

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

CEREBRUM SENSOR TECHNOLOGIES, INC. and TIRE STICKERS LLC,	)	
	)	
	)	
Plaintiffs,	)	
	)	
v.	)	C.A. No. 24-245 (JLH) (SRF)
	)	
REVVO TECHNOLOGIES, INC.,	)	REDACTED - PUBLIC VERSION
	)	
Defendant.	)	

**LETTER TO THE HONORABLE SHERRY R. FALLON FROM KAREN JACOBS
REGARDING DISCOVERY DISPUTE**

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*Attorneys for Plaintiffs Cerebrum Sensor
Technologies, Inc. and Tire Stickers LLC*

Dear Judge Fallon:

We write on behalf of Plaintiffs Cerebrum and Tire Stickers (collectively, “Cerebrum”) in advance of the February 6 telephone conference pursuant to the Court’s Order (D.I. 70) following the parties’ Joint Motion for Teleconference to resolve discovery disputes (D.I. 69). Cerebrum respectfully requests that Revvo: (1) be ordered to supplement its invalidity contentions to identify where each element of the Asserted Claims is found in the prior art, and (2) be compelled to provide a narrative response to Cerebrum’s Interrogatory No. 20 identifying its purported bases for asserting non-infringement. A proposed form order is attached.

1. Revvo Should be Ordered to Provide Sufficient Invalidity Contentions Identifying Where Each Element of the Asserted Claims Purportedly are Found in the Prior Art.

There are three Asserted Patents in this case: the ’741 Patent, the ’027 Patent, and the ’421 Patent.

Revvo’s Initial Invalidity Contentions (“Revvo’s ICs”) served on November 27, 2024 fail to provide adequate notice of Revvo’s invalidity positions. (Ex. A). Revvo’s ICs contain no pointers (e.g., arrows or highlighting) that would indicate where or how the alleged prior art purportedly meets the elements of the Asserted Claims. Nor do Revvo’s ICs otherwise meaningfully explain where the elements of the Asserted Claims of the Asserted Patents can allegedly be found in the alleged prior art. Rather, Revvo’s ICs merely block quote from the alleged prior art or merely include a picture with numerous components.

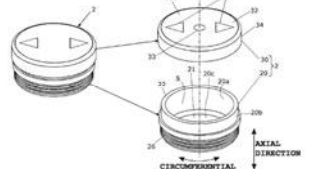
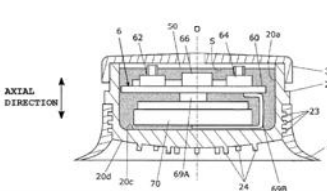
For example, Revvo’s ICs fail to provide any indication where the recited “cavity” in claim 8 of the ’741 Patent can be found in the alleged prior art PRC Patches. Revvo’s ICs merely provide a conclusion at the outset that the recited “cavity” is somewhere in the product by reciting the claim language (see, e.g., Ex. A at PDF pages 25-26):

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'741 Claim Element	Disclosures from Prior Art (REFERENCE_)
8. The display assembly as recited in claim 7 further comprising an element disposed within the cavity.	PRC Patches disclose, teach, and/or suggest the display assembly as recited in claim 7 further comprising an element disposed within the cavity. For example: RADIAL TIRE SECTION REPAIR  Bullseye Repair Units can be centered over the injury because of special cord reinforcement and ply construction. This special construction reduces the effects of flexing and reduces inventory requirements since they can be used for crown, shoulder, and sidewall repairs. Specify <i>Dual Cure</i> or <i>Heat Cure</i> Units to maximize the tire repair performance. (PRC Patches, https://web.archive.org/web/20120216170849/http://www.patchrubber.com/tire_repair/radial_tires.html)  (PRC Patches, https://web.archive.org/web/20090902154005/http://www.patchrubber.com/training/tire_track.pdf) The TIRE-TRACK ID UNIT™ is a multi-layered black & white rubber label specifically designed for tires & other harsh environments. The bar code and other information is engraved through the white rubber to expose the contrasting black rubber, so there's no "paint" or ink to rub-off. In addition, it resists UV light and won't "brown-out" like other bar code labels. (PRC Patches, https://web.archive.org/web/20110304053609/http://www.tire-track.com/PDFs/Tire-Track_Brochure.pdf)
2) What is the difference between the Tire-Track ID Unit and a silk-screened or ink printed label?	Silk-screened or ink printed tire identification labels have been available for some time. They are similar in that both products place "paint" or ink on the surface of the rubber. Although their initial appearance is very good, they can be easily damaged. Therefore, silk-screened or ink printed identification labels do not perform well and do not last in harsh environments. The Tire-Track ID Unit was co-developed by The Patch Rubber Company and Tracking Systems LLC. It is a multi-layer rubber "patch" specifically constructed to have a bar code cut into the rubber itself; therefore, there is no paint or ink to rub off. It resists UV light, which causes other white patches to turn brown. This "Brown-out" effect prevents a scanner from decoding a bar code. The Tire-Track ID Unit is specifically designed for harsh environments. (PRC Patches, https://web.archive.org/web/20140323095328/http://www.patchrubber.com/tire_repair/tire_track_faq.html#Does%20the%20Tire-Track%20ID.%20Unit%20survive%20the%20retreading%20process)

The highlighting above is in the original document, rather than added by Revvo (see https://web.archive.org/web/20110304053609/http://www.tire-track.com/PDFs/Tire-Track_Brochure.pdf). See also, e.g., Ex. B at 22-23 (similarly failing to identify the recited "cavity" in the claim 8 of the '027 Patent)).

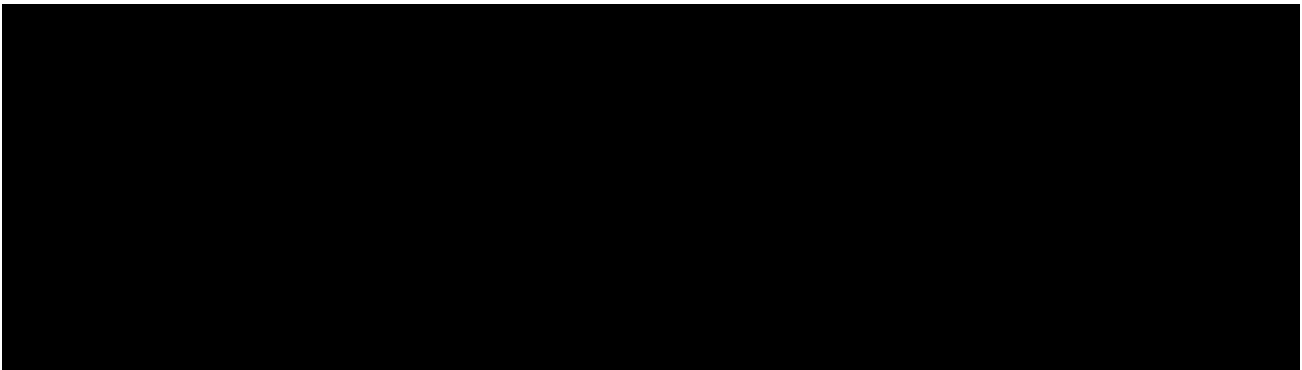
As another example, Revvo's ICs fail to provide any indication where the recited "surface features" in claim 5 of the '421 Patent can be found in the alleged prior art Yamaguchi-727. Revvo's ICs merely provide a conclusion at the outset that the recited "surface features" are somewhere in the alleged prior art by reciting the claim language (see, e.g., Ex. C at PDF pages 18-19):

'421 Claim Element	Disclosures from Prior Art (Yamaguchi-727)
5. The sensor assembly as recited in claim 1, wherein the electrical sensor device is attached within the internal cavity by one or more surface features within the cavity that contact the electrical sensor device to retain its position therein.	Yamaguchi-727 discloses, teaches, and/or suggests the sensor assembly as recited in claim 1, wherein the electrical sensor device is attached within the internal cavity by one or more surface features within the cavity that contact the electrical sensor device to retain its position therein. For example: [0042] The circuit board 60 and the housing case 20 are provided with a positioning means, which is not shown in the figure, that are mutually fitted with each other. Whereby, a measurement direction of the acceleration sensor 66 relative to the housing case 20 is defined. [0047] The module 6 configured as mentioned above is housed in the housing case 20 in the state that the battery 70 is connected to the circuit board 60, and positioned so that the battery 70 faces the inner bottom surface 20c of the housing space S, and the measurement direction of the acceleration sensor 66 mounted on the circuit board 60 faces the predetermined direction relative to the housing case 20. [0048] As illustrated in FIG. 5, the housing space S is filled with a potting material 50 so as to eliminate a gap between the module 6 and the inner bottom surface 20c and the inner peripheral surface 20a forming the housing space S. Whereby, the entire module 6 is covered with the potting material 50. Incidentally, even in the state of being filled with the potting material 50, the communication between respective measurement parts of the temperature sensor 62 and the pressure sensor 64 and the tire air chamber is maintained. As a material of the potting material 50, urethane-silicone resin or epoxy resin is preferable. By employing such a material to the potting material 50, the potting material 50 can maintain
	sufficient resistance to forces received from the battery 70 and the circuit board 60 even when the tire 10 is rotating, especially when the tire 10 is rotating at a high speed. FIG. 2  FIG. 5 

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This Court has ordered parties to supplement invalidity contentions, where as here, they fail to provide sufficient notice of the contentions. *See, e.g., Integra LifeSciences Corp. v. HyperBranch Med. Tech., Inc.*, 223 F. Supp. 3d 202, 205-206 (D. Del. 2016) (ordering supplementation of initial invalidity contentions so that plaintiffs could “more meaningfully consider [d]efendant’s invalidity contentions prior to narrowing the number of asserted claims at issue.”); *accord Ansell Healthcare Prod. LLC v. Reckitt Benckiser LLC*, C.A. No. 15-915-RGA, D.I. 51 (D. Del. June 3, 2016) (Andrews, J.), Tr. 27:4-8; 31:5-13 (in the context of infringement contentions, ordering such indications as annotations and arrows and further noting that “it would work in reverse direction for the invalidity contentions”).

Cerebrum’s infringement contentions provide such indications (e.g., arrows) and Revvo’s invalidity contentions should do likewise (see, e.g., Ex. D and Ex. E):



Cerebrum respectfully requests that the Court order Revvo to provide ICs that provide fair notice of what portions of the prior art references purportedly satisfy each element of the Asserted Claims of the Asserted Patents, including by providing arrows or highlighting or otherwise meaningfully identifying where each element of the Asserted Claims allegedly can be found in the alleged prior art.

2. Revvo Should Be Required to Provide Meaningful Non-Infringement Contentions that Identify How and Why the Accused Products Purportedly Do Not Satisfy the Asserted Claims.

Cerebrum’s Interrogatory No. 20 asks Revvo to identify, separately for each Accused Product, the factual basis for each element of any Asserted Claim it contends is not met or practiced, including by identifying any information and Documents that purportedly support such contention. *See* Ex. F at 3.

INTERROGATORY NO. 20:

To the extent that You contend that any Accused Product does not meet or practice any element or limitation of any Asserted Claim as alleged in Plaintiffs’ operative infringement contentions in this case, identify, separately for any such product, each element of any Asserted Claim that You contend is not met or practiced, specifying the factual basis for the contention, including by identifying any information and Documents that support the same.

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Rather than provide this information, Revvo merely provided a 10-page list of 198 allegedly unmet claim terms — 44 terms for the '741 patent, 54 terms for the '027 patent, and 100 terms for the '421 patent (similar to its initial list identifying 88 terms for construction and ultimately at least 33 terms for construction, see, e.g., D.I. 84-1 at Exhibit B). Notably, Revvo contended in its motion to dismiss that it was clear as a matter of law that it did not infringe (D.I. 22). Had Revvo truly had such a factual basis, it should be ordered to provide it so that issues can be joined.

Regarding the '421 patent, the Accused Revvo Products do not satisfy and Plaintiffs have not carried their burden for demonstrating infringement of at least the following claim elements: • "(a) sensor assembly" • "an object that is rotated in use" • "a sensor assembly configured for attachment with an object that is rotated in use" • "the sensor assembly comprising" • "a housing" • "enclosed within the housing" • "an internal cavity that is enclosed within the housing" • "a housing comprising an outer surface and an internal cavity that is enclosed within the housing" • "an electrical sensor device" • "an electrical sensor device that is disposed within the internal cavity" • "an electrical sensor device that is . . . attached therein to prevent movement of the device within the internal cavity" • "an electrical sensor device that is disposed within the internal cavity and attached therein to prevent movement of the device within the internal cavity." • "an unfilled open space" • "an unfilled open space above or below the electrical sensor device" • "the internal cavity comprises an unfilled open space" • "(wherein) the internal cavity comprises an unfilled open space above or below the electrical sensor device in the housing" • "the sensor assembly is attached with the object" • "when the sensor assembly is attached with the object and the object is rotated in use" • "a retaining member" • "a retaining member that is configured to accommodate attachment of the housing therewith" • "(wherein) the retaining member has an outside surface configured for attachment" 10	• "(wherein) the retaining member has an outside surface configured for attachment to rotate with the object when the object is rotated in use" • "(wherein) the housing outer surface includes one or more display features or indicia" • "(wherein) the housing outer surface includes one or more display features or indicia that are viewable to a user when the housing is attached with the retaining member" • "(wherein) the electrical sensor device is attached within the internal cavity" • "one or more surface features within the cavity" • "(wherein) the electrical sensor device is attached within the internal cavity by one or more surface features within the cavity" • "one or more surface features within the cavity that contact the electrical sensor device to retain its position therein" • "(wherein) the electrical sensor device is attached within the internal cavity by one or more surface features within the cavity that contact the electrical sensor device to retain its position therein" • "(wherein) the housing and retaining member are configured having a complementary shape to facilitate attachment of the housing with the retaining member" • "a wall structure that surrounds the internal cavity" • "(wherein) the housing comprises a wall structure that surrounds the internal cavity" • "to provide attachment therewith" • "(wherein) the retaining member comprises a wall structure having an open chamber that is configured to accommodate the housing wall structure therein to provide attachment therewith" • "(wherein) the retaining member is formed from an elastomeric material" • "(wherein) the retaining member is formed from an elastomeric material that mitigates transmission of shock forces from the object to the housing" • "when the retaining member is attached to the object" 11
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Contention interrogatories "serve an important purpose in helping to discover facts supporting the theories of the parties" and "serve to narrow and sharpen the issues thereby confining discovery and simplifying trial preparation." *Woods v. DeAngelo Marine Exhaust, Inc.*, 692 F.3d 1271, 1280 (Fed. Cir. 2012); accord *Novanta Corporation, v. Iradion Laser, Inc.*, C.A. No. 15-1033-SLR-SRF, 2016 WL 4987110, at *7 (D. Del. Sept. 16, 2016) (internal quotation omitted) (stating that contention interrogatories are proper where any of these factors are met).

That Cerebrum bears the burden on infringement does not shield Revvo from providing its contentions at this stage in the litigation. Cerebrum provided detailed infringement contentions (*see, e.g.*, Exs. E and F) and Revvo should be required to respond to them. Revvo must state its basis of noninfringement for each of the Asserted Claims with supporting facts and evidence.

Cerebrum respectfully requests that the Court order Revvo to provide its non-infringement contentions in a meaningful answer to the interrogatory, including the factual basis and evidence supporting such contentions.

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Respectfully,

/s/ Karen Jacobs

Karen Jacobs (#2881)

KJ/rah

Enclosures

cc: Clerk of the Court (via hand delivery)
All Counsel of Record (via CM/ECF and email)

EXHIBIT A

**Invalidity Claim Chart Against U.S. Patent No. 10,137,741 (“’741 Patent”)
Based on Patches from the Patch Rubber Company (“PRC Patches”)**

Patches from the Patch Rubber Company (“PRC Patches”) include all patches sold by the Patch Rubber Company prior to the priority date of the ’741 patent, April 26, 2016, including all patches found at:

- <https://web.archive.org/web/20070812184948/http://www.patchrubber.com/tire%5Frepair/>
- https://web.archive.org/web/20130328095223/http://www.patchrubber.com/tire_repair/tire_repair.html
- https://web.archive.org/web/20120403202603/http://www.patchrubber.com/tire_repair/12117-pass.html
- https://web.archive.org/web/20120212090846/http://www.patchrubber.com/tire_repair/14208.html
- https://web.archive.org/web/20140207072057/http://www.patchrubber.com/training/pass_puncture.pdf
- https://web.archive.org/web/20120425211121/http://www.patchrubber.com/tire_repair/dual_vs_heat.html
- https://web.archive.org/web/20120216170849/http://www.patchrubber.com/tire_repair/radial_tires.html
- https://web.archive.org/web/20131109143040/http://www.patchrubber.com/tire_repair/16450.html
- https://web.archive.org/web/20120724032455/http://www.patchrubber.com/tire_repair/12000.html
- https://web.archive.org/web/20090820190340/http://www.patchrubber.com/tire_repair/14201.html
- https://web.archive.org/web/20090902154005/http://www.patchrubber.com/training/tire_track.pdf
- https://web.archive.org/web/20140323095328/http://www.patchrubber.com/tire_repair/tire_track_faq.html#Does%20the%20Tire-Track%20I.D.%20Unit%20survive%20the%20retreading%20process
- https://web.archive.org/web/20110304053609/http://www.tire-track.com/PDFs/Tire-Track_Brochure.pdf
- <https://www.youtube.com/watch?v=Ot1elhj3OVE>
- https://web.archive.org/web/20131115072827/http://www.patchrubber.com/tire_repair/glossary.html
- <https://web.archive.org/web/20140816040656/http://www.myerstiresupply.com/shop/shopdisplaycategories.asp?id=54&cat=Tire+Repair>

PRC Patches qualify as prior art under at least 35 U.S.C. § 102(a). PRC Patches anticipate and/or render obvious the Asserted Claims of the ’741 Patent (at least as Revvo understands Plaintiff’s application of the Asserted Claims in an effort to show infringement).

To the extent Plaintiff argues that any element below is not disclosed by PRC Patches, a person of ordinary skill in the art would have found it obvious to combine the teachings of PRC Patches with the background knowledge of a person of ordinary skill in the art and/or the additional references and exemplary teachings set forth in the chart below, to arrive at the claim limitation with a reasonable expectation of success. The chart below provides representative examples of where each element of each claim is found within the PRC Patches. Citations are meant to be exemplary, not exhaustive, and Revvo reserves the right to identify and discuss additional portions of the reference in support of its contentions and/or to rebut arguments made by Plaintiff. Citations to figures, drawings, tables, and the link include reference to any accompanying or related text. All internal cross-references are meant to incorporate the cross-referenced material as if fully set forth therein.

It is Revvo's position that Plaintiff's October 30, 2024 Infringement Contentions have not established that any accused product or service infringes any valid claim. Thus, Revvo's statements below should not be treated as an admission, implication, or suggestion that Revvo agrees with Plaintiff regarding either the scope, construction, or interpretation of any of the Asserted Claims or the infringement theories advanced by Plaintiff in its Infringement Contentions, including whether any Asserted Claim satisfies 35 U.S.C. §§ 101 or 112. In certain cases, Revvo has specified non-limiting examples of where its application of the prior art is based on Plaintiff's apparent application of the claim element. These statements are not intended to suggest that Revvo agrees with Plaintiff's application of any claim element, suggest a proposed construction at this stage of the case, or suggest that construction is needed, as the parties are not required to exchange terms for construction or propose claim constructions until a later date.

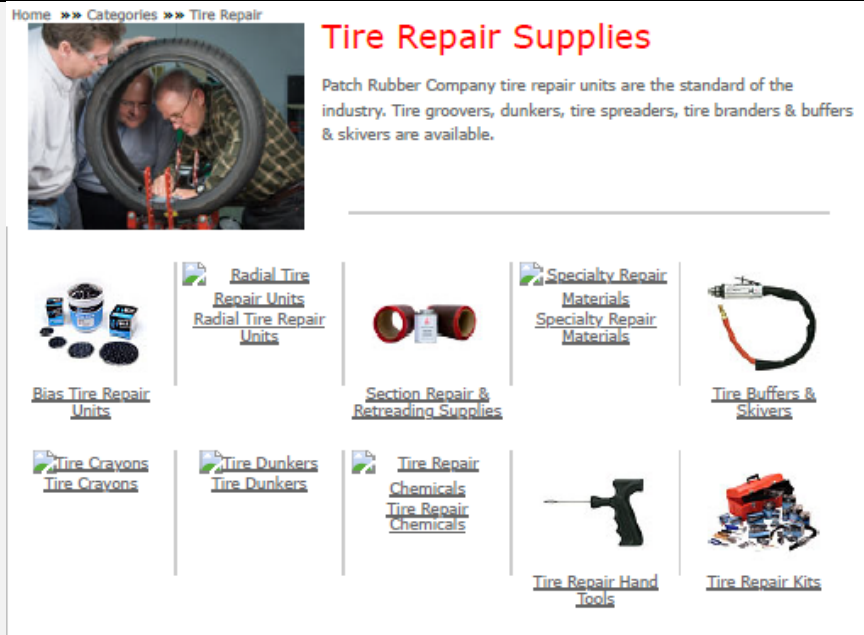
Plaintiff has yet to identify any limitation of the Asserted Claims that it contends is not anticipated and/or rendered obvious by the PRC Patches. Revvo therefore expressly reserves the right to respond to any such contention, including by identifying additional obviousness combinations, if Plaintiff makes any such contention.

Where Revvo states that the PRC Patches "disclose" a limitation, that disclosure may be express, implicit, and/or inherent.

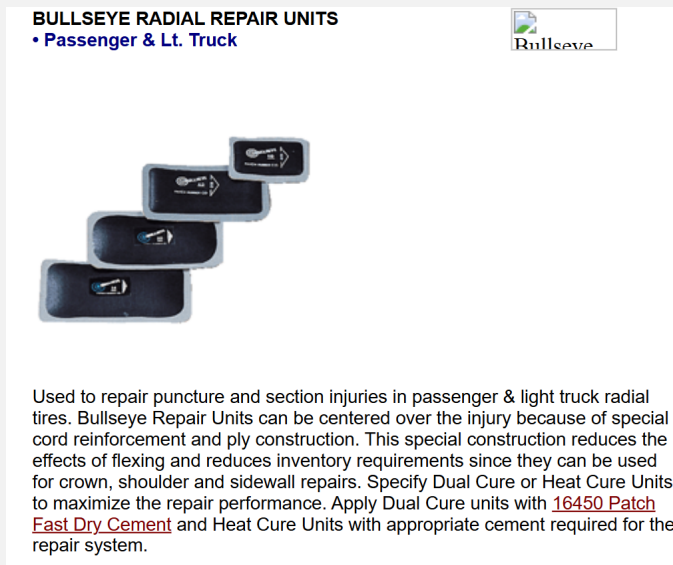
'741 Claim Element	Disclosures from Prior Art (REFERENCE)
1[pre]. 1. A display assembly for attachment with a vulcanized rubber article comprising:	<i>To the extent that the preamble is limiting, PRC Patches disclose, teach, and/or suggest a display assembly for attachment with a vulcanized rubber article comprising. For example:</i>  The screenshot shows the Patch Rubber Company website. At the top, there is a logo for 'Patch Rubber Company' with a tagline 'A Modern Approach to Tire Repair'. Below the logo, the text reads 'Tire Repair & Retreading Products' followed by a list of services: 'Puncture Repairs, Radial & Bias Section Repairs, Tube Repair Units, Tire Repair Chemicals, Retreading Materials, Materials for Repairing Passenger, Truck, Tractor, & Off-The-Road Tires'. The website features several product categories with corresponding images and labels: 'Tire/Tube Repair Materials' (showing repair kits), 'Specialty Materials' (showing colored patches), 'Tire-Track Computerized Tracking System' (showing a handheld device), 'Cements, Cleaners & Chemicals' (showing a can of product), 'Retread Materials' (showing a roll of material), 'Training & Repair Instructions' (showing a manual), and 'Tire Puncture Repair Videos' (showing a video player interface). (PRC Patches, https://web.archive.org/web/20070812184948/http://www.patchrubber.com/tire%5Frepair/)

'741 Claim Element	Disclosures from Prior Art (REFERENCE)
	TIRE/TUBE REPAIR MATERIALS Patch Rubber manufactures a complete line of tire & tube repair materials for any size injury, from pinhole repairs in tubes through section repairs in Giant/OTR tires. <u>Puncture Repair</u>: Any injury localized to the crown/tread area, with a diameter of 1/4" or less in passenger tires and 3/8" or less in larger tires, requires a puncture repair. This section includes: - <u>Inserts & Plugs, Puncture Repair Units</u>, and <u>One-Piece, Patch Plugs</u> as well as the recommended cement for each application. - Use "<u>Patch Selector</u>" to find the proper repair unit for any puncture repair. <u>Section Repair</u>: Any injury larger than 1/4" diameter in passenger tires and over 3/8" in truck tires, requires a section repair. - Radial and bias repair units for passenger, truck, tractor and giant/OTR tires. - Plugs, fillers, repair materials - Heat Cure, Dual Cure, & Uncured(green) definitions - Use "<u>Patch Selector</u>" to find the proper repair unit for any section repair. <u>Tire Repair Tools</u>: Features a listing of basic tire repair tools including insert tools, cement tools, probe & rasp tools, and a <u>dispenser cabinet</u> for storage of tools and repair materials. <u>Tube Repair</u>: All the necessary repair materials and cements to repair damaged inner tubes. Dual or Chemical Cure. (PRC Patches, https://web.archive.org/web/20130328095223/http://www.patchrubber.com/tire_repair/tire_repair.html)

'741 Claim Element Disclosures from Prior Art (REFERENCE)



(PRC Patches,
<https://web.archive.org/web/20140816040656/http://www.myerstiresupply.com/shop/shopdisplaycategories.asp?id=54&cat=Tire+Repair>)



(PRC Patches,
https://web.archive.org/web/20120403202603/http://www.patchrubber.com/tire_repair/12117-pass.html.)

'741 Claim Element Disclosures from Prior Art (REFERENCE)



(PRC Patches, https://web.archive.org/web/20140207072057/http://www.patchrubber.com/training/pass_puncture.pdf.)

CHEMICAL CURE TUBE PATCHES



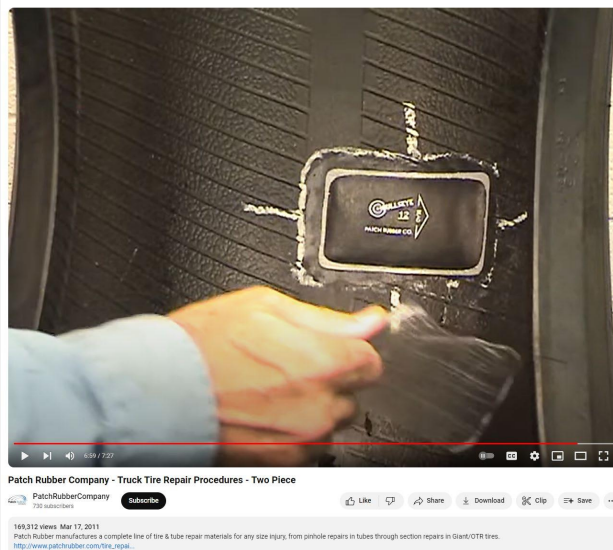
Available in round and oval shapes for any size tube repair...from bicycle to off-the-road tubes. Popular sizes are available in cost-saving Patch Packs. Chemical Cure Repair Units are molded to a feather edge and feature a chemical curing base gum with the ultimate in green tack, along with extended poly backing for ease of removal and installation. Apply with [16450 Patch Fast Dry Cement](#).

(PRC Patches, https://web.archive.org/web/20120724032455/http://www.patchrubber.com/tire_repair/12000.html)

**'741 Claim
Element****Disclosures from Prior Art (REFERENCE)****DUAL CURE TUBE REPAIR UNITS**

Available in round and oval shapes for any size tube repair...from bicycle to off-the-road tubes. Popular sizes are available in cost-saving Patch Packs. Dual Cure Repair Units feature a base gum that will cure chemically or with heat. This soft, high-tack gum is less prone to problems associated with moisture, handling and cement drying time. Apply with 16450 Patch Fast Dry Cement.

(PRC Patches, https://web.archive.org/web/20090820190340/http://www.patchrubber.com/tire_repair/14201.html)



(PRC Patches, <https://www.youtube.com/watch?v=Ot1elhj3OVE>)

'741 Claim Element	Disclosures from Prior Art (REFERENCE)
	Apply the Tire-Track ID Unit just like a repair patch...No Heat Required!  Buff the tire surface. Brush on cement. Apply the Tire-Track ID Unit. (PRC Patches, https://web.archive.org/web/20090902154005/http://www.patchrubber.com/training/tire_track.pdf) <i>See also following limitations.</i>
[1a] one or more display layers of elastomeric material configured to provide a display indicia;	<i>PRC Patches disclose, teach, and/or suggest one or more display layers of elastomeric material configured to provide a display indicia. For example:</i>  (PRC Patches, https://web.archive.org/web/20120403202603/http://www.patchrubber.com/tire_repair/12117-pass.html.)

'741 Claim Element Disclosures from Prior Art (REFERENCE)

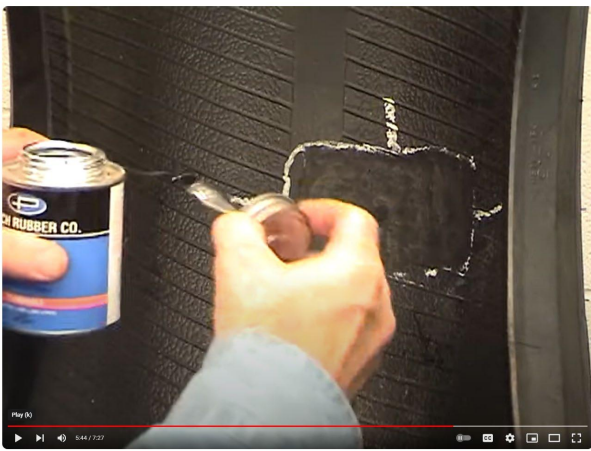
9. Making sure the bead arrows of the repair unit are pointing to the beads, center the repair unit over the injury. Use a tire crayon and outline an area 1/2" larger than the repair unit.

9. Asegurándose que la flecha indicadora en el parche apunte al talon de la llanta; centre el parche sobre la herida. Con un marcador para caucho marque el area claramente una 1/2" pulgada mas grande que el parche.

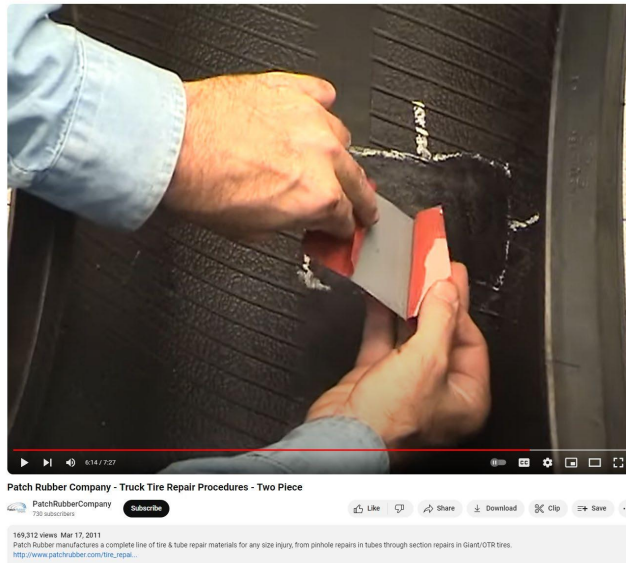


(PRC Patches,
https://web.archive.org/web/20140207072057/http://www.patchrubber.com/training/pass_puncture.pdf.)

'741 Claim Element	Disclosures from Prior Art (REFERENCE)
	 (PRC Patches, https://www.youtube.com/watch?v=Ot1elhj3OVE)
[1b] an intermediate layer formed from an elastomeric material that is different from that of the one or more display layers,	<i>PRC Patches disclose, teach, and/or suggest an intermediate layer formed from an elastomeric material that is different from that of the one or more display layers. For example:</i>  13. Apply an even coat of Patch Rubber Fast-Dry Self-Vulcanizing Cement to the entire buffed area. Allow cement to dry until tacky. Never use blow dryers, compressed air, or heat lamps to facilitate drying. Drying time is affected by temperature and humidity. 13. Aplicar el cemento de secado rápido y vulcanizante marca Patch Rubber a toda el área raspada o pulida. Dejar secar el cemento hasta que pegue. Nunca use secadores de aire, compresor de aire o secar con lámparas calientes para facilitar el secado. El tiempo de secado es afectado por la temperatura y la humedad. 14. When cement is dry, partially remove the poly backing from the patch leaving just enough to hold the patch. Do not touch the back of the patch. With the beads of the tire in the relaxed position, apply the patch to the buffed area making sure the bead arrow points to the bead. Remove the remaining poly from under the patch. 14. Cuando el cemento esté seco, quite parcialmente el respaldo de polietileno del parche dejando sólo lo necesario como para sostener el mismo. No toque la parte posterior del parche. Con los talones de la llanta en posición relajada, coloque el (PRC Patches, https://web.archive.org/web/20140207072057/http://www.patchrubber.com/training/pass_puncture.pdf)

'741 Claim Element	Disclosures from Prior Art (REFERENCE)
	UNIVERSAL PATCH UNITS • Dual Cure  Seal the innerliner and reinforce the injury to prevent air loss, completing an industry-approved puncture repair. A layer of Dual Cure Bonding Gum provides optimal adhesion and simplifies application. Universally used for puncture injuries in every type of tire: passenger, light truck, truck, bias, radial, tubeless or tube-type. Special compound formulation makes a simplified repair for everything from pinholes to 3/8" punctures. Apply with 16450 Patch Fast Cement. (PRC Patches, https://web.archive.org/web/20120212090846/http://www.patchrubber.com/tire_repair/14208.html)  Play (0) 5:44 / 7:27 Patch Rubber Company - Truck Tire Repair Procedures - Two Piece PatchRubberCompany 70 subscribers 199,312 views Mar 17, 2011 Patch Rubber manufactures a complete line of tire & tube repair materials for any size injury, from pinhole repairs in tubes through section repairs in Grand/OTR tires. http://www.patchrubber.com/tire_repair... “Apply an even coat of Patch Rubber Fast-Dry Self-Vulcanizing Cement to the buffed area...”

'741 Claim
Element Disclosures from Prior Art (REFERENCE)



(PRC Patches, <https://www.youtube.com/watch?v=Ot1elhj3OVE>)

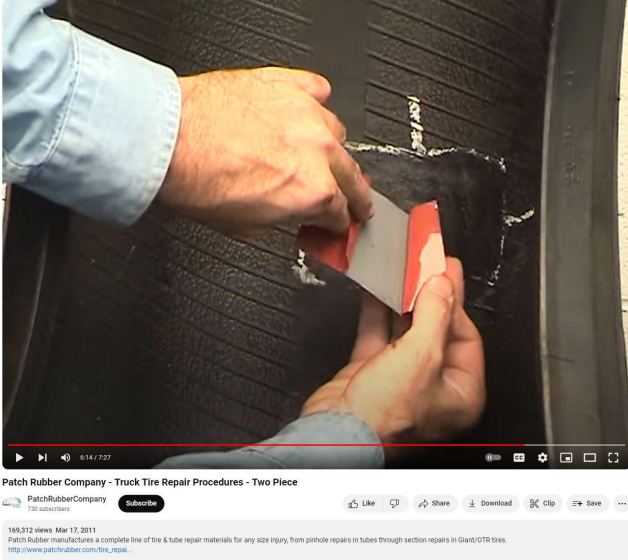
FAST-DRY CEMENT



Fast-Dry Self-Vulcanizing Cement eliminates the most common cause of failed repairs - lack of proper drying time. Fast-Dry Cement activates the chemical vulcanization process to bond repair units to the tire casing. **Flammable. Flash point -4° F. Shelf life 1 year.**
[Fast-Dry Cement MSDS \(PDF\)](#)

(PRC Patches, https://web.archive.org/web/20120215062844/http://www.patchrubber.com:80/tire_repair/16450.html)

'741 Claim Element	Disclosures from Prior Art (REFERENCE)
	Apply the Tire-Track ID Unit just like a repair patch...No Heat Required!  Buff the tire surface. Brush on cement. Apply the Tire-Track ID Unit. (PRC Patches, https://web.archive.org/web/20090902154005/http://www.patchrubber.com/training/tire_track.pdf)
[1c] wherein the intermediate layer is in direct contact with at least of the one or more display layers, and	PRC Patches disclose, teach, and/or suggest wherein the intermediate layer is in direct contact with at least of the one or more display layers. For example:  14. When cement is dry, partially remove the poly backing from the patch leaving just enough to hold the patch. Do not touch the back of the patch. With the beads of the tire in the relaxed position, apply the patch to the buffed area making sure the bead arrow points to the bead. Remove the remaining poly from under the patch. (PRC Patches, https://web.archive.org/web/20140207072057/http://www.patchrubber.com/training/pass_puncture.pdf.)

'741 Claim Element	Disclosures from Prior Art (REFERENCE)
	 (PRC Patches, https://www.youtube.com/watch?v=Ot1elhj3OVE)
[1d] wherein the one or more display layers and the intermediate layer are vulcanized together before attachment with the vulcanized rubber article; and	<i>PRC Patches disclose, teach, and/or suggest wherein the one or more display layers and the intermediate layer are vulcanized together before attachment with the vulcanized rubber article. For example:</i>  13. Apply an even coat of Patch Rubber Fast-Dry Self-Vulcanizing Cement to the entire buffed area. Allow cement to dry until tacky. Never use blow dryers, compressed air, or heat lamps to facilitate drying. Drying time is affected by temperature and humidity. 13. Aplicar el cemento de secado rápido y vulcanizante marca Patch Rubber a toda el  14. When cement is dry, partially remove the poly backing from the patch leaving just enough to hold the patch. Do not touch the back of the patch. With the beads of the tire in the relaxed position, apply the patch to the buffed area making sure the bead arrow points to the bead. Remove the remaining poly from under the patch. (PRC Patches, https://web.archive.org/web/20140207072057/http://www.patchrubber.com/training/pass_puncture.pdf.)

'741 Claim Element	Disclosures from Prior Art (REFERENCE)
	UNIVERSAL PATCH UNITS • Dual Cure  Seal the innerliner and reinforce the injury to prevent air loss, completing an industry-approved puncture repair. A layer of Dual Cure Bonding Gum provides optimal adhesion and simplifies application. Universally used for puncture injuries in every type of tire: passenger, light truck, truck, bias, radial, tubeless or tube-type. Special compound formulation makes a simplified repair for everything from pinholes to 3/8" punctures. Apply with 16450 Patch Fast Cement. (PRC Patches, https://web.archive.org/web/20120212090846/http://www.patchrubber.com/tire_repair/14208.html) BULLSEYE RADIAL REPAIR UNITS • Passenger & Lt. Truck  Used to repair puncture and section injuries in passenger & light truck radial tires. Bullseye Repair Units can be centered over the injury because of special cord reinforcement and ply construction. This special construction reduces the effects of flexing and reduces inventory requirements since they can be used for crown, shoulder and sidewall repairs. Specify Dual Cure or Heat Cure Units to maximize the repair performance. Apply Dual Cure units with 16450 Patch Fast Dry Cement and Heat Cure Units with appropriate cement required for the repair system.

'741 Claim Element	Disclosures from Prior Art (REFERENCE)
	(PRC Patches, https://web.archive.org/web/20120403202603/http://www.patchrubber.com/tire_repair/12117-pass.html.)  Patch Rubber Company - Truck Tire Repair Procedures - Two Piece 169,312 views Mar 17, 2011 Patch Rubber manufactures a complete line of tire & tube repair materials for any size injury, from pinhole repairs in tubes through section repairs in Giant/OTR tires. http://www.patchrubber.com/tire_repair... “Apply an even coat of Patch Rubber Fast-Dry Self-Vulcanizing Cement to the buffed area...”  Patch Rubber Company - Truck Tire Repair Procedures - Two Piece 169,312 views Mar 17, 2011 Patch Rubber manufactures a complete line of tire & tube repair materials for any size injury, from pinhole repairs in tubes through section repairs in Giant/OTR tires. http://www.patchrubber.com/tire_repair... (PRC Patches, https://www.youtube.com/watch?v=Ot1elhj3OVE)
[1e] an adhesive layer in	<i>PRC Patches disclose, teach, and/or suggest an adhesive layer in direct contact with an underside surface of the intermediate layer opposite the one or more display layers. For example:</i>

'741 Claim Element Disclosures from Prior Art (REFERENCE)

direct contact with an underside surface of the intermediate layer opposite the one or more display layers,



13. Apply an even coat of Patch Rubber Fast-Dry Self-Vulcanizing Cement to the entire buffed area. Allow cement to dry until tacky. Never use blow dryers, compressed air, or heat lamps to facilitate drying. Drying time is affected by temperature and humidity.
13. Aplicar el cemento de secado rápido y vulcanizante marca Patch Rubber a toda el



14. When cement is dry, partially remove the poly backing from the patch leaving just enough to hold the patch. Do not touch the back of the patch. With the beads of the tire in the relaxed position, apply the patch to the buffed area making sure the bead arrow points to the bead. Remove the remaining poly from under the patch.



15. Stitch the repair unit vigorously from the center working outwardly. Use as much hand pressure as possible. Remove top cover film.
15. Adhiérala bien trabajando desde el centro hacia afuera. Utilice la mayor cantidad de presión posible con las manos. Quite la película cobertora superior.

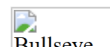


16. Apply Patch Rubber Repair Sealer to the overbuff area.
16. Aplique Rubber Repair Sealer sobre el área pulida.

(PRC Patches,

https://web.archive.org/web/20140207072057/http://www.patchrubber.com/training/pass_puncture.pdf.)

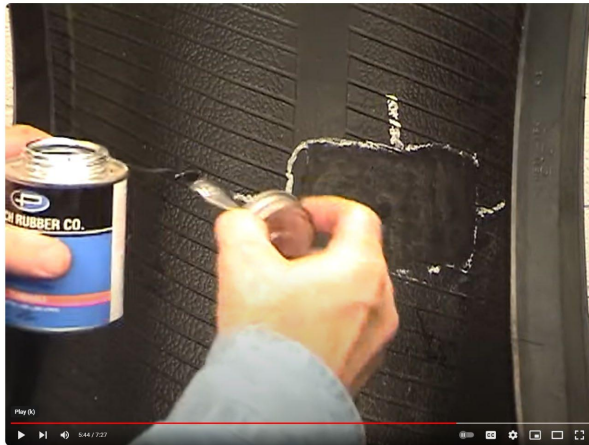
BULLSEYE RADIAL REPAIR UNITS
• Passenger & Lt. Truck



Used to repair puncture and section injuries in passenger & light truck radial tires. Bullseye Repair Units can be centered over the injury because of special cord reinforcement and ply construction. This special construction reduces the effects of flexing and reduces inventory requirements since they can be used for crown, shoulder and sidewall repairs. Specify Dual Cure or Heat Cure Units to maximize the repair performance. Apply Dual Cure units with [16450 Patch Fast Dry Cement](#) and Heat Cure Units with appropriate cement required for the repair system.

'741 Claim Element	Disclosures from Prior Art (_REFERENCE_)
	(PRC Patches, https://web.archive.org/web/20120403202603/http://www.patchrubber.com/tire_repair/12117-pass.html.) UNIVERSAL PATCH UNITS • Dual Cure  Seal the innerliner and reinforce the injury to prevent air loss, completing an industry-approved puncture repair. A layer of Dual Cure Bonding Gum provides optimal adhesion and simplifies application. Universally used for puncture injuries in every type of tire: passenger, light truck, truck, bias, radial, tubeless or tube-type. Special compound formulation makes a simplified repair for everything from pinholes to 3/8" punctures. Apply with 16450 Patch Fast Cement. (PRC Patches, https://web.archive.org/web/20120212090846/http://www.patchrubber.com/tire_repair/14208.html) <u>Cushion Gum</u> (Bonding Gum) A tacky, rubber compound used for adhesion of tread rubber, under-tread repair, build-up of other repairs, or on the bottom of some repair units. See PRECURED TREAD CUSHION GUM. (PRC Patches, https://web.archive.org/web/20131115072827/http://www.patchrubber.com/tire_repair/glossary.html)

'741 Claim Element **Disclosures from Prior Art (REFERENCE)**



“Apply an even coat of Patch Rubber Fast-Dry Self-Vulcanizing Cement to the buffed area...”



(PRC Patches, <https://www.youtube.com/watch?v=Ot1elhj3OVE>)

[1f] wherein the adhesive layer is formed from a material capable forming a

PRC Patches disclose, teach, and/or suggest wherein the adhesive layer is formed from a material capable forming a chemical bond with a surface of the vulcanized rubber article at ambient temperature conditions. For example:

'741 Claim Element	Disclosures from Prior Art (REFERENCE)
chemical bond with a surface of the vulcanized rubber article at ambient temperature conditions.	BULLSEYE RADIAL REPAIR UNITS • Passenger & Lt. Truck  Used to repair puncture and section injuries in passenger & light truck radial tires. Bullseye Repair Units can be centered over the injury because of special cord reinforcement and ply construction. This special construction reduces the effects of flexing and reduces inventory requirements since they can be used for crown, shoulder and sidewall repairs. Specify Dual Cure or Heat Cure Units to maximize the repair performance. Apply Dual Cure units with <u>16450 Patch Fast Dry Cement</u> and Heat Cure Units with appropriate cement required for the repair system. (PRC Patches, https://web.archive.org/web/20120403202603/http://www.patchrubber.com/tire_repair/12117-pass.html.) Dual Cure Repair Units ▲ Dual Cure Repair Units chemically vulcanize at room temperature or when heat and pressure are applied. Dual Cure Repair Units provide many benefits to the tire repairman: (PRC Patches, https://web.archive.org/web/20120425211121/http://www.patchrubber.com/tire_repair/dual_vs_heat.html.) Apply the Tire-Track ID Unit just like a repair patch... No Heat Required!  Buff the tire surface. Brush on cement. Apply the Tire-Track ID Unit. (PRC Patches, https://web.archive.org/web/20090902154005/http://www.patchrubber.com/training/tire_track.pdf)

'741 Claim Element	Disclosures from Prior Art (REFERENCE)
	 Play (5) 5:44 / 7:27 Patch Rubber Company - Truck Tire Repair Procedures - Two Piece PatchRubberCompany 739 subscribers 169,312 views · Mar 17, 2011 Patch Rubber manufactures a complete line of tire & tube repair materials for any size injury, from pinhole repairs in tubes through section repairs in Guard/OTR tires. http://www.patchrubber.com/tire_repair “Apply an even coat of Patch Rubber Fast-Dry Self-Vulcanizing Cement to the buffed area...”  Play (5) 5:14 / 7:27 Patch Rubber Company - Truck Tire Repair Procedures - Two Piece PatchRubberCompany 739 subscribers 169,312 views · Mar 17, 2011 Patch Rubber manufactures a complete line of tire & tube repair materials for any size injury, from pinhole repairs in tubes through section repairs in Guard/OTR tires. http://www.patchrubber.com/tire_repair (PRC Patches, https://www.youtube.com/watch?v=Ot1elhj3OVE)
4. The display assembly as recited in claim 1 wherein the adhesive	<i>PRC Patches disclose, teach, and/or suggest the display assembly as recited in claim 1 wherein the adhesive layer is formed from a material capable of providing the chemical bond attachment with the surface of the vulcanized rubber article by hand pressure. For example:</i>

'741 Claim Element Disclosures from Prior Art (REFERENCE)

layer is formed from a material capable of providing the chemical bond attachment with the surface of the vulcanized rubber article by hand pressure.



15. Stitch the repair unit vigorously from the center working outwardly. Use as much hand pressure as possible. Remove top cover film.

15. Adhiérala bien trabajando desde el centro hacia afuera. Utilice la mayor cantidad de presión posible con las manos. Quite la película cobertora superior.

(PRC Patches,

https://web.archive.org/web/20140207072057/http://www.patchrubber.com/training/pass_puncture.pdf.)



Patch Rubber Company - Truck Tire Repair Procedures - Two Piece

PatchRubberCompany

17K views · May 17, 2011

patch rubber manufactures a complete line of tire & tube repair materials for any size injury, from pinhole repairs in tubes through section repairs in dual/triple tires. http://www.patchrubber.com/tire_repair

'741 Claim Element	Disclosures from Prior Art (REFERENCE)
	 Patch Rubber Company - Truck Tire Repair Procedures - Two Piece 178,456 Views Mar 17, 2011 Patch Rubber manufactures a complete line of tire & tube repair materials for any size injury, from pinhole repairs in tubes through section repairs in Giant QTR tires. https://www.youtube.com/watch?v=Ot1elhj3OVE (PRC Patches, https://www.youtube.com/watch?v=Ot1elhj3OVE) <i>Apply the Tire-Track ID Unit just like a repair patch...No Heat Required!</i>  Buff the tire surface. Brush on cement. Apply the Tire-Track ID Unit. (PRC Patches, https://web.archive.org/web/20090902154005/http://www.patchrubber.com/training/tire_track.pdf)
7. The display assembly as recited in claim 1 further comprising a cavity disposed therein.	<i>PRC Patches disclose, teach, and/or suggest the display assembly as recited in claim 1 further comprising a cavity disposed therein. For example:</i> RADIAL TIRE SECTION REPAIR  Bullseye Repair Units can be centered over the injury because of special cord reinforcement and ply construction. This special construction reduces the effects of flexing and reduces inventory requirements since they can be used for crown, shoulder, and sidewall repairs. Specify <u>Dual Cure or Heat Cure</u> Units to maximize the tire repair performance. (PRC Patches, https://web.archive.org/web/20120216170849/http://www.patchrubber.com/)

'741 Claim Element	Disclosures from Prior Art (REFERENCE)
	tire_repair/radial_tires.html.)  (PRC Patches, https://web.archive.org/web/20090902154005/http://www.patchrubber.com/training/tire_track.pdf) The TIRE-TRACK ID UNIT™ is a multi-layered black & white rubber label specifically designed for tires & other harsh environments. The bar code and other information is engraved through the white rubber to expose the contrasting black rubber; so there's no "paint" or ink to rub-off. In addition, it resists UV light and won't "brown-out" like other bar code labels. (PRC Patches, https://web.archive.org/web/20110304053609/http://www.tire-track.com/PDFs/Tire-Track_Brochure.pdf) 2) What is the difference between the Tire-Track ID Unit and a silk-screened or ink printed label? Silk-screened or ink printed tire identification labels have been available for some time. They are similar in that both products place "paint" or ink on the surface of the rubber. Although their initial appearance is very good, they can be easily damaged. <u>Therefore, silk-screened or ink printed identification labels do not perform well and do not last in harsh environments.</u> The Tire-Track ID Unit was co-developed by The Patch Rubber Company and Tracking Systems LLC. It is a multi-layer rubber "patch" specifically constructed to have a bar code cut into the rubber itself; therefore, there is no paint or ink to rub off. It resists UV light, which causes other white patches to turn brown. This "Brown-out" effect prevents a scanner from decoding a bar code. <u>The Tire-Track ID Unit is specifically designed for harsh environments.</u> (PRC Patches, https://web.archive.org/web/20140323095328/http://www.patchrubber.com/tire_repair/tire_track_fa.html#Does%20the%20Tire-Track%20I.D.%20Unit%20survive%20the%20retreading%20process)

'741 Claim Element	Disclosures from Prior Art (REFERENCE)
8. The display assembly as recited in claim 7 further comprising an element disposed within the cavity.	<i>PRC Patches disclose, teach, and/or suggest the display assembly as recited in claim 7 further comprising an element disposed within the cavity. For example:</i> RADIAL TIRE SECTION REPAIR  Bullseye Repair Units can be centered over the injury because of special cord reinforcement and ply construction. This special construction reduces the effects of flexing and reduces inventory requirements since they can be used for crown, shoulder, and sidewall repairs. Specify <u>Dual Cure or Heat Cure</u> Units to maximize the tire repair performance. (PRC Patches, https://web.archive.org/web/20120216170849/http://www.patchrubber.com/tire_repair/radial_tires.html.)  The barcode is cut deeply into the rubber for permanent identification, so it cannot wear off. (PRC Patches, https://web.archive.org/web/20090902154005/http://www.patchrubber.com/training/tire_track.pdf) The TIRE-TRACK ID UNIT™ is a multi-layered black & white rubber label specifically designed for tires & other harsh environments. The bar code and other information is engraved through the white rubber to expose the contrasting black rubber; so there's no "paint" or ink to rub-off. In addition, it resists UV light and won't "brown-out" like other bar code labels. (PRC Patches, https://web.archive.org/web/20110304053609/http://www.tire-track.com/PDFs/Tire-Track_Brochure.pdf)

'741 Claim Element	Disclosures from Prior Art (REFERENCE)
	2) What is the difference between the Tire-Track ID Unit and a silk-screened or ink printed label? Silk-screened or ink printed tire identification labels have been available for some time. They are similar in that both products place "paint" or ink on the surface of the rubber. Although their initial appearance is very good, they can be easily damaged. <u>Therefore, silk-screened or ink printed identification labels do not perform well and do not last in harsh environments.</u> The Tire-Track ID Unit was co-developed by The Patch Rubber Company and Tracking Systems LLC. It is a multi-layer rubber "patch" specifically constructed to have a bar code cut into the rubber itself; therefore, there is no paint or ink to rub off. It resists UV light, which causes other white patches to turn brown. This "Brown-out" effect prevents a scanner from decoding a bar code. <u>The Tire-Track ID Unit is specifically designed for harsh environments.</u> (PRC Patches, https://web.archive.org/web/20140323095328/http://www.patchrubber.com/tire_repair/tire_track_faq.html#Does%20the%20Tire-Track%20I.D.%20Unit%20survive%20the%20retreading%20process)
9. The display assembly as recited in claim 7 wherein the cavity is disposed beneath the one or more display layers.	<i>PRC Patches disclose, teach, and/or suggest the display assembly as recited in claim 7 wherein the cavity is disposed beneath the one or more display layers. For example:</i> RADIAL TIRE SECTION REPAIR  Bullseye Bullseye Repair Units can be centered over the injury because of special cord reinforcement and ply construction. This special construction reduces the effects of flexing and reduces inventory requirements since they can be used for crown, shoulder, and sidewall repairs. Specify <u>Dual Cure or Heat Cure</u> Units to maximize the tire repair performance. (PRC Patches, https://web.archive.org/web/20120216170849/http://www.patchrubber.com/tire_repair/radial_tires.html.)

EXHIBIT B

**Invalidity Claim Chart Against U.S. Patent No. 11,124,027 (“’027 Patent”)
Based on Patches from the Patch Rubber Company (“PRC Patches”)**

Patches from the Patch Rubber Company (“PRC Patches”) include all patches sold by the Patch Rubber Company prior to the earliest priority date of the ’027 patent, April 26, 2016, including all patches found at:

- <https://web.archive.org/web/20070812184948/http://www.patchrubber.com/tire%5Frepair/>
- https://web.archive.org/web/20130328095223/http://www.patchrubber.com/tire_repair/tire_repair.html
- https://web.archive.org/web/20120403202603/http://www.patchrubber.com/tire_repair/12117-pass.html
- https://web.archive.org/web/20120212090846/http://www.patchrubber.com/tire_repair/14208.html
- https://web.archive.org/web/20140207072057/http://www.patchrubber.com/training/pass_puncture.pdf
- https://web.archive.org/web/20120425211121/http://www.patchrubber.com/tire_repair/dual_vs_heat.html
- https://web.archive.org/web/20120216170849/http://www.patchrubber.com/tire_repair/radial_tires.html
- https://web.archive.org/web/20131109143040/http://www.patchrubber.com/tire_repair/16450.html
- https://web.archive.org/web/20120724032455/http://www.patchrubber.com/tire_repair/12000.html
- https://web.archive.org/web/20090820190340/http://www.patchrubber.com/tire_repair/14201.html
- https://web.archive.org/web/20090902154005/http://www.patchrubber.com/training/tire_track.pdf
- https://web.archive.org/web/20140323095328/http://www.patchrubber.com/tire_repair/tire_track_faq.html#Does%20the%20Tire-Track%20I.D.%20Unit%20survive%20the%20retreading%20process
- https://web.archive.org/web/20110304053609/http://www.tire-track.com/PDFs/Tire-Track_Brochure.pdf
- <https://www.youtube.com/watch?v=Ot1elhj3OVE>
- https://web.archive.org/web/20131115072827/http://www.patchrubber.com/tire_repair/glossary.html
- <https://web.archive.org/web/20140816040656/http://www.myerstiresupply.com/shop/shopdisplaycategories.asp?id=54&cat=Tire+Repair>

PRC Patches qualify as prior art under at least 35 U.S.C. § 102(a)(1). PRC Patches anticipate and/or render obvious the Asserted Claims of the ’027 Patent (at least as Revvo understands Plaintiff’s application of the Asserted Claims in an effort to show infringement).

To the extent Plaintiff argues that any element below is not disclosed by PRC Patches, a person of ordinary skill in the art would have found it obvious to combine the teachings of PRC Patches with the background knowledge of a person of ordinary skill in the art and/or the additional references and exemplary teachings set forth in the chart below, to arrive at the claim limitation with a reasonable expectation of success. The chart below provides representative examples of where each element of each claim is found within the PRC Patches. Citations are meant to be exemplary, not exhaustive, and Revvo reserves the right to identify and discuss additional portions of the reference in support of its contentions and/or to rebut arguments made by Plaintiff. Citations to figures, drawings, tables, and the link include reference to any accompanying or related text. All internal cross-references are meant to incorporate the cross-referenced material as if fully set forth therein.

It is Revvo's position that Plaintiff's October 30, 2024 Infringement Contentions have not established that any accused product or service infringes any valid claim. Thus, Revvo's statements below should not be treated as an admission, implication, or suggestion that Revvo agrees with Plaintiff regarding either the scope, construction, or interpretation of any of the Asserted Claims or the infringement theories advanced by Plaintiff in its Infringement Contentions, including whether any Asserted Claim satisfies 35 U.S.C. §§ 101 or 112. In certain cases, Revvo has specified non-limiting examples of where its application of the prior art is based on Plaintiff's apparent application of the claim element. These statements are not intended to suggest that Revvo agrees with Plaintiff's application of any claim element, suggest a proposed construction at this stage of the case, or suggest that construction is needed, as the parties are not required to exchange terms for construction or propose claim constructions until a later date.

Plaintiff has yet to identify any limitation of the Asserted Claims that it contends is not anticipated and/or rendered obvious by the PRC Patches. Revvo therefore expressly reserves the right to respond to any such contention, including by identifying additional obviousness combinations, if Plaintiff makes any such contention.

Where Revvo states that the PRC Patches "disclose" a limitation, that disclosure may be express, implicit, and/or inherent.

**'027 Claim
Element**

1[pre]. An assembly for attachment with a vulcanized rubber article comprising:

Disclosures from Prior Art (REFERENCE)

To the extent that the preamble is limiting, PRC Patches disclose, teach, and/or suggest a display assembly for attachment with a vulcanized rubber article comprising. For example:



(PRC Patches,
<https://web.archive.org/web/20070812184948/http://www.patchrubber.com/tire%5Frepair/>)

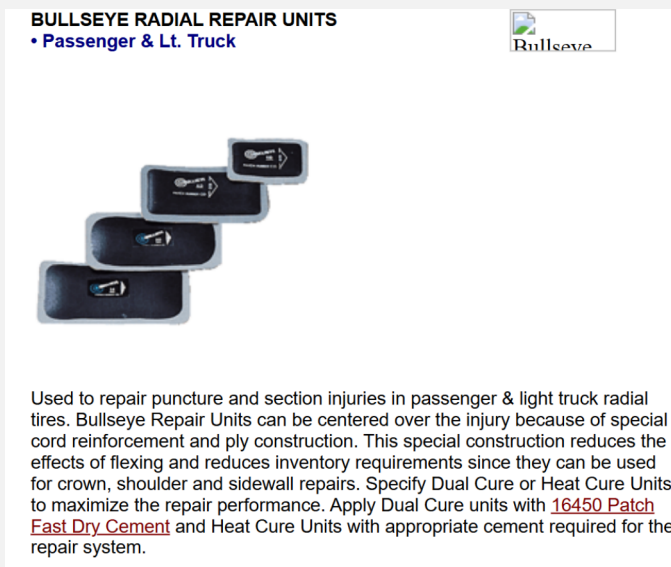
'027 Claim Element	Disclosures from Prior Art (REFERENCE)
	TIRE/TUBE REPAIR MATERIALS Patch Rubber manufactures a complete line of tire & tube repair materials for any size injury, from pinhole repairs in tubes through section repairs in Giant/OTR tires. <u>Puncture Repair</u>: Any injury localized to the crown/tread area, with a diameter of 1/4" or less in passenger tires and 3/8" or less in larger tires, requires a puncture repair. This section includes: - <u>Inserts & Plugs</u>, <u>Puncture Repair Units</u>, and <u>One-Piece Patch Plugs</u> as well as the recommended cement for each application. - Use "<u>Patch Selector</u>" to find the proper repair unit for any puncture repair. <u>Section Repair</u>: Any injury larger than 1/4" diameter in passenger tires and over 3/8" in truck tires, requires a section repair. - Radial and bias repair units for passenger, truck, tractor and giant/OTR tires. - Plugs, fillers, repair materials - Heat Cure, Dual Cure, & Uncured(green) definitions - Use "<u>Patch Selector</u>" to find the proper repair unit for any section repair. <u>Tire Repair Tools</u>: Features a listing of basic tire repair tools including insert tools, cement tools, probe & rasp tools, and a <u>dispenser cabinet</u> for storage of tools and repair materials. <u>Tube Repair</u>: All the necessary repair materials and cements to repair damaged inner tubes. Dual or Chemical Cure. (PRC Patches, https://web.archive.org/web/20130328095223/http://www.patchrubber.com/tire_repair/tire_repair.html)

'027 Claim
Element

Disclosures from Prior Art (REFERENCE)



(PRC Patches,
<https://web.archive.org/web/20140816040656/http://www.myerstiresupply.com/shop/shopdisplaycategories.asp?id=54&cat=Tire+Repair>)



(PRC Patches, https://web.archive.org/web/20120403202603/http://www.patchrubber.com/tire_repair/12117-pass.html.)

**'027 Claim
Element****Disclosures from Prior Art (REFERENCE)**

(PRC Patches,
https://web.archive.org/web/20140207072057/http://www.patchrubber.com/training/pass_puncture.pdf.)

CHEMICAL CURE TUBE PATCHES

Available in round and oval shapes for any size tube repair...from bicycle to off-the-road tubes. Popular sizes are available in cost-saving Patch Packs. Chemical Cure Repair Units are molded to a feather edge and feature a chemical curing base gum with the ultimate in green tack, along with extended poly backing for ease of removal and installation. Apply with 16450 Patch Fast Dry Cement.

(PRC Patches, https://web.archive.org/web/20120724032455/http://www.patchrubber.com/tire_repair/12000.html)

'027 Claim
Element

Disclosures from Prior Art (REFERENCE)

DUAL CURE TUBE REPAIR UNITS



Available in round and oval shapes for any size tube repair...from bicycle to off-the-road tubes. Popular sizes are available in cost-saving Patch Packs. Dual Cure Repair Units feature a base gum that will cure chemically or with heat. This soft, high-tack gum is less prone to problems associated with moisture, handling and cement drying time. Apply with [16450 Patch Fast Dry Cement](#).

(PRC Patches, https://web.archive.org/web/20090820190340/http://www.patchrubber.com/tire_repair/14201.html)



Patch Rubber Company - Truck Tire Repair Procedures - Two Piece

PatchRubberCompany

734 subscribers

195,912 views

Mar 17, 2011

Patch Rubber manufactures a complete line of tire & tube repair materials for any size injury, from pinhole repairs in tubes through section repairs in Giant/OTR tires.

http://www.patchrubber.com/tire_repair...

(PRC Patches, <https://www.youtube.com/watch?v=Ot1elhj3OVE>)

**'027 Claim
Element****Disclosures from Prior Art (REFERENCE)**

Apply the Tire-Track ID Unit just like a repair patch...**No Heat Required!**



Buff the tire surface.



Brush on cement.



Apply the Tire-Track ID Unit.

(PRC Patches,

https://web.archive.org/web/20090902154005/http://www.patchrubber.com/training/tire_track.pdf)

See also following limitations.

[1a] an outer layer of elastomeric material having a visual feature; and

PRC Patches disclose, teach, and/or suggest an outer layer of elastomeric material having a visual feature. For example:



9. Making sure the bead arrows of the repair unit are pointing to the beads, center the repair unit over the injury. Use a tire crayon and outline an area 1/2" larger than the repair unit.

(PRC Patches,

https://web.archive.org/web/20140207072057/http://www.patchrubber.com/training/pass_puncture.pdf.)

**'027 Claim
Element****Disclosures from Prior Art (REFERENCE)**

(PRC Patches,
https://web.archive.org/web/20140207072057/http://www.patchrubber.com/training/pass_puncture.pdf.)



(PRC Patches, <https://www.youtube.com/watch?v=Ot1elhj3OVE>)

[1b] an adhesive layer adhered to an interface surface of the outer layer, wherein at least a portion of the outer layer adjacent the interface surface comprises a

PRC Patches disclose, teach, and/or suggest an adhesive layer adhered to an interface surface of the outer layer, wherein at least a portion of the outer layer adjacent the interface surface comprises a barrier material composition. For example:

**'027 Claim
Element**

barrier material
composition,
and

Disclosures from Prior Art (REFERENCE)

13. Apply an even coat of Patch Rubber Fast-Dry Self-Vulcanizing Cement to the entire buffed area. Allow cement to dry until tacky. Never use blow dryers, compressed air, or heat lamps to facilitate drying. Drying time is affected by temperature and humidity.

13. Aplicar el cemento de secado rápido y vulcanizante marca Patch Rubber a toda el área raspada o pulida. Dejar secar el cemento hasta que pegue. Nunca use secadores de aire, compresor de aire o secar con lámparas calientes para facilitar el secado. El tiempo de secado es afectado por la temperatura y la humedad.



14. When cement is dry, partially remove the poly backing from the patch leaving just enough to hold the patch. Do not touch the back of the patch. With the beads of the tire in the relaxed position, apply the patch to the buffed area making sure the bead arrow points to the bead. Remove the remaining poly from under the patch.

14. Cuando el cemento esté seco, quite parcialmente el respaldo de polietileno del parche dejando sólo lo necesario como para sostener el mismo. No toque la parte posterior del parche. Con los talones de la llanta en posición relajada, coloque el

(PRC Patches,

https://web.archive.org/web/20140207072057/http://www.patchrubber.com/training/pass_puncture.pdf.)

BULLSEYE RADIAL REPAIR UNITS
• Passenger & Lt. Truck



Used to repair puncture and section injuries in passenger & light truck radial tires. Bullseye Repair Units can be centered over the injury because of special cord reinforcement and ply construction. This special construction reduces the effects of flexing and reduces inventory requirements since they can be used for crown, shoulder and sidewall repairs. Specify Dual Cure or Heat Cure Units to maximize the repair performance. Apply Dual Cure units with [16450 Patch Fast Dry Cement](#) and Heat Cure Units with appropriate cement required for the repair system.

(PRC Patches,

https://web.archive.org/web/20120403202603/http://www.patchrubber.com/tire_repair/12117-pass.html.)

**'027 Claim
Element****Disclosures from Prior Art (REFERENCE)****UNIVERSAL PATCH UNITS**
• Dual Cure

Seal the innerliner and reinforce the injury to prevent air loss, completing an industry-approved puncture repair. A layer of Dual Cure Bonding Gum provides optimal adhesion and simplifies application. Universally used for puncture injuries in every type of tire: passenger, light truck, truck, bias, radial, tubeless or tube-type. Special compound formulation makes a simplified repair for everything from pinholes to 3/8" punctures. Apply with [16450 Patch Fast Cement](#).

(PRC Patches, https://web.archive.org/web/20120212090846/http://www.patchrubber.com/tire_repair/14208.html)

Cushion Gum
(Bonding Gum)

A tacky, rubber compound used for adhesion of tread rubber, under-tread repair, build-up of other repairs, or on the bottom of some repair units. See PRECURED TREAD CUSHION GUM.

(PRC Patches, https://web.archive.org/web/20131115072827/http://www.patchrubber.com/tire_repair/glossary.html)



Patch Rubber Company - Truck Tire Repair Procedures - Two Piece

PatchRubberCompany

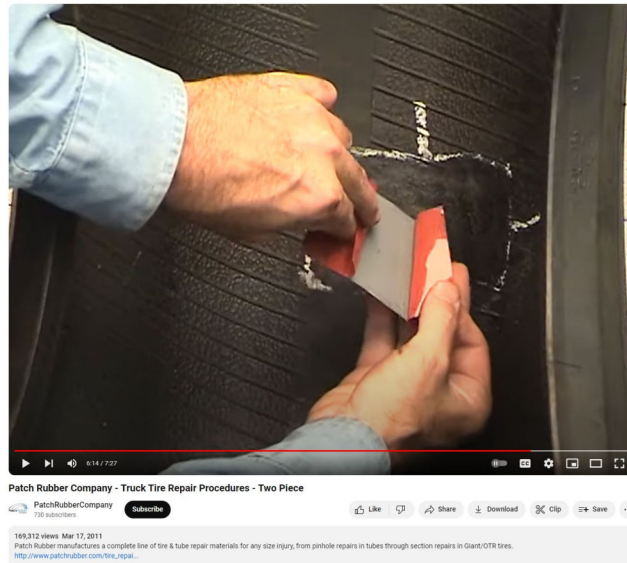
198,312 views Mar 17, 2011

Patch Rubber manufactures a complete line of tire & tube repair materials for any size injury, from pinhole repairs in tubes through section repairs in Giant/OTR tires. http://www.patchrubber.com/tire_repair...

“Apply an even coat of Patch Rubber Fast-Dry Self-Vulcanizing Cement to the buffed area...”

'027 Claim
Element

Disclosures from Prior Art (REFERENCE)



(PRC Patches, <https://www.youtube.com/watch?v=Ot1elhj3OVE>)

FAST-DRY CEMENT



Fast-Dry Self-Vulcanizing Cement eliminates the most common cause of failed repairs - lack of proper drying time. Fast-Dry Cement activates the chemical vulcanization process to bond repair units to the tire casing. **Flammable. Flash point -4° F. Shelf life 1 year.**
[Fast-Dry Cement MSDS](#) (PDF)

(PRC Patches, https://web.archive.org/web/20131109143040/http://www.patchrubber.com/tire_repair/16450.html)

**'027 Claim
Element****Disclosures from Prior Art (REFERENCE)**

Apply the Tire-Track ID Unit just like a repair patch...**No Heat Required!**



Buff the tire surface.



Brush on cement.



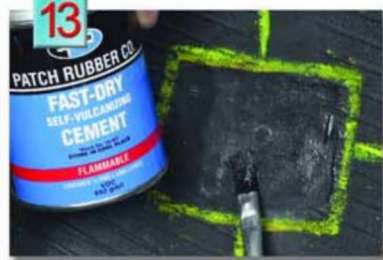
Apply the Tire-Track ID Unit.

(PRC Patches,

https://web.archive.org/web/20090902154005/http://www.patchrubber.com/training/tire_track.pdf)

[1c] wherein the adhesive layer is formed from a material capable of chemically bonding with a surface of a vulcanized rubber article.

PRC Patches disclose, teach, and/or suggest wherein the adhesive layer is formed from a material capable of chemically bonding with a surface of a vulcanized rubber article. For example:



13. Apply an even coat of Patch Rubber Fast-Dry Self-Vulcanizing Cement to the entire buffed area. Allow cement to dry until tacky. Never use blow dryers, compressed air, or heat lamps to facilitate drying. Drying time is affected by temperature and humidity.

13. Aplicar el cemento de secado rápido y vulcanizante marca Patch Rubber a toda el área raspada o pulida. Dejar secar el cemento hasta que pegue. Nunca use secadores de aire, compresor de aire o secar con lámparas calientes para facilitar el secado. El tiempo de secado es afectado por la temperatura y la humedad.



14. When cement is dry, partially remove the poly backing from the patch leaving just enough to hold the patch. Do not touch the back of the patch. With the beads of the tire in the relaxed position, apply the patch to the buffed area making sure the bead arrow points to the bead. Remove the remaining poly from under the patch.

14. Cuando el cemento esté seco, quite parcialmente el respaldo de polietileno del parche dejando sólo lo necesario como para sostener el mismo. No toque la parte posterior del parche. Con los talones de la llanta en posición relajada, coloque el

(PRC Patches,

https://web.archive.org/web/20140207072057/http://www.patchrubber.com/training/pass_puncture.pdf.)

**'027 Claim
Element****Disclosures from Prior Art (REFERENCE)****BULLSEYE RADIAL REPAIR UNITS**
• Passenger & Lt. Truck

Used to repair puncture and section injuries in passenger & light truck radial tires. Bullseye Repair Units can be centered over the injury because of special cord reinforcement and ply construction. This special construction reduces the effects of flexing and reduces inventory requirements since they can be used for crown, shoulder and sidewall repairs. Specify Dual Cure or Heat Cure Units to maximize the repair performance. Apply Dual Cure units with [16450 Patch Fast Dry Cement](#) and Heat Cure Units with appropriate cement required for the repair system.

(PRC Patches,
https://web.archive.org/web/20120403202603/http://www.patchrubber.com/tire_repair/12117-pass.html.)

UNIVERSAL PATCH UNITS
• Dual Cure

Seal the innerliner and reinforce the injury to prevent air loss, completing an industry-approved puncture repair. A layer of Dual Cure Bonding Gum provides optimal adhesion and simplifies application. Universally used for puncture injuries in every type of tire: passenger, light truck, truck, bias, radial, tubeless or tube-type. Special compound formulation makes a simplified repair for everything from pinholes to 3/8" punctures. Apply with [16450 Patch Fast Cement](#).

(PRC Patches, https://web.archive.org/web/20120212090846/http://www.patchrubber.com/tire_repair/14208.html)

Dual Cure Repair Units

Dual Cure Repair Units chemically vulcanize at room temperature or when heat and pressure are applied. Dual Cure Repair Units provide many benefits to the tire repairman:

**'027 Claim
Element**

Disclosures from Prior Art (REFERENCE)

(PRC Patches, https://web.archive.org/web/20120425211121/http://www.patchrubber.com/tire_repair/dual_vs_heat.html.)



Patch Rubber Company - Truck Tire Repair Procedures - Two Piece
PatchRubberCompany
730 subscribers
169,312 views Mar 17, 2011
Patch Rubber manufactures a complete line of tire & tube repair materials for any size injury from pinhole repairs in tubes through section repairs in Giant/OTR tires.
http://www.patchrubber.com/tire_repair

“Apply an even coat of Patch Rubber Fast-Dry Self-Vulcanizing Cement to the buffed area...”



Patch Rubber Company - Truck Tire Repair Procedures - Two Piece
PatchRubberCompany
730 subscribers
169,312 views Mar 17, 2011
Patch Rubber manufactures a complete line of tire & tube repair materials for any size injury from pinhole repairs in tubes through section repairs in Giant/OTR tires.
http://www.patchrubber.com/tire_repair

(PRC Patches, <https://www.youtube.com/watch?v=Ot1elhj3OVE>)

'027 Claim
Element

Disclosures from Prior Art (REFERENCE)

FAST-DRY CEMENT



Fast-Dry Self-Vulcanizing Cement eliminates the most common cause of failed repairs - lack of proper drying time. Fast-Dry Cement activates the chemical vulcanization process to bond repair units to the tire casing. **Flammable. Flash point -4° F. Shelf life 1 year.**
[Fast-Dry Cement MSDS](#) (PDF)

(PRC Patches, https://web.archive.org/web/20120215062844/http://www.patchrubber.com:80/tire_repair/16450.html)

Apply the Tire-Track ID Unit just like a repair patch...**No Heat Required!**



Buff the tire surface.



Brush on cement.



Apply the Tire-Track ID Unit.

(PRC Patches, https://web.archive.org/web/20090902154005/http://www.patchrubber.com/training/tire_track.pdf)

5. The assembly as recited in claim 1 wherein the barrier material composition impairs migration of a material constituent within the assembly when

PRC Patches disclose, teach, and/or suggest the assembly as recited in claim 1 wherein the barrier material composition impairs migration of a material constituent within the assembly when the assembly is attached to a vulcanized rubber article. For example:

**'027 Claim
Element**

the assembly is
attached to a
vulcanized
rubber article.

Disclosures from Prior Art (REFERENCE)

13. Apply an even coat of Patch Rubber Fast-Dry Self-Vulcanizing Cement to the entire buffed area. Allow cement to dry until tacky. Never use blow dryers, compressed air, or heat lamps to facilitate drying. Drying time is affected by temperature and humidity.

13. Aplicar el cemento de secado rápido y vulcanizante marca Patch Rubber a toda el área raspada o pulida. Dejar secar el cemento hasta que pegue. Nunca use secadores de aire, compresor de aire o secar con lámparas calientes para facilitar el secado. El tiempo de secado es afectado por la temperatura y la humedad.



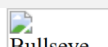
14. When cement is dry, partially remove the poly backing from the patch leaving just enough to hold the patch. Do not touch the back of the patch. With the beads of the tire in the relaxed position, apply the patch to the buffed area making sure the bead arrow points to the bead. Remove the remaining poly from under the patch.

14. Cuando el cemento esté seco, quite parcialmente el respaldo de polietileno del parche dejando sólo lo necesario como para sostener el mismo. No toque la parte posterior del parche. Con los talones de la llanta en posición relajada, coloque el

(PRC Patches,

https://web.archive.org/web/20140207072057/http://www.patchrubber.com/training/pass_puncture.pdf.)

BULLSEYE RADIAL REPAIR UNITS
• Passenger & Lt. Truck



Used to repair puncture and section injuries in passenger & light truck radial tires. Bullseye Repair Units can be centered over the injury because of special cord reinforcement and ply construction. This special construction reduces the effects of flexing and reduces inventory requirements since they can be used for crown, shoulder and sidewall repairs. Specify Dual Cure or Heat Cure Units to maximize the repair performance. Apply Dual Cure units with [16450 Patch Fast Dry Cement](#) and Heat Cure Units with appropriate cement required for the repair system.

(PRC Patches,

https://web.archive.org/web/20120403202603/http://www.patchrubber.com/tire_repair/12117-pass.html.)

**'027 Claim
Element****Disclosures from Prior Art (REFERENCE)****UNIVERSAL PATCH UNITS**
• Dual Cure

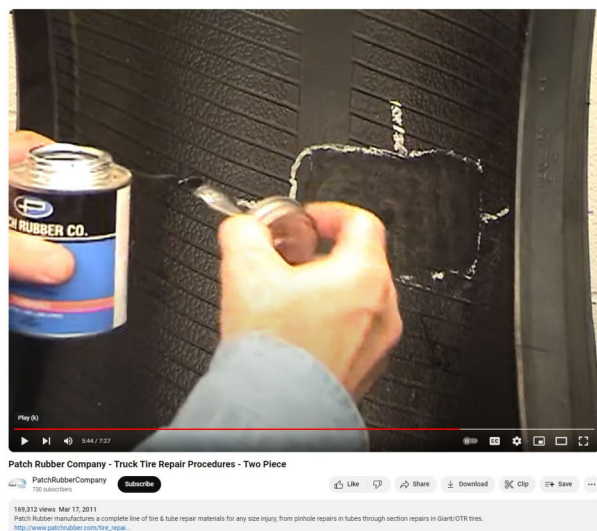
Seal the innerliner and reinforce the injury to prevent air loss, completing an industry-approved puncture repair. A layer of Dual Cure Bonding Gum provides optimal adhesion and simplifies application. Universally used for puncture injuries in every type of tire: passenger, light truck, truck, bias, radial, tubeless or tube-type. Special compound formulation makes a simplified repair for everything from pinholes to 3/8" punctures. Apply with [16450 Patch Fast Cement](#).

(PRC Patches, https://web.archive.org/web/20120212090846/http://www.patchrubber.com/tire_repair/14208.html)

Cushion Gum
(Bonding Gum)

A tacky, rubber compound used for adhesion of tread rubber, under-tread repair, build-up of other repairs, or on the bottom of some repair units. See PRECURED TREAD CUSHION GUM.

(PRC Patches, https://web.archive.org/web/20131115072827/http://www.patchrubber.com/tire_repair/glossary.html)



“Apply an even coat of Patch Rubber Fast-Dry Self-Vulcanizing Cement to the buffed area...”

**'027 Claim
Element****Disclosures from Prior Art (REFERENCE)**

Patch Rubber Company - Truck Tire Repair Procedures - Two Piece
Patch Rubber Company
730 subscribers
169,312 views Mar 17, 2011
Patch Rubber manufactures a complete line of tire & tube repair materials for any size injury, from pinhole repairs in tubes through section repairs in Guard-OTR tires.
http://www.patchrubber.com/tire_repa...

(PRC Patches, <https://www.youtube.com/watch?v=Ot1elhj3OVE>)

**CVL-ID UNIT:**

The **CVL-ID UNIT** is specifically designed for tires and is constructed similar to a repair patch. It is vulcanized to the tire "just like a patch" with cold-cure vulcanizing cement, or can be installed during the retread process. The **CVL-ID UNIT** is intended for those fleets that retread their tires.

The **TIRE-TRACK ID UNIT™** is a **multi-layered** black & white rubber label specifically designed for tires & other harsh environments. The bar code and other information is engraved through the white rubber to expose the contrasting black rubber; so there's no "paint" or ink to rub-off. In addition, it resists UV light and won't "brown-out" like other bar code labels.

(PRC Patches, https://web.archive.org/web/20110304053609/http://www.tire-track.com/PDFs/Tire-Track_Brochure.pdf)

'027 Claim Element	Disclosures from Prior Art (REFERENCE)
	 The barcode is cut deeply into the rubber for permanent identification, so it cannot wear off. Apply the Tire-Track ID Unit just like a repair patch...No Heat Required!  Buff the tire surface. Brush on cement. Apply the Tire-Track ID Unit. (PRC Patches, https://web.archive.org/web/20090902154005/http://www.patchrubber.com/training/tire_track.pdf) 2) What is the difference between the Tire-Track ID Unit and a silk-screened or ink printed label? Silk-screened or ink printed tire identification labels have been available for some time. They are similar in that both products place "paint" or ink on the surface of the rubber. Although their initial appearance is very good, they can be easily damaged. <u>Therefore, silk-screened or ink printed identification labels do not perform well and do not last in harsh environments.</u> The Tire-Track ID Unit was co-developed by The Patch Rubber Company and Tracking Systems LLC. It is a multi-layer rubber "patch" specifically constructed to have a bar code cut into the rubber itself; therefore, there is no paint or ink to rub off. It resists UV light, which causes other white patches to turn brown. This "Brown-out" effect prevents a scanner from decoding a bar code. <u>The Tire-Track ID Unit is specifically designed for harsh environments.</u> (PRC Patches, https://web.archive.org/web/20140323095328/http://www.patchrubber.com/tire_repair/tire_track_faq.html#Does%20the%20Tire-Track%20I.D.%20Unit%20survive%20the%20retreading%20process)
7. The assembly as recited in claim 1 further comprising a	<i>PRC Patches disclose, teach, and/or suggest the assembly as recited in claim 1 further comprising a cavity disposed therein. For example:</i>

**'027 Claim
Element**

cavity disposed
therein.

Disclosures from Prior Art (REFERENCE)

The **TIRE-TRACK ID UNIT**™ is a **multi-layered** black & white rubber label specifically designed for tires & other harsh environments. The bar code and other information is engraved through the white rubber to expose the contrasting black rubber; so there's no "paint" or ink to rub-off. In addition, it resists UV light and won't "brown-out" like other bar code labels.

(PRC Patches, https://web.archive.org/web/20110304053609/http://www.tire-track.com/PDFs/Tire-Track_Brochure.pdf)



The barcode is cut deeply into the rubber for permanent identification, so it cannot wear off.

Apply the Tire-Track ID Unit just like a repair patch...**No Heat Required!**



Buff the tire surface.



Brush on cement.



Apply the Tire-Track ID Unit.

(PRC Patches, https://web.archive.org/web/20090902154005/http://www.patchrubber.com/training/tire_track.pdf)

'027 Claim Element	Disclosures from Prior Art (REFERENCE)
	2) What is the difference between the Tire-Track ID Unit and a silk-screened or ink printed label? Silk-screened or ink printed tire identification labels have been available for some time. They are similar in that both products place "paint" or ink on the surface of the rubber. Although their initial appearance is very good, they can be easily damaged. <u>Therefore, silk-screened or ink printed identification labels do not perform well and do not last in harsh environments.</u> The Tire-Track ID Unit was co-developed by The Patch Rubber Company and Tracking Systems LLC. It is a multi-layer rubber "patch" specifically constructed to have a bar code cut into the rubber itself; therefore, there is no paint or ink to rub off. It resists UV light, which causes other white patches to turn brown. This "Brown-out" effect prevents a scanner from decoding a bar code. <u>The Tire-Track ID Unit is specifically designed for harsh environments.</u> (PRC Patches, https://web.archive.org/web/20140323095328/http://www.patchrubber.com/tire_repair/tire_track_faq.html#Does%20the%20Tire-Track%20I.D.%20Unit%20survive%20the%20retreading%20process)
8. The assembly as recited in claim 7 further comprising an element disposed within the cavity.	<i>PRC Patches disclose, teach, and/or suggest the assembly as recited in claim 7 further comprising an element disposed within the cavity. For example:</i> CVL-ID UNIT: The CVL-ID UNIT is specifically designed for tires and is constructed similar to a repair patch. It is vulcanized to the tire "just like a patch" with cold-cure vulcanizing cement, or can be installed during the retread process. <u>The CVL-ID UNIT is intended for those fleets that retread their tires.</u> The TIRE-TRACK ID UNIT™ is a multi-layered black & white rubber label specifically designed for tires & other harsh environments. <u>The bar code and other information is engraved through the white rubber to expose the contrasting black rubber; so there's no "paint" or ink to rub-off. In addition, it resists UV light and won't "brown-out" like other bar code labels.</u> (PRC Patches, https://web.archive.org/web/20110304053609/http://www.tire-track.com/PDFs/Tire-Track_Brochure.pdf)

**'027 Claim
Element****Disclosures from Prior Art (REFERENCE)**

The barcode is cut deeply into the rubber for permanent identification, so it cannot wear off.

Apply the Tire-Track ID Unit just like a repair patch...**No Heat Required!**



Buff the tire surface.



Brush on cement.



Apply the Tire-Track ID Unit.

(PRC Patches,

https://web.archive.org/web/20090902154005/http://www.patchrubber.com/training/tire_track.pdf)

2) What is the difference between the Tire-Track ID Unit and a silk-screened or ink printed label?

Silk-screened or ink printed tire identification labels have been available for some time. They are similar in that both products place "paint" or ink on the surface of the rubber. Although their initial appearance is very good, they can be easily damaged. Therefore, silk-screened or ink printed identification labels do not perform well and do not last in harsh environments. The Tire-Track ID Unit was co-developed by The Patch Rubber Company and Tracking Systems LLC. It is a multi-layer rubber "patch" specifically constructed to have a bar code cut into the rubber itself; therefore, there is no paint or ink to rub off. It resists UV light, which causes other white patches to turn brown. This "Brown-out" effect prevents a scanner from decoding a bar code. The Tire-Track ID Unit is specifically designed for harsh environments.

(PRC Patches,

https://web.archive.org/web/20140323095328/http://www.patchrubber.com/tire_repair/tire_track_faq.html#Does%20the%20Tire-Track%20I.D.%20Unit%20survive%20the%20retreading%20process)

9. The assembly as recited in claim 7 wherein the cavity is

PRC Patches disclose, teach, and/or suggest the assembly as recited in claim 7 wherein the cavity is disposed beneath the outer layer. For example:

EXHIBIT C

**Invalidity Claim Chart Against U.S. Patent No. 11,835,421 (“’421 Patent”)
Based on U.S. Publication No. 2021/0370727 (“Yamaguchi-727”)**

U.S. Publication No. 2021/0370727 (“Yamaguchi-727”) claims priority to PCT/JP2018/028506, which was filed on July 19, 2019 and further claims priority to Foreign Application No. JP2018-186736, which was filed on October 1, 2018. Yamaguchi-727 qualifies as prior art under 35 U.S.C. § 102. Yamaguchi-727 anticipates and/or renders obvious the Asserted Claims of the ’421 Patent (at least as Revvo understands Plaintiff’s application of the Asserted Claims in an effort to show infringement).

To the extent Plaintiff argues that any element below is not disclosed by Yamaguchi-727, a person of ordinary skill in the art would have found it obvious to combine the teachings of Yamaguchi-727 with the background knowledge of a person of ordinary skill in the art and/or the additional references and exemplary teachings set forth in the chart below, to arrive at the claim limitation with a reasonable expectation of success. The chart below provides representative examples of where each element of each claim is found within Yamaguchi-727. Citations are meant to be exemplary, not exhaustive, and Revvo reserves the right to identify and discuss additional portions of the reference in support of its contentions and/or to rebut arguments made by Plaintiff. Citations to figures, drawings, tables, and the link include reference to any accompanying or related text. All internal cross-references are meant to incorporate the cross-referenced material as if fully set forth therein.

It is Revvo’s position that Plaintiff’s October 30, 2024 Infringement Contentions have not established that any accused product or service infringes any valid claim. Thus, Revvo’s statements below should not be treated as an admission, implication, or suggestion that Revvo agrees with Plaintiff regarding either the scope, construction, or interpretation of any of the Asserted Claims or the infringement theories advanced by Plaintiff in its Infringement Contentions, including whether any Asserted Claim satisfies 35 U.S.C. §§ 101 or 112. In certain cases, Revvo has specified non-limiting examples of where its application of the prior art is based on Plaintiff’s apparent application of the claim element. These statements are not intended to suggest that Revvo agrees with Plaintiff’s application of any claim element, suggest a proposed construction at this stage of the case, or suggest that construction is needed, as the parties are not required to exchange terms for construction or propose claim constructions until a later date.

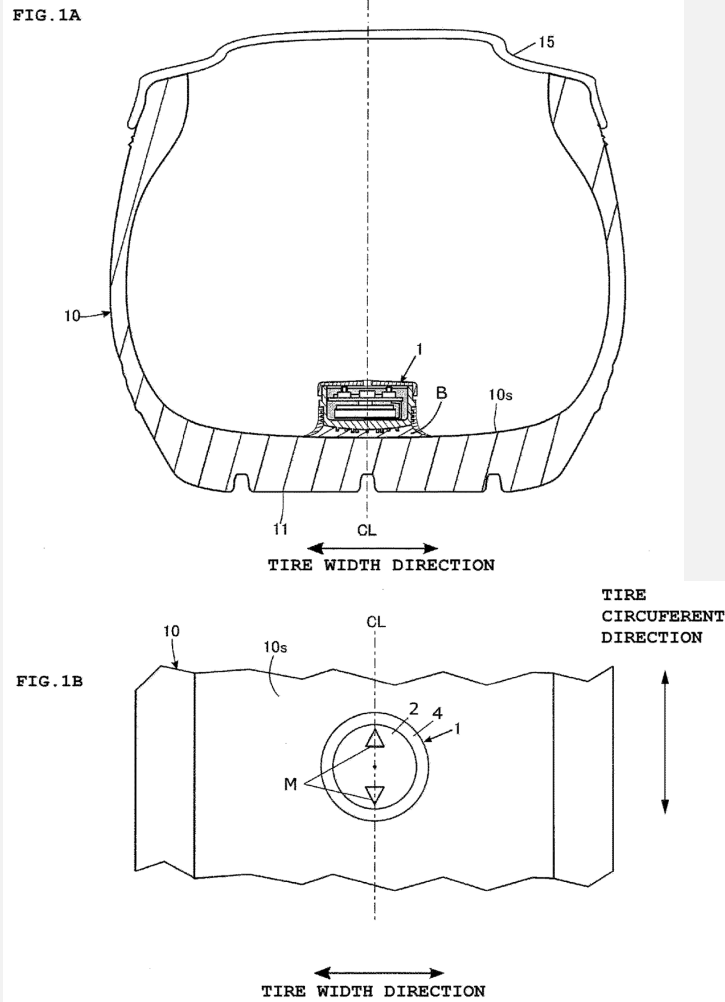
Plaintiff has yet to identify any limitation of the Asserted Claims that it contends is not anticipated and/or rendered obvious by Yamaguchi-727. Revvo therefore expressly reserves the right to respond to any such contention, including by identifying additional obviousness combinations, if Plaintiff makes any such contention.

Where Revvo states that Yamaguchi-727 “discloses” a limitation, that disclosure may be express, implicit, and/or inherent.

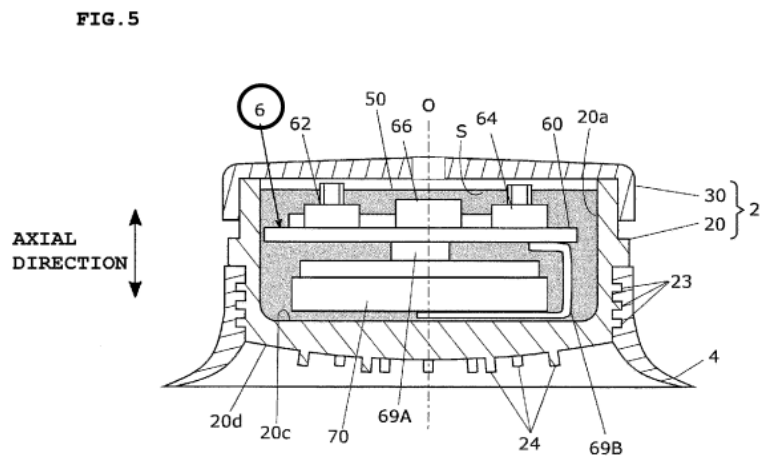
'421 Claim Element	Disclosures from Prior Art (Yamaguchi-727)
1[pre]. A sensor assembly configured for attachment with an object that is rotated in use, the sensor assembly comprising:	<i>To the extent that the preamble is limiting, Yamaguchi-727 discloses, teaches, and/or suggests a sensor assembly configured for attachment with an object that is rotated in use, the sensor assembly comprising. For example:</i> [ABSTRACT] A functional component in which an electronic component capable of acquiring information inside a tire is housed and which is attachable to an inner peripheral surface of the tire, the functional component including a housing having a housing part for the electronic component and a bottom surface facing the inner peripheral surface of the tire, and a tubular part extending from a peripheral edge of the bottom surface toward the inner peripheral surface. [0025] FIGS. 1A and 1B are diagrams illustrating an attachment state of a functional component 1 attached to a tire 10. As illustrated in FIG. 1A, the tire 10 is assembled to a wheel rim 15, and an inner space of the tire 10 is filled with gas such as air. [0026] As illustrated in FIGS. 1A and 1B, the functional component 1 is fixed by an adhesive agent B to an inner surface (inner peripheral surface 10 s) of the tire 10 and is disposed in the center in a width direction of the inner peripheral surface 10 s that is a back side of a tread 11, which contacts with a road surface, of the tire 10. [0027] The functional component 1 has a housing (housing part) 2, a skirt (tubular part) 4 and a module 6. Incidentally, the type of the tire 10 to which the functional component 1 is to be attached is not particularly limited, but the functional component 1 is attached mainly to tires of automobiles traveling on ordinary paved roads (general roads and highways) such as passenger cars, trucks and buses, and of aircraft, and the like.

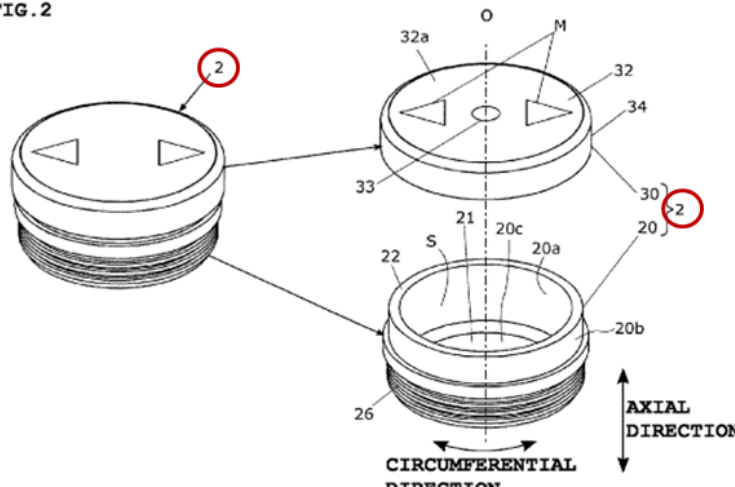
'421 Claim Element

Disclosures from Prior Art (Yamaguchi-727)



[0040] FIG. 5 is a cross-sectional view of the functional component 1 with the module 6 housed in the housing case 20. As illustrated in FIG. 5, the module 6 is configured to be able to be housed in the housing space S of the above-mentioned housing case 20. The module 6 is provided with a circuit board 60 having electronic components mounted thereon and a battery 70. The circuit board 60 includes the electronic components which are, for example, a plurality of sensors such as a temperature sensor 62, a pressure sensor 64 and an acceleration sensor 66 and the like, each of which functions as a state acquiring means that acquires a state inside the tire, a transmitting means, which is not shown in the figure, for outputting detected values detected by each of the sensors 62, 64 and 66 to the outside of the tire, a control means that controls operations of the plurality of sensors 62, 64 and 66 and of the transmitting means, and a memory means that stores histories of the detected values detected by each of the sensors 62, 64 and 66; and metal terminals 69A and 69B for supplying power

'421 Claim Element	Disclosures from Prior Art (Yamaguchi-727)
	from the battery 70 to these components. Incidentally, the configuration of the circuit board 60 is not limited thereto. FIG. 5  See also following limitations.
[1a] a housing comprising an outer surface and an internal cavity that is enclosed within the housing;	<i>Yamaguchi-727 discloses, teaches, and/or suggests a housing comprising an outer surface and an internal cavity that is enclosed within the housing. For example:</i> [0028] FIG. 2 is a perspective view of the housing 2. FIGS. 3A to 3C are plan views and a partial cross-sectional view of a housing case 20 of the housing 2. As illustrated in FIG. 2, the housing 2 includes the housing case 20 having a housing space S (housing part) for a module 6, and a cap 30 functioning as a lid member for the housing case 20, and is formed in a generally disk shape by combining the housing case 20 and the cap 30 together. For the housing case 20 and the cap 30, synthetic resin or the like is employed, for example, from the viewpoint of weight reduction and the strength of the functional component 1. [0029] As illustrated in FIG. 2, the housing case 20 is formed, in a bottomed cylindrical shape with an opening on one side, by a circular bottom part 21 and a peripheral wall part 22 extending along the outer periphery from the outer peripheral edge of the bottom part 21 and rising annularly from the bottom part 21. In the housing case 20, a housing space S that can house the module 6 is formed by an inner bottom surface 20 c of the bottom part 21 and an inner peripheral surface 20 a of the peripheral wall part 22. In the following description, terms such as an axial direction, a circumferential direction and a radial direction will be used with an axis O of the peripheral wall part 22 as a reference.

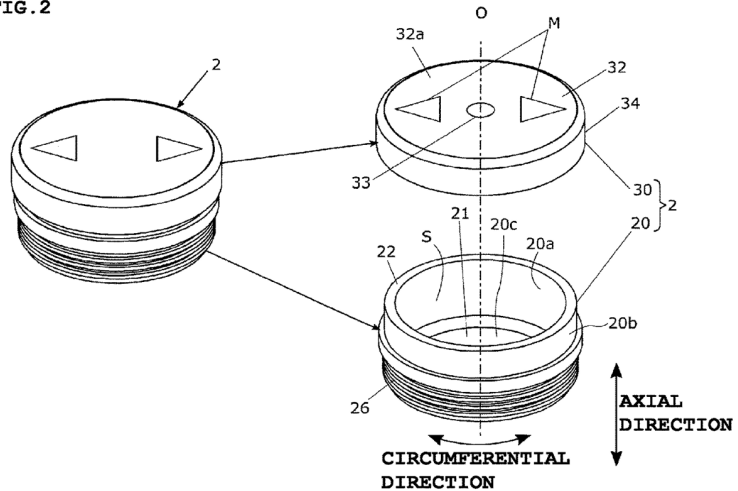
'421 Claim Element	Disclosures from Prior Art (Yamaguchi-727)
	FIG. 2  [0034] As illustrated in FIG. 2, a cap 30 has a circular ceiling part 32 and a peripheral wall part 34 extending along an outer peripheral edge of the ceiling part 32. On an outer side surface 32 a of the ceiling part 32, attachment marks M are formed to indicate a direction for attaching the functional component 1 to the tire 10. The attachment marks M are indicated, for example, by engraving or printing. As illustrated in FIG. 1B, the attachment marks M show that the functional component 1 is to be attached on the inner peripheral surface 10 s of the tire 10 in such a manner that the arrows are oriented in the tire circumferential direction. The direction indicated by the attachment marks M may be set appropriately in accordance with a detection direction of the module 6. Furthermore, a hole 33 penetrating in the axis O direction is formed in the ceiling part 32. The hole 33 allows for communication between the housing space S of the housing case 20 and the outside when the opening of the housing case 20 is closed by the cap 30. The peripheral wall part 34 has an inner diameter capable of enclosing the outer periphery of the outer peripheral surface 20 b of the peripheral wall part 22. The cap 30 configured as described above is integrated with the housing case 20 by a fitting and fixing means or the like, which is not shown in the figure, in a state in which the attachment marks M provided on the outer side surface 32 a are oriented in a predetermined direction with respect to the housing case 20.
[1b] an electrical sensor device that is disposed within the internal cavity and attached therein to prevent	<i>Yamaguchi-727 discloses, teaches, and/or suggests an electrical sensor device that is disposed within the internal cavity and attached therein to prevent movement of the device within the internal cavity. For example:</i>

'421 Claim Element	Disclosures from Prior Art (Yamaguchi-727)
movement of the device within the internal cavity,	[0029] As illustrated in FIG. 2, the housing case 20 is formed, in a bottomed cylindrical shape with an opening on one side, by a circular bottom part 21 and a peripheral wall part 22 extending along the outer periphery from the outer peripheral edge of the bottom part 21 and rising annularly from the bottom part 21. In the housing case 20, a housing space S that can house the module 6 is formed by an inner bottom surface 20 c of the bottom part 21 and an inner peripheral surface 20 a of the peripheral wall part 22. In the following description, terms such as an axial direction, a circumferential direction and a radial direction will be used with an axis O of the peripheral wall part 22 as a reference. [0031] On the inner bottom surface 20 c of the bottom part 21, a support means such as a protrusion, which is not shown in the figure, is formed for preventing the module 6 from directly contacting the inner bottom surface 20 c. As illustrated in FIG. 3B, an outer bottom surface 20 d of the bottom part 21 is formed in a convexed shape where a central part of the outer bottom surface 20 d is convexed outwardly in the axial direction than the outer peripheral edge side of the outer bottom surface 20 d. The outer bottom surface 20 d is a surface that faces the inner peripheral surface 10 s of the tire 10 when attached on the inner peripheral surface 10 s of the tire 10. In more detail, the outer bottom surface 20 d is formed in a spherical shape having a predetermined radius of curvature and of which center of curvature is set on the axis O. Incidentally, the bulging shape of the outer bottom surface 20 d is not limited to the spherical shape. For example, it may be a polygonal pyramid shape such as a cone or a square pyramid with the position of the apex being set on the axis O, or any other curved shape such as a frustum formed by a part of an elliptic sphere. The outer bottom surface 20 d does not need to be bulged out over its entirety, but may be partially bulged out in a curved shape as described above. For example, in a case where the tire outer diameter is large, the outer bottom surface 20 d may be formed in a flat shape.

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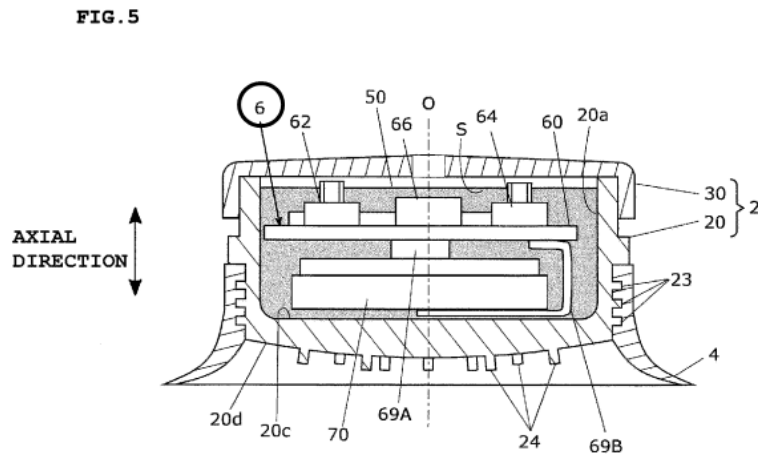
FIG. 2



[0040] FIG. 5 is a cross-sectional view of the functional component 1 with the module 6 housed in the housing case 20. As illustrated in FIG. 5, the module 6 is configured to be able to be housed in the housing space S of the above-mentioned housing case 20. The module 6 is provided with a circuit board 60 having electronic components mounted thereon and a battery 70. The circuit board 60 includes the electronic components which are, for example, a plurality of sensors such as a temperature sensor 62, a pressure sensor 64 and an acceleration sensor 66 and the like, each of which functions as a state acquiring means that acquires a state inside the tire, a transmitting means, which is not shown in the figure, for outputting detected values detected by each of the sensors 62, 64 and 66 to the outside of the tire, a control means that controls operations of the plurality of sensors 62, 64 and 66 and of the transmitting means, and a memory means that stores histories of the detected values detected by each of the sensors 62, 64 and 66; and metal terminals 69A and 69B for supplying power from the battery 70 to these components. Incidentally, the configuration of the circuit board 60 is not limited thereto.

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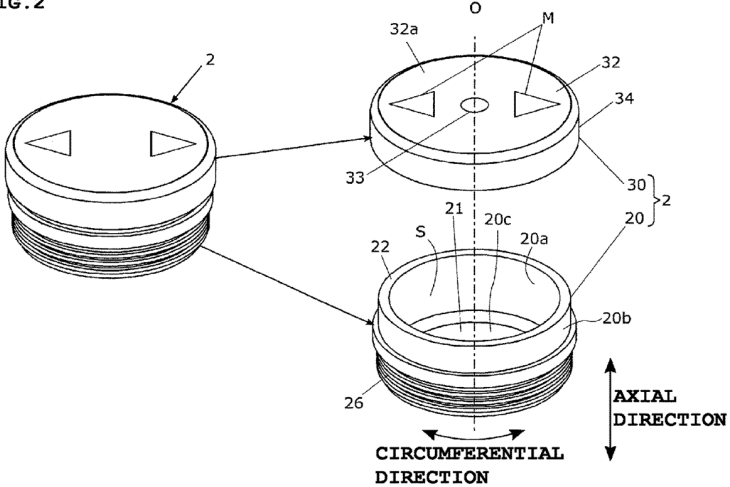


[0042] The circuit board 60 and the housing case 20 are provided with a positioning means, which is not shown in the figure, that are mutually fitted with each other. Whereby, a measurement direction of the acceleration sensor 66 relative to the housing case 20 is defined.

[0047] The module 6 configured as mentioned above is housed in the housing case 20 in the state that the battery 70 is connected to the circuit board 60, and positioned so that the battery 70 faces the inner bottom surface 20c of the housing space S, and the measurement direction of the acceleration sensor 66 mounted on the circuit board 60 faces the predetermined direction relative to the housing case 20.

[0048] As illustrated in FIG. 5, the housing space S is filled with a potting material 50 so as to eliminate a gap between the module 6 and the inner bottom surface 20c and the inner peripheral surface 20a forming the housing space S. Whereby, the entire module 6 is covered with the potting material 50. Incidentally, even in the state of being filled with the potting material 50, the communication between respective measurement parts of the temperature sensor 62 and the pressure sensor 64 and the tire air chamber is maintained. As a material of the potting material 50, urethane-silicone resin or epoxy resin is preferable. By employing such a material to the potting material 50, the potting material 50 can maintain sufficient resistance to forces received from the battery 70 and the circuit board 60 even when the tire 10 is rotating, especially when the tire 10 is rotating at a high speed.

'421 Claim Element	Disclosures from Prior Art (Yamaguchi-727)
[1c] wherein the internal cavity comprises an unfilled open space above or below the electrical sensor device in the housing,	<i>Yamaguchi-727 discloses, teaches, and/or suggests wherein the internal cavity comprises an unfilled open space above or below the electrical sensor device in the housing. For example:</i> [0029] As illustrated in FIG. 2, the housing case 20 is formed, in a bottomed cylindrical shape with an opening on one side, by a circular bottom part 21 and a peripheral wall part 22 extending along the outer periphery from the outer peripheral edge of the bottom part 21 and rising annularly from the bottom part 21. In the housing case 20, a housing space S that can house the module 6 is formed by an inner bottom surface 20 c of the bottom part 21 and an inner peripheral surface 20 a of the peripheral wall part 22. In the following description, terms such as an axial direction, a circumferential direction and a radial direction will be used with an axis O of the peripheral wall part 22 as a reference. [0031] On the inner bottom surface 20 c of the bottom part 21, a support means such as a protrusion, which is not shown in the figure, is formed for preventing the module 6 from directly contacting the inner bottom surface 20 c. As illustrated in FIG. 3B, an outer bottom surface 20 d of the bottom part 21 is formed in a convexed shape where a central part of the outer bottom surface 20 d is convexed outwardly in the axial direction than the outer peripheral edge side of the outer bottom surface 20 d. The outer bottom surface 20 d is a surface that faces the inner peripheral surface 10 s of the tire 10 when attached on the inner peripheral surface 10 s of the tire 10. In more detail, the outer bottom surface 20 d is formed in a spherical shape having a predetermined radius of curvature and of which center of curvature is set on the axis O. Incidentally, the bulging shape of the outer bottom surface 20 d is not limited to the spherical shape. For example, it may be a polygonal pyramid shape such as a cone or a square pyramid with the position of the apex being set on the axis O, or any other curved shape such as a frustum formed by a part of an elliptic sphere. The outer bottom surface 20 d does not need to be bulged out over its entirety, but may be partially bulged out in a curved shape as described above. For example, in a case where the tire outer diameter is large, the outer bottom surface 20 d may be formed in a flat shape. [0034] As illustrated in FIG. 2, a cap 30 has a circular ceiling part 32 and a peripheral wall part 34 extending along an outer peripheral edge of the ceiling part 32. On an outer side surface 32 a of the ceiling part 32, attachment marks M are formed to indicate a direction for attaching the functional component 1 to the tire 10.

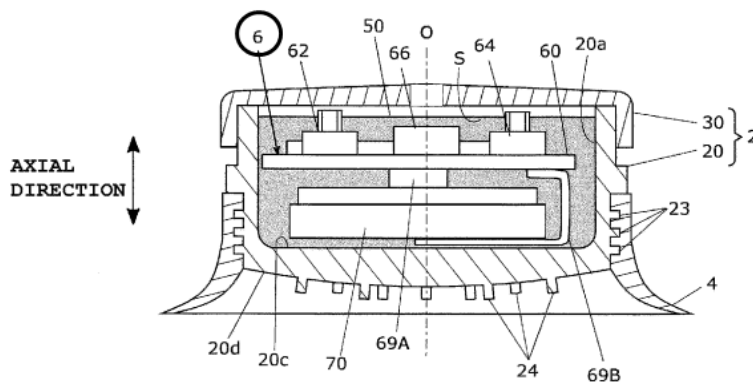
'421 Claim Element	Disclosures from Prior Art (Yamaguchi-727)
	The attachment marks M are indicated, for example, by engraving or printing. As illustrated in FIG. 1B, the attachment marks M show that the functional component 1 is to be attached on the inner peripheral surface 10 s of the tire 10 in such a manner that the arrows are oriented in the tire circumferential direction. The direction indicated by the attachment marks M may be set appropriately in accordance with a detection direction of the module 6. Furthermore, a hole 33 penetrating in the axis O direction is formed in the ceiling part 32. The hole 33 allows for communication between the housing space S of the housing case 20 and the outside when the opening of the housing case 20 is closed by the cap 30. The peripheral wall part 34 has an inner diameter capable of enclosing the outer periphery of the outer peripheral surface 20 b of the peripheral wall part 22. The cap 30 configured as described above is integrated with the housing case 20 by a fitting and fixing means or the like, which is not shown in the figure, in a state in which the attachment marks M provided on the outer side surface 32 a are oriented in a predetermined direction with respect to the housing case 20. FIG. 2  [0040] FIG. 5 is a cross-sectional view of the functional component 1 with the module 6 housed in the housing case 20. As illustrated in FIG. 5, the module 6 is configured to be able to be housed in the housing space S of the above-mentioned housing case 20. The module 6 is provided with a circuit board 60 having electronic components mounted thereon and a battery 70. The circuit board 60 includes the electronic components which are, for example, a plurality of sensors such as a temperature sensor 62, a pressure sensor 64 and an acceleration sensor 66 and the like, each

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of which functions as a state acquiring means that acquires a state inside the tire, a transmitting means, which is not shown in the figure, for outputting detected values detected by each of the sensors 62, 64 and 66 to the outside of the tire, a control means that controls operations of the plurality of sensors 62, 64 and 66 and of the transmitting means, and a memory means that stores histories of the detected values detected by each of the sensors 62, 64 and 66; and metal terminals 69A and 69B for supplying power from the battery 70 to these components. Incidentally, the configuration of the circuit board 60 is not limited thereto.

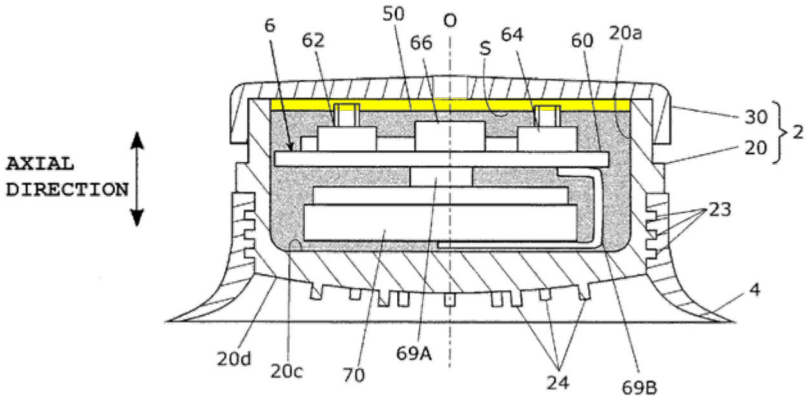
FIG. 5



[0042] The circuit board 60 and the housing case 20 are provided with a positioning means, which is not shown in the figure, that are mutually fitted with each other. Whereby, a measurement direction of the acceleration sensor 66 relative to the housing case 20 is defined.

[0043] The temperature sensor 62 and the pressure sensor 64 measure, as respective measuring parts thereof are brought in communication with a tire air chamber via the hole 33 formed in the cap 30, a temperature and a pressure in the tire air chamber, respectively.

[0048] As illustrated in FIG. 5, the housing space S is filled with a potting material 50 so as to eliminate a gap between the module 6 and the inner bottom surface 20c and the inner peripheral surface 20a forming the housing space S. Whereby, the entire module 6 is covered with the potting material 50. Incidentally, even in the state of being filled with the potting material 50, the communication between respective measurement parts of the temperature sensor 62 and the pressure sensor 64 and the tire air chamber is maintained. As a material of the potting material 50, urethane-silicone resin or

'421 Claim Element	Disclosures from Prior Art (Yamaguchi-727)
	epoxy resin is preferable. By employing such a material to the potting material 50, the potting material 50 can maintain sufficient resistance to forces received from the battery 70 and the circuit board 60 even when the tire 10 is rotating, especially when the tire 10 is rotating at a high speed. FIG. 5 
[1d] wherein the electrical sensor device is configured to sense, transmit and/or receive information regarding surrounding conditions, orientation and/or location when the sensor assembly is attached with the object and the object is rotated in use; and	<i>Yamaguchi-727 discloses, teaches, and/or suggests wherein the electrical sensor device is configured to sense, transmit and/or receive information regarding surrounding conditions, orientation and/or location when the sensor assembly is attached with the object and the object is rotated in use. For example:</i> [0040] FIG. 5 is a cross-sectional view of the functional component 1 with the module 6 housed in the housing case 20. As illustrated in FIG. 5, the module 6 is configured to be able to be housed in the housing space S of the above-mentioned housing case 20. The module 6 is provided with a circuit board 60 having electronic components mounted thereon and a battery 70. The circuit board 60 includes the electronic components which are, for example, a plurality of sensors such as a temperature sensor 62, a pressure sensor 64 and an acceleration sensor 66 and the like, each of which functions as a state acquiring means that acquires a state inside the tire, a transmitting means, which is not shown in the figure, for outputting detected values detected by each of the sensors 62, 64 and 66 to the outside of the tire, a control means that controls operations of the plurality of sensors 62, 64 and 66 and of the transmitting means, and a memory means that stores histories of the detected values detected by each of the sensors 62, 64 and 66; and metal terminals 69A and 69B for supplying power

'421 Claim Element	Disclosures from Prior Art (Yamaguchi-727)
	from the battery 70 to these components. Incidentally, the configuration of the circuit board 60 is not limited thereto.
[1e] a retaining member that is configured to accommodate attachment of the housing therewith, wherein the retaining member has an outside surface configured for attachment to rotate with the object when the object is rotated in use.	<i>Yamaguchi-727 discloses, teaches, and/or suggests a retaining member that is configured to accommodate attachment of the housing therewith, wherein the retaining member has an outside surface configured for attachment to rotate with the object when the object is rotated in use.. For example:</i> [0027] The functional component 1 has a housing (housing part) 2, a skirt (tubular part) 4 and a module 6. Incidentally, the type of the tire 10 to which the functional component 1 is to be attached is not particularly limited, but the functional component 1 is attached mainly to tires of automobiles traveling on ordinary paved roads (general roads and highways) such as passenger cars, trucks and buses, and of aircraft, and the like. [0030] As illustrated in FIGS. 3A to 3C, a skirt attachment part 26, to which a skirt 4 described later can be attached, is formed on an outer peripheral surface 20 b of the peripheral wall part 22. The skirt attachment part 26 is configured by a plurality of annular convex parts 23 formed on a lower half of the peripheral wall part 22. The annular convex part 23 is an annular member extending over the circumferential direction of the outer peripheral surface 20 b, and is provided in plural numbers (three in the present embodiment) at a predetermined interval in the axial direction. Incidentally, the annular convex parts 23 may be configured to extend intermittently in the circumferential direction without extending over the entire circumference. [0035] FIGS. 4A to 4C are perspective views and a cross-sectional view of the skirt 4 including the axis O. As illustrated in FIG. 1A, the skirt 4 is attached to the above-described skirt attachment part 26 formed in the housing case 20, and extends from the outer bottom surface 20 d of the housing 2 toward the inner peripheral surface 10 s side of the tire 10. In other words, the skirt 4 extends in a direction away from the outer bottom surface 20 d of the housing case 2, with the outer bottom surface 20 d of the housing 2 being a base point. [0036] As illustrated in FIGS. 4A to 4C, the skirt 4 has an annular tubular part 40 and an enlarged part 42 extending from the tubular part 40 toward the inner peripheral surface 10 s side. The tubular part 40 is formed in a cylindrical shape enclosing the skirt attachment part 26. Annular recesses 43 extending along

421 Claim Element	Disclosures from Prior Art (Yamaguchi-727)
	the circumferential direction and recessed in the radial direction are formed on an inner peripheral surface 40 <i>a</i> of the tubular part 40. The annular recess 43 is provided in plural numbers (three in the present embodiment), extends over the inner peripheral surface 40 <i>a</i> all the way around, and is formed so as to be able to be mated with the annular convex part 23 provided in the housing case 20. In other words, the annular concave parts 43 are provided at intervals and in quantity corresponding to the annular convex parts 23. [0037] The enlarged part 42 is formed in a fun-like shape that is continuous from the tubular part 40. An inner peripheral surface 42 <i>a</i> of the enlarged part 42 is formed as a curved surface that, in the axial cross section, gradually expands in diameter from the outer peripheral edge of the outer bottom surface 20 <i>d</i> of the housing case 20 toward the inner peripheral surface 10 <i>s</i> side of the tire 10. Furthermore, an outer peripheral surface 42 <i>b</i> is formed, for example, as a curved surface that is smoothly continuous with the outer peripheral surface 40 <i>b</i> of the tubular part 40 and gradually expands in diameter toward the inner peripheral surface 10 <i>s</i> of the tire 10. That is, the enlarged part 42 is formed in a generally trumpet shape that expands in diameter and extends from the outer bottom surface 20 <i>d</i> of the housing case 20 toward the inner peripheral surface 10 <i>s</i> side. [0038] Furthermore, the thicknesses of the inner peripheral surface 42 <i>a</i> and the outer peripheral surface 42 <i>b</i> that form the enlarged part 42 are set in a tapered shape so that the thicknesses gradually become thinner toward end parts of the inner peripheral surface 10<i>S</i> side in the axial direction. The distal end 44A of the inner peripheral surface 42 <i>a</i> and a distal end 44B of the outer peripheral surface 42 <i>b</i> are connected via a flat surface 42 <i>c</i>. In other words, the flat surface 42 <i>c</i> is an annular surface enclosed by the distal end 44A of the inner peripheral surface 42 <i>a</i>, the distal end 44B of the outer peripheral surface 42 <i>b</i> and a plane perpendicular to the axis O. [0039] The skirt 4 is preferably made of an elastic material, for example, such as rubber or elastomer and the like, or a material having flexibility. The type of rubber is not particularly limited, and natural rubber and synthetic rubbers such as dienic rubber or non-dienic rubber are enumerated. Furthermore, when the rubber is used as the material, for example, the skirt 4 is in a state of having been vulcanized and is formed into a stable shape. In other words, the skirt 4 is in a complete state as a single part.

'421 Claim Element	Disclosures from Prior Art (Yamaguchi-727)
	[0052] As illustrated in FIG. 7, in the functional component preparation process, an adhesive agent B is filled so that a concave filling part 100 formed by the outer bottom surface 20 d of the housing 2 and the inner peripheral surface 42 a of the skirt 4 is filled with the adhesive agent B. At this conjuncture, it is preferable that an amount of the adhesive agent B is adjusted to be flush with or past the distal end 44A of the inner peripheral surface 42 a of the skirt 4. [0053] As illustrated in FIG. 8, in the attaching process, the distal end 44A and the distal end 44B, which are the end parts of the skirt 4 filled with the adhesive agent B in the filling part 100, are pressed toward the inner peripheral surface 10 s of the tire 10 with a predetermined force P in a state of being abutted, and then dried by blowing hot air of about 100° by the dryer for a predetermined time, for example. The functional component 1 is thereby bonded to the inner peripheral surface 10 s of the tire 10. When pressing, care should be taken to avoid overflow of the adhesive more than necessary due to too much of the pressing force. If the adhesive agent overflows more than necessary, a bonding height cannot be maintained. [0054] As discussed above, the functional component 1 is configured to be attached in a state that the adhesive agent B is densely filled in the filling space R enclosed by the outer bottom surface 20 d facing the inner peripheral surface 10 s of the tire 10, the inner peripheral surface 42 a of the skirt 4 that expands in diameter and extends in a tubular shape from the peripheral edge of the outer bottom surface 20 d toward the inner peripheral surface 10 s, and the inner peripheral surface 10 s of the tire 10. [0059] As for the thickness of the adhesive agent B after solidification, although it depends on the size of the tire 10, in order to set the thickness of the adhesive agent B to be in between 1 mm and 3 mm at the thinnest point, it is preferable to set a degree of bulging of the outer bottom surface 20 d of the housing 2 and a length in the axis O direction to the distal end 44A of the skirt 4 extending from the peripheral edge of the outer bottom surface 20 d. According to the present embodiment, the thickness of the adhesive agent B can be freely set according to the shape of the filling part 100. However, if the thickness of the adhesive agent B is set too thick, the material cost of the adhesive agent B increases and it becomes a factor of increase in the weight, which

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may also be a factor of unbalance of the tire 10, thus it is preferable to set the thickness within the above-described range.

FIG. 2

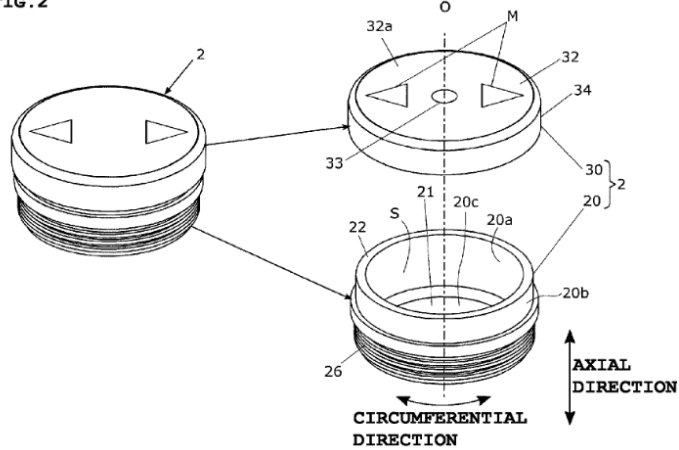


FIG. 4A

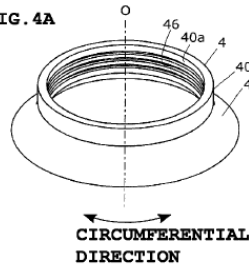


FIG. 4B

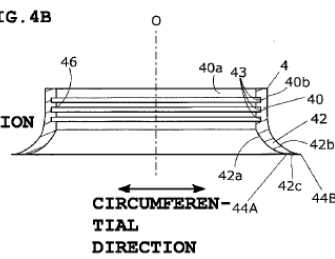


FIG. 4C

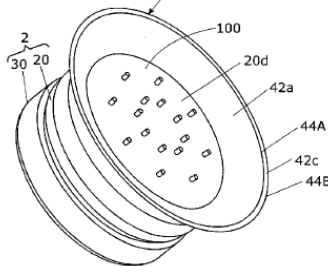
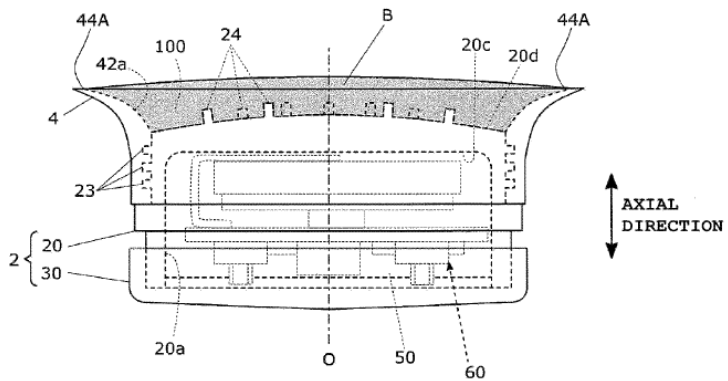


FIG. 7



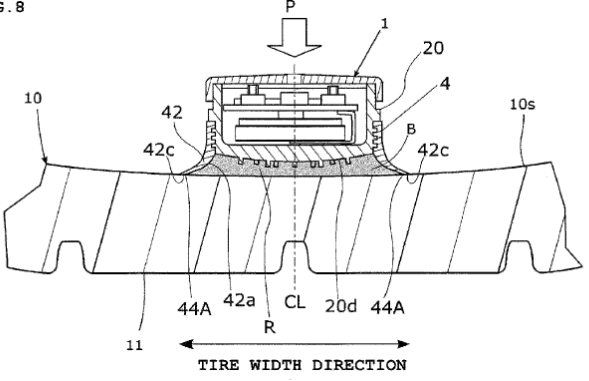
'421 Claim Element	Disclosures from Prior Art (Yamaguchi-727)
	FIG. 8 
2. The sensor assembly as recited in claim 1, wherein the housing outer surface includes one or more display features or indicia that are viewable to a user when the housing is attached with the retaining member.	<i>Yamaguchi-727 discloses, teaches, and/or suggests the sensor assembly as recited in claim 1, wherein the housing outer surface includes one or more display features or indicia that are viewable to a user when the housing is attached with the retaining member assembly. For example:</i> [0034] As illustrated in FIG. 2, a cap 30 has a circular ceiling part 32 and a peripheral wall part 34 extending along an outer peripheral edge of the ceiling part 32. On an outer side surface 32a of the ceiling part 32, attachment marks M are formed to indicate a direction for attaching the functional component 1 to the tire 10. The attachment marks M are indicated, for example, by engraving or printing. As illustrated in FIG. 1B, the attachment marks M show that the functional component 1 is to be attached on the inner peripheral surface 10s of the tire 10 in such a manner that the arrows are oriented in the tire circumferential direction. The direction indicated by the attachment marks M may be set appropriately in accordance with a detection direction of the module 6. Furthermore, a hole 33 penetrating in the axis O direction is formed in the ceiling part 32. The hole 33 allows for communication between the housing space S of the housing case 20 and the outside when the opening of the housing case 20 is closed by the cap 30. The peripheral wall part 34 has an inner diameter capable of enclosing the outer periphery of the outer peripheral surface 20b of the peripheral wall part 22. The cap 30 configured as described above is integrated with the housing case 20 by a fitting and fixing means or the like, which is not shown in the figure, in a state in which the attachment marks M provided on the outer side surface 32a are oriented in a predetermined direction with respect to the housing case 20.

FIG. 2

2

32a

32

34

30

20

20c

20a

20b

26

22

21

5

O

M

33

2

AXIAL DIRECTION

CIRCUMFERENTIAL DIRECTION

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'421 Claim Element	Disclosures from Prior Art (Yamaguchi-727)
	[0028] FIG. 2 is a perspective view of the housing 2. FIGS. 3A to 3C are plan views and a partial cross-sectional view of a housing case 20 of the housing 2. As illustrated in FIG. 2, the housing 2 includes the housing case 20 having a housing space S (housing part) for a module 6, and a cap 30 functioning as a lid member for the housing case 20, and is formed in a generally disk shape by combining the housing case 20 and the cap 30 together. For the housing case 20 and the cap 30, synthetic resin or the like is employed, for example, from the viewpoint of weight reduction and the strength of the functional component 1. [0029] As illustrated in FIG. 2, the housing case 20 is formed, in a bottomed cylindrical shape with an opening on one side, by a circular bottom part 21 and a peripheral wall part 22 extending along the outer periphery from the outer peripheral edge of the bottom part 21 and rising annularly from the bottom part 21. In the housing case 20, a housing space S that can house the module 6 is formed by an inner bottom surface 20 c of the bottom part 21 and an inner peripheral surface 20 a of the peripheral wall part 22. In the following description, terms such as an axial direction, a circumferential direction and a radial direction will be used with an axis O of the peripheral wall part 22 as a reference. [0030] As illustrated in FIGS. 3A to 3C, a skirt attachment part 26, to which a skirt 4 described later can be attached, is formed on an outer peripheral surface 20 b of the peripheral wall part 22. The skirt attachment part 26 is configured by a plurality of annular convex parts 23 formed on a lower half of the peripheral wall part 22. The annular convex part 23 is an annular member extending over the circumferential direction of the outer peripheral surface 20 b, and is provided in plural numbers (three in the present embodiment) at a predetermined interval in the axial direction. Incidentally, the annular convex parts 23 may be configured to extend intermittently in the circumferential direction without extending over the entire circumference. [0035] FIGS. 4A to 4C are perspective views and a cross-sectional view of the skirt 4 including the axis O. As illustrated in FIG. 1A, the skirt 4 is attached to the above-described skirt attachment part 26 formed in the housing case 20, and extends from the outer bottom surface 20 d of the housing 2 toward the inner peripheral surface 10 s side of the tire 10. In other words, the skirt 4 extends in a direction away from the outer bottom surface 20 d of the

EXHIBITS D-E REDACTED IN THEIR ENTIRETY

EXHIBIT F

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

CEREBRUM SENSOR TECHNOLOGIES,
INC. AND TIRE STICKERS LLC,

Plaintiff,

C.A. No. 24-245- JLH-SRF

V.

REVVO TECHNOLOGIES, INC.,

Defendant.

**REVVO TECHNOLOGIES, INC.’S OBJECTIONS AND
RESPONSES TO PLAINTIFFS FOURTH SET OF INTERROGATORIES (NO. 20)**

Pursuant to Rule 33 of the Federal Rules of Civil Procedure, Defendant Revvo Technologies, Inc. (“Revvo”) herby responds as follows to Plaintiffs Cerebrum Sensor Technologies, Inc. (“Cerebrum”) and Tire Stickers LLC (“Tire Stickers”) (collectively, “Plaintiffs” or “Cerebrum”) Fourth Set of Interrogatories (“Interrogatories”) (No. 20).

GENERAL RESPONSES

1. The specific responses set forth below are for the purposes of discovery only and Revvo neither waives nor intends to waive, but expressly reserves, any and all objections it may have to the relevance, competence, materiality, admissibility, or use at trial of any information, documents, or writings produced, identified, or referred to herein, or to the introduction of any evidence at trial relating to the subjects covered by such responses. All such objections may be made at any time up to and including the time of trial.

2. Revvo's response to the Interrogatories is made to the best of Revvo's present knowledge, information, and belief. These responses are at all times subject to such additional or different information that discovery or further investigation may disclose and, while based on the

present state of Revvo's recollection, are subject to such refreshing of recollection, and such additional knowledge of facts, as may result from Revvo's further discovery or investigation. Revvo reserves the right to supplement and amend these responses and, if necessary, to assert additional objections arising from further investigation.

3. Revvo reserves the right to make any use of, or to introduce at any hearing and at trial, information and/or documents responsive to these Interrogatories but discovered subsequent to the date of this response, including, but not limited to, any such information or documents obtained in discovery herein. Revvo's investigation is continuing and ongoing and Revvo expressly reserves the right to revise and/or supplement these responses.

4. The specific responses set forth below are based upon Revvo's interpretation of the language used in the Interrogatories, and Revvo reserves its right to amend or supplement further responses in the event that Cerebrum asserts an interpretation that differs from Revvo's interpretation.

5. Revvo's response to a particular Interrogatory shall not be interpreted as implying that responsive documents and things exist or that Revvo acknowledges the appropriateness of the Interrogatory.

6. Revvo reserves the right to object on any ground to such other or supplemental interrogatories as Cerebrum may at any time propound involving or relating to the subject matter of these Interrogatories.

7. Revvo incorporates these General Responses in full into each of the individual responses set forth below.

GENERAL OBJECTIONS

1. Revvo incorporates its General Objections made in response to Cerebrum's First Set of Interrogatories, dated September 13, 2024, its General Objections made in response to Cerebrum's Second Set of Interrogatories, dated October 16, 2024, its General Objections made in response to Cerebrum's Third Set of Interrogatories, dated October 23, 2024, its General Objections made in response to Cerebrum's First Amended Set of Interrogatories, dated November 20, 2024 , and its General Objections made in response to Cerebrum's Second Set of Requests for Admission, dated October 23, 2024 as it relates to Cerebrum's definition of "Housing" and "Sensor Assembly."

INTERROGATORY NO. 20:

To the extent that You contend that any Accused Product does not meet or practice any element or limitation of any Asserted Claim as alleged in Plaintiffs' operative infringement contentions in this case, identify, separately for any such product, each element of any Asserted Claim that You contend is not met or practiced, specifying the factual basis for the contention, including by identifying any information and Documents that support the same.

RESPONSE TO INTERROGATORY NO. 20:

Revvo hereby incorporates by reference its General Objections as if fully set forth herein. Revvo objects to this Interrogatory to the extent it seeks documents or information protected by the attorney-client privilege, the work-product doctrine, or any other applicable privilege or protection. Revvo further objects to this Interrogatory as premature because the parties have yet to conduct meaningful discovery, claim construction has not been undertaken, and because it calls for premature expert discovery.

Revvo further objects to this interrogatory to the extent it seeks to place the burden on Revvo for non-infringement when Plaintiffs' infringement contentions are deficient and fail to carry Plaintiffs' burden in establishing infringement of any asserted claim. Specifically, Revvo

objects to the extent that Plaintiffs' infringement contentions rely on factual information that has no evidentiary basis. Revvo further objects to the extent that Plaintiffs' infringement contentions are indecipherable and fail to provide adequate notice regarding Plaintiffs' allegations of infringement.

Revvo further objects to this Interrogatory to the extent to which it requires Revvo to engage in premature claim construction and whereby Plaintiffs have not identified any interpretations of disputed claim language. Revvo further objects to this interrogatory to the extent the terms and phrases in the asserted claims are indefinite, lack written description, and/or lack enablement, particularly based on Plaintiffs' inconsistent assertions of such claim language against Revvo's products. Revvo further objects to this interrogatory to the extent that it calls for premature expert testimony.

Subject to and without waiving any of these or its foregoing objections, Revvo provides its response to this interrogatory as follows:

The Accused Products do not infringe any valid asserted claim. Each of the claim elements, terms, and phrases identified in Revvo's Initial Invalidity Contentions, dated November 27, 2024, as being invalid under 35 U.S.C. § 112 are invalid for indefiniteness and/or also cannot be read onto the Accused Products without necessarily resulting in the claims being rendered further indefinite and/or invalid for lack of enablement and lack of written description, in particular as Plaintiffs' infringement contentions are inconsistent with and derogate from the recited language of the Asserted Claims. Revvo does not infringe any of the claim elements, terms, and phrases identified in Revvo's Initial Invalidity Contentions, dated November 27, 2024, or any future amendments and/or supplementations thereto as being invalid under 35 U.S.C. § 112. Additionally, to the extent that Plaintiffs contend that the prior art cited in Revvo's Initial Invalidity

Contentions or any future amendments and/or supplementations thereto do not satisfy any of the terms, limitations, or elements of the Asserted Claims then Revvo's Accused Products would likewise not be satisfied by any such terms, limitations, or elements.

Regarding the '741 patent, the Accused Revvo Products do not satisfy and Plaintiffs have not carried their burden for demonstrating infringement of at least the following claim elements:

- “(a) display assembly”
- “a vulcanized rubber article”
- “display assembly for attachment with a vulcanized rubber article (comprising)”
- “display layer(s)”
- “one or more display layers”
- “display indicia”
- “one or more display layers of elastomeric material configured to provide a display indicia”
- “(an) intermediate layer”
- “an intermediate layer formed from an elastomeric material that is different from that of the one or more display layers”
- “(wherein) the intermediate layer is in direct contact with at least of the one or more display layers”
- “vulcanized together before attachment with the vulcanized rubber article”
- “(wherein) the one or more display layers and the intermediate layer are vulcanized together before attachment with the vulcanized rubber article”
- “(an) adhesive layer”
- “an adhesive layer in direct contact with an underside surface of the intermediate layer opposite the one or more display layers”
- “the adhesive layer is formed from a material capable forming a chemical bond with a surface of the vulcanized rubber article”
- “(wherein) the adhesive layer is formed from a material capable forming a chemical bond with a surface of the vulcanized rubber article at ambient temperature conditions”

- “(wherein) the adhesive layer is formed from a material capable of providing the chemical bond attachment with the surface of the vulcanized rubber article by hand pressure”
- “cavity”
- “The display assembly as recited in claim 1 further comprising a cavity disposed therein”
- “The display assembly as recited in claim 7 further comprising an element disposed within the cavity.”
- “The display assembly as recited in claim 7 wherein the cavity is disposed beneath the one or more display layers.”
- “attaching a display assembly to a surface of a vulcanized rubber article (comprising)”
- “adhesive material”
- “applying an adhesive material to form an adhesive layer”
- “placing a display assembly into contact with the surface”
- “placing a display assembly into contact with the surface with the adhesive layer interposed therebetween to form a bond between the display assembly and surface”
- “one or more display layers of elastomeric material constructed to provide a display indicia”
- “the intermediate layer is vulcanized to at least one of the one or more display layers”
- “(wherein) the intermediate layer is vulcanized to at least one of the one or more display layers before attachment to the vulcanized rubber article”
- “(wherein) the intermediate layer is vulcanized to at least one of the one or more display layers before attachment to the vulcanized rubber article to form the display assembly”
- “(wherein during the step of placing,) an underside surface of the intermediate layer of the display assembly is placed into direct contact with the adhesive layer”
- “(wherein) the adhesive layer is formed from a material that chemically bonds the display assembly to the surface of the vulcanized rubber article”

- “(wherein) the adhesive layer is formed from a material that chemically bonds the display assembly to the surface of the vulcanized rubber article at ambient temperature conditions and by hand pressure”
- “further comprising treating the surface of the vulcanized rubber article to roughen the surface before the step of placing”
- “a vulcanized rubber tire”
- “a target surface disposed along a portion of the rubber tire”
- “a display assembly disposed onto the target surface”
- “one or more display layers”
- “an intermediate layer formed from an elastomeric material different from that of the one or more display layers”
- “vulcanized to”
- “an intermediate layer . . . vulcanized to at least one of the one or more display layers prior to attachment to the target surface”
- “an adhesive layer forming a chemical bond”
- “an adhesive layer forming a chemical bond between an underside surface of the intermediate later and the target surface”
- “(wherein) the chemical bond is formed at ambient temperature conditions”

Regarding the '027 patent, the Accused Revvo Products do not satisfy and Plaintiffs have not carried their burden for demonstrating infringement of at least the following claim elements:

- “(an) assembly”
- “a vulcanized rubber article”
- “(an) assembly for attachment with a vulcanized rubber article (comprising)”
- “(an) outer layer”
- “(a) visual feature”
- “(an) outer layer of elastomeric material”
- “(an) outer layer of elastomeric material having a visual feature”
- “(an) adhesive layer”
- “an adhesive layer adhered to an interface surface of the outer layer,”

- “barrier material”
- “(a) barrier material composition”
- “at least a portion of the outer layer adjacent the interface surface comprises a barrier material composition”
- “(wherein) the adhesive layer is formed from a material capable of chemically bonding”
- “(wherein) the adhesive layer is formed from a material capable of chemically bonding with a surface of a vulcanized rubber article”
- “(wherein) the barrier material composition impairs migration of a material constituent within the assembly”
- “(wherein) the barrier material composition impairs migration of a material constituent within the assembly when the assembly is attached to a vulcanized rubber article”
- “(a) cavity”
- “The assembly as recited in claim 1 further comprising a cavity disposed therein.”
- “(an) element”
- “The assembly as recited in claim 7 further comprising an element disposed within the cavity”
- “disposed beneath the outer layer”
- “The assembly as recited in claim 7 wherein the cavity is disposed beneath the outer layer.”
- “for attaching an assembly to a surface of a vulcanized rubber article”
- “identifying a surface of a vulcanized rubber article”
- “placing an assembly into contact with the identified surface”
- “the outer layer is in contact with an adhesive layer”
- “an adhesive layer interposed between the identified surface and the assembly”
- “(wherein) the outer layer is in contact with an adhesive layer interposed between the identified surface and the assembly that bonds the assembly to the vulcanized rubber article,”
- “(wherein) the outer layer comprises a barrier material composition”

- “(wherein) the outer layer comprises a barrier material composition to mitigate migration of material from the vulcanized rubber article”
- “further comprising preparing the identified surface before the step of placing”
- “further comprising applying pressure to the assembly after the step of placing”
- “a vulcanized rubber tire (comprising)”
- “a target surface disposed along a portion of the rubber tire”
- “an assembly disposed onto the target surface”
- “an adhesive layer connected with the outer layer”
- “a barrier material composition to mitigate migration of material from the rubber tire”
- “(wherein) at least a portion of the outer layer comprises a barrier material composition to mitigate migration of material from the rubber tire”
- “wherein the assembly further comprises a cavity disposed therein.”
- “wherein an element is disposed within the cavity”
- “wherein the cavity is disposed beneath the outer layer.”
- “an assembly for attachment to a vulcanized rubber tire”
- “an outer layer formed from an elastomeric material”
- “an adhesive layer bonding the assembly”
- “bonding the assembly to portion of a vulcanized rubber tire”
- “an adhesive layer bonding the assembly to portion of a vulcanized rubber tire”
- “a cavity disposed within the assembly”
- “a cavity disposed within the assembly for accommodating an element therein”
- “a material composition that acts as a barrier”
- “wherein the outer layer comprises a material composition that acts as a barrier to material migrating from the vulcanized rubber tire”
- “disposed beneath the outer layer”
- “at least a portion of the cavity is disposed beneath the outer layer”
- “the adhesive layer is connected with the outer layer”
- “the outer layer includes an indicia along an outer surface”

Regarding the '421 patent, the Accused Revvo Products do not satisfy and Plaintiffs have not carried their burden for demonstrating infringement of at least the following claim elements:

- “(a) sensor assembly”
- “an object that is rotated in use”
- “a sensor assembly configured for attachment with an object that is rotated in use”
- “the sensor assembly comprising”
- “a housing”
- “enclosed within the housing”
- “an internal cavity that is enclosed within the housing”
- “a housing comprising an outer surface and an internal cavity that is enclosed within the housing”
- “an electrical sensor device”
- “an electrical sensor device that is disposed within the internal cavity”
- “an electrical sensor device that is . . . attached therein to prevent movement of the device within the internal cavity”
- “an electrical sensor device that is disposed within the internal cavity and attached therein to prevent movement of the device within the internal cavity,”
- “an unfilled open space”
- “an unfilled open space above or below the electrical sensor device”
- “the internal cavity comprises an unfilled open space”
- “(wherein) the internal cavity comprises an unfilled open space above or below the electrical sensor device in the housing”
- “the sensor assembly is attached with the object”
- “when the sensor assembly is attached with the object and the object is rotated in use”
- “a retaining member”
- “a retaining member that is configured to accommodate attachment of the housing therewith”
- “(wherein) the retaining member has an outside surface configured for attachment”

- “(wherein) the retaining member has an outside surface configured for attachment to rotate with the object when the object is rotated in use”
- “(wherein) the housing outer surface includes one or more display features or indicia”
- “(wherein) the housing outer surface includes one or more display features or indicia that are viewable to a user when the housing is attached with the retaining member”
- “(wherein) the electrical sensor device is attached within the internal cavity”
- “one or more surface features within the cavity”
- “(wherein) the electrical sensor device is attached within the internal cavity by one or more surface features within the cavity”
- “one or more surface features within the cavity that contact the electrical sensor device to retain its position therein”
- “(wherein) the electrical sensor device is attached within the internal cavity by one or more surface features within the cavity that contact the electrical sensor device to retain its position therein”
- “(wherein) the housing and retaining member are configured having a complementary shape to facilitate attachment of the housing with the retaining member”
- “a wall structure that surrounds the internal cavity”
- “(wherein) the housing comprises a wall structure that surrounds the internal cavity”
- “to provide attachment therewith”
- “(wherein) the retaining member comprises a wall structure having an open chamber that is configured to accommodate the housing wall structure therein to provide attachment therewith”
- “(wherein) the retaining member is formed from an elastomeric material”
- “(wherein) the retaining member is formed from an elastomeric material that mitigates transmission of shock forces from the object to the housing”
- “when the retaining member is attached to the object”

- “the housing is attached to the retaining member”
- “(wherein) the retaining member is formed from an elastomeric material that mitigates transmission of shock forces from the object to the housing when the retaining member is attached to the object and the housing is attached to the retaining member.”
- “(wherein) the housing includes an opening through the outside surface to the internal cavity”
- “further includes a filter”
- “a filter that is positioned to filter air”
- “to filter air passing into the internal cavity before reaching the electrical sensor device”
- “(wherein) the housing . . . further includes a filter that is positioned to filter air passing into the internal cavity before reaching the electrical sensor device”
- “(a) sensing system”
- “a sensing system comprising the sensor assembly as recited in claim 1”
- “wherein the sensing system comprises a receiver that is external from the object and that is configured to receive data from the electrical sensor device by wireless communication”
- “the electrical sensor device comprises an accelerometer sensor connected therewith and is configured to send data from the accelerometer sensor wirelessly to the external receiver”
- “the sensor assembly as recited in claim . . .”
- “sensor element”
- “at least one sensor element”
- “one or both of a storage element and a processor”
- “the sensor element is configured to sense one or more variables selected from the group consisting of air pressure, temperature, acceleration, and orientation or location of the environment, the sensor assembly, or the object”
- “the object is a vulcanized rubber vehicle tire”
- “an element attached with the tire that rotates with the tire”

- “wherein the retaining member is attached to an inside surface of the vehicle tire or an element attached with the tire that rotates with the tire”
- “a sensor assembly and sensing system”
- “a sensor assembly and sensing system for use with an object that rotates in use”
- “an outer structure that defines an open internal cavity therein”
- “a housing comprising an outer structure that defines an open internal cavity therein”
- “an electrical sensor device disposed within the internal cavity”
- “having a fixed placement therein”
- “having a fixed placement therein by one or more surface features of the housing configured to contact the electrical sensor device”
- “an electrical sensor device disposed within the internal cavity and having a fixed placement therein by one or more surface features of the housing configured to contact the electrical sensor device”
- “a retaining member having an outside surface configured for attaching”
- “a retaining member having an outside surface configured for attaching with a surface of the object or an element connected with the object to rotate with the object in use”
- “an attachment between the housing and the retaining member”
- “(wherein) the retaining member is configured to accommodate placement a portion of the housing therein”
- “(wherein) the retaining member is configured to accommodate placement a portion of the housing therein to provide an attachment between the housing and the retaining member”
- “the internal cavity comprises an open space”
- “an open space above or below the electrical sensor device disposed within the internal cavity”
- “(wherein) the internal cavity comprises an open space above or below the electrical sensor device disposed within the internal cavity”
- “the retaining member is formed from an elastomeric material”

- “(wherein) the retaining member is formed from an elastomeric material that mitigates transmission of shock forces received from the object when attached to the object before reaching the housing attached with the retaining member”
- “(wherein) the electrical sensor device comprises an accelerometer sensor and is configured to send data from the accelerometer sensor wirelessly to the external receiver”
- “(wherein) the object is a vehicle tire”
- “using a sensor assembly and sensing system with an object that rotates in use (comprising)”
- “installing an electrical sensor device within an internal cavity of a housing”
- “(wherein) the housing includes an outer structure that defines the internal cavity”
- “(wherein) the housing comprises an opening extending from an outer surface of the housing to the internal cavity”
- “attaching the housing after the step of installing to a retaining member”
- “attachment with the housing by mechanical or bonding technique”
- “(wherein) the retaining member is configured to accommodate attachment with the housing by mechanical or bonding technique”
- “the retaining member is connected with the object”
- “(wherein) the retaining member is connected with the object before or after formation of the object;”
- “monitoring an operating parameter of the object”
- “monitoring an operating parameter of the object through the use of the electrical sensing device”
- “the electrical sensor device is attached in place within the internal cavity”
- “the electrical sensor device is attached in place within the internal cavity by contact between the electrical sensor device and one or more surface features in the internal cavity”
- “(wherein) during the step of installing, the electrical sensor device is attached in place within the internal cavity by contact between the electrical sensor device and one or more surface features in the internal cavity”

- “wherein the object is a made from vulcanized rubber”
- “the retaining member is attached with the object”
- “wherein the object is a made from vulcanized rubber, and before the step of attaching, the retaining member is attached with the object or an element that rotates with the object before or after the object has been formed”
- “wherein the object is a vehicle tire”
- “wherein the retaining member is attached to a surface that is inside of the vehicle tire”
- “a display feature that is positioned on the housing”
- “the housing is positioned relative to the retaining member according to a display feature that is positioned on the housing”
- “(wherein) during the step of attaching, the housing is positioned relative to the retaining member according to a display feature that is positioned on the housing”
- “(wherein) the sensor assembly electrical sensor device comprises”
- “wherein the object is a vehicle tire”

Revvo reserves its right to supplement its responses to this Interrogatory at the appropriate time as discovery progresses.

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CERTIFICATE OF SERVICE

I hereby certify that on December 2, 2024, true and correct copies of the foregoing document were caused to be served on the following counsel of record as indicated:

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