 112 stored on the server 300 and containing information describing a location (size, shape, orientation) of at least one video object within one of the video files. The object inventory database 112 may be compiled using any of the systems or methods disclosed in this specification or equivalents thereof. An overlay generation application (software or firmware) is stored and executed on the server 300. The overlay generation application creates a video overlay including at least one selectable hyperlink whose shape and position (coordinates) track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. In some cases the overlay is transparent; however, as will be explained below in some cases the overlay may include animated representations of video objects which are superimposed over and replace/obscure the underlying video object. The system may optionally include a wireframe database 112A stored on the server 300 or the wireframe database may be included within the object inventory database 112 or any other database stored on the server. The wire frame database 112A stores three-dimensional wireframe representations of at least one video object.</p> <p>The overlay generation application may optionally match occurrences of video objects in the object inventory library with three-dimensional wireframe representations of the video object (stored in the wireframe library database or the object inventory database) and create a video overlay including matched wire frame representations wherein the shape and position of the wireframe representation tracks a dynamic location of the video object in the video. In other words, the wireframe representation of the object is superimposed over the</p>
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		<p>corresponding video object. The superimposed wireframe representation obscures (replaces) the video object.</p> <p>The wire frame library database 112A may optionally include a lighting model which defines/specifies the light distribution on the video object. For each occurrence of a video object in a video frame the lighting model would define/specify the light distribution on the video object.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database 112 stored on (or accessible by) the server and containing information describing a location of at least one video object within one of the video files. The system includes a wireframe database stored on (or accessible by) the server, the wireframe database storing three-dimensional wireframe representations of at least one video object; and an overlay generation application (software or firmware) executed on the server. The overlay generation application matches occurrences of video objects in the object inventory library with corresponding three-dimensional wireframe representations of the video object and creates a video overlay including matched wireframe representations of the video object wherein the shape and position (coordinates) of the wireframe representation track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database stored on the server and containing information describing coordinates of at least one video object within one of the video files. The system further includes a wireframe database stored on the server, the</p>
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	<p>wireframe database stores three-dimensional wireframe representations of at least one video object. A wireframe generation application (software or firmware) executed on the server selects video objects from the video object inventory database and generates a three-dimensional wire frame of the selected video object from multiple perspective occurrences of the video object in the video file and stores the three-dimensional wireframe in the wireframe database. The wireframe generation application may optionally generate a lighting model for each occurrence of a video object in a video frame from light distribution on the video object.</p> <p>The system may further include an overlay generation application (software or firmware) executed on the server which matches occurrences of video objects in the object inventory library 112 with corresponding three-dimensional wire frame representations stored in the wire frame library 112A. The overlay generation application creates a video overlay including matched wireframe representations of the video objects wherein the shape and position of the wireframe representation tracks the dynamic location of the video object in the video. The overlay generation application stores the overlay on the server. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>The creation of three-dimensional wire frames and lighting models is well known in the art and is disclosed in the following U.S. patents whose disclosure are hereby incorporated by reference: U.S. Pat. No. 7,602,404 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,983,082 entitled Reality-based light environment for digital imaging in motion pictures; U.S. Pat. No. 6,954,202 entitled Image-based methods of representation and rendering of three dimensional object and animated three-dimensional object; U.S. Pat. No. 6,919,962 entitled Reflectometry apparatus and method; U.S. Pat. No. 6,858,826 entitled Method and apparatus for scanning three-dimensional objects; U.S. Pat. No. 6,685,326 entitled Realistic scene lighting simulation; U.S. Pat. No. 6,628,298 entitled Apparatus and method for rendering synthetic objects into real scenes using measurements of scene illumination; U.S. Pat. No. 6,529,206 entitled Image processing apparatus and method, and medium therefore; U.S. Pat. No. 6,504,546 entitled Method of modeling objects to</p>
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synthesize three-dimensional, photo-realistic animations; U.S. Pat. No. 6,434,265 entitled Aligning rectilinear images in 3D through projective registration and calibration; U.S. Pat. No. 6,333,749 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,281,904 entitled Multi-source texture reconstruction and fusion; and U.S. Pat. No. 6,281,903 entitled Methods and apparatus for embedding 2D image content into 3D models.” Ohliger at 18:45-21:16.



Fig. 18
Shop VeePiO

Ohliger at Fig. 18.

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Fig. 20
How to Veep



Ohliger at Fig. 20.

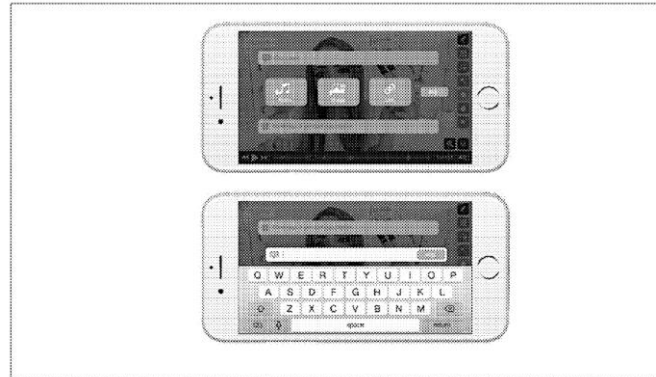
Fig. 21
Veep Editing Room



Ohliger at Fig. 21.

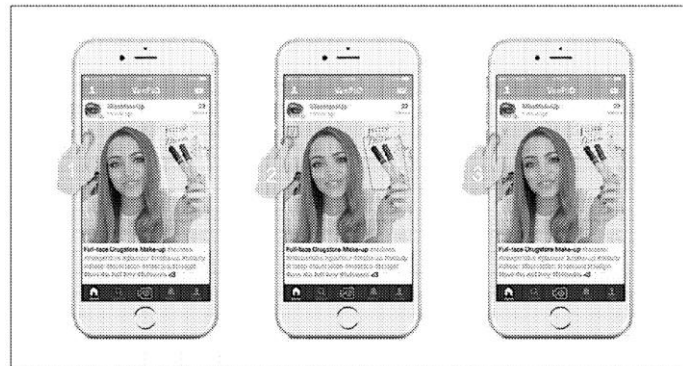
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Fig. 22
Object Details



Ohliger at Fig. 21.

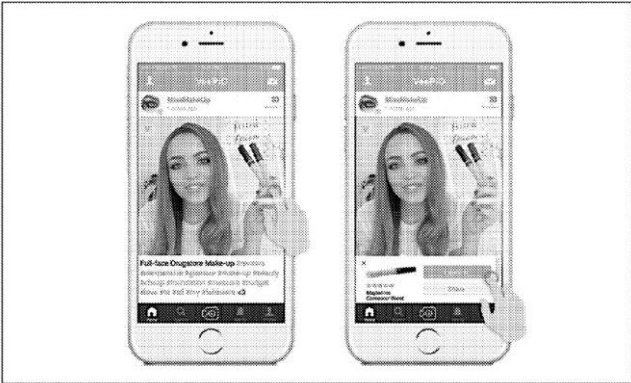
Fig. 23
"V"isibility



Ohliger at Fig. 23.

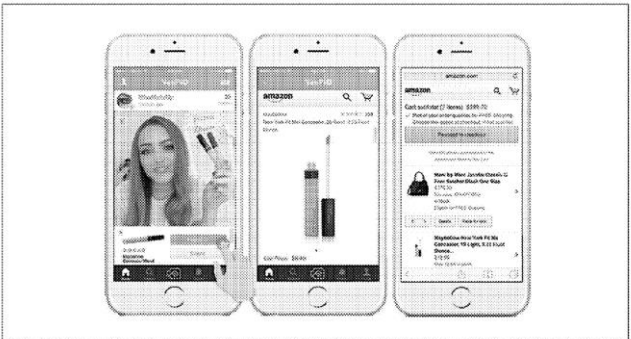
Exhibit 316-A13
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Fig. 24
I Want it!



Ohliger at Fig. 24.

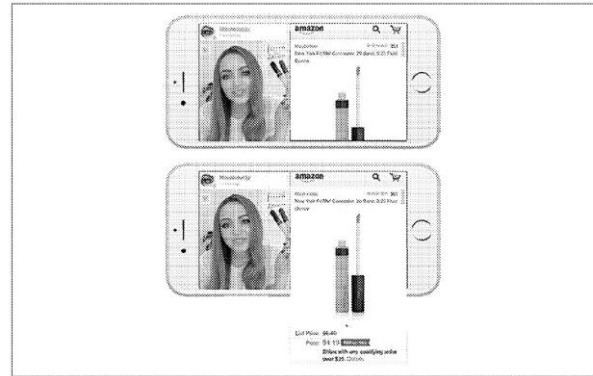
Fig. 25
I Want it! Continued



Ohliger at Fig. 25.

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Fig. 28
Buy Via Split Screen



Ohliger at Fig. 28.

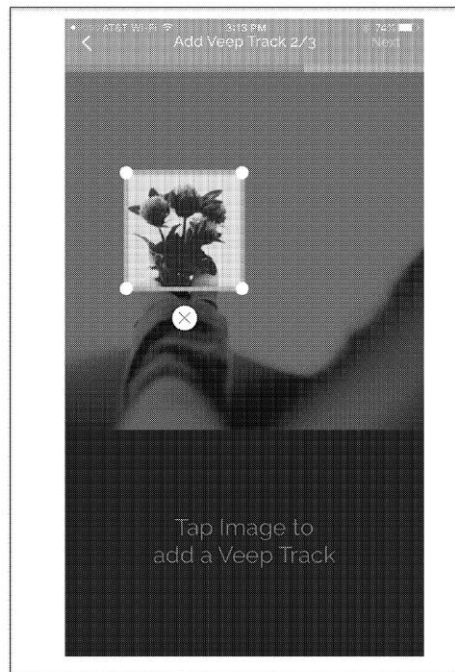


Fig. 38

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Ohliger at Fig. 38.

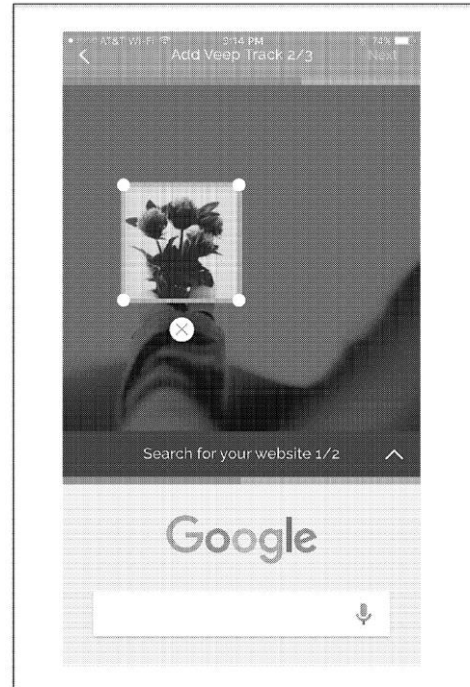


Fig. 39

Ohliger at Fig. 39.

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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

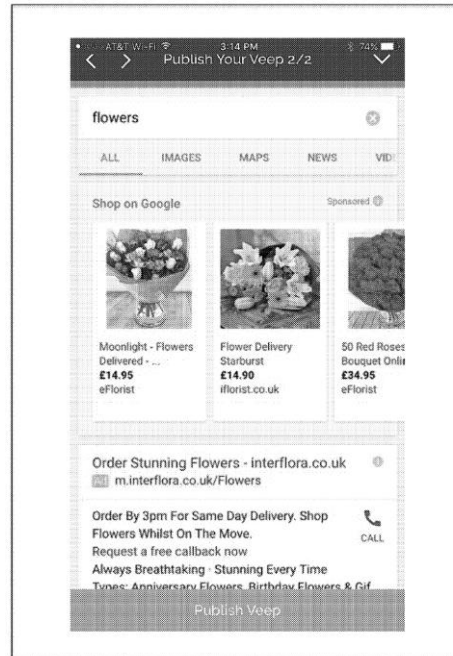


Fig. 41
Ohliger at Fig. 41.

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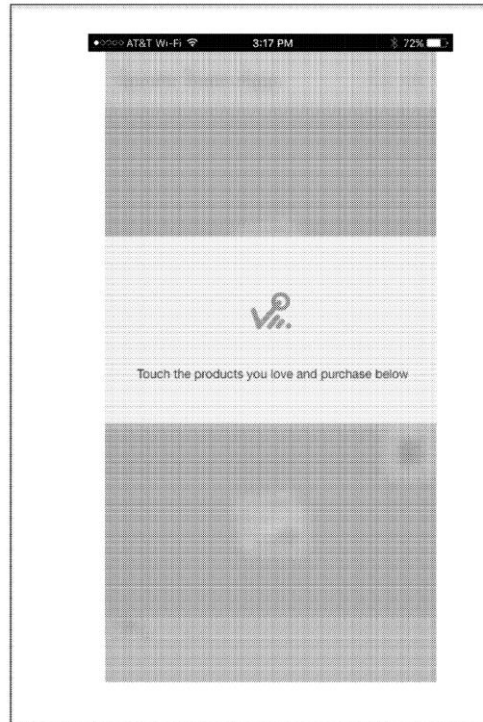


Fig. 46
'46 Patent at Fig. 46.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

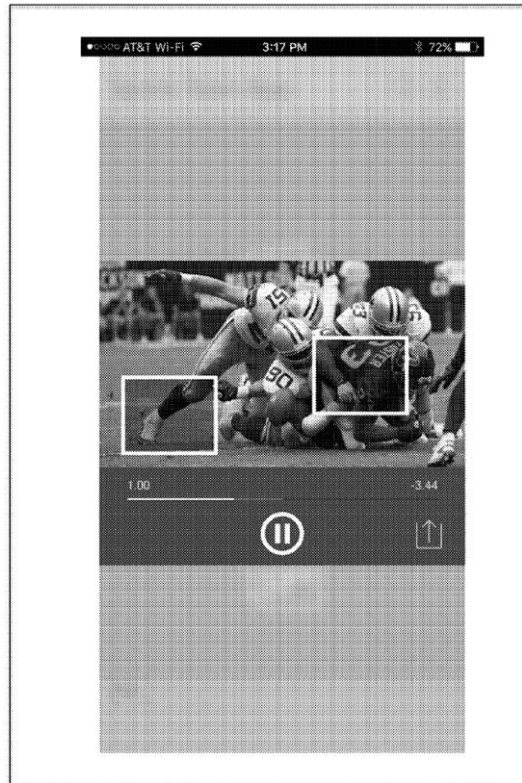


Fig. 48
Ohliger at Fig. 48.

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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

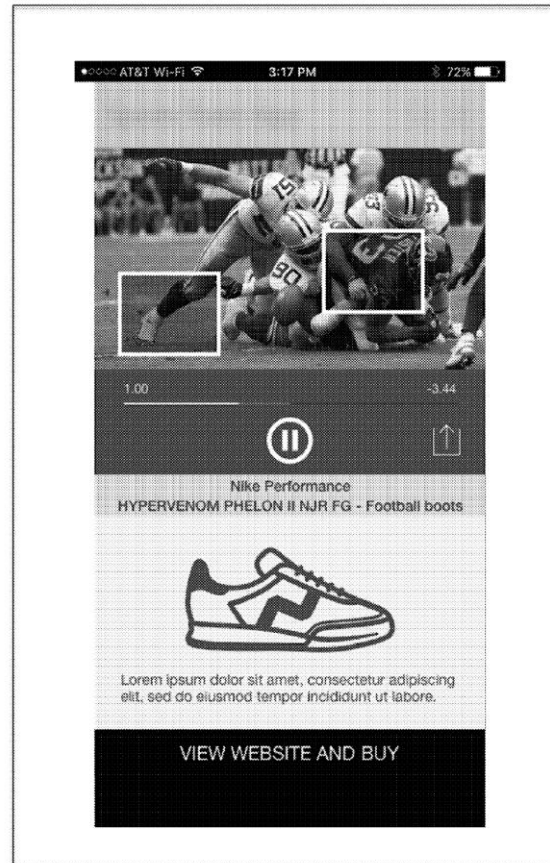


Fig. 49
Ohliger at Fig. 49.

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Fig. 50

Ohliger at Fig. 50.

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FIG. 53B

Ohliger at Fig. 53B.

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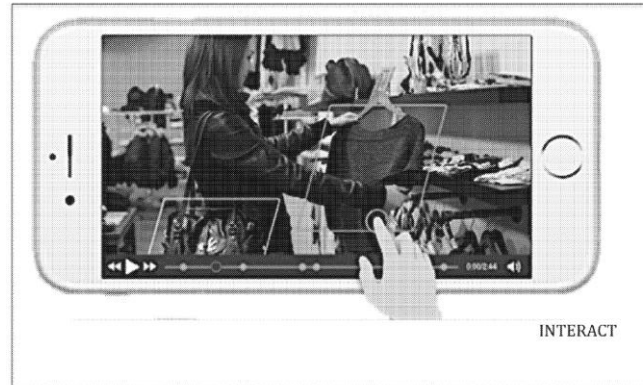


FIG. 53D

Ohliger at Fig. 53D.



FIG. 53E

Ohliger at Fig. 53E.

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		 <p style="text-align: center;">FIG. 53F</p> <p>Ohliger at Fig. 53F.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
18[c]	c) a software module for the generation of a first interactive layer to display with the video media, wherein said first interactive layer contains the items, services, or songs of interest linked to the	Ohliger discloses “a software module for the generation of a first interactive layer to display with the video media, wherein said first interactive layer contains the items, services, or songs of interest linked to the marketing and/or purchasing information;” See e.g.:

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	marketing and/or purchasing information;	<p>“In step 720, the video objects are compared with objects in an object library, which may be 2D (two-dimensional) or 3D (three-dimensional) wire frame data representing objects within the video. Perspective views from such 2D/3D wire frame models may be advantageous to the automatic object recognition process. This step is optional. If a match is detected then the object is associated with the product description and/or meta-data from the object library. The unmatched video object may be discarded or subjected to a secondary processing application and/or an analyst may manually identify/configure the object boundaries (step 730), and then the object may be subject to another classification step (710) and/or another comparison with objects in the object library (720). The creator of the video can also choose which objects they want to make interactive (705) and they can identify those objects with a dynamic bounding area that will change size proportionate to the change in size of the object from frame to frame as it is tracked by an object tracking algorithm. The creator can also describe, comment and add additional content to an object in the video that they have chosen to make interactive (715). This content will appear to a viewer when they interact with the bounding area around the object in any frame that the object appears by clicking, hovering over, or touching any point within the bounding area.</p> <p>In step 740, the video objects are published to the market exchange and subject to an automated auction process. The auction allows retailers, brands, and affiliates/advertisers to bid for the right to assign a hyperlink to a video object that takes a viewer of the video who has interacted with that object to a website where that object or any object the winning bidder chooses can be purchased, or to any other content the winning bidder would like to associate with that object.</p> <p>In step 745 a video overlay is created which links the video object with the winning bidders provided content, and in step 750 the video overlay with region definition data is transmitted to the video broadcaster 120.</p> <p>In step 760, a video viewer interacts with the video overlay by rolling-over or selecting a video region thereby triggering the display of relevant content associated with the video object. It should be appreciated that rolling over may illicit the display of different relevant content than that displayed when the object is selected. For example, selecting an object may trigger more detailed</p>
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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		<p>information than that displayed when the object is simply rolled-over with the pointing device.</p> <p>In step 770 (optional), the VOHE 300 records the viewer interaction with the video objects and updates the viewer's behavioral profile. It should be noted that the video viewer's interactions with the video overlay (and the video objects) generally triggers the display of relevant content from the VOHE 300. This enables the content associated with a video object to be updated on-the-fly without the need to alter the video overlay. The video overlay makes the video interactive by making video regions selectable, the content comes from the object database that stores information submitted from the creator of the video as well as comments by viewers, in addition, content also comes from the VOHE 300 in the form of hyperlinks supplied by the winning bidders.</p> <p>In step 780 (optional), the VOHE 100 completes a sales transaction initiated by the viewer's interactions with the video region representing the video object. As will be explained below in further detail, the VOHE 300 may enable the viewer to complete a sales transaction by following the hyperlink provided by the winning bidder to an online retailer.” Ohliger at 12:4-13:3.</p> <p>“It is important to note that the video objects are used to create selectable regions (hyperlinks) which dynamically track the movement, size and position of the object throughout the video.</p> <p>3D Rotoscoping</p> <p>FIG. 12 is a high level flow diagram for 3-dimensional rotoscoping. The process begins in step 1200 with selecting a given video object.</p> <p>If only one perspective of the video object is available (step 1202A) in the video then a two-dimensional wire frame of the video object is created. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in a video object database (such as object information library 112 (step 1208).</p> <p>If additional perspectives for the video object subsequently become available (step 1202B) then a three-dimensional (3D) wire frame is created (step 1206) or the new perspectives are used to update the existing three-dimensional wireframe. Additionally, a data model is created for light and shadows in the video frames in</p>
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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		<p>which the video object appears. The wireframe is then stored in the video object database (step 1208).</p> <p>In step 1210 the user (video consumer) is presented with viewing options such as rotating of the object or zoom. It is also possible to “replace” video objects (step 1212) in the video by superimposing a modified or new animated object including light and shadows of surrounding video objects over the existing video object. For example, an obscured appearance of a video object such as a can of Pepsi® can be replaced (superimposed) with an animated object (3-dimensional wireframe of the object) without the need to re-shoot the video. It is even possible to superimpose an animated object (3-dimensional wireframe of the object) of a can of Coca-Cola® over the can of Pepsi.</p> <p>The present invention further includes a system for making an interactive overlay for a video. The system includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server includes one or more video files stored in a video database. The system further includes object inventory database 112 stored on the server 300 and containing information describing a location (size, shape, orientation) of at least one video object within one of the video files. The object inventory database 112 may be compiled using any of the systems or methods disclosed in this specification or equivalents thereof. An overlay generation application (software or firmware) is stored and executed on the server 300. The overlay generation application creates a video overlay including at least one selectable hyperlink whose shape and position (coordinates) track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. In some cases the overlay is transparent; however, as will be explained below in some cases the overlay may include animated representations of video objects which are superimposed over and replace/obscure the underlying video object. The system may optionally include a wireframe database 112A stored on the server 300 or the wireframe database may be included within the object inventory database 112 or any other database stored on the server. The wire frame database</p>
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		<p>112A stores three-dimensional wireframe representations of at least one video object.</p> <p>The overlay generation application may optionally match occurrences of video objects in the object inventory library with three-dimensional wireframe representations of the video object (stored in the wireframe library database or the object inventory database) and create a video overlay including matched wire frame representations wherein the shape and position of the wireframe representation tracks a dynamic location of the video object in the video. In other words, the wireframe representation of the object is superimposed over the corresponding video object. The superimposed wireframe representation obscures (replaces) the video object.</p> <p>The wire frame library database 112A may optionally include a lighting model which defines/specifies the light distribution on the video object. For each occurrence of a video object in a video frame the lighting model would define/specify the light distribution on the video object.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database 112 stored on (or accessible by) the server and containing information describing a location of at least one video object within one of the video files. The system includes a wireframe database stored on (or accessible by) the server, the wireframe database storing three-dimensional wireframe representations of at least one video object; and an overlay generation application (software or firmware) executed on the server. The overlay generation application matches occurrences of video objects in the object inventory library with corresponding three-dimensional wireframe representations of the video object and creates a video overlay including matched wireframe representations of the video object wherein the shape and position (coordinates) of the wireframe representation track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. The video overlay may</p>
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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

	<p>optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database stored on the server and containing information describing coordinates of at least one video object within one of the video files. The system further includes a wireframe database stored on the server, the wireframe database stores three-dimensional wireframe representations of at least one video object. A wireframe generation application (software or firmware) executed on the server selects video objects from the video object inventory database and generates a three-dimensional wire frame of the selected video object from multiple perspective occurrences of the video object in the video file and stores the three-dimensional wireframe in the wireframe database. The wireframe generation application may optionally generate a lighting model for each occurrence of a video object in a video frame from light distribution on the video object.</p> <p>The system may further include an overlay generation application (software or firmware) executed on the server which matches occurrences of video objects in the object inventory library 112 with corresponding three-dimensional wire frame representations stored in the wire frame library 112A. The overlay generation application creates a video overlay including matched wireframe representations of the video objects wherein the shape and position of the wireframe representation tracks the dynamic location of the video object in the video. The overlay generation application stores the overlay on the server. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>The creation of three-dimensional wire frames and lighting models is well known in the art and is disclosed in the following U.S. patents whose disclosure are hereby incorporated by reference: U.S. Pat. No. 7,602,404 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,983,082 entitled Reality-based light environment for digital imaging in motion</p>
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		<p>pictures; U.S. Pat. No. 6,954,202 entitled Image-based methods of representation and rendering of three dimensional object and animated three-dimensional object; U.S. Pat. No. 6,919,962 entitled Reflectometry apparatus and method; U.S. Pat. No. 6,858,826 entitled Method and apparatus for scanning three-dimensional objects; U.S. Pat. No. 6,685,326 entitled Realistic scene lighting simulation; U.S. Pat. No. 6,628,298 entitled Apparatus and method for rendering synthetic objects into real scenes using measurements of scene illumination; U.S. Pat. No. 6,529,206 entitled Image processing apparatus and method, and medium therefore; U.S. Pat. No. 6,504,546 entitled Method of modeling objects to synthesize three-dimensional, photo-realistic animations; U.S. Pat. No. 6,434,265 entitled Aligning rectilinear images in 3D through projective registration and calibration; U.S. Pat. No. 6,333,749 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,281,904 entitled Multi-source texture reconstruction and fusion; and U.S. Pat. No. 6,281,903 entitled Methods and apparatus for embedding 2D image content into 3D models.” Ohliger at 18:45-21:16.</p> <div> </div> <p style="text-align: center;">Fig. 18 Shop VeePIO</p> <p>Ohliger at Fig. 18.</p>
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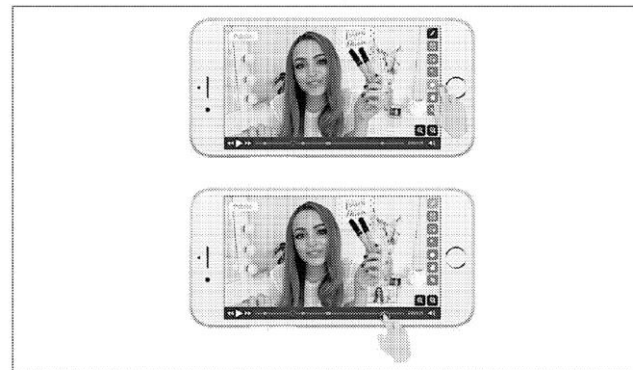
Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Fig. 20
How to Veep



Ohliger at Fig. 20.

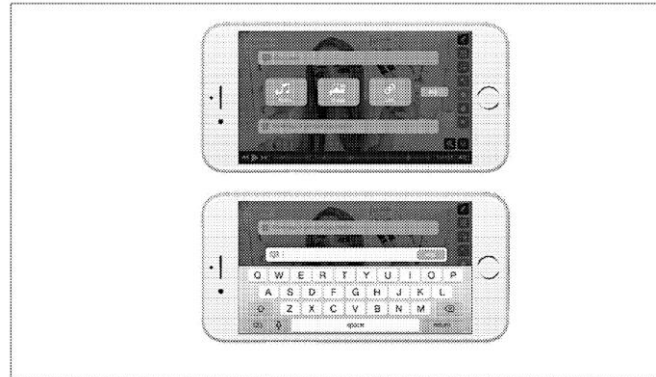
Fig. 21
Veep Editing Room



Ohliger at Fig. 21.

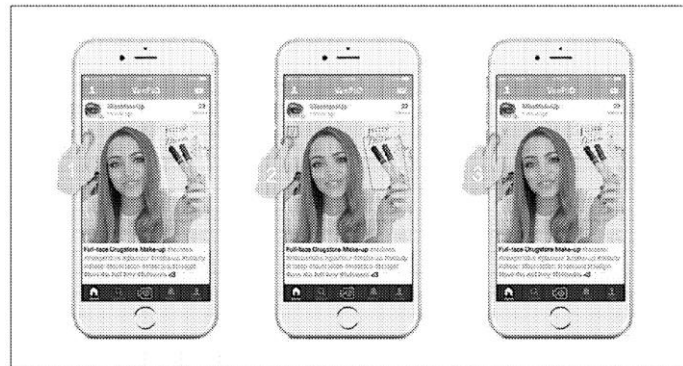
Exhibit 316-A13
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Fig. 22
Object Details



Ohliger at Fig. 21.

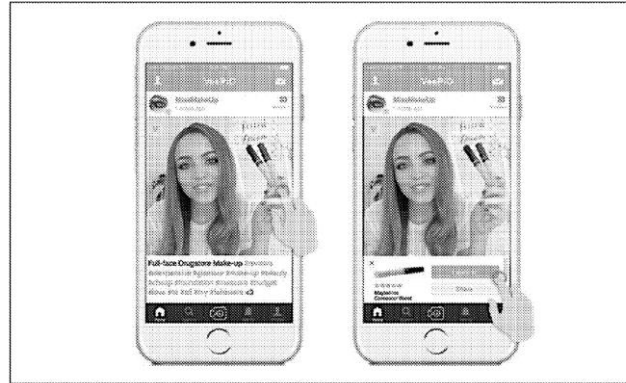
Fig. 23
"V"isibility



Ohliger at Fig. 23.

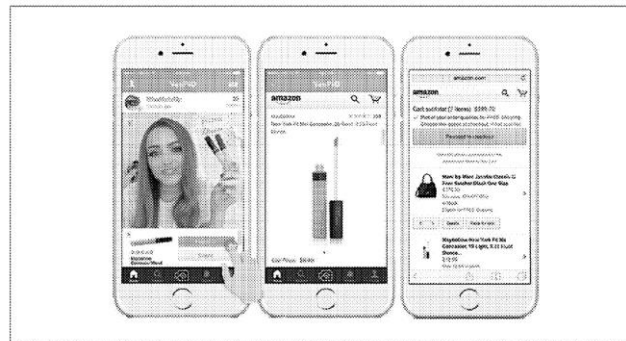
Exhibit 316-A13
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Fig. 24
I Want it!



Ohliger at Fig. 24.

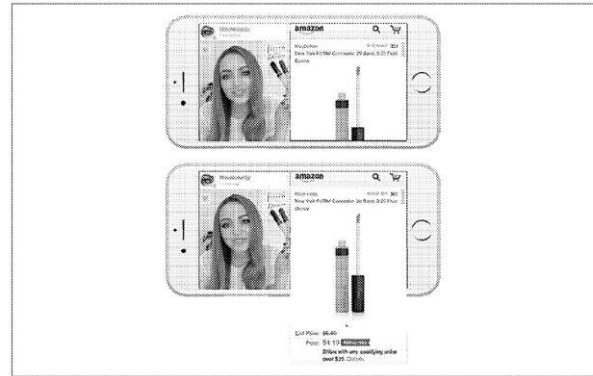
Fig. 25
I Want it! Continued



Ohliger at Fig. 25.

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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Fig. 28
Buy Via Split Screen



Ohliger at Fig. 28.

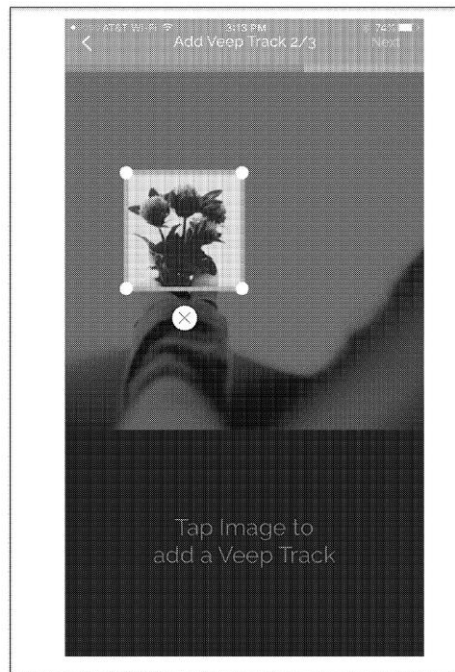


Fig. 38

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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

Ohliger at Fig. 38.

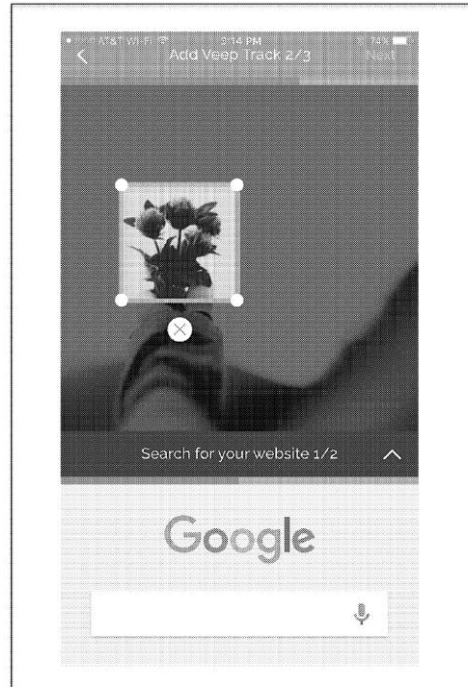


Fig. 39

Ohliger at Fig. 39.

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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

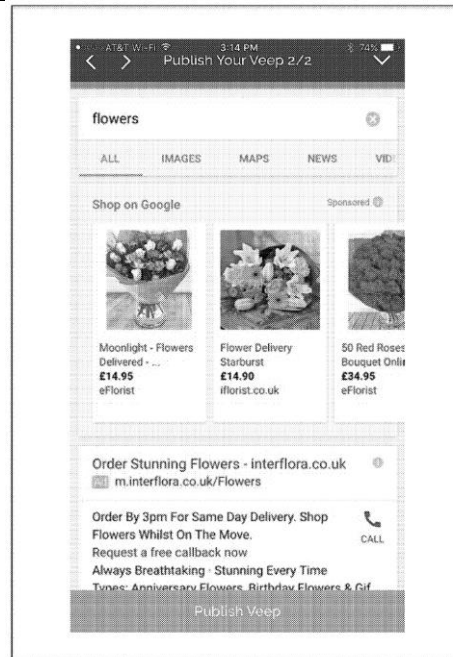


Fig. 41
Ohliger at Fig. 41.

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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

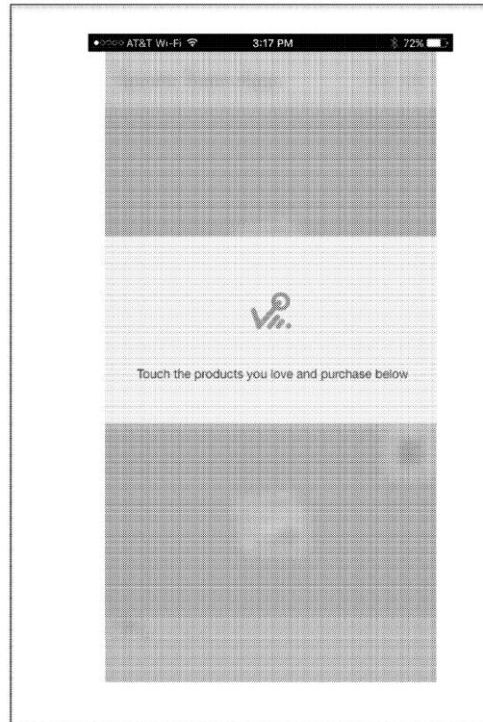


Fig. 46
'46 Patent at Fig. 46.

Exhibit 316-A13
Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

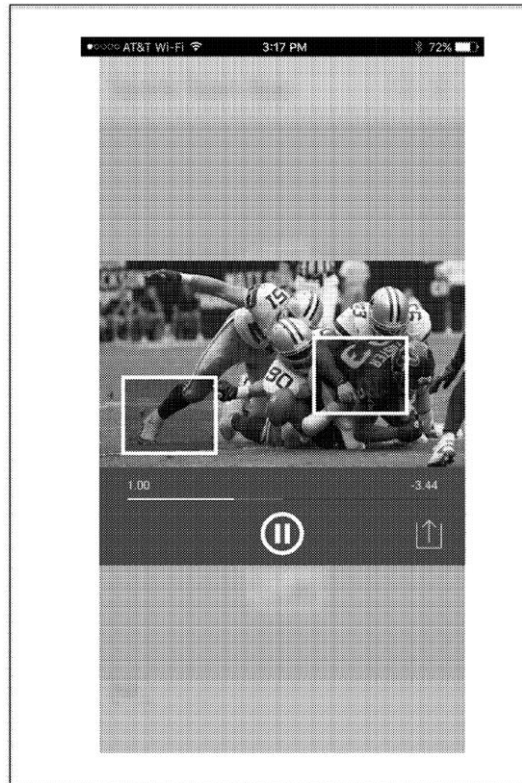


Fig. 48
Ohliger at Fig. 48.

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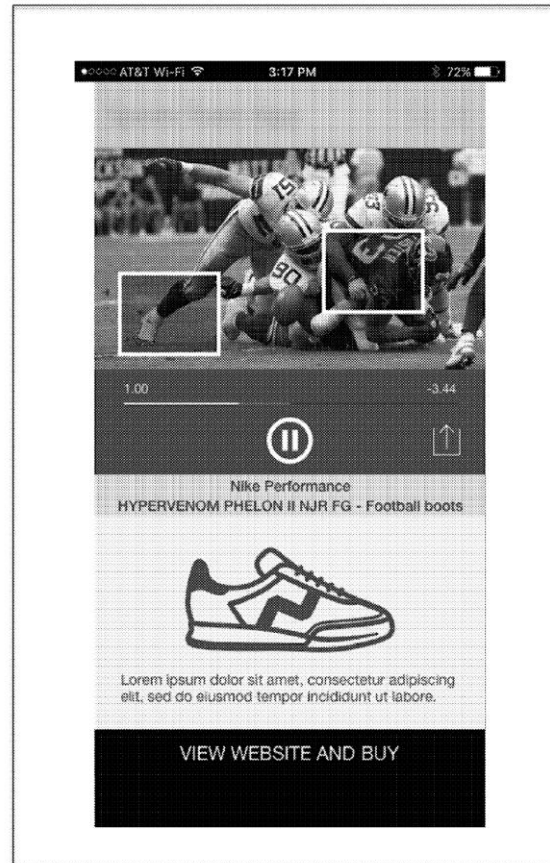


Fig. 49
Ohliger at Fig. 49.

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Fig. 50

Ohliger at Fig. 50.

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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger



FIG. 53B

Ohliger at Fig. 53B.

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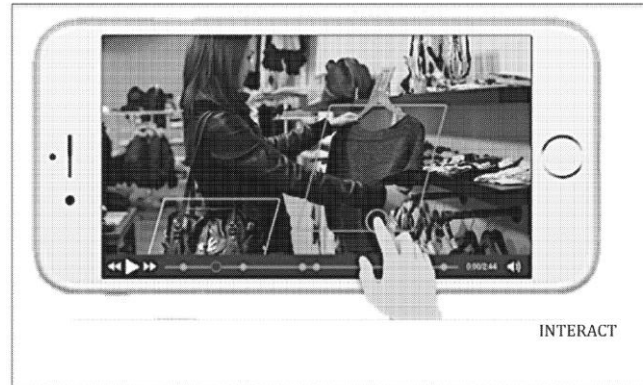


FIG. 53D

Ohliger at Fig. 53D.



FIG. 53E

Ohliger at Fig. 53E.

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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		 <p style="text-align: center;">FIG. 53F</p> <p>Ohliger at Fig. 53F.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
18[d][i]	d) a software module for the generation of a second interactive layer to display with the video media and optionally the first interactive layer,	<p>Ohliger discloses “a software module for the generation of a second interactive layer to display with the video media and optionally the first interactive layer,” See e.g.:</p> <p>“The present invention is a system 100 for automatically segmenting video into video objects, classifying the video objects either automatically or by the creator of the video, assembling a database of the classified video objects, defining region</p>

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		<p>definition data representing each video object on an interactive layer, auctioning the rights to a hyperlink that is either displayed or associated with a button that appears when an object is interacted with by a viewer of the video, or that is connected directly to the object so that when a viewer clicks or touches the object while watching the video they are directed to a website or other content that the hyperlink is pointing to. Allowing the creator of the video to associate comments, pictures, audio, hyperlinks, and other content with interactive areas around objects in their videos. Allowing viewers of the video to interact with objects in the video by clicking or touching areas around objects in the video, and further allowing viewers to comment about those objects, share those objects by way of the internet or social media, and purchase those objects, or other objects associated with the objects by way of the previously mentioned hyperlinks. These hyperlinks associated with video objects are auctioned on a video object hyperlink exchange (hereinafter “VOHE”) 300, and creating a video overlay with region definition data linking relevant content with the video content objects and thereby creating an interactive video. The creator of the video is reimbursed for the content by receiving a mutually agreed to percentage of the profits generated by the auction of the hyperlinks within the creators content. The region is a portion of the video frame which is congruent with the underlying video object. The region definition data defines such portion of the video frame. The system 100 of the present invention consists of several distinct yet related components.</p> <p>One aspect of the invention relates to the creation of an inventory of video objects and corresponding region definition data. The video object inventory 114 is a database containing region definition data in form of pointers or references to video objects within video or animation files. Importantly, the region definition data is used to make the video interactive by providing the ability to link supplemental information with a specific video object within a video. For example, the video viewer can select a shirt displayed within the video and learn the brand and model of the shirt and other relevant information. Further, the viewer can also see comments, pictures, audio, and other content associated with the object by the creator of the video. The invention associates the relevant information with the video object thereby making the object a selectable hyperlink, meaning that the viewer can click or touch the object in any frame of</p>
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Invalidity Chart for U.S. Patent No. 11,134,316 In View of Ohliger

		<p>the video in which the object appears and the related content will be revealed.” Ohliger at 8:58-9:41.</p> <p>“The invention also includes giving video viewers the ability to comment and communicate with each other and with the creator of the video in regards to a specific interactive object in the video. This is referred to as “sub-comments” and it differs from current comments on the internet and on social media in that sub-comments are accessed by viewers within the content related to the interaction of the viewer with a specific object within a video as opposed to comments that relate to the video as a whole.” Ohliger at 11:11-20.</p> <p>“The viewer 124 uses a computer, mobile phone or another electronic device that connects to the internet or to a social network 400 (FIG. 3) to access the video content made available by broadcaster 120 on a web site or social network or application or the like accessible over a distributed network such as the Internet. Computer 400 includes a processor 202 which is connected via BUS 204 to a mass storage device 206, Read-Only-Memory (ROM) 208 and Random Access Memory (RAM) 210 (which may be volatile or nonvolatile). A web browser executes on the processor and is used to access web sites on the Internet. The viewer 124 interacts with the video overlay by selecting or rolling over a region representing a video object using a conventional pointing device 218, and/or using a touch sensitive screen 214 such as is known in the art. Interaction by the video viewer 124 triggers display of supplemental content such as information provided by the creator of the video, comments by other viewers, or any other associated content including original, organic, advertising, links to other content, and/or paid content by retailers/brands/affiliates/advertisers that purchased rights on the VOHE. The retailers/brands/affiliates/advertisers 122 are bidding on the right to supply the relevant content using an embedded hyperlink.” Ohliger at 22:27-50.</p> <p>“A further aspect of the invention will be described with reference to FIGS. 9-11. FIG. 9 is a high level flowchart showing the interactions of a viewer with the VOHE 300. FIGS. 10A-10D and 11A-11B are a graphical depiction of various</p>
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		<p>steps in the flowchart of FIG. 9. In step 900 the viewer 124 views video content having video objects. As described above, the video presentation slows or stops as the user points at or rolls-over (step 902) the presentation screen, and selects a video object using a pointing device such as a mouse or a finger (or the like) on a display screen which may be touch sensitive (FIG. 9 step 904 and FIG. 10A). Selecting refers to both rolling-over the object with the pointing device (without a mouse click or a keyboard command) and to positioning the pointing device over the object and actuating one of the buttons on the mouse or keyboard. In a traditional TV setting the user may use the 5-star control of a remote controller to select a video object.</p> <p>Once the object has been selected (FIG. 9 step 904 and FIG. 10B), the viewer displays an abstract of the video object in the form of an overlay on top of the current viewing window or on a new window adjacent the current viewing panel. The Abstract may include descriptive information (relevant content) about the object (name, brand name, make, model, vendor, price, etc) and classification information about the object or it may be information provided by the creator of the video like a comment about the object, a picture, comments by other viewers, and/or the ability to share the video, video object, or associated content over the internet or through social networks.</p> <p>The user (viewer of video) 124 is presented with a menu of options (FIG. 10C). For example, the viewer 124 may search for other occurrences of the object in both the current video or in other videos (FIG. 9 step 906A, and FIG. 11B). Moreover, the viewer may expand the search to encompass other objects which have similar classification such as the same make but different models (other Ferragamo shoes), or other red high heeled shoes, etc.</p> <p>In step 908A, the user is presented with a list of viewable video segments containing the selected video object. At this point the user can choose to view any of the segments and/or proceed to steps 906B, 906C or 906D.</p> <p>The viewer 124 may be presented with an option to retrieve more detailed information about the object (step 906B). Such information may include details about the materials or specifications of the object. The user may also be presented with the option to view a three-dimensional wire frame rendering of the object. The 3D wire frame is created by the VOHE 300 when the object is initially</p>
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		<p>identified and classified. Depending on how many perspective facets of an object are available, a complete or partial 3D wire frame may exist for a given object. The viewer 124 presents the user with various options to manipulate and interact with the 3D wire frame. For example, the viewer 124 may rotate and zoom the 3D wire frame to display the rendering from different perspectives.</p> <p>As described above, the user may be presented with the option to add the video object to a shopping cart (FIG. 9 step 908B and FIG. 10C). Although not specifically illustrated in FIG. 9, the option to purchase may be nested under each of the menu items such that the user may always elect to purchase without having to retrace his/her steps. In fact, each of the menu options described herein may be organized in any number of ways and the inventive concept is not limited to the specific way they are presented. Thus, steps 906A-906D may be nested.</p> <p>The shopping cart may be a conventional electronic shopping cart which enables the user to purchase the object or flag it to the user's wish list for future purchase. The viewer 124, VOHE 300, or system 100 tracks objects purchased by the user and items added to the user's wish list, and such information may be used to analyze the user's buying trends etc. More particularly, an analytics database records the interactions of the consumer. The analytics database stores information regarding the video files or types of video files (genre or the like) accessed by the consumer, the objects selected by the consumer, items purchased by the consumer. The analytics database may be stored on or accessible to (via the distributed network, e.g., internet) the VOHE 300 or system 100. The viewer 124 also enables the user to manually indicate that the user owns a given object even if it was not purchased through the VOHE 300.</p> <p>The VOHE 300 allows the user to share individual video objects or create and share a collection of video objects with one or more friends by selecting the video objects or the collection of objects and selecting individual friends or sets of friends (FIG. 9 steps 906C and 910B, and FIG. 10C). The viewer 124 may include a software plug-in application for a social networking site (Facebook® application, Twitter® application, Instagram® application, Vine® application, Snapchat® application) or the like which enables the user to add the video object to the user's social network account without leaving the portal (VOHE 300) through which the user was viewing the video. As used herein the term social</p>
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		<p>networking site is equivalent in all respects to social networking server and encompasses Facebook application, Twitter application, etc. which enable a user to share information to a wide audience with or without specifying individual recipients.</p> <p>The plug-in application also enables the user to share the image/video segment etc with one or more social networking contacts (“Facebook friends, Instagram followers, etc.”). The plug-in application is software. The plug-in may share data linking or pointing to the video object or library of such objects. The video object or library of video objects may be stored on the YOM 300 or on the user's computer 400. Data transferred to Facebook or other social networking sites may also be stored on a 3d party server such as or the like, or the social networking site may simply store a link to data stored on the VOHE 300.” Ohliger at 24:29-26:3.</p> <p>“FIG. 16: The feed is a dynamic stream of user-created content. Each video plays on a constant loop. Hashtags help VeePiO users brand and sort their Veep'd videos. Viewers can like, comment on, and re-VeeP any video.</p> <p>FIG. 17: VeePiO thrives on community. Commenting is easy and encouraged via standard pathways like the feed, and through product sub-comments. Beyond that VeePiO media can be shared anywhere online.</p> <p>FIG. 18: VeePiO is simple to use. Tap any Veep'd object and instantly gain the ability to make it your own. (1st screen) Veepio users can also share and view comments for individual objects. (2nd screen) Tapping “I want it!” walks users through an easy in-app purchase flow. (2nd and 3rd screen)” Ohliger at 28:38-56.</p> <p>“FIG. 26: Veepio users can also share and view sub-comments related to individual products.” Ohliger at 29:15-16.</p> <p>“i. Creators of the video and viewers of the video are able to post comments related to the video and/or the at least one interactive object in the video that are displayed when the overlay that tracks the interactive object is clicked or touched. The comments are specific to only the interactive object they are related to.</p>
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		<p>ii. The creators of the video are able to associate other content like comments, pictures, links, audio files to the interactive objects. This content appears when the objects are hovered over, clicked or touched.” Ohliger at 30:55-64.</p> <p>“In step 720, the video objects are compared with objects in an object library, which may be 2D (two-dimensional) or 3D (three-dimensional) wire frame data representing objects within the video. Perspective views from such 2D/3D wire frame models may be advantageous to the automatic object recognition process. This step is optional. If a match is detected then the object is associated with the product description and/or meta-data from the object library. The unmatched video object may be discarded or subjected to a secondary processing application and/or an analyst may manually identify/configure the object boundaries (step 730), and then the object may be subject to another classification step (710) and/or another comparison with objects in the object library (720). The creator of the video can also choose which objects they want to make interactive (705) and they can identify those objects with a dynamic bounding area that will change size proportionate to the change in size of the object from frame to frame as it is tracked by an object tracking algorithm. The creator can also describe, comment and add additional content to an object in the video that they have chosen to make interactive (715). This content will appear to a viewer when they interact with the bounding area around the object in any frame that the object appears by clicking, hovering over, or touching any point within the bounding area.</p> <p>In step 740, the video objects are published to the market exchange and subject to an automated auction process. The auction allows retailers, brands, and affiliates/advertisers to bid for the right to assign a hyperlink to a video object that takes a viewer of the video who has interacted with that object to a website where that object or any object the winning bidder chooses can be purchased, or to any other content the winning bidder would like to associate with that object.</p> <p>In step 745 a video overlay is created which links the video object with the winning bidders provided content, and in step 750 the video overlay with region definition data is transmitted to the video broadcaster 120.</p>
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		<p>In step 760, a video viewer interacts with the video overlay by rolling-over or selecting a video region thereby triggering the display of relevant content associated with the video object. It should be appreciated that rolling over may illicit the display of different relevant content than that displayed when the object is selected. For example, selecting an object may trigger more detailed information than that displayed when the object is simply rolled-over with the pointing device.</p> <p>In step 770 (optional), the VOHE 300 records the viewer interaction with the video objects and updates the viewer's behavioral profile. It should be noted that the video viewer's interactions with the video overlay (and the video objects) generally triggers the display of relevant content from the VOHE 300. This enables the content associated with a video object to be updated on-the-fly without the need to alter the video overlay. The video overlay makes the video interactive by making video regions selectable, the content comes from the object database that stores information submitted from the creator of the video as well as comments by viewers, in addition, content also comes from the VOHE 300 in the form of hyperlinks supplied by the winning bidders.</p> <p>In step 780 (optional), the VOHE 100 completes a sales transaction initiated by the viewer's interactions with the video region representing the video object. As will be explained below in further detail, the VOHE 300 may enable the viewer to complete a sales transaction by following the hyperlink provided by the winning bidder to an online retailer.” Ohliger at 12:4-13:3.</p> <p>“It is important to note that the video objects are used to create selectable regions (hyperlinks) which dynamically track the movement, size and position of the object throughout the video.</p> <p>3D Rotoscoping</p> <p>FIG. 12 is a high level flow diagram for 3-dimensional rotoscoping. The process begins in step 1200 with selecting a given video object.</p> <p>If only one perspective of the video object is available (step 1202A) in the video then a two-dimensional wire frame of the video object is created. Additionally, a data model is created for light and shadows in the video frames in which the video</p>
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		<p>object appears. The wireframe is then stored in a video object database (such as object information library 112 (step 1208).</p> <p>If additional perspectives for the video object subsequently become available (step 1202B) then a three-dimensional (3D) wire frame is created (step 1206) or the new perspectives are used to update the existing three-dimensional wireframe. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in the video object database (step 1208).</p> <p>In step 1210 the user (video consumer) is presented with viewing options such as rotating of the object or zoom. It is also possible to “replace” video objects (step 1212) in the video by superimposing a modified or new animated object including light and shadows of surrounding video objects over the existing video object. For example, an obscured appearance of a video object such as a can of Pepsi® can be replaced (superimposed) with an animated object (3-dimensional wireframe of the object) without the need to re-shoot the video. It is even possible to superimpose an animated object (3-dimensional wireframe of the object) of a can of Coca-Cola® over the can of Pepsi.</p> <p>The present invention further includes a system for making an interactive overlay for a video. The system includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server includes one or more video files stored in a video database. The system further includes object inventory database 112 stored on the server 300 and containing information describing a location (size, shape, orientation) of at least one video object within one of the video files. The object inventory database 112 may be compiled using any of the systems or methods disclosed in this specification or equivalents thereof. An overlay generation application (software or firmware) is stored and executed on the server 300. The overlay generation application creates a video overlay including at least one selectable hyperlink whose shape and position (coordinates) track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. In some cases the overlay is transparent; however, as will be explained below in</p>
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		<p>some cases the overlay may include animated representations of video objects which are superimposed over and replace/obscure the underlying video object. The system may optionally include a wireframe database 112A stored on the server 300 or the wireframe database may be included within the object inventory database 112 or any other database stored on the server. The wire frame database 112A stores three-dimensional wireframe representations of at least one video object.</p> <p>The overlay generation application may optionally match occurrences of video objects in the object inventory library with three-dimensional wireframe representations of the video object (stored in the wireframe library database or the object inventory database) and create a video overlay including matched wire frame representations wherein the shape and position of the wireframe representation tracks a dynamic location of the video object in the video. In other words, the wireframe representation of the object is superimposed over the corresponding video object. The superimposed wireframe representation obscures (replaces) the video object.</p> <p>The wire frame library database 112A may optionally include a lighting model which defines/specifies the light distribution on the video object. For each occurrence of a video object in a video frame the lighting model would define/specify the light distribution on the video object.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database 112 stored on (or accessible by) the server and containing information describing a location of at least one video object within one of the video files. The system includes a wireframe database stored on (or accessible by) the server, the wireframe database storing three-dimensional wireframe representations of at least one video object; and an overlay generation application (software or firmware) executed on the server. The overlay generation application matches occurrences of video objects in the object inventory library with corresponding three-dimensional wireframe representations of the video object and creates a video overlay including matched wireframe</p>
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		<p>representations of the video object wherein the shape and position (coordinates) of the wireframe representation track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database stored on the server and containing information describing coordinates of at least one video object within one of the video files. The system further includes a wireframe database stored on the server, the wireframe database stores three-dimensional wireframe representations of at least one video object. A wireframe generation application (software or firmware) executed on the server selects video objects from the video object inventory database and generates a three-dimensional wire frame of the selected video object from multiple perspective occurrences of the video object in the video file and stores the three-dimensional wireframe in the wireframe database. The wireframe generation application may optionally generate a lighting model for each occurrence of a video object in a video frame from light distribution on the video object.</p> <p>The system may further include an overlay generation application (software or firmware) executed on the server which matches occurrences of video objects in the object inventory library 112 with corresponding three-dimensional wire frame representations stored in the wire frame library 112A. The overlay generation application creates a video overlay including matched wireframe representations of the video objects wherein the shape and position of the wireframe representation tracks the dynamic location of the video object in the video. The overlay generation application stores the overlay on the server. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p>
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		<p>The creation of three-dimensional wire frames and lighting models is well known in the art and is disclosed in the following U.S. patents whose disclosure are hereby incorporated by reference: U.S. Pat. No. 7,602,404 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,983,082 entitled Reality-based light environment for digital imaging in motion pictures; U.S. Pat. No. 6,954,202 entitled Image-based methods of representation and rendering of three dimensional object and animated three-dimensional object; U.S. Pat. No. 6,919,962 entitled Reflectometry apparatus and method; U.S. Pat. No. 6,858,826 entitled Method and apparatus for scanning three-dimensional objects; U.S. Pat. No. 6,685,326 entitled Realistic scene lighting simulation; U.S. Pat. No. 6,628,298 entitled Apparatus and method for rendering synthetic objects into real scenes using measurements of scene illumination; U.S. Pat. No. 6,529,206 entitled Image processing apparatus and method, and medium therefore; U.S. Pat. No. 6,504,546 entitled Method of modeling objects to synthesize three-dimensional, photo-realistic animations; U.S. Pat. No. 6,434,265 entitled Aligning rectilinear images in 3D through projective registration and calibration; U.S. Pat. No. 6,333,749 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,281,904 entitled Multi-source texture reconstruction and fusion; and U.S. Pat. No. 6,281,903 entitled Methods and apparatus for embedding 2D image content into 3D models.” Ohliger at 18:45-21:16.</p>
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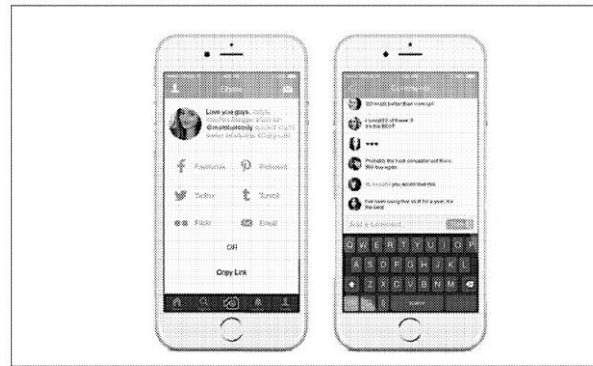
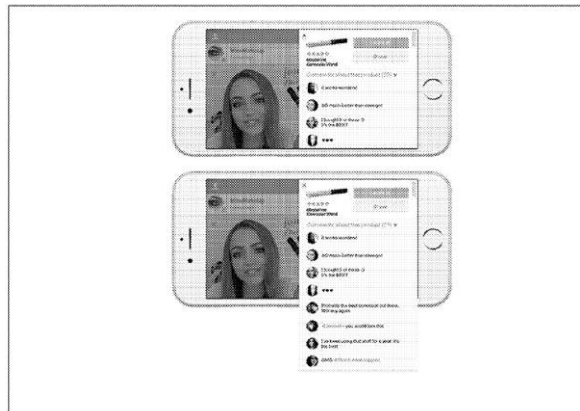


Fig. 17
Comment & Share

Ohliger at Fig. 17.

Fig. 26
Share & Comment



Ohliger at Fig. 26.

Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge

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		<p>of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
18[d][ii]	<p>wherein the video media, the first interactive layer, and the second interactive layer are configured to be provided to user via the first processing device and to at least one guest via a second processing device,</p>	<p>Ohliger discloses “wherein the video media, the first interactive layer, and the second interactive layer are configured to be provided to user via the first processing device and to at least one guest via a second processing device, ” See e.g.:</p> <p>“The present invention is a system 100 for automatically segmenting video into video objects, classifying the video objects either automatically or by the creator of the video, assembling a database of the classified video objects, defining region definition data representing each video object on an interactive layer, auctioning the rights to a hyperlink that is either displayed or associated with a button that appears when an object is interacted with by a viewer of the video, or that is connected directly to the object so that when a viewer clicks or touches the object while watching the video they are directed to a website or other content that the hyperlink is pointing to. Allowing the creator of the video to associate comments, pictures, audio, hyperlinks, and other content with interactive areas around objects in their videos. Allowing viewers of the video to interact with objects in the video by clicking or touching areas around objects in the video, and further allowing viewers to comment about those objects, share those objects by way of the internet or social media, and purchase those objects, or other objects associated with the objects by way of the previously mentioned hyperlinks. These hyperlinks associated with video objects are auctioned on a video object hyperlink exchange (hereinafter “VOHE”) 300, and creating a video overlay with region definition data linking relevant content with the video content objects and thereby creating an interactive video. The creator of the video is reimbursed for the content by receiving a mutually agreed to percentage of the profits generated by the auction of the hyperlinks within the creators content. The region is a portion of the video frame which is congruent with the underlying video object. The region definition</p>

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	<p>data defines such portion of the video frame. The system 100 of the present invention consists of several distinct yet related components.</p> <p>One aspect of the invention relates to the creation of an inventory of video objects and corresponding region definition data. The video object inventory 114 is a database containing region definition data in form of pointers or references to video objects within video or animation files. Importantly, the region definition data is used to make the video interactive by providing the ability to link supplemental information with a specific video object within a video. For example, the video viewer can select a shirt displayed within the video and learn the brand and model of the shirt and other relevant information. Further, the viewer can also see comments, pictures, audio, and other content associated with the object by the creator of the video. The invention associates the relevant information with the video object thereby making the object a selectable hyperlink, meaning that the viewer can click or touch the object in any frame of the video in which the object appears and the related content will be revealed.” Ohliger at 8:58-9:41.</p> <p>“The invention also includes giving video viewers the ability to comment and communicate with each other and with the creator of the video in regards to a specific interactive object in the video. This is referred to as “sub-comments” and it differs from current comments on the internet and on social media in that sub-comments are accessed by viewers within the content related to the interaction of the viewer with a specific object within a video as opposed to comments that relate to the video as a whole.” Ohliger at 11:11-20.</p> <p>“The viewer 124 uses a computer, mobile phone or another electronic device that connects to the internet or to a social network 400 (FIG. 3) to access the video content made available by broadcaster 120 on a web site or social network or application or the like accessible over a distributed network such as the Internet. Computer 400 includes a processor 202 which is connected via BUS 204 to a mass storage device 206, Read-Only-Memory (ROM) 208 and Random Access Memory (RAM) 210 (which may be volatile or nonvolatile). A web browser executes on the processor and is used to access web sites on the Internet. The</p>
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	<p>viewer 124 interacts with the video overlay by selecting or rolling over a region representing a video object using a conventional pointing device 218, and/or using a touch sensitive screen 214 such as is known in the art. Interaction by the video viewer 124 triggers display of supplemental content such as information provided by the creator of the video, comments by other viewers, or any other associated content including original, organic, advertising, links to other content, and/or paid content by retailers/brands/affiliates/advertisers that purchased rights on the VOHE. The retailers/brands/affiliates/advertisers 122 are bidding on the right to supply the relevant content using an embedded hyperlink.” Ohliger at 22:27-50.</p> <p>“A further aspect of the invention will be described with reference to FIGS. 9-11. FIG. 9 is a high level flowchart showing the interactions of a viewer with the VOHE 300. FIGS. 10A-10D and 11A-11B are a graphical depiction of various steps in the flowchart of FIG. 9. In step 900 the viewer 124 views video content having video objects. As described above, the video presentation slows or stops as the user points at or rolls-over (step 902) the presentation screen, and selects a video object using a pointing device such as a mouse or a finger (or the like) on a display screen which may be touch sensitive (FIG. 9 step 904 and FIG. 10A). Selecting refers to both rolling-over the object with the pointing device (without a mouse click or a keyboard command) and to positioning the pointing device over the object and actuating one of the buttons on the mouse or keyboard. In a traditional TV setting the user may use the 5-star control of a remote controller to select a video object.</p> <p>Once the object has been selected (FIG. 9 step 904 and FIG. 10B), the viewer displays an abstract of the video object in the form of an overlay on top of the current viewing window or on a new window adjacent the current viewing panel. The Abstract may include descriptive information (relevant content) about the object (name, brand name, make, model, vendor, price, etc) and classification information about the object or it may be information provided by the creator of the video like a comment about the object, a picture, comments by other viewers, and/or the ability to share the video, video object, or associated content over the internet or through social networks.</p>
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		<p>The user (viewer of video) 124 is presented with a menu of options (FIG. 10C). For example, the viewer 124 may search for other occurrences of the object in both the current video or in other videos (FIG. 9 step 906A, and FIG. 11B). Moreover, the viewer may expand the search to encompass other objects which have similar classification such as the same make but different models (other Ferragamo shoes), or other red high heeled shoes, etc.</p> <p>In step 908A, the user is presented with a list of viewable video segments containing the selected video object. At this point the user can choose to view any of the segments and/or proceed to steps 906B, 906C or 906D.</p> <p>The viewer 124 may be presented with an option to retrieve more detailed information about the object (step 906B). Such information may include details about the materials or specifications of the object. The user may also be presented with the option to view a three-dimensional wire frame rendering of the object. The 3D wire frame is created by the VOHE 300 when the object is initially identified and classified. Depending on how many perspective facets of an object are available, a complete or partial 3D wire frame may exist for a given object. The viewer 124 presents the user with various options to manipulate and interact with the 3D wire frame. For example, the viewer 124 may rotate and zoom the 3D wire frame to display the rendering from different perspectives.</p> <p>As described above, the user may be presented with the option to add the video object to a shopping cart (FIG. 9 step 908B and FIG. 10C). Although not specifically illustrated in FIG. 9, the option to purchase may be nested under each of the menu items such that the user may always elect to purchase without having to retrace his/her steps. In fact, each of the menu options described herein may be organized in any number of ways and the inventive concept is not limited to the specific way they are presented. Thus, steps 906A-906D may be nested.</p> <p>The shopping cart may be a conventional electronic shopping cart which enables the user to purchase the object or flag it to the user's wish list for future purchase. The viewer 124, VOHE 300, or system 100 tracks objects purchased by the user and items added to the user's wish list, and such information may be used to analyze the user's buying trends etc. More particularly, an analytics database records the interactions of the consumer. The analytics database stores information regarding the video files or types of video files (genre or the like)</p>
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	<p>accessed by the consumer, the objects selected by the consumer, items purchased by the consumer. The analytics database may be stored on or accessible to (via the distributed network, e.g., internet) the VOHE 300 or system 100. The viewer 124 also enables the user to manually indicate that the user owns a given object even if it was not purchased through the VOHE 300.</p> <p>The VOHE 300 allows the user to share individual video objects or create and share a collection of video objects with one or more friends by selecting the video objects or the collection of objects and selecting individual friends or sets of friends (FIG. 9 steps 906C and 910B, and FIG. 10C). The viewer 124 may include a software plug-in application for a social networking site (Facebook® application, Twitter® application, Instagram® application, Vine® application, Snapchat® application) or the like which enables the user to add the video object to the user's social network account without leaving the portal (VOHE 300) through which the user was viewing the video. As used herein the term social networking site is equivalent in all respects to social networking server and encompasses Facebook application, Twitter application, etc. which enable a user to share information to a wide audience with or without specifying individual recipients.</p> <p>The plug-in application also enables the user to share the image/video segment etc with one or more social networking contacts ("Facebook friends, Instagram followers, etc."). The plug-in application is software. The plug-in may share data linking or pointing to the video object or library of such objects. The video object or library of video objects may be stored on the YOM 300 or on the user's computer 400. Data transferred to Facebook or other social networking sites may also be stored on a 3d party server such as or the like, or the social networking site may simply store a link to data stored on the VOHE 300." Ohliger at 24:29-26:3.</p> <p>"FIG. 16: The feed is a dynamic stream of user-created content. Each video plays on a constant loop. Hashtags help VeePiO users brand and sort their Veep'd videos. Viewers can like, comment on, and re-VeeP any video.</p>
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		<p>FIG. 17: VeePiO thrives on community. Commenting is easy and encouraged via standard pathways like the feed, and through product sub-comments. Beyond that VeePiO media can be shared anywhere online.</p> <p>FIG. 18: VeePiO is simple to use. Tap any Veep'd object and instantly gain the ability to make it your own. (1st screen) Veepio users can also share and view comments for individual objects. (2nd screen) Tapping “I want it!” walks users through an easy in-app purchase flow. (2nd and 3rd screen)” Ohliger at 28:38-56.</p> <p>“FIG. 26: Veepio users can also share and view sub-comments related to individual products.” Ohliger at 29:15-16.</p> <p>“i. Creators of the video and viewers of the video are able to post comments related to the video and/or the at least one interactive object in the video that are displayed when the overlay that tracks the interactive object is clicked or touched. The comments are specific to only the interactive object they are related to.</p> <p>ii. The creators of the video are able to associate other content like comments, pictures, links, audio files to the interactive objects. This content appears when the objects are hovered over, clicked or touched.” Ohliger at 30:55-64.</p> <p>“In step 720, the video objects are compared with objects in an object library, which may be 2D (two-dimensional) or 3D (three-dimensional) wire frame data representing objects within the video. Perspective views from such 2D/3D wire frame models may be advantageous to the automatic object recognition process. This step is optional. If a match is detected then the object is associated with the product description and/or meta-data from the object library. The unmatched video object may be discarded or subjected to a secondary processing application and/or an analyst may manually identify/configure the object boundaries (step 730), and then the object may be subject to another classification step (710) and/or another comparison with objects in the object library (720). The creator of the video can also choose which objects they want to make interactive (705) and they can identify those objects with a dynamic bounding area that will change size proportionate to the change in size of the object from frame to frame as it is tracked by an object tracking algorithm. The creator can also describe, comment</p>
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		<p>and add additional content to an object in the video that they have chosen to make interactive (715). This content will appear to a viewer when they interact with the bounding area around the object in any frame that the object appears by clicking, hovering over, or touching any point within the bounding area.</p> <p>In step 740, the video objects are published to the market exchange and subject to an automated auction process. The auction allows retailers, brands, and affiliates/advertisers to bid for the right to assign a hyperlink to a video object that takes a viewer of the video who has interacted with that object to a website where that object or any object the winning bidder chooses can be purchased, or to any other content the winning bidder would like to associate with that object.</p> <p>In step 745 a video overlay is created which links the video object with the winning bidders provided content, and in step 750 the video overlay with region definition data is transmitted to the video broadcaster 120.</p> <p>In step 760, a video viewer interacts with the video overlay by rolling-over or selecting a video region thereby triggering the display of relevant content associated with the video object. It should be appreciated that rolling over may illicit the display of different relevant content than that displayed when the object is selected. For example, selecting an object may trigger more detailed information than that displayed when the object is simply rolled-over with the pointing device.</p> <p>In step 770 (optional), the VOHE 300 records the viewer interaction with the video objects and updates the viewer's behavioral profile. It should be noted that the video viewer's interactions with the video overlay (and the video objects) generally triggers the display of relevant content from the VOHE 300. This enables the content associated with a video object to be updated on-the-fly without the need to alter the video overlay. The video overlay makes the video interactive by making video regions selectable, the content comes from the object database that stores information submitted from the creator of the video as well as comments by viewers, in addition, content also comes from the VOHE 300 in the form of hyperlinks supplied by the winning bidders.</p> <p>In step 780 (optional), the VOHE 100 completes a sales transaction initiated by the viewer's interactions with the video region representing the video object. As will be explained below in further detail, the VOHE 300 may enable the viewer to</p>
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		<p>complete a sales transaction by following the hyperlink provided by the winning bidder to an online retailer.” Ohliger at 12:4-13:3.</p> <p>“It is important to note that the video objects are used to create selectable regions (hyperlinks) which dynamically track the movement, size and position of the object throughout the video.</p> <p>3D Rotoscoping</p> <p>FIG. 12 is a high level flow diagram for 3-dimensional rotoscoping. The process begins in step 1200 with selecting a given video object.</p> <p>If only one perspective of the video object is available (step 1202A) in the video then a two-dimensional wire frame of the video object is created. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in a video object database (such as object information library 112 (step 1208).</p> <p>If additional perspectives for the video object subsequently become available (step 1202B) then a three-dimensional (3D) wire frame is created (step 1206) or the new perspectives are used to update the existing three-dimensional wireframe. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in the video object database (step 1208).</p> <p>In step 1210 the user (video consumer) is presented with viewing options such as rotating of the object or zoom. It is also possible to “replace” video objects (step 1212) in the video by superimposing a modified or new animated object including light and shadows of surrounding video objects over the existing video object. For example, an obscured appearance of a video object such as a can of Pepsi® can be replaced (superimposed) with an animated object (3-dimensional wireframe of the object) without the need to re-shoot the video. It is even possible to superimpose an animated object (3-dimensional wireframe of the object) of a can of Coca-Cola® over the can of Pepsi.</p> <p>The present invention further includes a system for making an interactive overlay for a video. The system includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server includes one or more video files stored in a video database.</p>
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	<p>The system further includes object inventory database 112 stored on the server 300 and containing information describing a location (size, shape, orientation) of at least one video object within one of the video files. The object inventory database 112 may be compiled using any of the systems or methods disclosed in this specification or equivalents thereof. An overlay generation application (software or firmware) is stored and executed on the server 300. The overlay generation application creates a video overlay including at least one selectable hyperlink whose shape and position (coordinates) track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. In some cases the overlay is transparent; however, as will be explained below in some cases the overlay may include animated representations of video objects which are superimposed over and replace/obscure the underlying video object. The system may optionally include a wireframe database 112A stored on the server 300 or the wireframe database may be included within the object inventory database 112 or any other database stored on the server. The wire frame database 112A stores three-dimensional wireframe representations of at least one video object.</p> <p>The overlay generation application may optionally match occurrences of video objects in the object inventory library with three-dimensional wireframe representations of the video object (stored in the wireframe library database or the object inventory database) and create a video overlay including matched wire frame representations wherein the shape and position of the wireframe representation tracks a dynamic location of the video object in the video. In other words, the wireframe representation of the object is superimposed over the corresponding video object. The superimposed wireframe representation obscures (replaces) the video object.</p> <p>The wire frame library database 112A may optionally include a lighting model which defines/specifies the light distribution on the video object. For each occurrence of a video object in a video frame the lighting model would define/specify the light distribution on the video object.</p>
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		<p>According to another embodiment the system for making an interactive overlay for a video includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database 112 stored on (or accessible by) the server and containing information describing a location of at least one video object within one of the video files. The system includes a wireframe database stored on (or accessible by) the server, the wireframe database storing three-dimensional wireframe representations of at least one video object; and an overlay generation application (software or firmware) executed on the server. The overlay generation application matches occurrences of video objects in the object inventory library with corresponding three-dimensional wireframe representations of the video object and creates a video overlay including matched wireframe representations of the video object wherein the shape and position (coordinates) of the wireframe representation track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database stored on the server and containing information describing coordinates of at least one video object within one of the video files. The system further includes a wireframe database stored on the server, the wireframe database stores three-dimensional wireframe representations of at least one video object. A wireframe generation application (software or firmware) executed on the server selects video objects from the video object inventory database and generates a three-dimensional wire frame of the selected video object from multiple perspective occurrences of the video object in the video file and stores the three-dimensional wireframe in the wireframe database. The</p>
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		<p>wireframe generation application may optionally generate a lighting model for each occurrence of a video object in a video frame from light distribution on the video object.</p> <p>The system may further include an overlay generation application (software or firmware) executed on the server which matches occurrences of video objects in the object inventory library 112 with corresponding three-dimensional wire frame representations stored in the wire frame library 112A. The overlay generation application creates a video overlay including matched wireframe representations of the video objects wherein the shape and position of the wireframe representation tracks the dynamic location of the video object in the video. The overlay generation application stores the overlay on the server. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>The creation of three-dimensional wire frames and lighting models is well known in the art and is disclosed in the following U.S. patents whose disclosure are hereby incorporated by reference: U.S. Pat. No. 7,602,404 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,983,082 entitled Reality-based light environment for digital imaging in motion pictures; U.S. Pat. No. 6,954,202 entitled Image-based methods of representation and rendering of three dimensional object and animated three-dimensional object; U.S. Pat. No. 6,919,962 entitled Reflectometry apparatus and method; U.S. Pat. No. 6,858,826 entitled Method and apparatus for scanning three-dimensional objects; U.S. Pat. No. 6,685,326 entitled Realistic scene lighting simulation; U.S. Pat. No. 6,628,298 entitled Apparatus and method for rendering synthetic objects into real scenes using measurements of scene illumination; U.S. Pat. No. 6,529,206 entitled Image processing apparatus and method, and medium therefore; U.S. Pat. No. 6,504,546 entitled Method of modeling objects to synthesize three-dimensional, photo-realistic animations; U.S. Pat. No. 6,434,265 entitled Aligning rectilinear images in 3D through projective registration and calibration; U.S. Pat. No. 6,333,749 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,281,904 entitled Multi-source texture reconstruction and fusion; and U.S. Pat. No. 6,281,903</p>
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entitled Methods and apparatus for embedding 2D image content into 3D models.” Ohliger at 18:45-21:16.

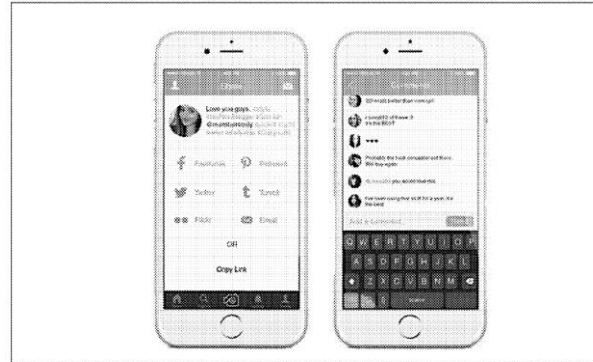
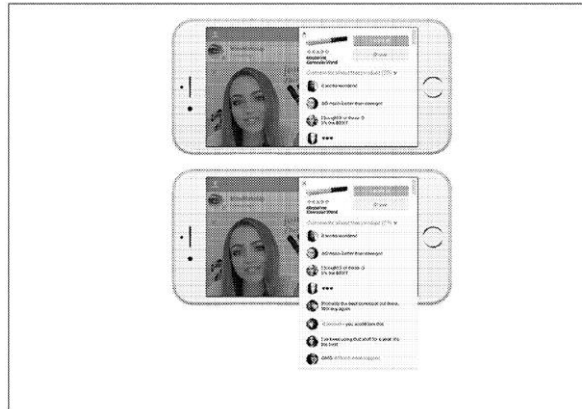


Fig. 17

Comment & Share

Ohliger at Fig. 17.

Fig. 26
Share & Comment



Ohliger at Fig. 26.

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Fig. 18
Shop VeePIO

Ohliger at Fig. 18.

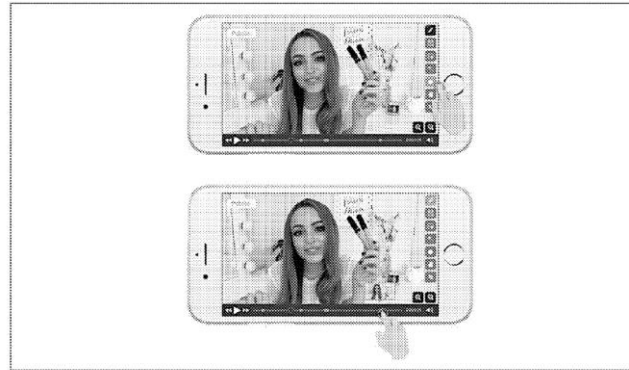
Fig. 20
How to Veep



Ohliger at Fig. 20.

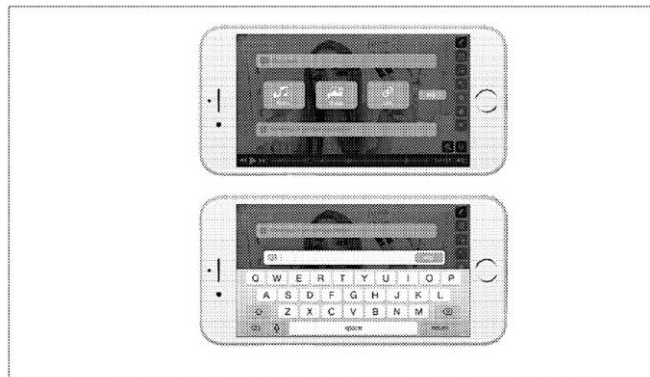
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Fig. 21
Veep Editing Room



Ohliger at Fig. 21.

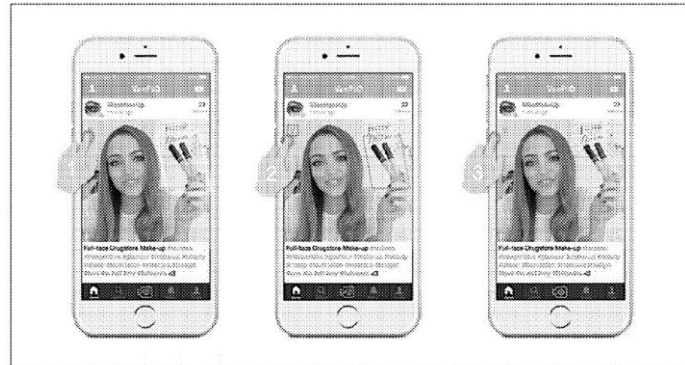
Fig. 22
Object Details



Ohliger at Fig. 21.

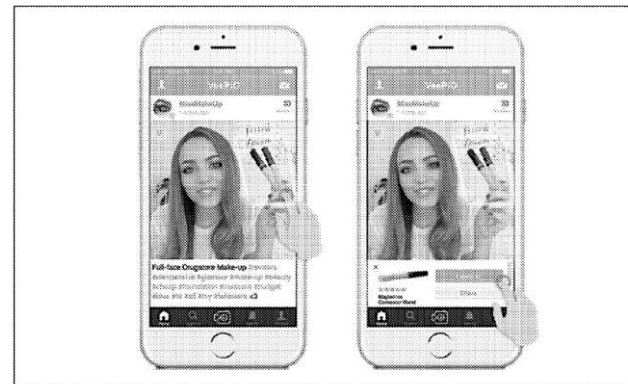
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Fig. 23
"V"isibility



Ohliger at Fig. 23.

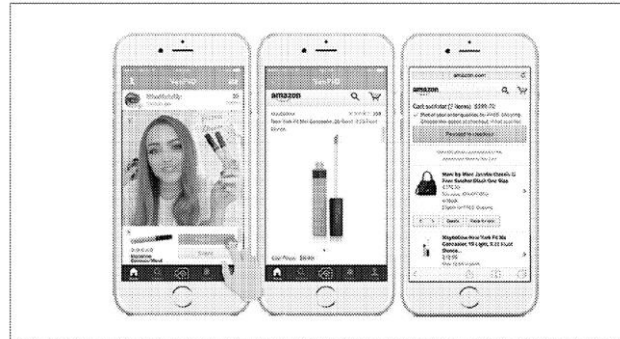
Fig. 24
I Want it!



Ohliger at Fig. 24.

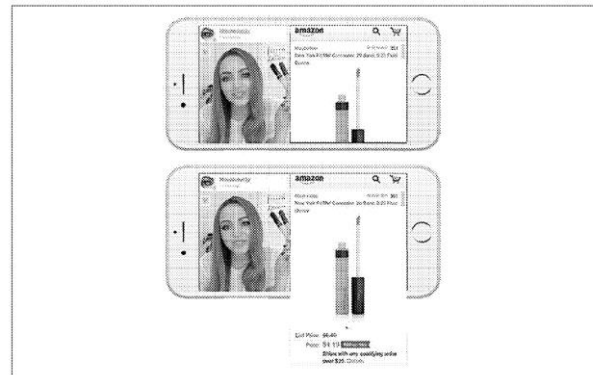
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Fig. 25
I Want it! Continued



Ohliger at Fig. 25.

Fig. 28
Buy Via Split Screen



Ohliger at Fig. 28.

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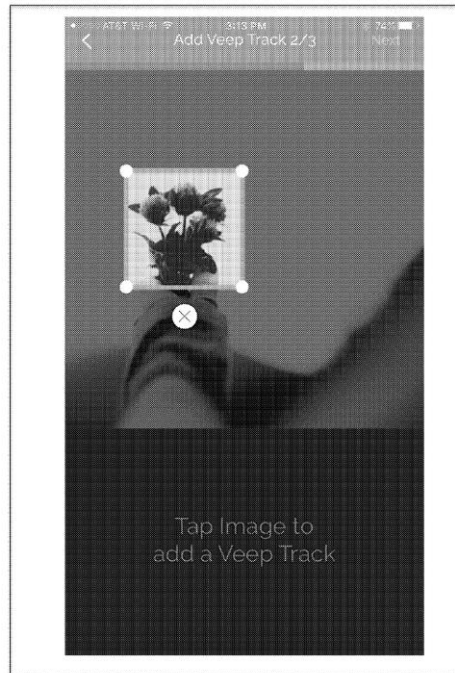


Fig. 38

Ohliger at Fig. 38.

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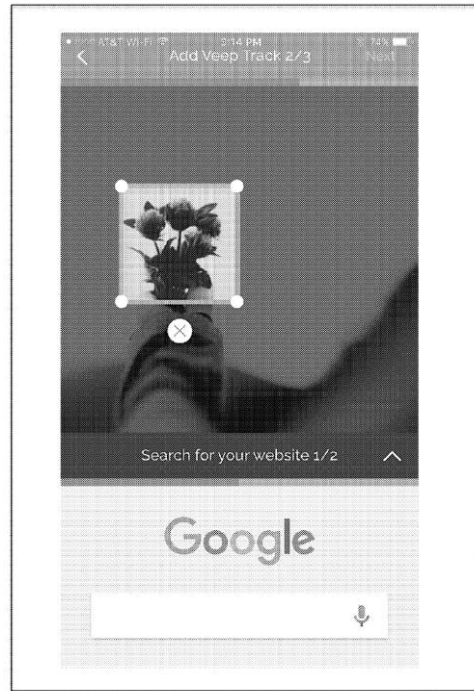


Fig. 39
Ohliger at Fig. 39.

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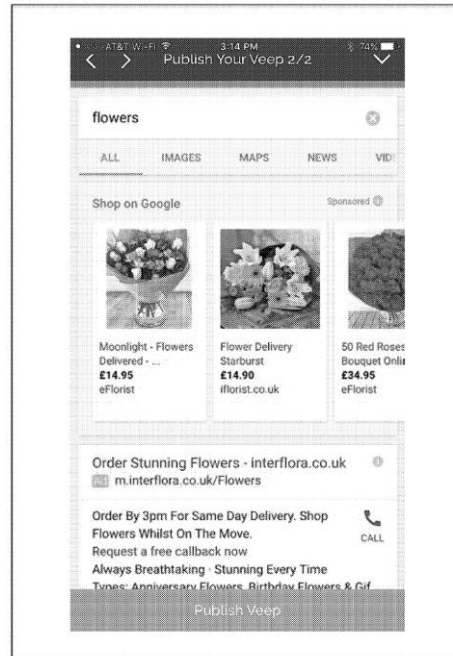


Fig. 41
Ohliger at Fig. 41.

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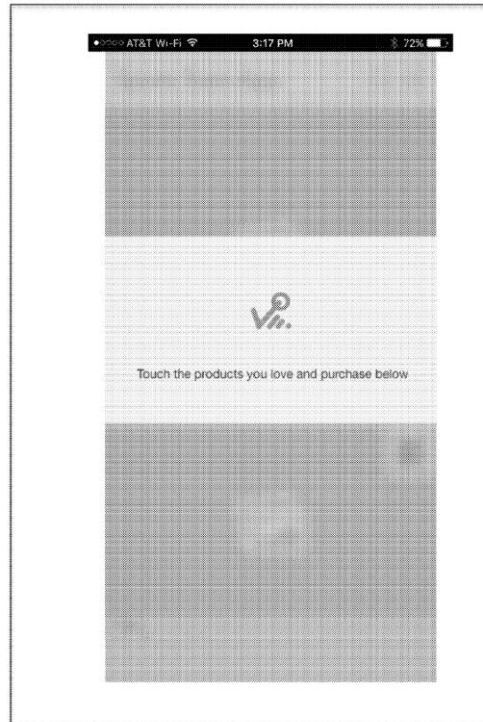


Fig. 46
'46 Patent at Fig. 46.

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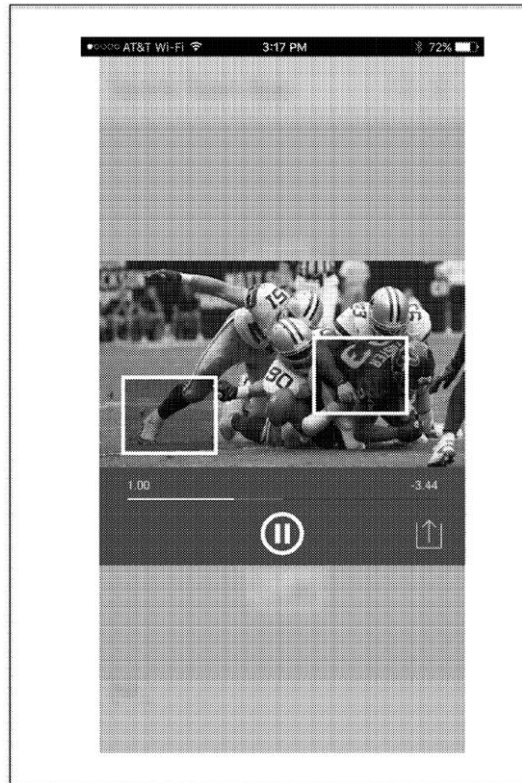


Fig. 48
Ohliger at Fig. 48.

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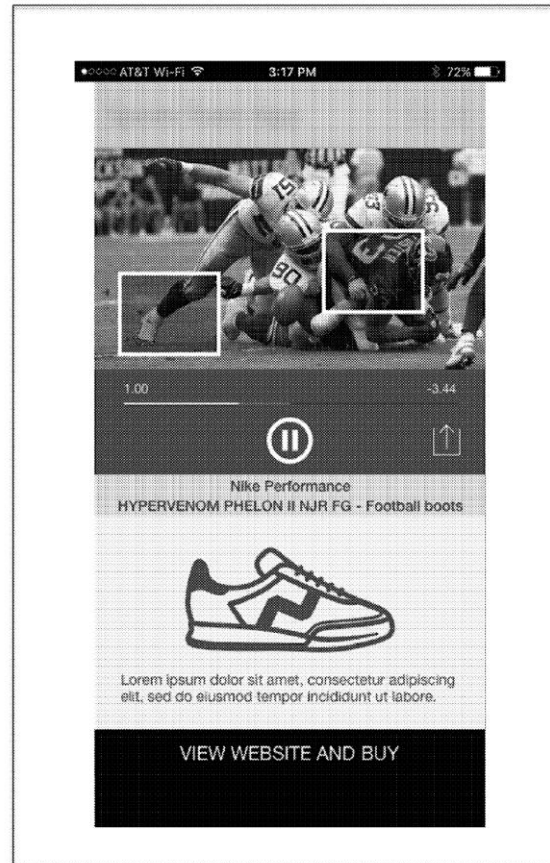


Fig. 49
Ohliger at Fig. 49.

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Fig. 50

Ohliger at Fig. 50.

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FIG. 53B

Ohliger at Fig. 53B.

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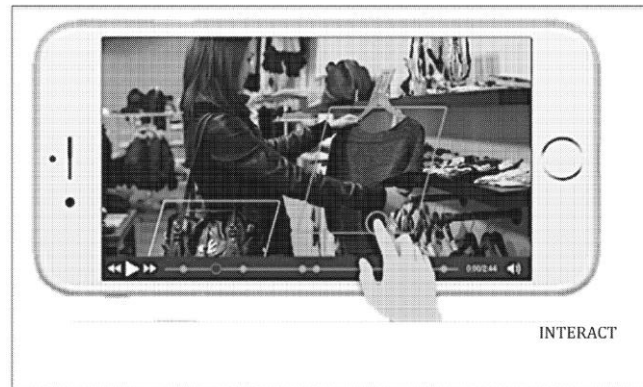


FIG. 53D

Ohliger at Fig. 53D.



FIG. 53E

Ohliger at Fig. 53E.

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		 <p style="text-align: center;">FIG. 53F</p> <p>Ohliger at Fig. 53F.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
18[d][iii]	<p>wherein the second interactive layer contains a social media portion controllable by the user via the first processing device, so as to interact with the at least one guest that is also a viewer of the video media through an interface</p>	<p>Ohliger discloses “wherein the second interactive layer contains a social media portion controllable by the user via the first processing device, so as to interact with the at least one guest that is also a viewer of the video media through an interface displayed in the second interactive video layer via the second processing device, ” See e.g.:</p> <p>See 1[c][ii], <i>supra</i>.</p>

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	displayed in the second interactive video layer via the second processing device,	Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.
18[d][iv]	wherein an interaction between the user and the at least one guest, and	<p>Ohliger discloses “wherein an interaction between the user and the at least one guest, and ” See e.g.:</p> <p>See 1[c][iii], <i>supra</i>.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
18[d][v]	past interaction activity between a plurality of users in the social media portion, are displayed in the interface in the second interactive video layer, and	<p>Ohliger discloses “past interaction activity between a plurality of users in the social media portion, are displayed in the interface in the second interactive video layer, and ” See e.g.:</p> <p>See 1[c][iv], <i>supra</i>.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known</p>

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		problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.
18[d][vi]	wherein the user is capable of maintaining and toggling between a plurality of different conversations displayable in the social media portion in the second interactive video layer as an overlay to the video media displayed by the first processing device,	<p>Ohliger discloses “wherein the user is capable of maintaining and toggling between a plurality of different conversations displayable in the social media portion in the second interactive video layer as an overlay to the video media displayed by the first processing device, ” See e.g.:</p> <p>See 1[c][v], <i>supra</i>.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
18[d][vii]	wherein the plurality of users either includes the user or does not include the user; and	<p>Ohliger discloses “wherein the plurality of users either includes the user or does not include the user; and” See e.g.:</p> <p>See 1[c][vi], <i>supra</i>.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
18[e]	e) a software module for transmitting the first and second	Ohliger discloses “a software module for transmitting the first and second interactive layers to the first processing device of the user.” See e.g.:

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	<p>interactive layers to the first processing device of the user.</p>	<p>“A system is provided for identifying objects in video either automatically by using an object database or manually by using information provided by the creator of the video, making the objects interactive in every frame of the video that they appear, allowing the creator to embed information behind the video objects that appears when a viewer hovers over, clicks or touches the object, allowing the creator to describe at least one object that appears in a video, associating a hyperlink with a clickable space around the object in every frame that the object appears in, and electronically auctioning the rights to the hyperlink and what data the hyperlink connects to. The system includes a video server communicating with a consumer server over a distributed network. The video server includes at least one video file, an object inventory database, and relevant content including associated hyperlinks in a database stored on or accessible to the video server. The object inventory database contains information describing a location of at least one video object within at least one video file and the hyperlink that is associated with the object. A video overlay links the relevant content with a given video object and creating a selectable hyperlink whose position tracks a dynamic location of the video object in the video. The consumer server includes a software application for accessing and displaying at least one video file stored in the video database, the software application including means for interacting with the video overlay to select an object displayed in the video file.</p> <p>More specifically, a system is disclosed for viewing video having segmented video objects. The system includes a video server including a computer or mobile device connectable to a distributed network and having a processor, random access memory, read-only memory, and mass storage memory. At least one video file is stored in a video database on or accessible to the video server. An object inventory database is stored on or accessible to the video server, the object inventory database containing information describing a location of at least one video object within the at least one video file. Object description content is stored in a database stored on or accessible to the video server. A video overlay links the object description content with a given video object and creating a selectable hyperlink whose position tracks a dynamic location of the video object in the video, wherein the video overlay is adapted to allow a consumer to interact with</p>
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		<p>the video overlay to select an object displayed in the video file and be displayed content related to the object that has been added by the creator of the video, and/or content that has been added automatically by the system, or content that has been added a viewer or viewers of the video. The system also allows a viewer to click a button that has a hyperlink associated with it that takes the viewer to an online store where a product or products associated with the object in the video can be purchased. The viewer also has the ability to add the selected object to a collection of objects. The viewer also has the ability to share a hyperlink directly associated with the video and the object with other people over a social network, email, the internet, mobile messaging and any other commonly used electronic forms of communication.” Ohliger at 3:9-67.</p> <p>“The present invention is a system 100 for automatically segmenting video into video objects, classifying the video objects either automatically or by the creator of the video, assembling a database of the classified video objects, defining region definition data representing each video object on an interactive layer, auctioning the rights to a hyperlink that is either displayed or associated with a button that appears when an object is interacted with by a viewer of the video, or that is connected directly to the object so that when a viewer clicks or touches the object while watching the video they are directed to a website or other content that the hyperlink is pointing to. Allowing the creator of the video to associate comments, pictures, audio, hyperlinks, and other content with interactive areas around objects in their videos. Allowing viewers of the video to interact with objects in the video by clicking or touching areas around objects in the video, and further allowing viewers to comment about those objects, share those objects by way of the internet or social media, and purchase those objects, or other objects associated with the objects by way of the previously mentioned hyperlinks. These hyperlinks associated with video objects are auctioned on a video object hyperlink exchange (hereinafter “VOHE”) 300, and creating a video overlay with region definition data linking relevant content with the video content objects and thereby creating an interactive video. The creator of the video is reimbursed for the content by receiving a mutually agreed to percentage of the profits generated by the auction of the hyperlinks within the creators content. The region is a portion of the video</p>
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	<p>frame which is congruent with the underlying video object. The region definition data defines such portion of the video frame. The system 100 of the present invention consists of several distinct yet related components.</p> <p>One aspect of the invention relates to the creation of an inventory of video objects and corresponding region definition data. The video object inventory 114 is a database containing region definition data in form of pointers or references to video objects within video or animation files. Importantly, the region definition data is used to make the video interactive by providing the ability to link supplemental information with a specific video object within a video. For example, the video viewer can select a shirt displayed within the video and learn the brand and model of the shirt and other relevant information. Further, the viewer can also see comments, pictures, audio, and other content associated with the object by the creator of the video. The invention associates the relevant information with the video object thereby making the object a selectable hyperlink, meaning that the viewer can click or touch the object in any frame of the video in which the object appears and the related content will be revealed.” Ohliger at 8:58-9:41.</p> <p>“The invention also includes giving video viewers the ability to comment and communicate with each other and with the creator of the video in regards to a specific interactive object in the video. This is referred to as “sub-comments” and it differs from current comments on the internet and on social media in that sub-comments are accessed by viewers within the content related to the interaction of the viewer with a specific object within a video as opposed to comments that relate to the video as a whole.” Ohliger at 11:11-20.</p> <p>“The viewer 124 uses a computer, mobile phone or another electronic device that connects to the internet or to a social network 400 (FIG. 3) to access the video content made available by broadcaster 120 on a web site or social network or application or the like accessible over a distributed network such as the Internet. Computer 400 includes a processor 202 which is connected via BUS 204 to a mass storage device 206, Read-Only-Memory (ROM) 208 and Random Access Memory (RAM) 210 (which may be volatile or nonvolatile). A web browser</p>
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		<p>executes on the processor and is used to access web sites on the Internet. The viewer 124 interacts with the video overlay by selecting or rolling over a region representing a video object using a conventional pointing device 218, and/or using a touch sensitive screen 214 such as is known in the art. Interaction by the video viewer 124 triggers display of supplemental content such as information provided by the creator of the video, comments by other viewers, or any other associated content including original, organic, advertising, links to other content, and/or paid content by retailers/brands/affiliates/advertisers that purchased rights on the VOHE. The retailers/brands/affiliates/advertisers 122 are bidding on the right to supply the relevant content using an embedded hyperlink.” Ohliger at 22:27-50.</p> <p>“A further aspect of the invention will be described with reference to FIGS. 9-11. FIG. 9 is a high level flowchart showing the interactions of a viewer with the VOHE 300. FIGS. 10A-10D and 11A-11B are a graphical depiction of various steps in the flowchart of FIG. 9. In step 900 the viewer 124 views video content having video objects. As described above, the video presentation slows or stops as the user points at or rolls-over (step 902) the presentation screen, and selects a video object using a pointing device such as a mouse or a finger (or the like) on a display screen which may be touch sensitive (FIG. 9 step 904 and FIG. 10A). Selecting refers to both rolling-over the object with the pointing device (without a mouse click or a keyboard command) and to positioning the pointing device over the object and actuating one of the buttons on the mouse or keyboard. In a traditional TV setting the user may use the 5-star control of a remote controller to select a video object.</p> <p>Once the object has been selected (FIG. 9 step 904 and FIG. 10B), the viewer displays an abstract of the video object in the form of an overlay on top of the current viewing window or on a new window adjacent the current viewing panel. The Abstract may include descriptive information (relevant content) about the object (name, brand name, make, model, vendor, price, etc) and classification information about the object or it may be information provided by the creator of the video like a comment about the object, a picture, comments by other viewers,</p>
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		<p>and/or the ability to share the video, video object, or associated content over the internet or through social networks.</p> <p>The user (viewer of video) 124 is presented with a menu of options (FIG. 10C). For example, the viewer 124 may search for other occurrences of the object in both the current video or in other videos (FIG. 9 step 906A, and FIG. 11B). Moreover, the viewer may expand the search to encompass other objects which have similar classification such as the same make but different models (other Ferragamo shoes), or other red high heeled shoes, etc.</p> <p>In step 908A, the user is presented with a list of viewable video segments containing the selected video object. At this point the user can choose to view any of the segments and/or proceed to steps 906B, 906C or 906D.</p> <p>The viewer 124 may be presented with an option to retrieve more detailed information about the object (step 906B). Such information may include details about the materials or specifications of the object. The user may also be presented with the option to view a three-dimensional wire frame rendering of the object. The 3D wire frame is created by the VOHE 300 when the object is initially identified and classified. Depending on how many perspective facets of an object are available, a complete or partial 3D wire frame may exist for a given object. The viewer 124 presents the user with various options to manipulate and interact with the 3D wire frame. For example, the viewer 124 may rotate and zoom the 3D wire frame to display the rendering from different perspectives.</p> <p>As described above, the user may be presented with the option to add the video object to a shopping cart (FIG. 9 step 908B and FIG. 10C). Although not specifically illustrated in FIG. 9, the option to purchase may be nested under each of the menu items such that the user may always elect to purchase without having to retrace his/her steps. In fact, each of the menu options described herein may be organized in any number of ways and the inventive concept is not limited to the specific way they are presented. Thus, steps 906A-906D may be nested.</p> <p>The shopping cart may be a conventional electronic shopping cart which enables the user to purchase the object or flag it to the user's wish list for future purchase. The viewer 124, VOHE 300, or system 100 tracks objects purchased by the user and items added to the user's wish list, and such information may be used to analyze the user's buying trends etc. More particularly, an analytics database</p>
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		<p>records the interactions of the consumer. The analytics database stores information regarding the video files or types of video files (genre or the like) accessed by the consumer, the objects selected by the consumer, items purchased by the consumer. The analytics database may be stored on or accessible to (via the distributed network, e.g., internet) the VOHE 300 or system 100. The viewer 124 also enables the user to manually indicate that the user owns a given object even if it was not purchased through the VOHE 300.</p> <p>The VOHE 300 allows the user to share individual video objects or create and share a collection of video objects with one or more friends by selecting the video objects or the collection of objects and selecting individual friends or sets of friends (FIG. 9 steps 906C and 910B, and FIG. 10C). The viewer 124 may include a software plug-in application for a social networking site (Facebook® application, Twitter® application, Instagram® application, Vine® application, Snapchat® application) or the like which enables the user to add the video object to the user's social network account without leaving the portal (VOHE 300) through which the user was viewing the video. As used herein the term social networking site is equivalent in all respects to social networking server and encompasses Facebook application, Twitter application, etc. which enable a user to share information to a wide audience with or without specifying individual recipients.</p> <p>The plug-in application also enables the user to share the image/video segment etc with one or more social networking contacts (“Facebook friends, Instagram followers, etc.”). The plug-in application is software. The plug-in may share data linking or pointing to the video object or library of such objects. The video object or library of video objects may be stored on the YOM 300 or on the user's computer 400. Data transferred to Facebook or other social networking sites may also be stored on a 3d party server such as or the like, or the social networking site may simply store a link to data stored on the VOHE 300.” Ohliger at 24:29-26:3.</p> <p>“FIG. 16: The feed is a dynamic stream of user-created content. Each video plays on a constant loop. Hashtags help VeePiO users brand and sort their Veep'd videos. Viewers can like, comment on, and re-Veeep any video.</p>
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		<p>FIG. 17: VeePiO thrives on community. Commenting is easy and encouraged via standard pathways like the feed, and through product sub-comments. Beyond that VeePiO media can be shared anywhere online.</p> <p>FIG. 18: VeePiO is simple to use. Tap any Veep'd object and instantly gain the ability to make it your own. (1st screen) Veepio users can also share and view comments for individual objects. (2nd screen) Tapping "I want it!" walks users through an easy in-app purchase flow. (2nd and 3rd screen)" Ohliger at 28:38-56.</p> <p>"FIG. 26: Veepio users can also share and view sub-comments related to individual products." Ohliger at 29:15-16.</p> <p>"i. Creators of the video and viewers of the video are able to post comments related to the video and/or the at least one interactive object in the video that are displayed when the overlay that tracks the interactive object is clicked or touched. The comments are specific to only the interactive object they are related to.</p> <p>ii. The creators of the video are able to associate other content like comments, pictures, links, audio files to the interactive objects. This content appears when the objects are hovered over, clicked or touched." Ohliger at 30:55-64.</p> <p>"In step 720, the video objects are compared with objects in an object library, which may be 2D (two-dimensional) or 3D (three-dimensional) wire frame data representing objects within the video. Perspective views from such 2D/3D wire frame models may be advantageous to the automatic object recognition process. This step is optional. If a match is detected then the object is associated with the product description and/or meta-data from the object library. The unmatched video object may be discarded or subjected to a secondary processing application and/or an analyst may manually identify/configure the object boundaries (step 730), and then the object may be subject to another classification step (710) and/or another comparison with objects in the object library (720). The creator of the video can also choose which objects they want to make interactive (705) and they can identify those objects with a dynamic bounding area that will change size proportionate to the change in size of the object from frame to frame as it is tracked by an object tracking algorithm. The creator can also describe, comment</p>
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		<p>and add additional content to an object in the video that they have chosen to make interactive (715). This content will appear to a viewer when they interact with the bounding area around the object in any frame that the object appears by clicking, hovering over, or touching any point within the bounding area.</p> <p>In step 740, the video objects are published to the market exchange and subject to an automated auction process. The auction allows retailers, brands, and affiliates/advertisers to bid for the right to assign a hyperlink to a video object that takes a viewer of the video who has interacted with that object to a website where that object or any object the winning bidder chooses can be purchased, or to any other content the winning bidder would like to associate with that object.</p> <p>In step 745 a video overlay is created which links the video object with the winning bidders provided content, and in step 750 the video overlay with region definition data is transmitted to the video broadcaster 120.</p> <p>In step 760, a video viewer interacts with the video overlay by rolling-over or selecting a video region thereby triggering the display of relevant content associated with the video object. It should be appreciated that rolling over may illicit the display of different relevant content than that displayed when the object is selected. For example, selecting an object may trigger more detailed information than that displayed when the object is simply rolled-over with the pointing device.</p> <p>In step 770 (optional), the VOHE 300 records the viewer interaction with the video objects and updates the viewer's behavioral profile. It should be noted that the video viewer's interactions with the video overlay (and the video objects) generally triggers the display of relevant content from the VOHE 300. This enables the content associated with a video object to be updated on-the-fly without the need to alter the video overlay. The video overlay makes the video interactive by making video regions selectable, the content comes from the object database that stores information submitted from the creator of the video as well as comments by viewers, in addition, content also comes from the VOHE 300 in the form of hyperlinks supplied by the winning bidders.</p> <p>In step 780 (optional), the VOHE 100 completes a sales transaction initiated by the viewer's interactions with the video region representing the video object. As will be explained below in further detail, the VOHE 300 may enable the viewer to</p>
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		<p>complete a sales transaction by following the hyperlink provided by the winning bidder to an online retailer.” Ohliger at 12:4-13:3.</p> <p>“It is important to note that the video objects are used to create selectable regions (hyperlinks) which dynamically track the movement, size and position of the object throughout the video.</p> <p>3D Rotoscoping</p> <p>FIG. 12 is a high level flow diagram for 3-dimensional rotoscoping. The process begins in step 1200 with selecting a given video object.</p> <p>If only one perspective of the video object is available (step 1202A) in the video then a two-dimensional wire frame of the video object is created. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in a video object database (such as object information library 112 (step 1208).</p> <p>If additional perspectives for the video object subsequently become available (step 1202B) then a three-dimensional (3D) wire frame is created (step 1206) or the new perspectives are used to update the existing three-dimensional wireframe. Additionally, a data model is created for light and shadows in the video frames in which the video object appears. The wireframe is then stored in the video object database (step 1208).</p> <p>In step 1210 the user (video consumer) is presented with viewing options such as rotating of the object or zoom. It is also possible to “replace” video objects (step 1212) in the video by superimposing a modified or new animated object including light and shadows of surrounding video objects over the existing video object. For example, an obscured appearance of a video object such as a can of Pepsi® can be replaced (superimposed) with an animated object (3-dimensional wireframe of the object) without the need to re-shoot the video. It is even possible to superimpose an animated object (3-dimensional wireframe of the object) of a can of Coca-Cola® over the can of Pepsi.</p> <p>The present invention further includes a system for making an interactive overlay for a video. The system includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server includes one or more video files stored in a video database.</p>
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		<p>The system further includes object inventory database 112 stored on the server 300 and containing information describing a location (size, shape, orientation) of at least one video object within one of the video files. The object inventory database 112 may be compiled using any of the systems or methods disclosed in this specification or equivalents thereof. An overlay generation application (software or firmware) is stored and executed on the server 300. The overlay generation application creates a video overlay including at least one selectable hyperlink whose shape and position (coordinates) track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. In some cases the overlay is transparent; however, as will be explained below in some cases the overlay may include animated representations of video objects which are superimposed over and replace/obscure the underlying video object. The system may optionally include a wireframe database 112A stored on the server 300 or the wireframe database may be included within the object inventory database 112 or any other database stored on the server. The wire frame database 112A stores three-dimensional wireframe representations of at least one video object.</p> <p>The overlay generation application may optionally match occurrences of video objects in the object inventory library with three-dimensional wireframe representations of the video object (stored in the wireframe library database or the object inventory database) and create a video overlay including matched wire frame representations wherein the shape and position of the wireframe representation tracks a dynamic location of the video object in the video. In other words, the wireframe representation of the object is superimposed over the corresponding video object. The superimposed wireframe representation obscures (replaces) the video object.</p> <p>The wire frame library database 112A may optionally include a lighting model which defines/specifies the light distribution on the video object. For each occurrence of a video object in a video frame the lighting model would define/specify the light distribution on the video object.</p>
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		<p>According to another embodiment the system for making an interactive overlay for a video includes a server such as server 300 including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database 112 stored on (or accessible by) the server and containing information describing a location of at least one video object within one of the video files. The system includes a wireframe database stored on (or accessible by) the server, the wireframe database storing three-dimensional wireframe representations of at least one video object; and an overlay generation application (software or firmware) executed on the server. The overlay generation application matches occurrences of video objects in the object inventory library with corresponding three-dimensional wireframe representations of the video object and creates a video overlay including matched wireframe representations of the video object wherein the shape and position (coordinates) of the wireframe representation track a dynamic location of the video object in the video. The system stores the overlay on the server. As explained elsewhere in this specification the overlay is supplied to the video consumer server and is overlaid or superimposed over the video presentation. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>According to another embodiment the system for making an interactive overlay for a video includes a server including a computer having a processor, random access memory, read-only memory, and mass storage memory, the server including one or more video files stored in a video database. The system includes an object inventory database stored on the server and containing information describing coordinates of at least one video object within one of the video files. The system further includes a wireframe database stored on the server, the wireframe database stores three-dimensional wireframe representations of at least one video object. A wireframe generation application (software or firmware) executed on the server selects video objects from the video object inventory database and generates a three-dimensional wire frame of the selected video object from multiple perspective occurrences of the video object in the video file and stores the three-dimensional wireframe in the wireframe database. The</p>
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	<p>wireframe generation application may optionally generate a lighting model for each occurrence of a video object in a video frame from light distribution on the video object.</p> <p>The system may further include an overlay generation application (software or firmware) executed on the server which matches occurrences of video objects in the object inventory library 112 with corresponding three-dimensional wire frame representations stored in the wire frame library 112A. The overlay generation application creates a video overlay including matched wireframe representations of the video objects wherein the shape and position of the wireframe representation tracks the dynamic location of the video object in the video. The overlay generation application stores the overlay on the server. The video overlay may optionally include at least one selectable hyperlink whose shape and position tracks a dynamic location of the video object in the video.</p> <p>The creation of three-dimensional wire frames and lighting models is well known in the art and is disclosed in the following U.S. patents whose disclosure are hereby incorporated by reference: U.S. Pat. No. 7,602,404 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,983,082 entitled Reality-based light environment for digital imaging in motion pictures; U.S. Pat. No. 6,954,202 entitled Image-based methods of representation and rendering of three dimensional object and animated three-dimensional object; U.S. Pat. No. 6,919,962 entitled Reflectometry apparatus and method; U.S. Pat. No. 6,858,826 entitled Method and apparatus for scanning three-dimensional objects; U.S. Pat. No. 6,685,326 entitled Realistic scene lighting simulation; U.S. Pat. No. 6,628,298 entitled Apparatus and method for rendering synthetic objects into real scenes using measurements of scene illumination; U.S. Pat. No. 6,529,206 entitled Image processing apparatus and method, and medium therefore; U.S. Pat. No. 6,504,546 entitled Method of modeling objects to synthesize three-dimensional, photo-realistic animations; U.S. Pat. No. 6,434,265 entitled Aligning rectilinear images in 3D through projective registration and calibration; U.S. Pat. No. 6,333,749 entitled Method and apparatus for image assisted modeling of three-dimensional scenes; U.S. Pat. No. 6,281,904 entitled Multi-source texture reconstruction and fusion; and U.S. Pat. No. 6,281,903</p>
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entitled Methods and apparatus for embedding 2D image content into 3D models.” Ohliger at 18:45-21:16.

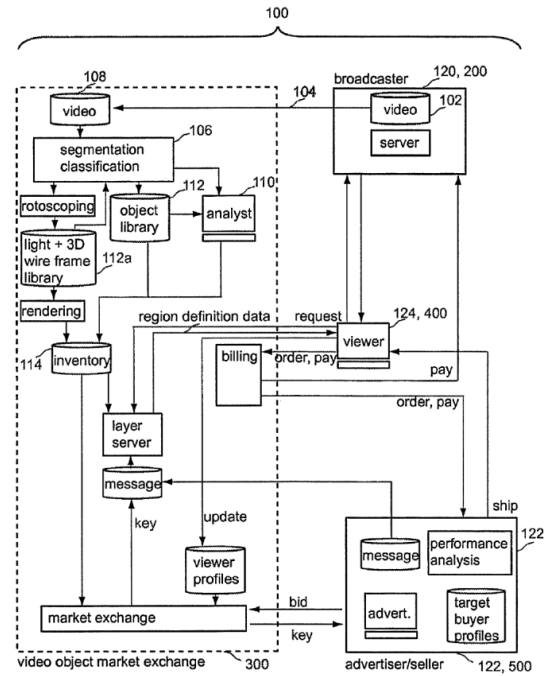


FIG. 2
Ohliger at Fig. 2.

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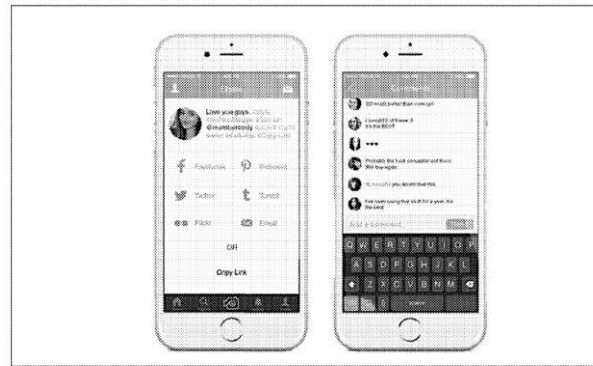
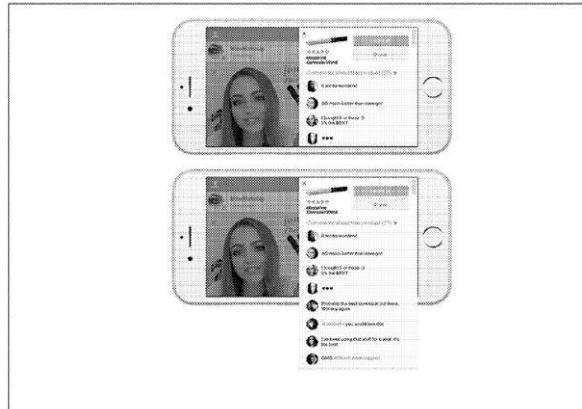


Fig. 17
Comment & Share

Ohliger at Fig. 17.

Fig. 26
Share & Comment



Ohliger at Fig. 26.

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Fig. 18
Shop VeePIO

Ohliger at Fig. 18.

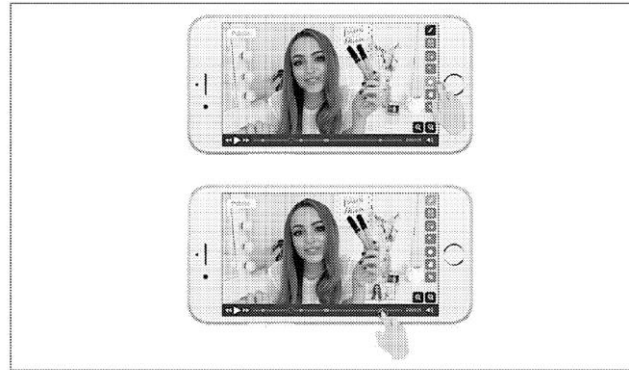
Fig. 20
How to Veep



Ohliger at Fig. 20.

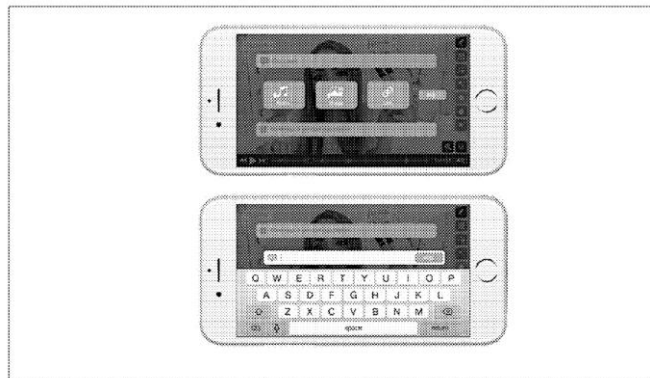
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Fig. 21
Veep Editing Room



Ohliger at Fig. 21.

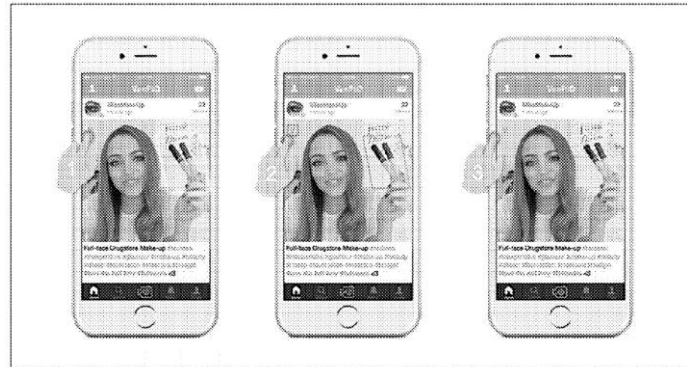
Fig. 22
Object Details



Ohliger at Fig. 21.

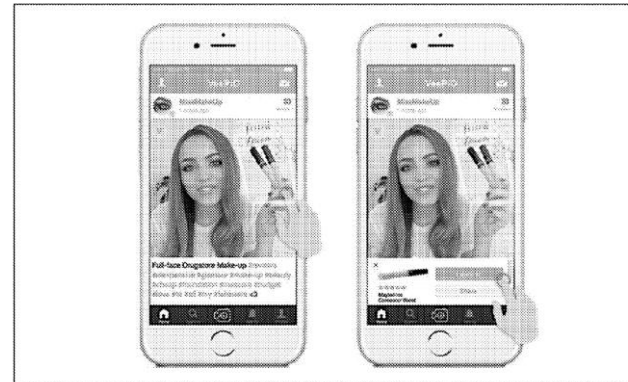
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Fig. 23
"V"isibility



Ohliger at Fig. 23.

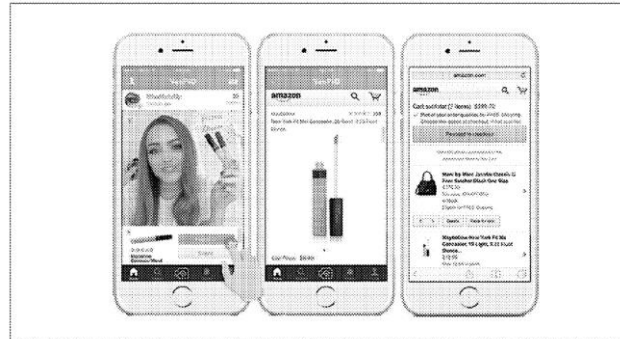
Fig. 24
I Want it!



Ohliger at Fig. 24.

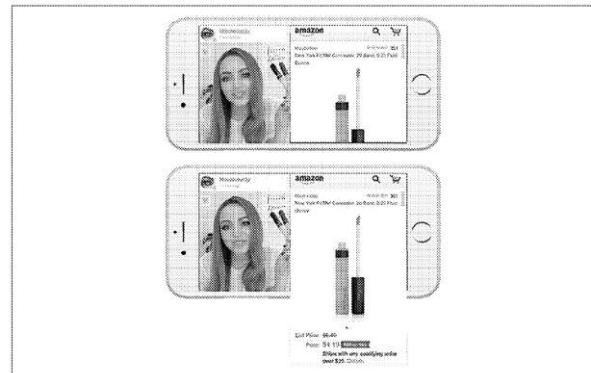
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Fig. 25
I Want it! Continued



Ohliger at Fig. 25.

Fig. 28
Buy Via Split Screen



Ohliger at Fig. 28.

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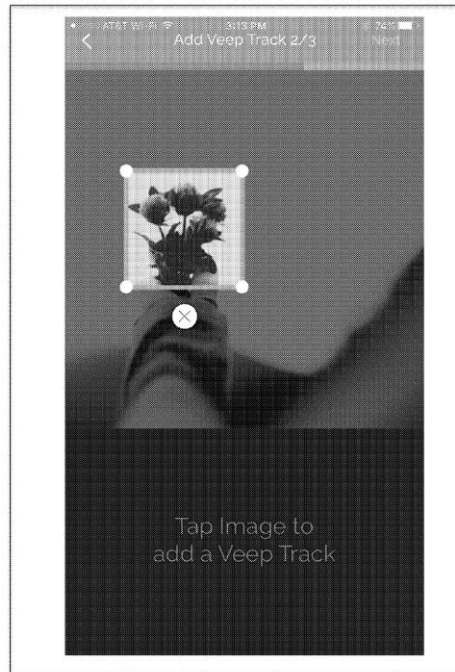


Fig. 38

Ohliger at Fig. 38.

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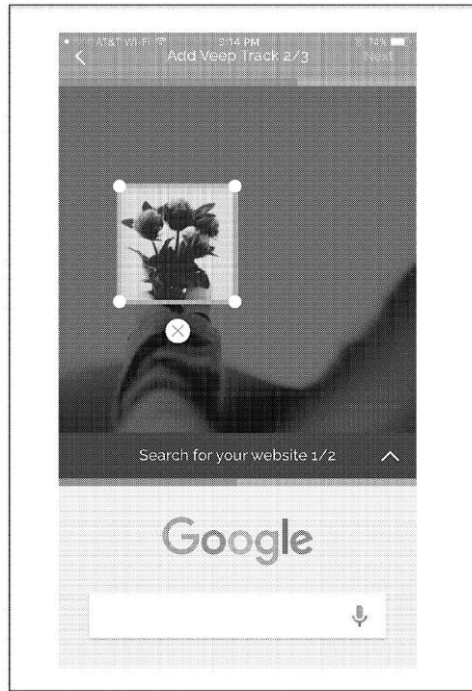


Fig. 39
Ohliger at Fig. 39.

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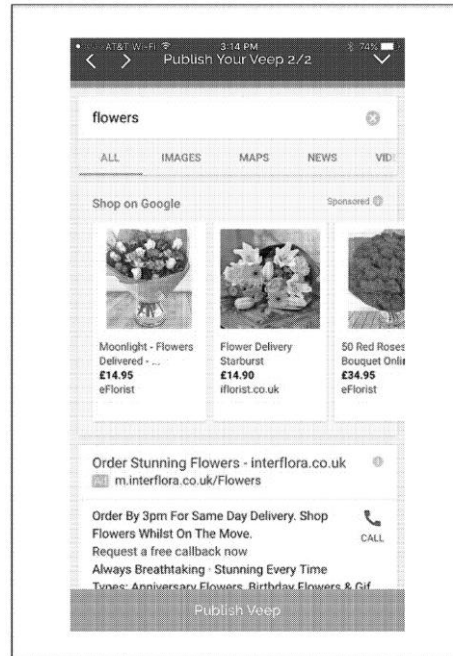


Fig. 41
Ohliger at Fig. 41.

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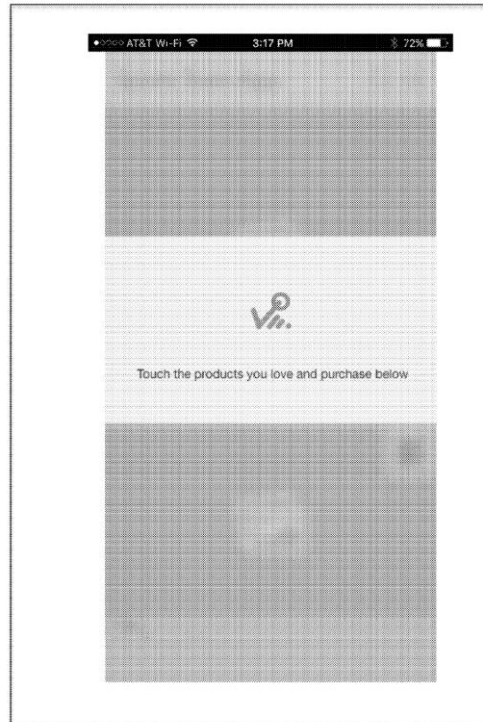


Fig. 46
'46 Patent at Fig. 46.

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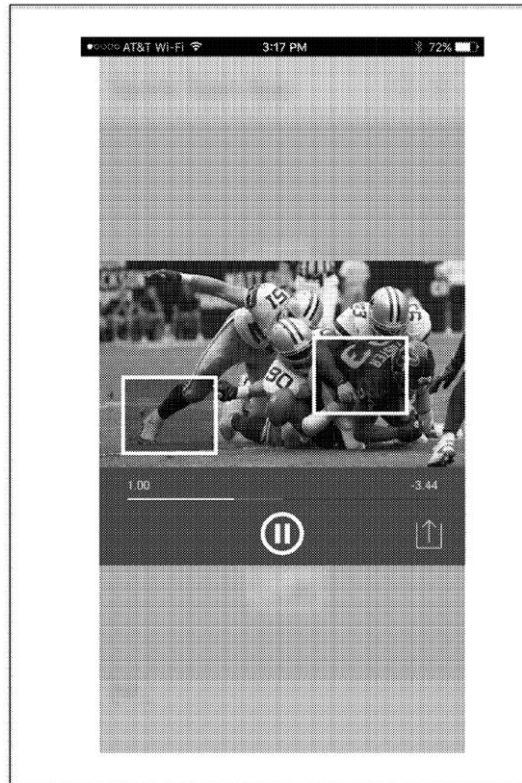


Fig. 48
Ohliger at Fig. 48.

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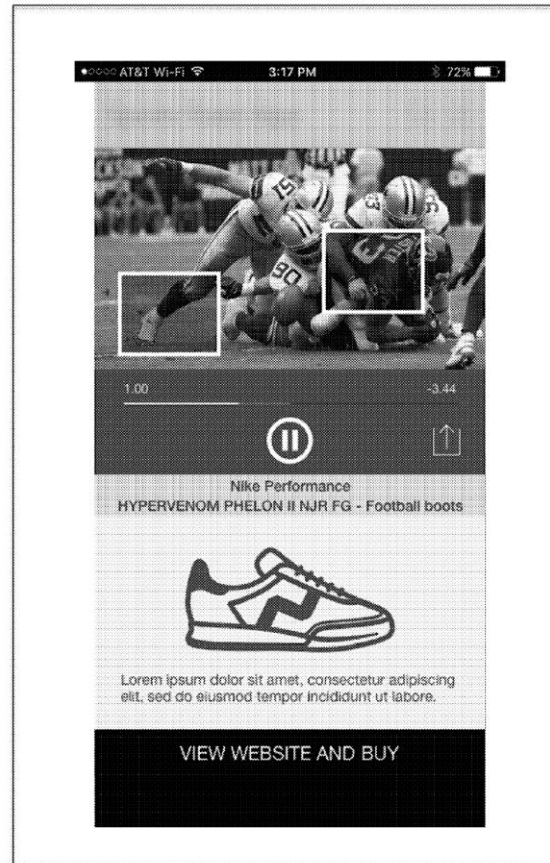


Fig. 49
Ohliger at Fig. 49.

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Fig. 50

Ohliger at Fig. 50.

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FIG. 53B

Ohliger at Fig. 53B.

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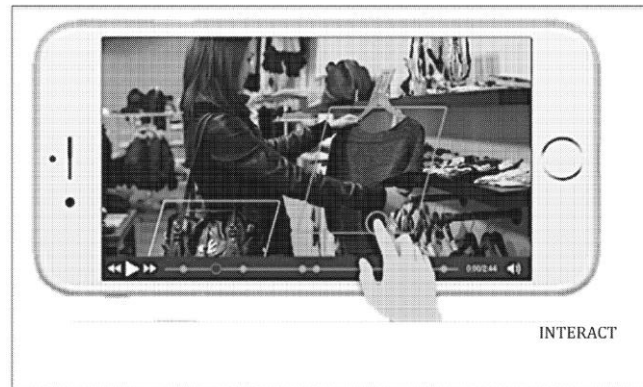


FIG. 53D

Ohliger at Fig. 53D.



FIG. 53E

Ohliger at Fig. 53E.

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		 <p style="text-align: center;">FIG. 53F</p> <p>Ohliger at Fig. 53F.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
19[pre]	The computer-implemented system of claim 18,	<p>To the extent the preamble is limiting, Ohliger discloses “The computer-implemented system of claim 18,” See e.g.:</p> <p><i>See claim 18, supra.</i></p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in</p>

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		Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.
19[a][i]	wherein the interaction and the past interaction activity comprise a public or private conversation between the user and the at least one guest,	<p>Ohliger discloses “wherein the interaction and the past interaction activity comprise a public or private conversation between the user and the at least one guest,” See e.g.:</p> <p>See 16[a][i], <i>supra</i>.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.</p>
19[a][ii]	wherein the plurality of different conversations comprises at least a public conversation which enables all viewers of the video media to join and a private conversation which enables a permitted subset of all viewers of the video media to join.	<p>Ohliger discloses “wherein the plurality of different conversations comprises at least a public conversation which enables all viewers of the video media to join and a private conversation which enables a permitted subset of all viewers of the video media to join.” See e.g.:</p> <p>See 16[a][ii], <i>supra</i>.</p> <p>Furthermore, this claim element is obvious in light of Ohliger itself, when combined with any of the other references as charted for this claim element in Exs. 316-A01-A20, Ex. 316-B Chart, and/or when combined with the knowledge of one of ordinary skill in the art. Motivations to combine may come from the knowledge of the person of ordinary skill themselves, or from the known problems and predictable solutions as embodied in these references. Further</p>

Exhibit 316-A13
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		motivations to combine references and additional details may be found in the Cover Pleading and Ex. 316-B Chart.
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