

Hanshow Technology Co., Ltd. v. SES-imagotag Inc.

IPR2024-00208

February 18, 2025, Oral Hearing

Patent Owner's Demonstratives

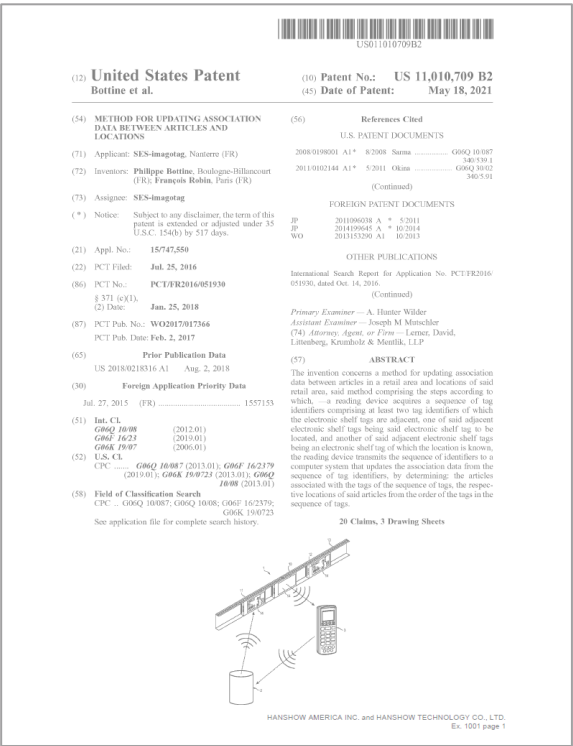
SES-imagotag (VusionGroup)

Roadmap

- **Overview of the '709 Patent**
- **Petitioners' Grounds and Primary Reference (Wu)**
- **The Prior Art Fails to Teach the Independent Claims**
 - "Acquiring" and "Transmitting" a Sequence of Label Identifiers
 - "Locations"
 - "Planogram"
- **The Prior Art Fails to Teach Dependent Claims**
 - "Displacement" (claims 7, 8, 17, and 18)
- **Dr. Tentzeris's Opinions are Conclusory**

The '709 Patent

The '709 Patent



(10) **Patent No.:** **US 11,010,709 B2**
(45) **Date of Patent:** **May 18, 2021**

(54) **METHOD FOR UPDATING ASSOCIATION DATA BETWEEN ARTICLES AND LOCATIONS**

(22) **PCT Filed:** **Jul. 25, 2016**

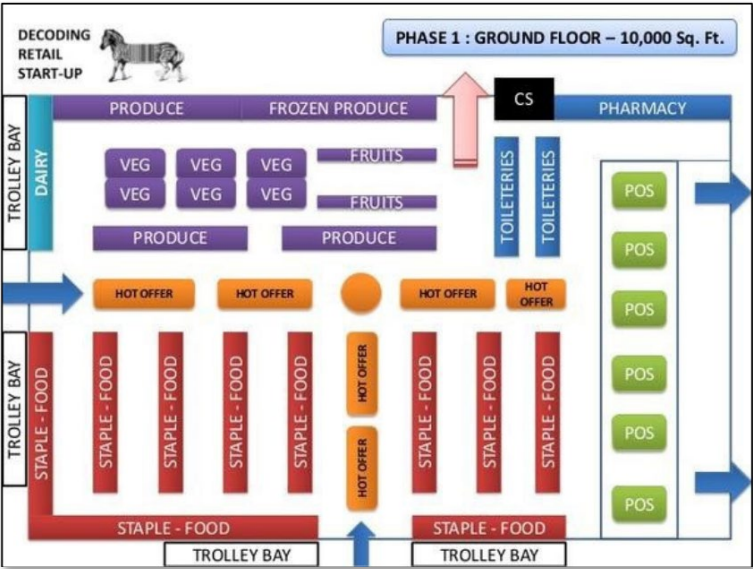
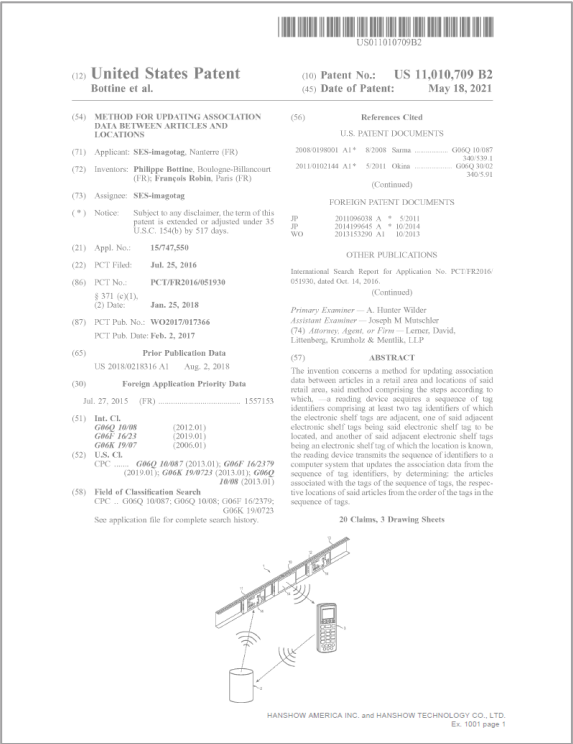
(30) **Foreign Application Priority Data**
Jul. 27, 2015 (FR) 1557153

Ex-1001 ('709 Patent), Cover

The '709 Patent Concerns Updating “Planograms” Using Information from Electronic Shelf Labels (ESLs)



'709 Patent, Fig. 1 (modified)

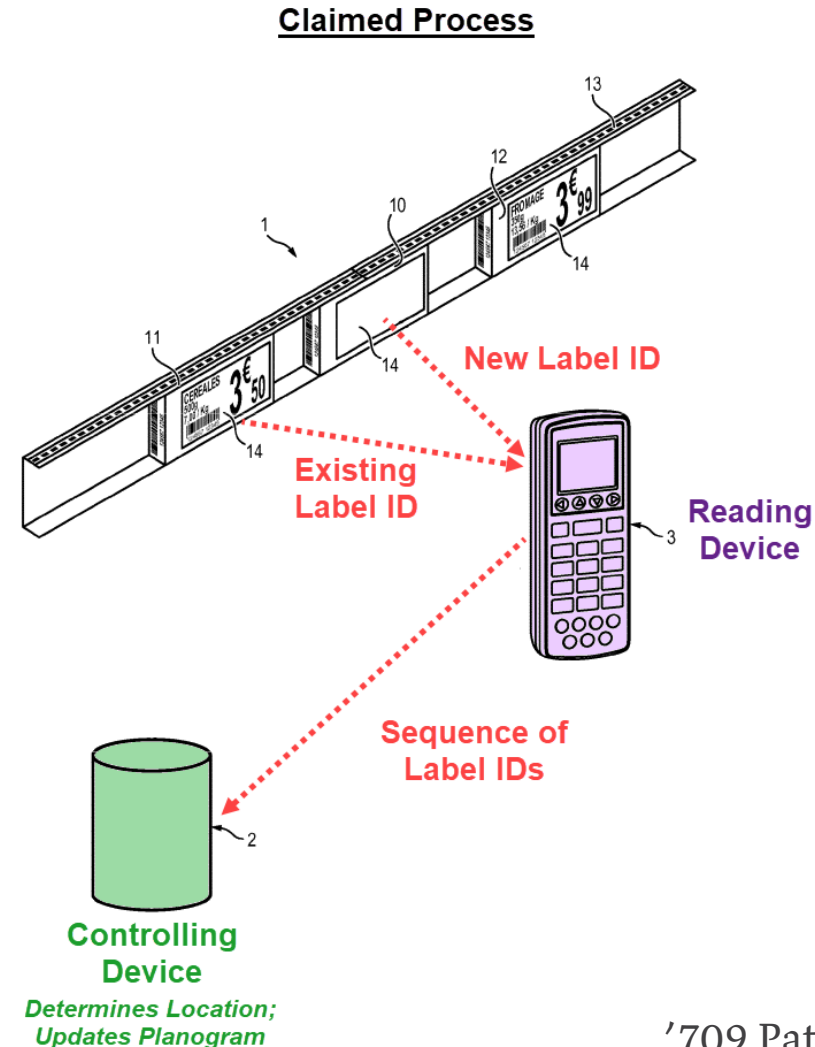
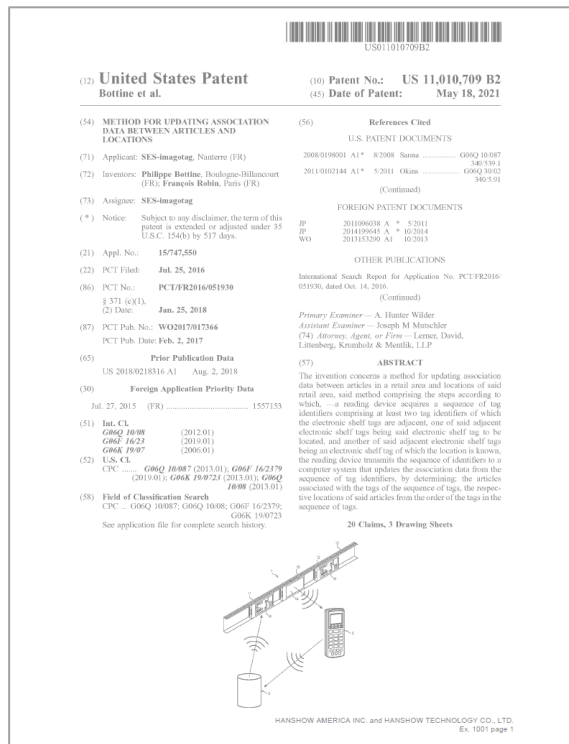


Ex-2021, 2



Ex-2019, 5

A Reading Device Acquires/Transmits a New ESL's and an Existing ESL's "Label ID" to Update the Planogram



'709 Patent, Fig. 1
(modified for demonstration only)

POR, 5-8

IPR2024-00208 DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

The Claimed Method Uses Unique ESL Identifiers and Product Information to Update Product-Location Information

1. A method for updating a planogram registered in a computer system, to reflect an addition of a shelf label in a shelf of a retail area, wherein the planogram comprises association data between articles of the retail area and locations of the retail area, the method comprising:

acquiring, by a reading device, a sequence of label identifiers comprising a label identifier of an added shelf label reflecting an addition of the shelf label in the shelf of the retail area, and also comprising a label identifier of an adjacent shelf label which is adjacent to the added shelf label according to a scrolling direction of the locations of the retail area,

the retail area having a plurality of shelf labels distributed in the retail area, each of the shelf labels being associated with a respective article and being disposed near a respective location associated with the article, each of the shelf labels being associated with a label identifier of its own,

wherein the adjacent shelf label is either the preceding shelf label or the following shelf label in the shelf according to the scrolling direction and in relation to the added shelf label,

wherein a location of the adjacent shelf label is preliminarily known in the planogram;

identifying a location corresponding to the added shelf label in the shelf of the retail area, comprising:

transmitting, by the reading device, the sequence of label identifiers to the computer system,
updating, by the computer system, the planogram on the basis of the sequence of label identifiers, by determining:

articles associated with the labels of the sequence of label identifiers, and

locations of the articles, on the basis of an obtained location of the added shelf label, wherein the obtained location is a location in the planogram which is adjacent to the preliminarily known location of the adjacent shelf label.

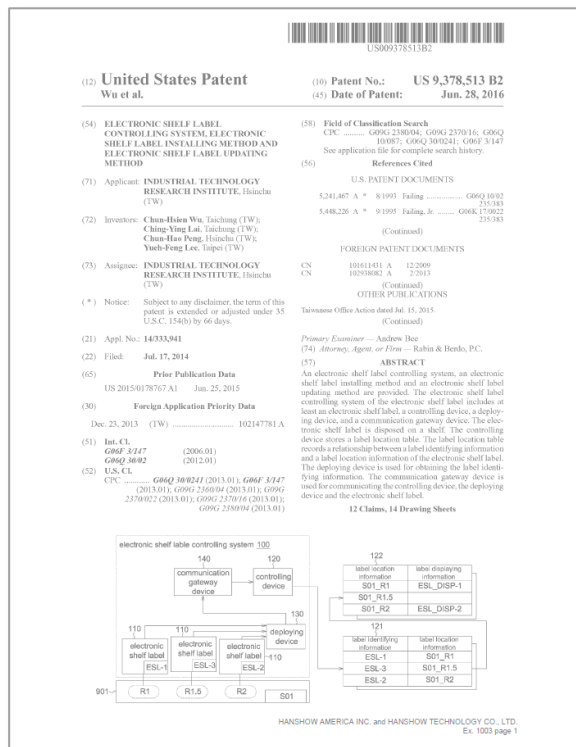
'709 Patent, cl. 1

Petitioners' Grounds and Primary Reference

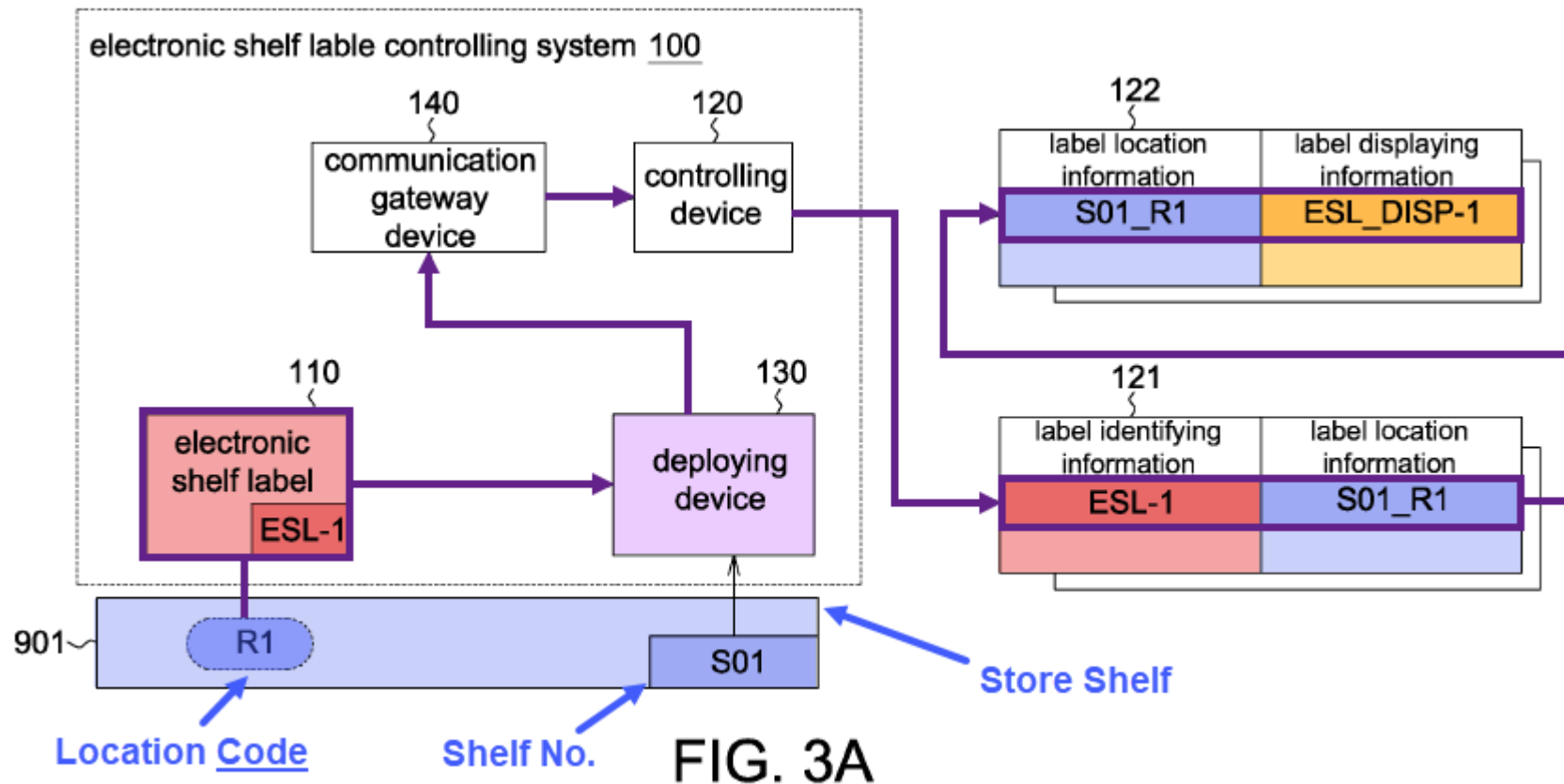
Petitioners' Four Obviousness Grounds

Grounds	Basis	Prior Art
1	Section 103	Wu
2	Section 103	Wu + Chaves
3	Section 103	Wu + Itou + Auclair
4	Section 103	Wu + Fujiwara

Wu Updates a Data Table Using One Label ID (from a New ESL)

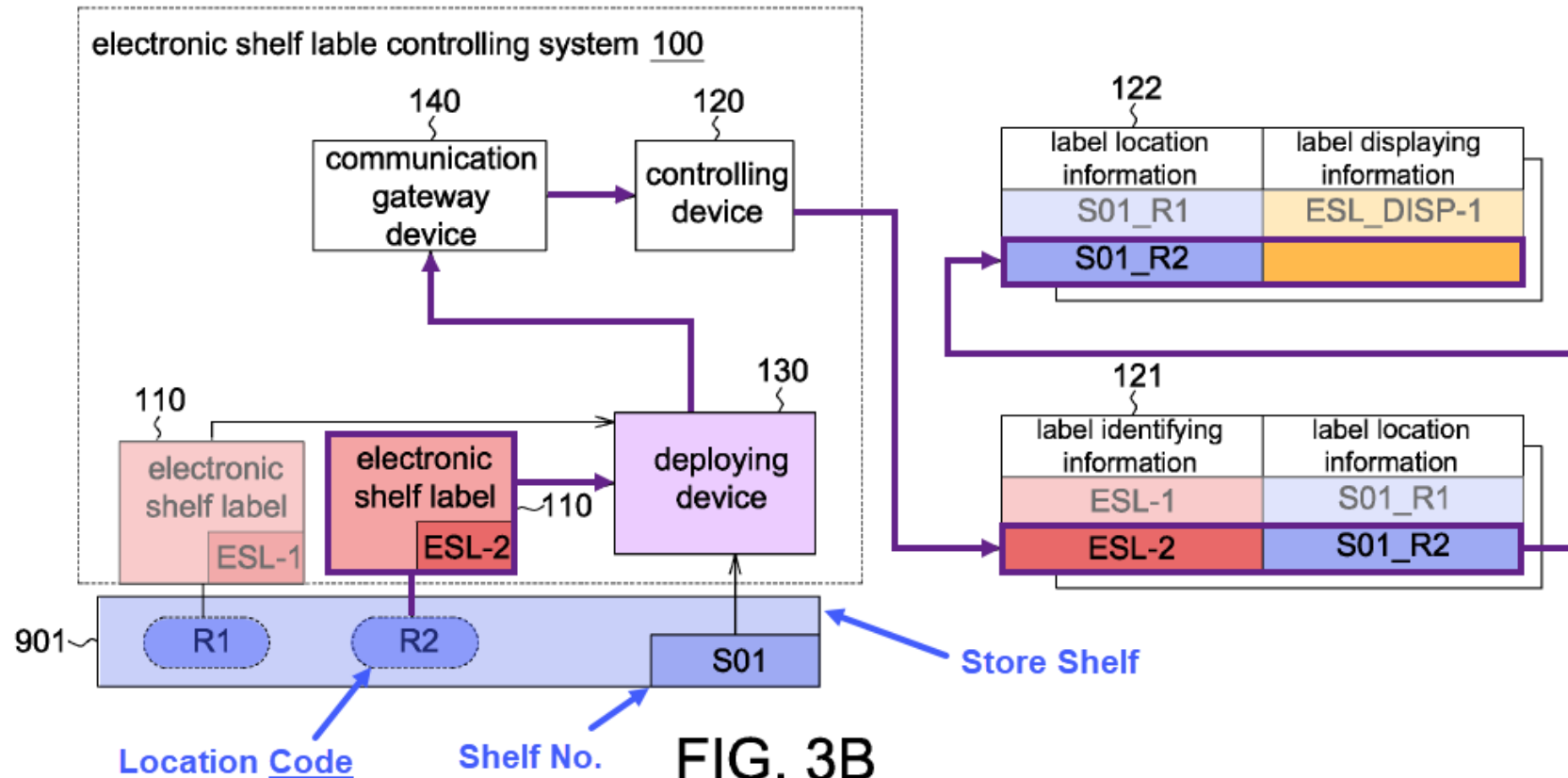


Wu Records the Relative Order of Products, not Actual Locations



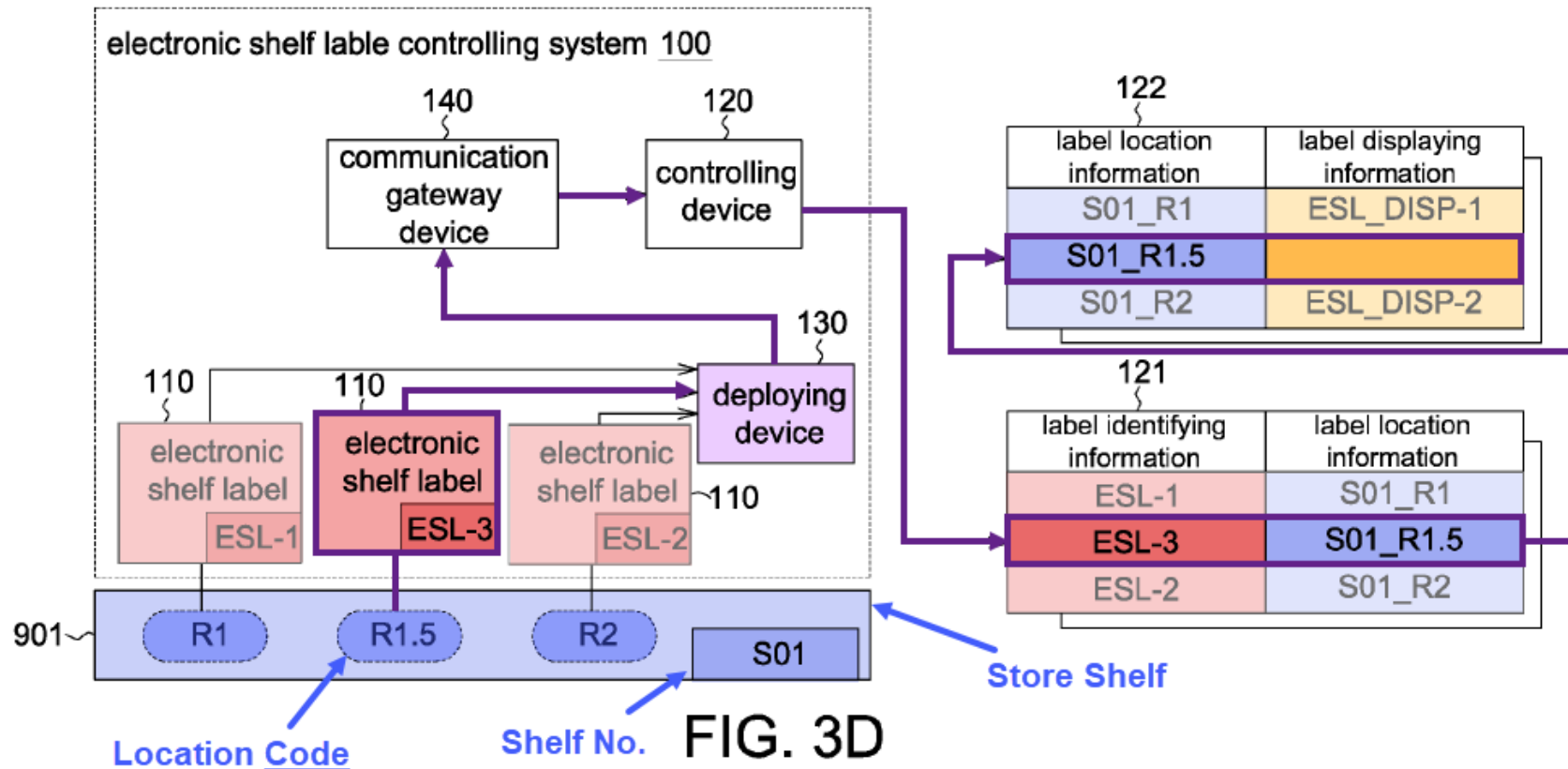
Wu, Fig. 3A (annotated)

Wu Records the Relative Order of Products, not Actual Locations



Wu, Fig. 3B (annotated)

Wu Records the Relative Order of Products, not Actual Locations



Wu, Fig. 3D (annotated)

The Prior Art Fails to Teach the Independent Claims

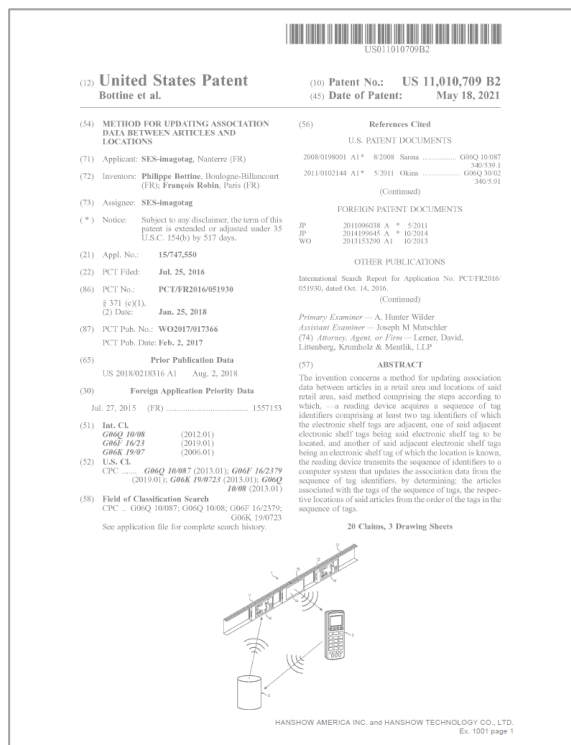
None of the Prior Art, Alone or in Combination, Teaches “Acquiring” and “Transmitting” a Sequence of Label IDs

“Acquiring” and “transmitting” a sequence
of label identifiers

“Locations”

“Planogram”

The “Acquiring...a Sequence” and “Transmitting...the Sequence” Limitations



acquiring, by a reading device, a sequence of label identifiers comprising a label identifier of an added shelf label reflecting an addition of the shelf label in the shelf of the retail area, and also comprising a label identifier of an adjacent shelf label which is adjacent to the added shelf label according to a scrolling direction of the locations of the retail area,

identifying a location corresponding to the added shelf label in the shelf of the retail area, comprising: transmitting, by the reading device, the sequence of label identifiers to the computer system,

'709 Patent, cl. 1, limitations 1[c], 1[k]

The Claimed Sequence Must Contain Two Specific Label Identifiers

1. A method for updating a planogram registered in a computer system, to reflect an addition of a shelf label in a shelf of a retail area, wherein the planogram comprises association data between articles of the retail area and locations of the retail area, the method comprising:

acquiring, by a reading device, a sequence of label identifiers comprising a label identifier of an added shelf label reflecting an addition of the shelf label in the shelf of the retail area, and also comprising a label identifier of an adjacent shelf label which is adjacent to the added shelf label according to a scrolling direction of the locations of the retail area,

identifying a location corresponding to the added shelf label in the shelf of the retail area, comprising:

transmitting, by the reading device, the sequence of label identifiers to the computer system,

updating, by the computer system, the planogram on the basis of the sequence of label identifiers, by determining:

articles associated with the labels of the sequence of label identifiers, and

locations of the articles, on the basis of an obtained location of the added shelf label, wherein the obtained location is a location in the planogram which is adjacent to the preliminarily known location of the adjacent shelf label.

'709 Patent, cl. 1

Wu Acquires One Label ID, and then
uses an Existing ESL's "Location Code"

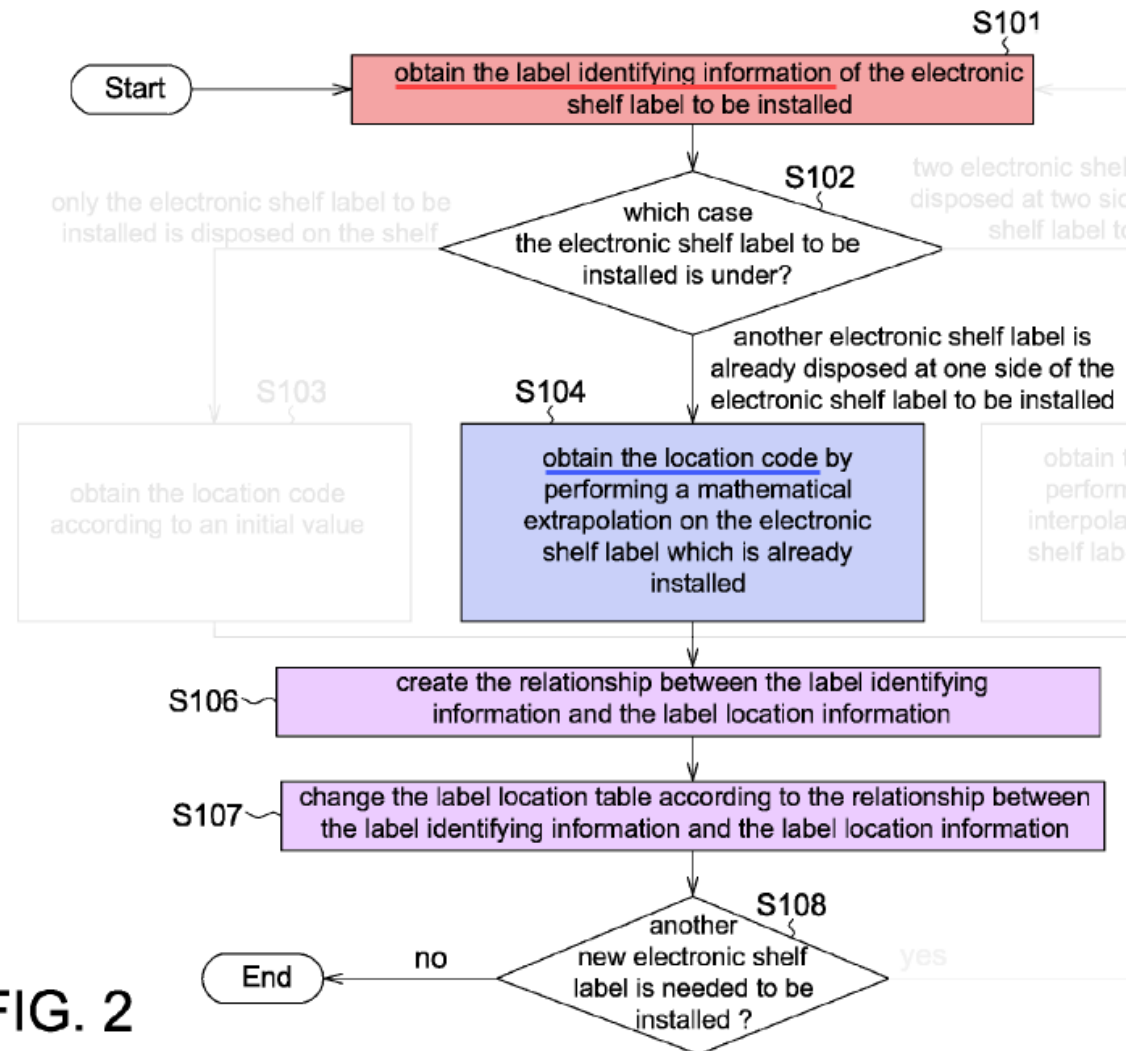
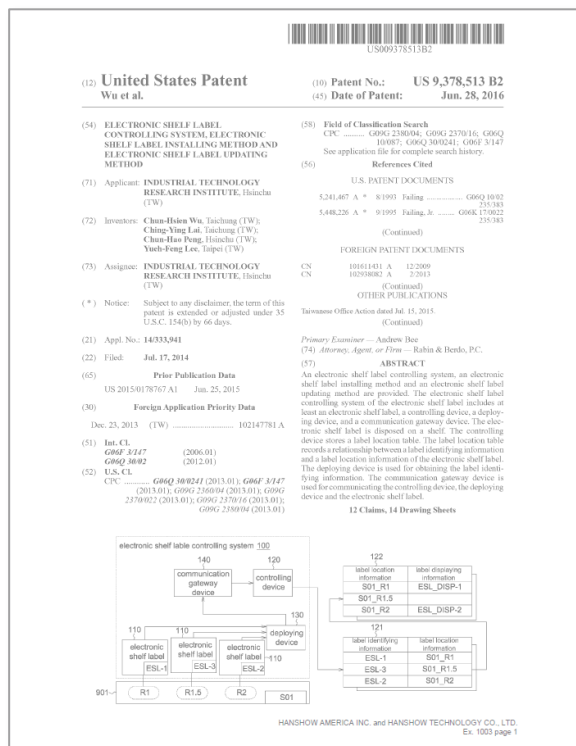
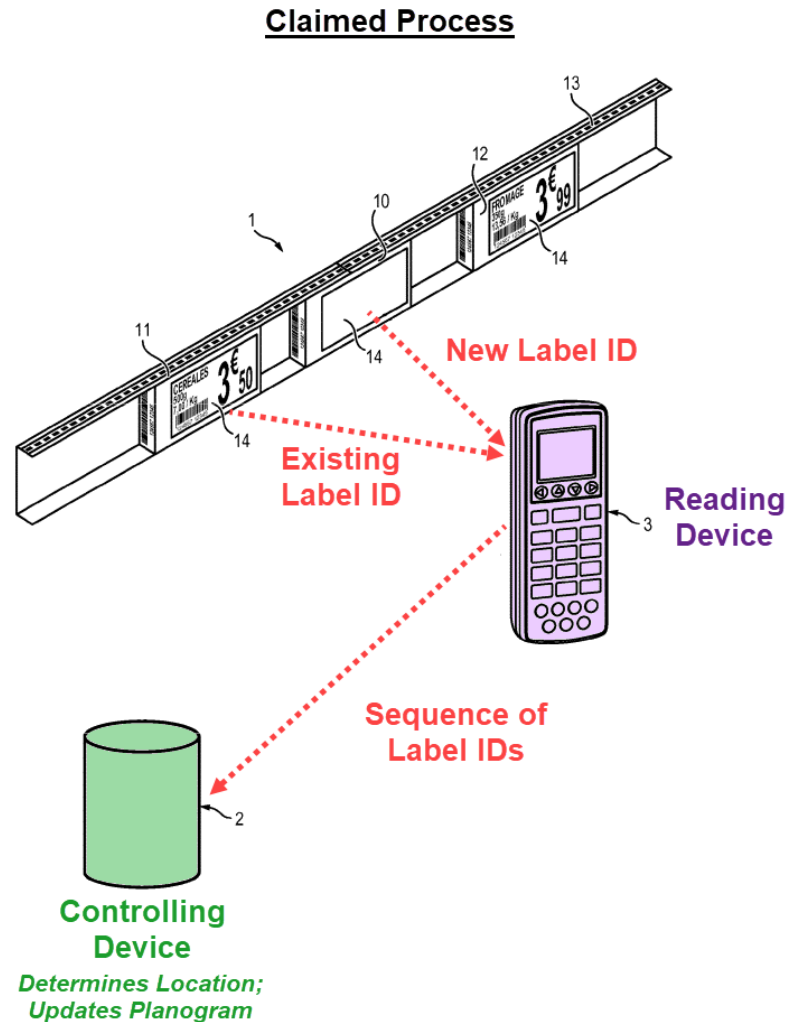


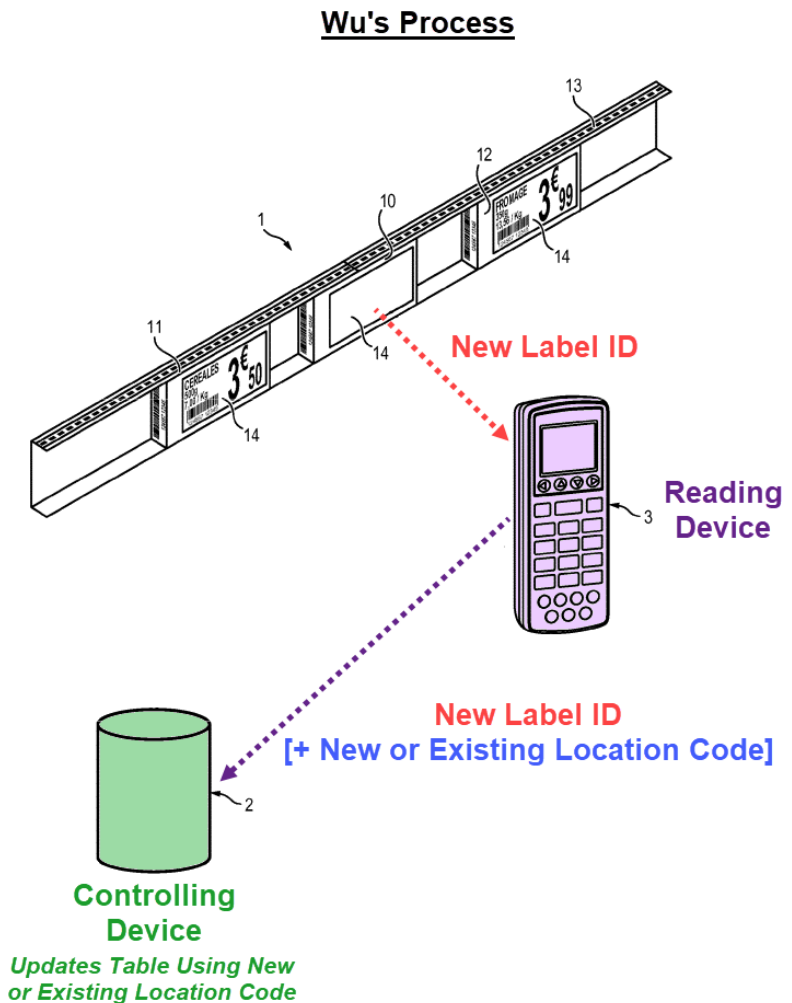
FIG. 2

Wu, Fig. 2 (excerpted, annotated)

Wu Only Uses a Single Label ID (of the New Label)

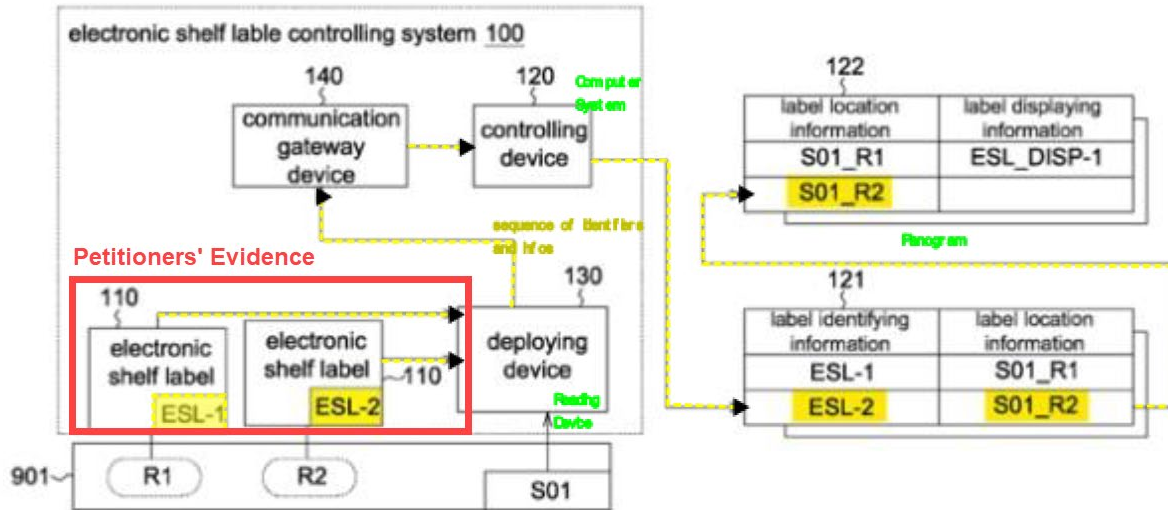


'709 Patent, Fig. 1 (modified for demonstration only)



'709 Patent, Fig. 1 (modified for demonstration only)

Petitioners Contend Wu's Fig. 3B Shows Acquiring a Sequence of Label IDs, But it Does Not



Wu, Fig. 3B (as annotated at Petition, 17)

Please referring to FIG. 3B, an example of the electronic shelf label controlling system 100 under the second case is shown. On the shelf 901, from left to right, the first electronic shelf label 110 whose label identifying information is “ESL-1” is already installed, the second electronic shelf label 110 whose label identifying information is “ESL-2” is to be installed. Regarding the shelf code of the electronic shelf

Wu, 4:53-59

Petitioners Contend for the First Time on Reply that Acquiring a Second Label ID Would be *Obvious*

Petition

As clearly shown in FIG. 3B above, two arrows flow from ESL-1 and ESL-2 to a deploying device. A POSITA would understand that this represents the **acquisition** of label identifiers of the adjacent label ESL-1 and of the added label ESL-2, which forms a **sequence of label identifiers**. Ex. 1009, ¶84.

Petition, 17

Reply

4:9-25). It would be obvious to use the reading device to acquire a second label identifier in order to obtain the referential label location code of an existing shelf label. Notably, Patent Owner and its expert do not argue that it would not have been obvious.

Reply, 16

Replies Cannot Introduce New Arguments, and Attorney Argument is Not Evidence

Am. Honda Motor Co. v. Neo Wireless LLC, IPR2022-01567, Paper 59, 35-36 (Nov. 1, 2024)

“A petitioner may not submit new arguments or evidence in a reply that it could have presented earlier, for example, to make out a prima facie case of unpatentability.”

SATA GmbH & Co. KG v. Anest Iwata Corp., IPR2013-00111, Paper 44, 10 (May 20, 2014)

“Attorney argument is not evidence of the knowledge or understanding of those in the art.”

The Foreign Examiner Found that Wu Failed to Disclose *Acquiring a Sequence of Label Identifiers*

[1] Reference is made to the following document:

D1

US 2015/178767 A1 (WU CHUN-HSIEN
[TW] ET AL) 25 June 2015 (2015-06-25)

The problem addressed by the present invention can be considered to be that of maintaining the association data associating between articles of a retail area and locations of said retail area in accordance with the actual disposition of the articles in the retail area.

The solution to this problem, as proposed in claim 1 of the present application, is considered to involve an inventive step (PCT Article 33(3)) for the following reasons: no document of the prior art either discloses or suggests updating data of associations relating to the association between articles of a retail area and locations of said retail area, by way of the acquisition, by a reading device, of a sequence of at least two label identifiers whose labels are adjacent, in a direction of sweeping of the locations of the retail area, and one of whose identifiers corresponds to the label to be located, and the other to a label whose location is known.

Ex-1002 (Prosecution History), 139

Wu Teaches the Opposite of Petitioners' New Theory: Using Location Codes to Look Up Label IDs, not Vice Versa

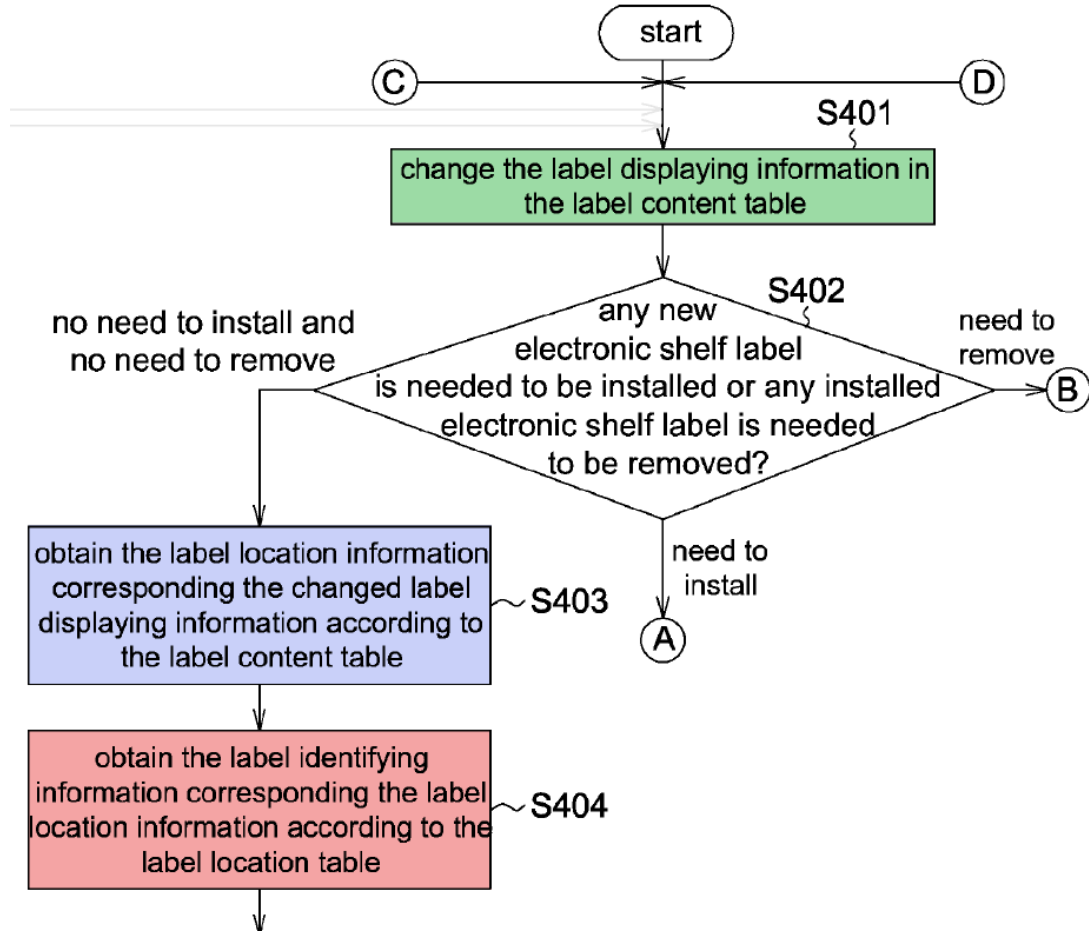
electronic shelf label is not needed to be removed. The first label identifying information corresponding to the first label location information is obtained according to the label location table. The changed first label displaying information is

Wu, 2:10-14

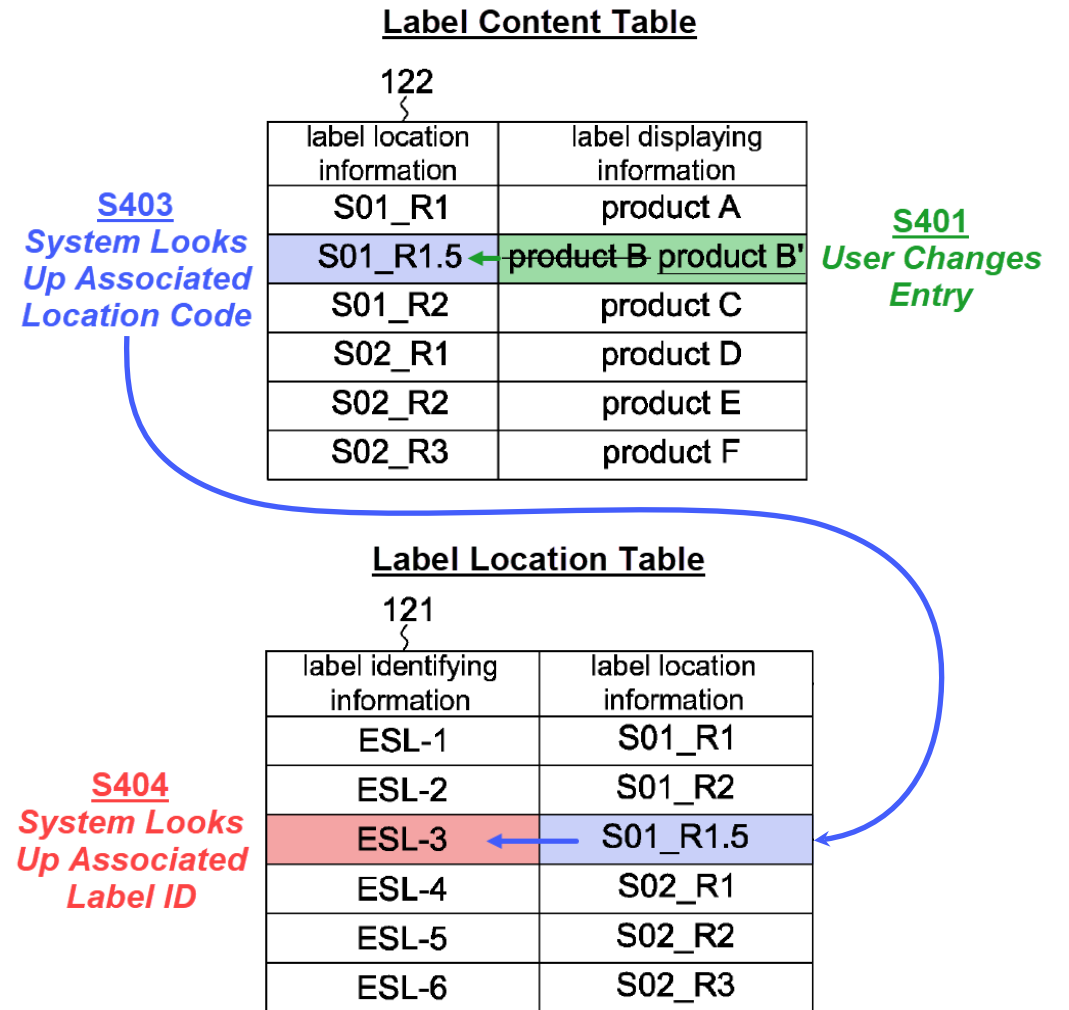
In step S404, the label identifying information, such as “ESL-3”, corresponding to the label location information, such as “S01_R1.5”, is obtained according to the label location table 121.

Wu, 6:44-47

Petitioners Mischaracterize Wu's Figure 4A, Which Does Not Suggest Looking Up a Location Code Using a Label ID

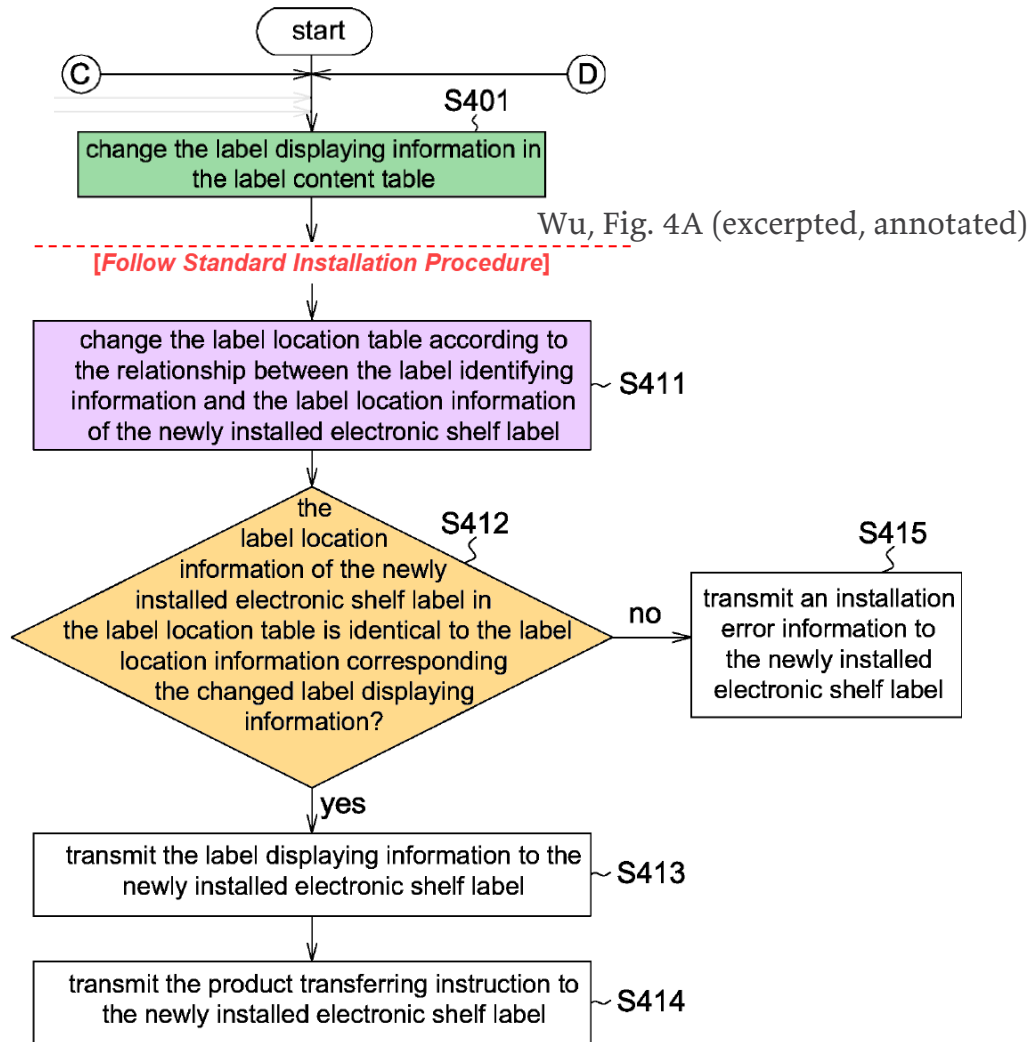


Wu, Fig. 4A (excerpted, annotated)

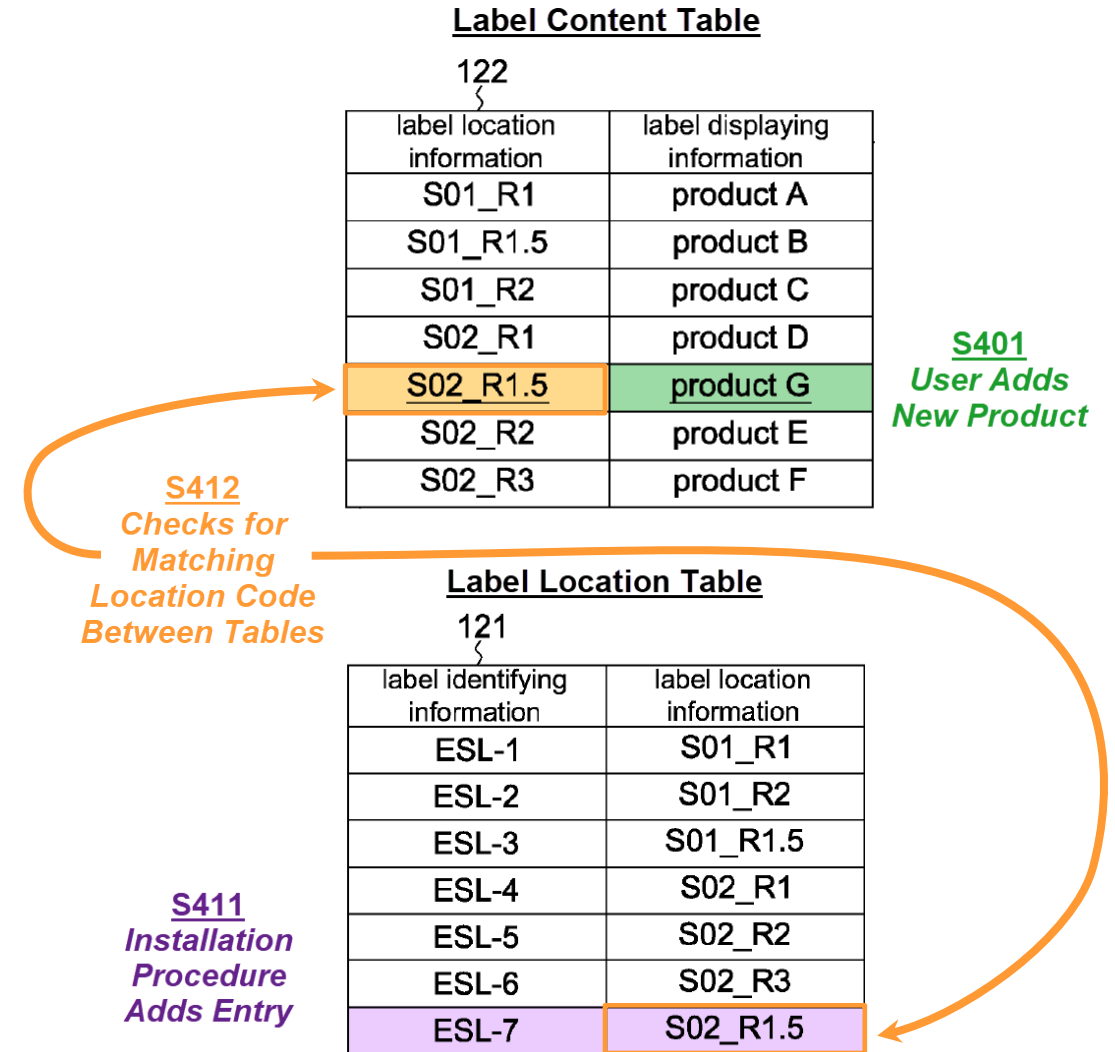


Wu, Fig. 5A (excerpted, annotated)

Petitioners Mischaracterize Wu's Figure 4B, Which Does Not Suggest Looking Up a Location Code Using a Label ID

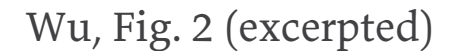


Wu, Fig. 4B (excerpted, annotated)



Wu, Fig. 5C (excerpted, annotated)

27



Grounds 2-4 Do Not Teach These Limitations

Grounds	Prior Art
1	Wu
2	Wu + Chaves
3	Wu + Itou + Auclair
4	Wu + Fujiwara

Petitioners Offer No Cogent Reason to Combine Disparate Prior-Art Elements to Meet the Limitations

KSR Int’l Co. v. Teleflex Inc., 550 U.S. 398, 418 (2007)

“[T]here must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”

ActiveVideo Networks, Inc. v. Verizon Commc’ns, Inc., 694 F.3d 1312, 1327 (Fed. Cir. 2012)

“[T]he expert’s testimony on obviousness was essentially a conclusory statement that a [POSITA] would have known, based on the ‘modular’ nature of the claimed components, how to combine any of a number of references . . . is not sufficient and is fraught with hindsight bias.”

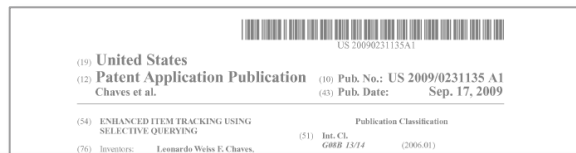
Ground 2: Petitioners Seemingly Recognize That Chaves Does Not Teach a Sequence of Label IDs

b. “acquiring, by a reading device, a sequence of label identifiers”

Chaves discloses a “mobile reader” that can scan RFIDs of a sequence of items. Ex. 1006, [0036], [0037], [0040] (discussing a process by which the reader may “read the RFID tags for item A [], B [] and D []” “stored on the shelf ‘X’” in a “department of a store”). A POSITA would find this to be an explicit disclosure of a **reading device that can acquire a sequence of label identifiers** (as claimed by e.g. [1c]). Ex. 1009, ¶213.

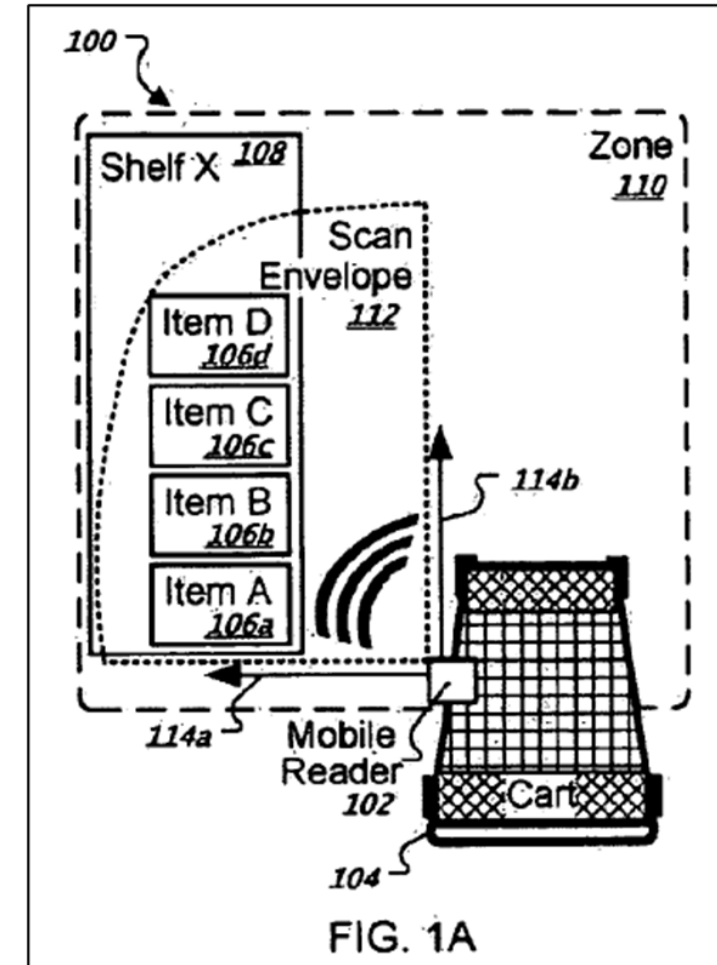
Petition, 53

Ground 2: Chaves Does Not Scan ESLs, But Instead Scans *Item Tags*



[0020] As such, RFID data of item-level tagged goods within a retail environment, such as a grocery store or discount store, may be registered and read. For planning and control of stores or retail business processes, the enhanced approach described herein may be: used to accurately identify numerous items at a given point in time. As such, RFID transponders may be integrated or attached to every item for electronic reading. By using mobile readers to selectively

Ex-1006 (Chaves),
[0020]



Chaves, Fig. 1A

An Item ID is Not a Unique Label ID; Chaves Uses Tags to Track Individual *Items* Throughout a Store

[0002] Radio Frequency IDentification (RFID) technology is used as an automatic identification method, relying on storing and remotely retrieving data using devices called RFID tags, or transponders. For example, an RFID tag may be attached to (or incorporated into) an object such as a product, animal or person for the purpose of identification using radio waves. Some RFID tags may be read from several meters

[0039] In some implementations, other fields or data elements may exist for an entry 122, such as the inventory quantity of an item, its price, its good-through or expiration date, etc. In some implementations, multiple entries 122 may exist for the same item 124, such as candy bars that may be located at checkout shelves in addition to the candy aisle. Multiple entries for the same item may be represented, for example, as additional rows in the table of entries 122. Such entries 122 for the same item may differ in the location 126, the timestamp 128, and/or other fields not shown (e.g., inventory quantities, expiration dates, etc.).

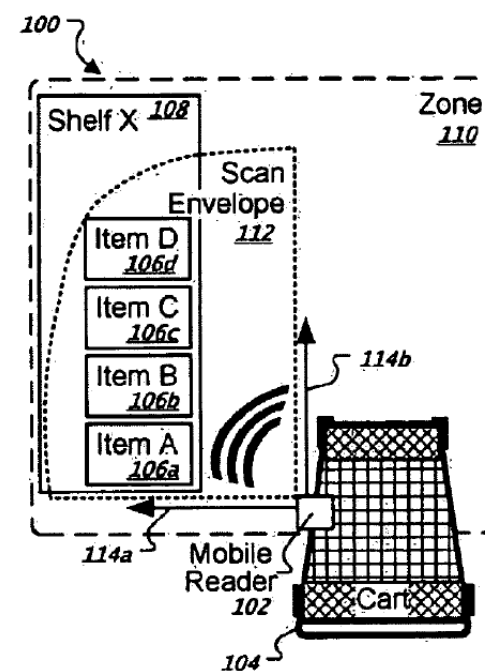


FIG. 1A

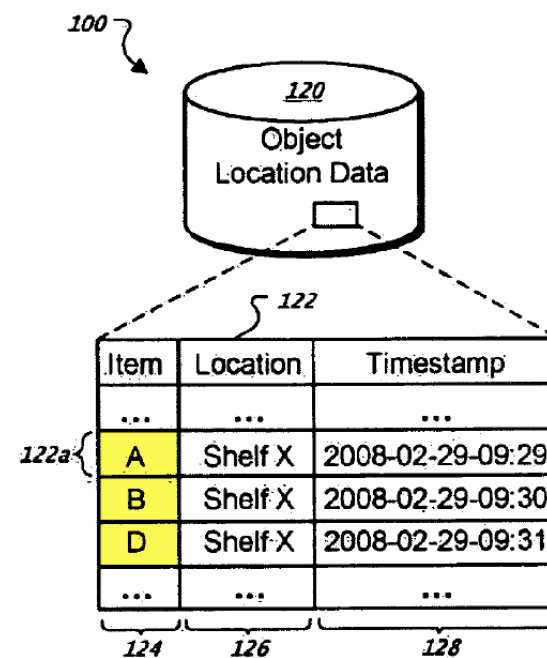


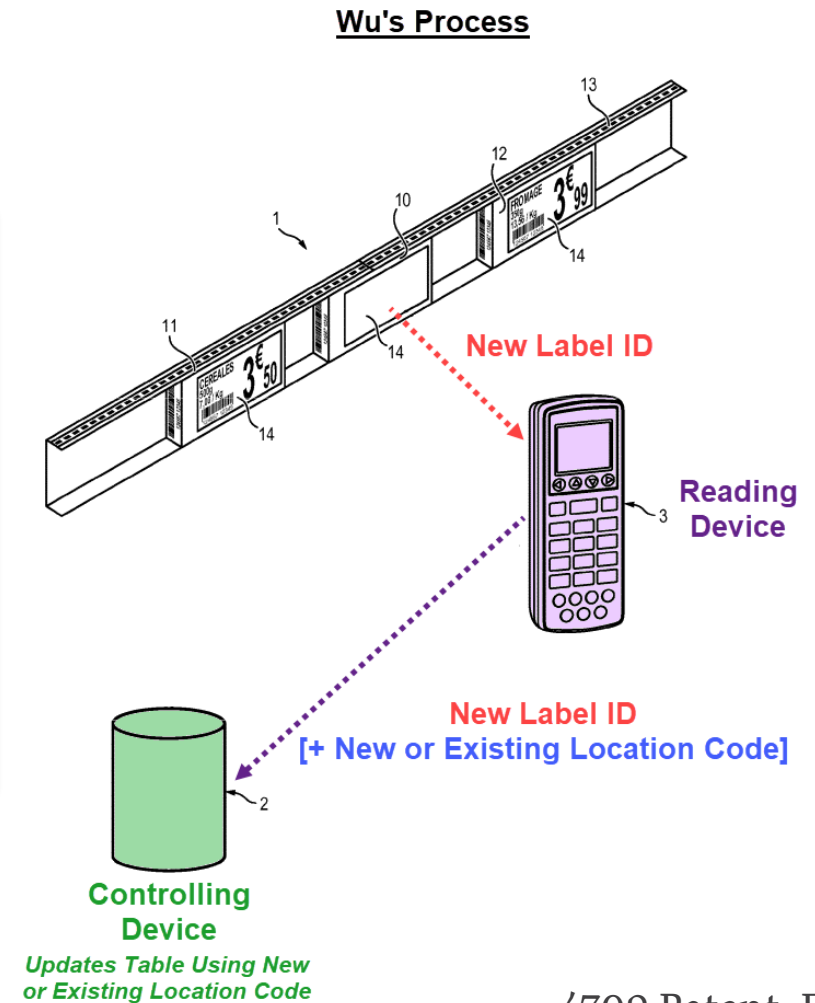
FIG. 1B

Chaves, [0002], [0039], Figs. 1A-B

Petitioners Offer Only Generic Motivation—and No Reason to Modify Wu to Acquire or Transmit *Multiple Label IDs*

particular, a POSITA would realize that acquiring and transmitting the label identifiers in one sequence is more efficient and error-resistant than assembling multiple separately acquired or transmitted label identifiers in the acquiring or receiving end, which necessarily involves complicated logic to recognize which separate acquisitions/transmissions belong together and to decide when the separate acquisitions/transmissions forming a single logical sequence end. *Id.* Such logic is not only complicated, but also error prone, because

Petition, 61



'709 Patent, Fig. 1
(modified for demonstration only)

Ground 3: Itou Analyzes Pictures to Match ESL Displays to the Products Closest to Them

(57)

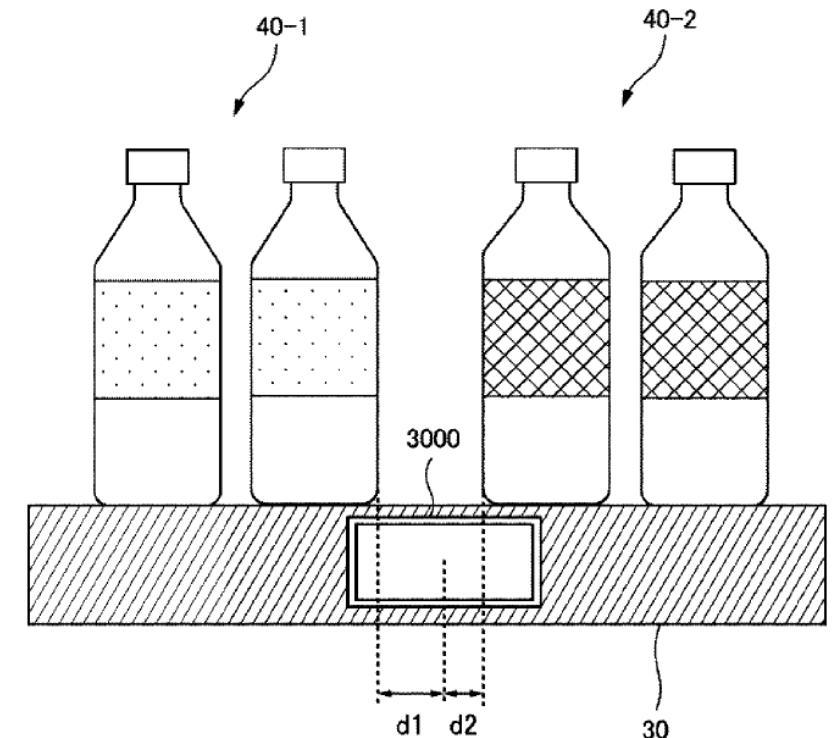
ABSTRACT

A product recognition unit (2020) recognizes a product from a target image on which the product and an electronic shelf label are imaged. A shelf label recognition unit (2040) extracts a shelf label ID from the target image. The shelf label recognition unit (2040) recognizes an electronic shelf label (3000) from the target image. A determination unit (2060) determines whether or not association of product information and the shelf label ID regarding the product and the electronic shelf label a closest product within the image, and product information and the shelf label ID of the electronic shelf label (3000) matches association of product information and a shelf label ID of relation information acquired by associating product information of the product and the shelf label ID based on the product and shelf label ID recognized from the target image.

HANSHOW AMERICA INC. and HANSHOW TECHNOLOGY CO., LTD.
Ex. 1004 page 1

Ex-1004 (Itou), Abstract

FIG. 9



Itou, Fig. 9

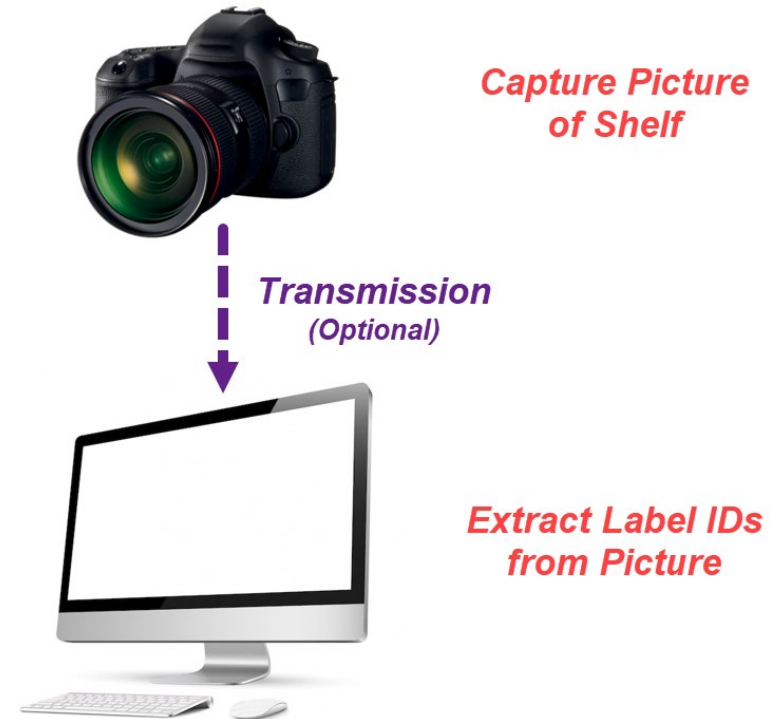
Itou Does Not Acquire *and Transmit* a Sequence of Label IDs (and Auclair Acquires None)

[0059] The target image is imaged by a camera provided in a store. On one target image, only one type of product may be pictured or a plurality of different products may be pictured.

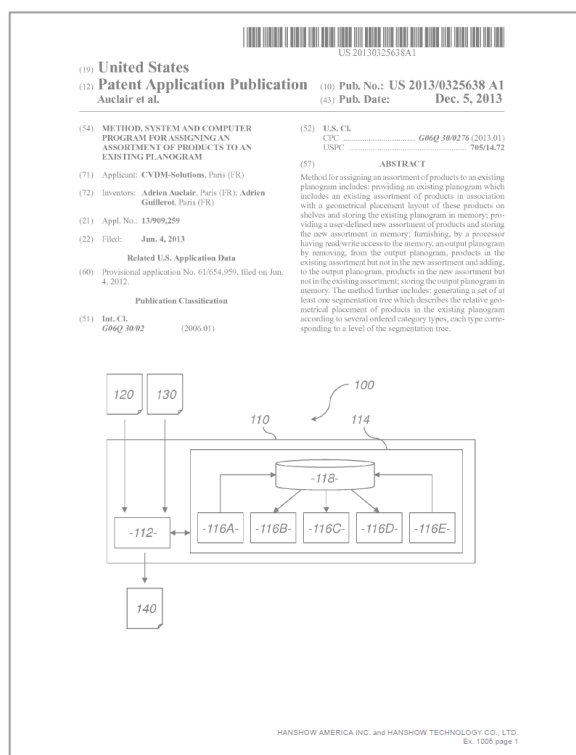
Itou, [0059]

[0044] The product recognition unit 2020 recognizes a product from an image on which a product and an electronic shelf label are imaged (hereinafter, referred to as a target image). The shelf label recognition unit 2040 extracts the shelf label ID of the electronic shelf label 3000 from the target image. The shelf label recognition unit 2040 recog-

Itou, [0044]



Auclair Revises Planograms by User Update, Without Using ESLs or Reading Devices



(57)

ABSTRACT

Method for assigning an assortment of products to an existing planogram includes: providing an existing planogram which includes an existing assortment of products in association with a geometrical placement layout of these products on shelves and storing the existing planogram in memory; providing a user-defined new assortment of products and storing the new assortment in memory; furnishing, by a processor having read/write access to the memory, an output planogram by removing, from the output planogram, products in the existing assortment but not in the new assortment and adding, to the output planogram, products in the new assortment but not in the existing assortment; storing the output planogram in memory. The method further includes: generating a set of at least one segmentation tree which describes the relative geometrical placement of products in the existing planogram according to several ordered category types, each type corresponding to a level of the segmentation tree.

Ex-1005 (Auclair), Abstract

Petitioners Improperly Rely on Untethered and Conclusory Motivation From Another Combination (Wu-Chaves)

1009, ¶272. By implementing Itou's sequential acquisition and transmission in Wu's system and methods, a POSITA would realize the advantages as discussed in Section III.F.8 above for the Wu-Chaves combination. *Id.* Thus, a POSITA would be motivated to

Petition, 79

Incorporating Untethered and Conclusory Motivations From Other Combinations Does Not Meet Petitioners' Burden

In re Magnum Oil Tools Int'l, Ltd., 829 F.3d 1364, 1379 (Fed. Cir. 2016)

“McClinton failed to articulate a motivation to combine the specific teachings of [the prior art at issue] to achieve the claimed invention. Indeed, McClinton merely attempted to incorporate its arguments based on [one reference] to its obviousness analysis based on [another reference], without presenting particularized arguments explaining why those arguments from [one reference] would be cross-applicable to the [the other] reference.”

Ground 4: Fujiwara Informs Customers of Product Locations Using Lights on ESLs

JP 2008-77131 A 2008.4.3

(13) 日本国特許庁 (JP) (12) 公開特許公報 (A) (11) 特許出願番号
特開2008-77131
(P2008-77131A)
(43) 公開日 平成20年4月3日 (2008.4.3)

G01	Int. Cl.	F 1	テーマコード (参考)
G06Q	50/00 (2006.01)	G06F 17/00 118	3B118
G06Q	10/00 (2006.01)	G06F 17/00 144	3F022

[0001]

The present invention relates to a system that enables a store to identify location information of a product in the store and inform of the location of the product, by using an electronic shelf label provided for each product on a product display shelf and a mobile information terminal.

Ex-1007 (Fujiwara (certified translation)), [0001]

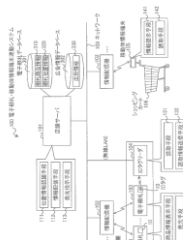
(54) 【発明の名称】 位置認識システム、電子棚札・移動体情報端末連動システム、店舗サーバ、電子棚札、商品陳列棚、移動体情報端末、プログラム及び記憶媒体

(57) 【要約】

【課題】 ICタグ、発光手段を備える電子棚札と移動体情報端末を用いて、商品の店舗内での位置の特定、及び商品の位置の提示機能を提供する電子棚札・移動体情報端末連動システム等を提供する。

【解決手段】 商品陳列棚20にICタグ10を備える電子棚札103とICタグリーダ104が設置され、ICタグリーダ104はICタグ10の棚札1Dの読取手段131と、棚札1Dと送信元1Dを店舗サーバ101へ送信する読取情報送信手段132を備え、店舗サーバ101は、送信元1Dから特定した位置情報と棚札1Dを対応付けた棚札位置情報30を電子棚札データベース301に保持する位置情報認識手段111と、移動体情報端末105への情報配信手段112と、商品に対応する電子棚札103へ発光指示手段113を備えることにより、商品の位置を特定し位置を提示する。

【選択図】 図1



Fujiwara Acquires Label IDs For Customers to Find Products in Known Locations, *Not* for Stores to Add Labels

[0005]

However, conventional electronic shelf label systems and methods have a problem in that the electronic shelf labels deliver only price information for the electronic shelf label associated with that product, and there is no means to automatically detect the location of the corresponding product in the store, thus making it difficult to automate providing product information.

In addition, even if product information and advertising information were provided to customers shopping by using mobile information terminals prepared for shopping carts, there is no function to inform them of the location of the relevant product in the store, making it difficult to find the relevant product.

[0006]

In light of the foregoing, an objective of the present invention is to provide a collaborative system of electronic shelf label and mobile information terminal, and the like, that provides a function for locating a product in a store and presenting the location of the product, by the use of an electronic shelf label equipped with an IC tag and a light emitting means, as well as the use of a mobile information terminal.

Fujiwara (certified translation), [0005], [0006]

Petitioners Again Improperly Rely on Untethered and Conclusory Motivation From Another Combination (Wu-Chaves)

serve analogous purposes. Ex. 1009, ¶287. By implementing Fujiwara's sequential acquisition and transmission in Wu's system and methods, a POSITA would have realized the advantages as discussed in Section III.F.8 above for the Wu-Chaves combination. *Id.*

Petition, 89

Petitioners Fail to Demonstrate that the Prior Art Taught “Locations” as Properly Construed

“Acquiring” and “transmitting” a sequence
of label identifiers

“Locations”

“Planogram”

The Claim Recites “Locations of the Retail Area” and “Locations of the Articles” within the Planogram

1. A method for updating a planogram registered in a computer system, to reflect an addition of a shelf label in a shelf of a retail area, wherein the planogram comprises association data between articles of the retail area and locations of the retail area, the method comprising:

* * *

the retail area having a plurality of shelf labels distributed in the retail area, each of the shelf labels being associated with a respective article and being disposed near a respective location associated with the article, each of the shelf labels being associated with a label identifier of its own,

* * *

wherein a location of the adjacent shelf label is preliminarily known in the planogram;
identifying a location corresponding to the added shelf label in the shelf of the retail area, comprising:
transmitting, by the reading device, the sequence of label identifiers to the computer system,
updating, by the computer system, the planogram on the basis of the sequence of label identifiers, by determining:
articles associated with the labels of the sequence of label identifiers, and
locations of the articles, on the basis of an obtained location of the added shelf label, wherein the obtained location is a location in the planogram which is adjacent to the preliminarily known location of the adjacent shelf label.

'709 Patent, cl. 1

The '709 Patent Identifies Locations in a Retail Area with Precision

A planogram is a set of association data among articles of a retail area and **locations of said retail area**. The planogram determines which products must be at which height, on which shelves and over how many linear meters.

'709 Patent, 2:6-9

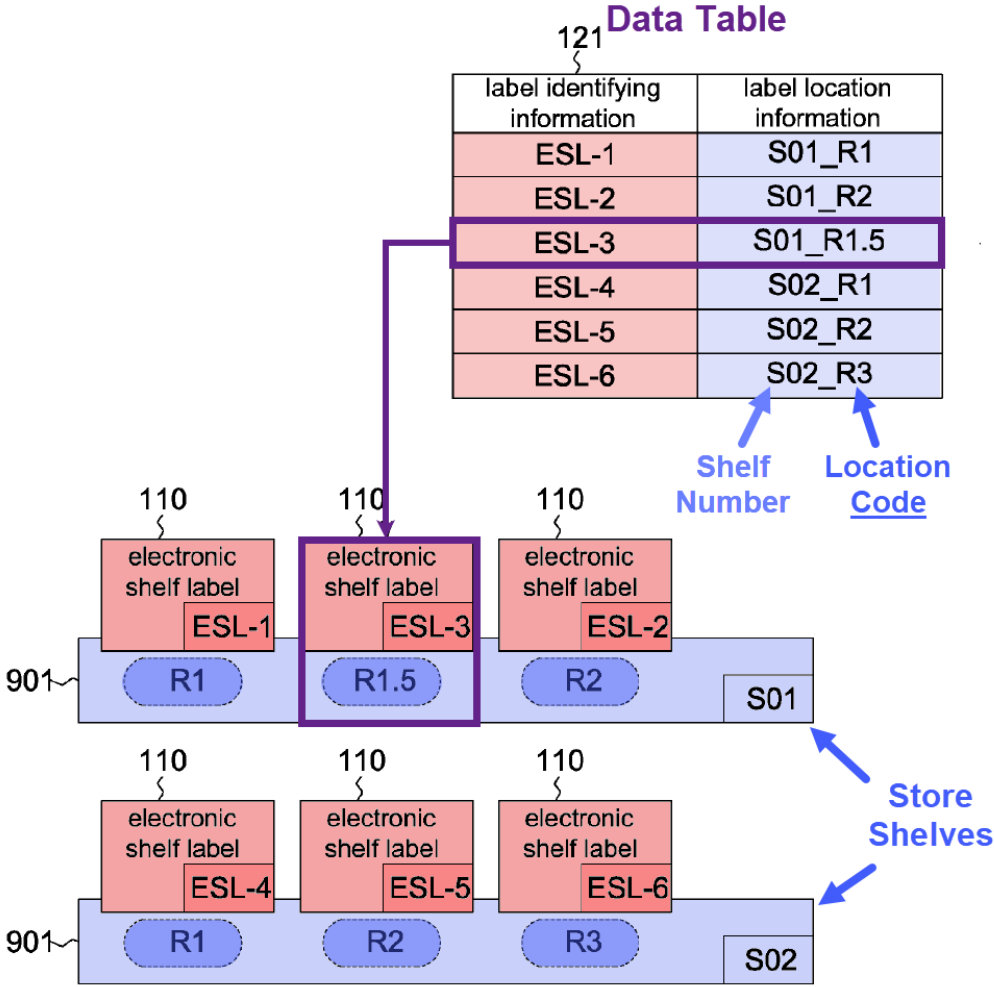
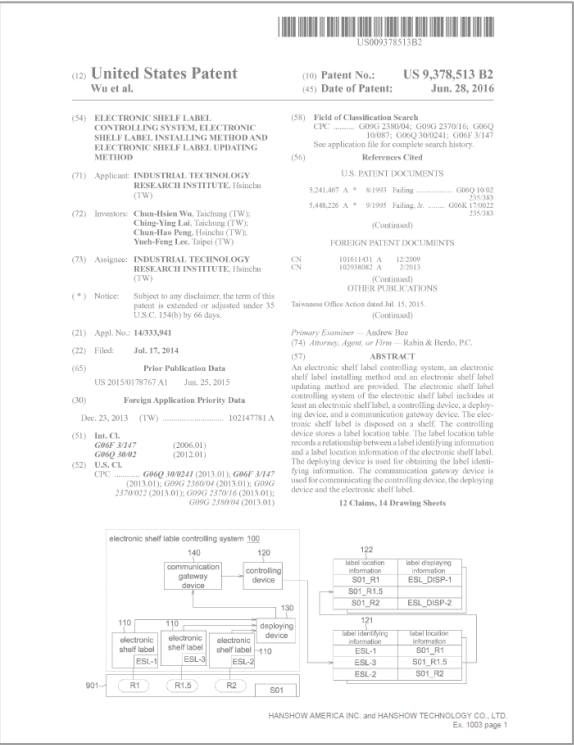
~~communicating~~. Such location produces considerable precision, of the order of a few centimeters, whereas geolocation methods based on internal triangulation from beacons emitting a radio signal at best enable precision of the order of a meter only, which prevents knowing which product the client is located, and therefore greatly restricts the possibilities for interactions based on location.

'709 Patent, 1:63-2:2

The Parties Dispute the Proper Construction of “Locations”

Patent Owner’s Position	Petitioners’ Position
represented in units that allow distance from a point of reference in the retail area to be determined	Plain and Ordinary Meaning <i>(but includes ordinal arrangements)</i>

Wu Only Discloses the Relative Order of Labels on Individual Shelves, Not a Location *in the Retail Area*



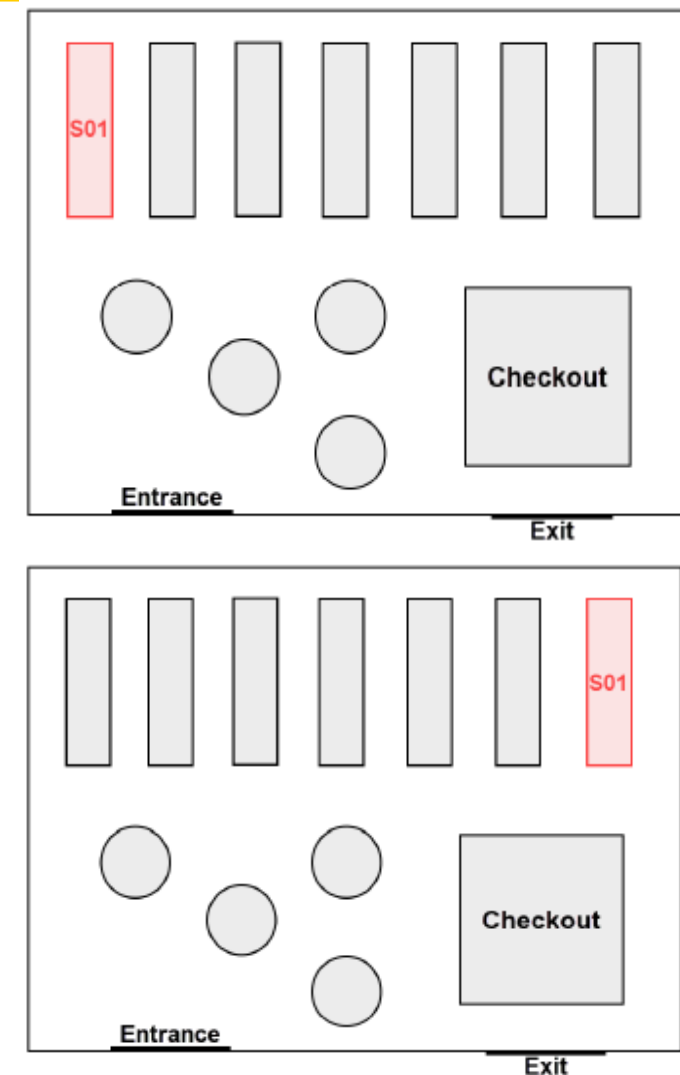
Wu, Fig. 5A (annotated)

Wu's Shelf Number Fails to Provide a Location *in the Retail Area*

122

label location information	label displaying information
S01_R1	product A
S01_R1.5	product B
S01_R2	product C
S02_R1	product D
S02_R1.5	product G
S02_R2	product E
S02_R3	product F

Wu, Fig. 5A (excerpted)



POR, 39

Wu's Shelf Number Does Not Even Indicate the Relative Placement *or Order* of the Shelves

label location information	label displaying information
S01_R1	product A
S01_R1.5	product B
S01_R2	product C
S02_R1	product D
<u>S02_R1.5</u>	<u>product G</u>
S02_R2	product E
S02_R3	product F

products are located in the retail area. Wu's "label content table 122" does not, for instance, provide any information as to where the shelf associated with each shelf code (e.g., "S01," "S02," etc.) is located, or how each shelf code relates to one another (e.g., whether S01 and S02 are on the same shelf segment at different heights, or even the same aisle). Indeed, these codes can represent shelves in any conceivable

POR, 38-39

Wu, Fig. 5A
(excerpted)

“Locations” Should Be Listable In “The Form of a *Cadastre*”

The planogram preferably presents a listing of the locations of the retail area taking the form of a cadastre, with location of said locations by means of a referential or a set of coordinates representative of the spatial organization of the retail area. For example, a first coordinate can designate

'709 Patent, 8:40-44



Ex-2015

Petitioners Fail to Demonstrate that the Prior Art Taught a “Planogram” as Properly Construed

“Acquiring” and “transmitting” a sequence
of label identifiers

“Locations”

“Planogram”

The Term “Planogram” Appears Throughout the Claims

1. A method for updating a planogram registered in a computer system, to reflect an addition of a shelf label in a shelf of a retail area, wherein the planogram comprises association data between articles of the retail area and locations of the retail area, the method comprising:

* * *

wherein a location of the adjacent shelf label is preliminarily known in the planogram;

* * *

updating, by the computer system, the planogram on the basis of the sequence of label identifiers, by determining:

articles associated with the labels of the sequence of label identifiers, and

locations of the articles, on the basis of an obtained location of the added shelf label, wherein the obtained location is a location in the planogram which is adjacent to the preliminarily known location of the adjacent shelf label.

'709 Patent, cl. 1

The Term “Planogram” Has a Known Meaning in the Art

plan-o-gram \ˈpla-nə-,gram\ *n* [*plan-* (taken as combining form of ¹*plan*) + *-gram*] (1986) : a schematic drawing or plan for displaying merchandise in a store so as to maximize sales

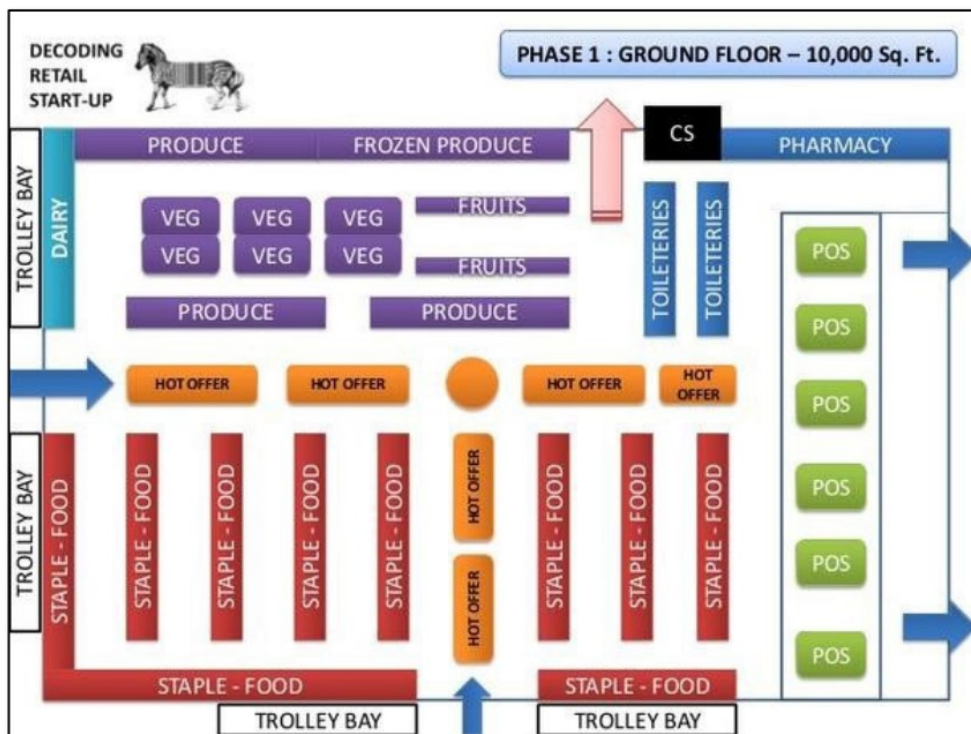
Ex-2016 (Merriam-Webster’s Collegiate Dictionary), 948

enterprise within a defined facility. One type of central plan is a planogram that is a diagram of fixtures, fittings and products that illustrates how and where retail products should be displayed. An essential part of creating a planogram is collecting information about the geometry of the underlying retail space (floor levels, walls, doors, obstructions, etc.) and location and size of fixtures (shelves, racks, display cases, etc.) and fittings (power outlets, communication devices, points-of-sale, etc.).

Ex-2017, 1:12-21

referred to as a “planogram.” A planogram is a layout, or “blueprint”, that assigns a specific display location on a specific display fixture within a retail store to each product to be displayed. For example, a planogram may assign each product to a specific location on specific shelf or to a specific hook of a specific peg grouping of a particular display fixture within the retail store. Planograms typically provide other information associated with the products to be displayed, such as, for example, the quantities of each product and corresponding pricing information (e.g. labels).

Ex-2018, 1:31-40



Ex-2021, 2



Ex-2019, 5

The '709 Patent Uses the Term Consistent with Its Plain Meaning

A planogram is a set of association data among articles of a retail area and locations of said retail area. The planogram determines which products must be at which height, on which shelves and over how many linear meters.

'709 Patent, 2:6-9

The planogram preferably presents a listing of the locations of the retail area taking the form of a cadastre, with location of said locations by means of a referential or a set of coordinates representative of the spatial organization of the retail area. For example, a first coordinate can designate

'709 Patent, 8:40-44

Petitioners View a Single Sentence in Isolation as a Lexicographical Definition

A planogram is a set of association data among articles of a retail area and locations of said retail area. ~~The planogram determines which products must be at which height, on which shelves and over how many linear meters.~~

'709 Patent, 2:6-9

~~The planogram preferably presents a listing of the locations of the retail area taking the form of a cadastre, with location of said locations by means of a referential or a set of coordinates representative of the spatial organization of the retail area.~~ For example, a first coordinate can designate

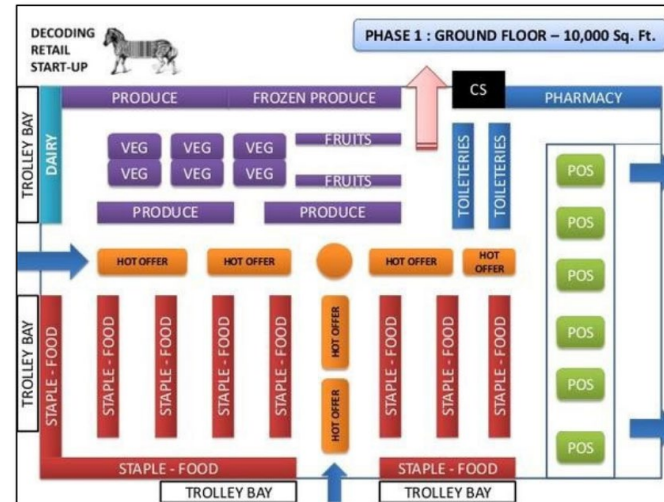
'709 Patent, 8:40-44

Wu's Label Content Table (122) Is Not a Planogram

122

label location information	label displaying information
S01_R1	product A
S01_R1.5	product B
S01_R2	product C
S02_R1	product D
S02_R1.5	product G
S02_R2	product E
S02_R3	product F

Wu, Fig. 5C
(excerpted)



Ex-2021, 2



Ex-2019, 5

During Prosecution, the Examiner Did Not Consider a *More-Detailed* Ordinal Data Table as a Planogram

122

label location information	label displaying information
S01_R1	product A
S01_R1.5	product B
S01_R2	product C
S02_R1	product D
S02_R1.5	product G
S02_R2	product E
S02_R3	product F

Wu, Fig. 5C
(excerpted)

Fig.16

ESL INFORMATION			POSITION INFORMATION			PRODUCT INFORMATION				DISPLAY ATTRIBUTE
ESL CODE	SIZE	COLOR	PRODUCT SHELF NUMBER	ROW (VERTICAL DIRECTION)	COLUMN (LATERAL DIRECTION)	PRODUCT CODE	PRODUCT NAME	DESCRIPTION	PRICE	
1001	M	MONOCHROME	101	1	1	10501	SAUCE FOR SWEET AND SOUR PORK	SICHUAN FLAVOR	420	1
1002	M	MONOCHROME	101	1	2	10689	SAUCE FOR MAPO DOUFU	SICHUAN FLAVOR	380	0
1003	M	MONOCHROME	101	1	3	10605	SAUCE FOR SAUTERED SHREDDED BEEF WITH GREEN PEPPER	AUTHENTIC CANTONESE FLAVOR	380	0
1004	M	MONOCHROME	101	2	1	10566	SAUCE FOR TWICE COOKED PORK	AUTHENTIC CANTONESE FLAVOR	400	0
1005	S	COLOR	101	2	2	10802	STAR ANISE	MUST FOR CHINESE FOOD	580	0
1006	S	COLOR	101	2	3	10803	CHILI BEAN SAUCE	AUTHENTICALLY SUPER HOT!	720	0
1007	S	COLOR								
1008	S	COLOR								
1009	S	COLOR								
1010	S	COLOR								
1011	S	COLOR								
1012	S	COLOR								
1013	M	MONOCHROME	102	1	1					
1014	M	MONOCHROME								
1015	M	MONOCHROME								
1016	M	MONOCHROME								

}1601
}1602
}1603
}1604
}1605
}1606

Ex-2012 (Okina), Fig. 16

Displacement

(Claims 7, 8, 17, and 18)

These Claims Use Displacement to Measure Distance

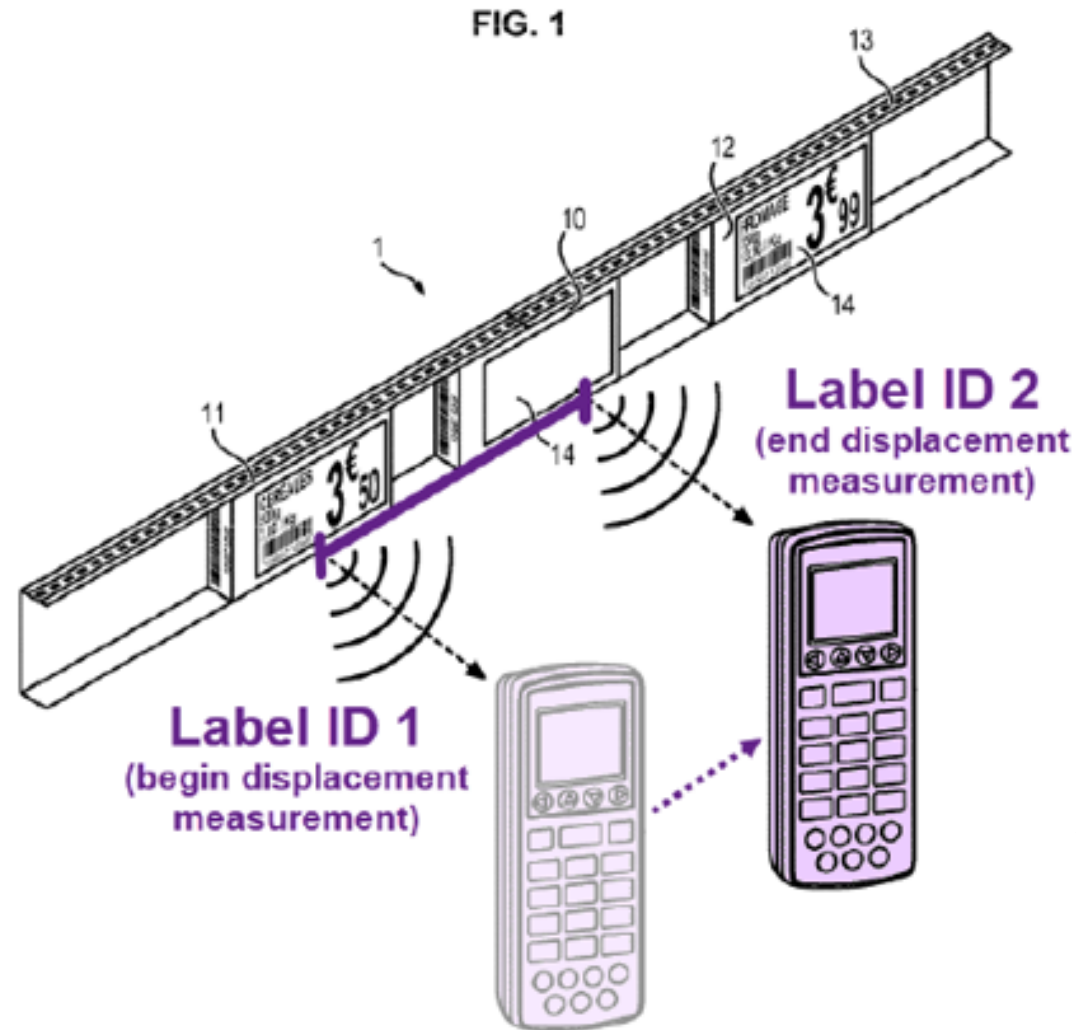
7. The method according to claim 1, wherein the reading device comprises a displacement measuring member, and the method further comprises:
determining, by the reading device, the displacement between the label identifier of the adjacent shelf label whereof the location is preliminarily known and the label identifier of the added shelf label.

'709 Patent, cl. 7

8. The method according to claim 7, further comprising:
determining, by the reading device, the distance between the adjacent shelf label whereof the location is known and the added shelf label to be located from the displacement of the reading device between the identifier of the adjacent shelf label whereof the location is known and the identifier of the added shelf label, and wherein the identifying further comprises obtaining the location of the added shelf label, by the computer system, and using the distance to update the planogram.

'709 Patent, cl. 8

The '709 Patent Makes this Measurement Using Label Identifiers as Endpoints

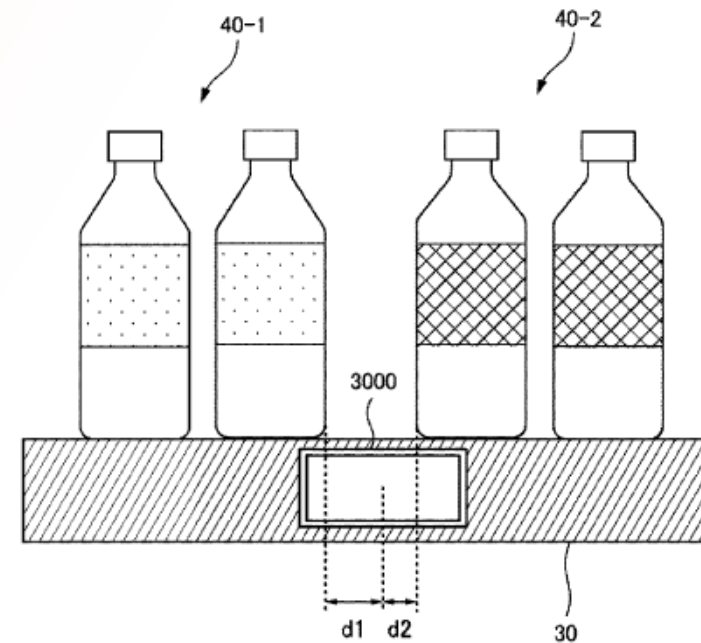


'709 Patent, Fig. 1 (modified)

Itou's Stationary Camera Does Not Measure Displacement Using Label *Identifiers*, or Distance Using *Displacement*



FIG. 9



Itou, Fig. 9

Dr. Tentzeris's Opinions are Conclusory

Petitioners Justify Dr. Tentzeris's Conclusory Statements

Here, Patent Owner has not shown that the entirety of Dr. Tentzeris' declaration is conclusory, but takes the unreasonable position that any expert testimony that is similarly worded as the argument in the Petition is entitled to little weight. However, it is well established that a petition must contain a "full statement

Reply, 24

Experts Who Merely Parrot An Argument from the Petition without Providing Additional Analysis Present Insufficient Evidence

Content Square SAS v. Medallia Inc., IPR2022-00316, Paper 13, 37-38 (July 14, 2022)

“Merely repeating an argument from the Petition in the declaration of a proposed expert, does not give that argument enhanced probative value.”

cited at Sur-Reply, 26

Xerox Corp. v. Bytemark, Inc., IPR2022-00624, Paper 9, 15 (Aug. 24, 2022) (precedential)

The expert “does not cite to any additional supporting evidence or provide any technical reasoning to support his statement. Thus, the cited declaration testimony is conclusory and unsupported, . . . and is entitled to little weight.”

cited at POR, 48-49, 60, 64; Sur-Reply, 26

PLR Worldwide Sales Ltd. v. Flip Phone Games Inc. Is Not to the Contrary

PLR Worldwide Sales Ltd. v. Flip Phone Games Inc., IPR2024-00209, Paper 9, 20 (May 10, 2024)

“Although we decline to give the entirety of [the expert's] testimony no weight, we will address any specific testimony that Patent Owner argues is conclusory and without support when addressing the merits of Petitioner's arguments.”

cited at Reply, 25

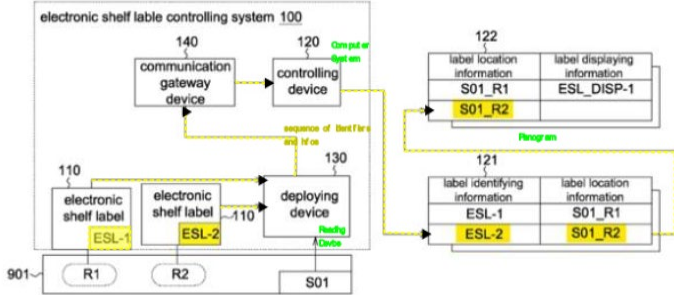
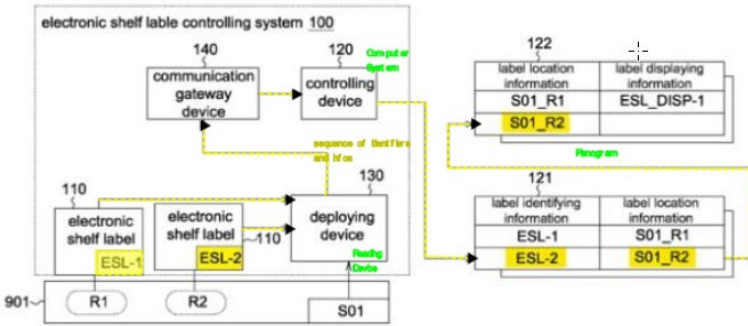
Dr. Tentzeris’s Declaration Rehashes the Petition Without Providing Additional Analysis: “Acquiring ” a Sequence of Label Identifiers

Petition	Dr. Tentzeris’s Declaration
“Further, a POSITA would understand that the reading device that is equipped to read shelf label identifiers can be used to read the identifier of an adjacent shelf label in order to associate the added shelf label with a location in the retail area. <i>Id.</i> , ¶85. Therefore, Wu discloses [1c] or at least renders [1c] obvious. <i>Id.</i> , ¶86.”	“ In my opinion , a POSITA would understand that the reading device that is equipped to read shelf label identifiers can be used to read the identifier of an adjacent shelf label in order to associate the added shelf label with a location in the retail area. Therefore, in my opinion , Wu discloses [1c] or at least renders [1c] obvious.”

Petition, 17

Tentzeris Decl., ¶¶85-86

Dr. Tentzeris's Declaration Rehashes the Petition Without Providing Additional Analysis: "Transmitting " a Sequence of Label Identifiers

Petition	Dr. Tentzeris's Declaration
"A POSITA would recognize that the flow from deploying device 130 to controlling device 120 obviously transmits the sequence of label identifiers that the deploying device 120 obtained from ESL-1 and ESL-2 to the computer system. Ex. 1009, ¶113.  Ex. 1003, FIG. 3B (annotated). Therefore, Wu discloses [1k] or at least renders [1k] obvious. Ex. 1009, ¶114."	"In my opinion, a POSITA would recognize that the flow from deploying device 130 to controlling device 120 obviously transmits the sequence of label identifiers that the deploying device 120 obtained from ESL-1 and ESL-2 to the computer system.  Ex. 1003, FIG. 3B (annotated). In my opinion, Wu discloses [1k] or at least renders [1k] obvious."

Petition, 27

Tentzeris Decl., ¶¶113-14

Dr. Tentzeris Provides Insufficient Evidence of Obviousness

In re Magnum Oil Tools Int'l, Ltd., 829 F.3d 1364, 1380 (Fed. Cir. 2016)

“To satisfy its burden of proving obviousness, a petitioner cannot employ mere conclusory statements.”

cited at POR, 42; Sur-Reply, 11-12

TQ Delta, LLC v. CISCO Sys., Inc., 942 F.3d 1352, 1359 (Fed. Cir. 2019)

“[C]onclusory expert testimony is inadequate to support an obviousness determination.”

cited at POR, 42

Backup Slides

'709 Patent, Claim 1

1. A method for updating a planogram registered in a computer system, to reflect an addition of a shelf label in a shelf of a retail area, wherein the planogram comprises association data between articles of the retail area and locations of the retail area, the method comprising:

acquiring, by a reading device, a sequence of label identifiers comprising a label identifier of an added shelf label reflecting an addition of the shelf label in the shelf of the retail area, and also comprising a label identifier of an adjacent shelf label which is adjacent to the added shelf label according to a scrolling direction of the locations of the retail area,

the retail area having a plurality of shelf labels distributed in the retail area, each of the shelf labels being associated with a respective article and being disposed near a respective location associated with the article, each of the shelf labels being associated with a label identifier of its own,

wherein the adjacent shelf label is either the preceding shelf label or the following shelf label in the shelf according to the scrolling direction and in relation to the added shelf label,

wherein a location of the adjacent shelf label is preliminarily known in the planogram;

identifying a location corresponding to the added shelf label in the shelf of the retail area, comprising:

transmitting, by the reading device, the sequence of label identifiers to the computer system,

updating, by the computer system, the planogram on the basis of the sequence of label identifiers, by determining:

articles associated with the labels of the sequence of label identifiers, and

locations of the articles, on the basis of an obtained location of the added shelf label, wherein the obtained location is a location in the planogram which is adjacent to the preliminarily known location of the adjacent shelf label.

'709 Patent, cl. 1

'709 Patent, Claims 7 and 8

7. The method according to claim 1, wherein the reading device comprises a displacement measuring member, and the method further comprises:

determining, by the reading device, the displacement between the label identifier of the adjacent shelf label whereof the location is preliminarily known and the label identifier of the added shelf label.

'709 Patent, cl. 7

8. The method according to claim 7, further comprising: determining, by the reading device, the distance between the adjacent shelf label whereof the location is known and the added shelf label to be located from the displacement of the reading device between the identifier of the adjacent shelf label whereof the location is known and the identifier of the added shelf label, and wherein the identifying further comprises obtaining the location of the added shelf label, by the computer system, and using the distance to update the planogram.

'709 Patent, cl. 8

'709 Patent, Claim 10

10. A non-transitory computer program product comprising program code instructions for updating a planogram registered in a computer system to reflect an addition of a shelf label in a shelf of a retail area, comprising:

acquiring, by a reading device, a sequence of label identifiers comprising a label identifier of an added shelf label reflecting an addition of the shelf label in the shelf of the retail area, and also comprising a label identifier of an adjacent shelf label which is adjacent to the added shelf label according to a scrolling direction of the locations of the retail area,

the retail area having a plurality of shelf labels distributed in the retail area, each of the shelf labels being associated with a respective article and being disposed near a respective location associated with the article, each of the shelf labels being associated with a label identifier of its own,

wherein the adjacent shelf label is either the preceding shelf label or the following shelf label in the shelf according to the scrolling direction and in relation to the added shelf label,

wherein a location of the adjacent shelf label is preliminarily known in the planogram;

identifying a location corresponding to the added shelf label in the shelf of the retail area, comprising:

transmitting, by the reading device, the sequence of label identifiers to the computer system,

updating, by the computer system, the planogram on the basis of the sequence of label identifiers, by determining:

the articles associated with the labels of the sequence of label identifiers, and

the respective locations of the articles, on the basis of an obtained location of the added shelf label, wherein the obtained location is a location in the planogram which is adjacent to the preliminarily known location of the adjacent shelf label.

'709 Patent, cl. 10

'709 Patent, Claim 11

11. A system for managing a planogram, the planogram comprising association data between articles of a retail area and locations of the retail area, the system comprising:

- a plurality of electronic shelf labels, each of the shelf labels being associated with a label identifier of its own,
- a reading device adapted to acquire the label identifiers of the plurality of electronic shelf labels and to acquire the references of the articles associated with the electronic shelf labels,
- a computer system in which the planogram is registered, the computer system being configured to receive, from the reading device, a transmitted sequence of label identifiers, and being further configured to update the planogram by determining an obtained location of an added shelf label reflecting an addition of a shelf label of the retail area, wherein the obtained location is a location in the planogram which is immediately adjacent to the known location of the adjacent shelf label, the reading device being configured to:

acquire a sequence of label identifiers comprising the label identifier of the added shelf label, and further comprising the label identifier of an adjacent shelf label which is adjacent to the added shelf label according to a scrolling direction of the locations of the retail area,
wherein the adjacent shelf label is either the preceding shelf label or the following shelf label in the shelf according to the scrolling direction and in relation to the added shelf label,
wherein a location of the adjacent shelf label is preliminarily known in the planogram, and
transmit the sequence of label identifiers to the computer system.

'709 Patent, cl. 11

'709 Patent, Claims 17 and 18

17. The system of claim **11**,
wherein the reading device comprises a displacement
measurement member, and
wherein the reading device is further configured to:
Determine the displacement between the label identifier of the adjacent shelf label whereof the location is preliminarily known and the label identified of the added shelf label.

'709 Patent, cl. 17

18. The system of claim **17**,
wherein the reading device is further configured to determine the distance between the adjacent shelf label and the added shelf label from the displacement of the reading device between the label identifier of the adjacent shelf label whereof the location is known, and the added shelf label.

'709 Patent, cl. 18