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Please find below and/or attached an Office communication concerning this application or proceeding.

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DETAILED ACTION

Status of Application

This action is responsive to continuing application filed 09/21/2021 as continuation of prior pending Application No. 16/201,903. Upon entry of the preliminary amendment filed 05/29/2024, claims 21-90 are currently pending and under examination herein.

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Information Disclosure Statement(s)

The information disclosure statement(s) (IDS) filed on 09/21/2021, 10/25/2022 and 06/22/2023 are in compliance with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609, and therefore the information referred to therein has been considered as to the merits. Initialed copies of the IDS are included with the mailing/transmittal of this Office action.

Objection – Specification

The disclosure is objected to because of the following informalities: referring to paragraph [0045], the reference to “an adhesive layer 58” in the detailed description of FIG. 6 is incorrect in that “58” should read –68-- as shown in the figure itself.

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: lack of proper antecedent basis for the subject matter of the phrase, “wherein the surface of the vulcanized article is an inner liner of a tire,” as recited in claim 89. The most relevant portions of the

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specification mention only a tire sidewall as a surface to which the Applicant's assembly can be applied (see, e.g., paras [0003], [0053] and [0059]). No portion of the specification is found to provide the requisite basis for the claimed feature of the surface of the vulcanized article being an inner liner of a tire.

Appropriate correction of the specification is required.

Objection – Claims

Claims 36 and 61 are objected to because of the following informalities: it is presumed the term “construction” was intended to read –composition–, i.e., “material composition” as recited in respective independent claims 21 (*cf.*, lines 5-6) and 58 (*cf.*, line 6); however, clarification and appropriate correction are required.

Claim Rejections – 35 U.S.C. 112

The following is a quotation of 35 U.S.C. 112(b):

(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 32, 39, 57 and 66 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor (or for applications subject to pre-AIA 35 U.S.C. 112, the applicant), regards as the invention.

Regarding Claim 32, the reference to “the outer first layer” engenders confusion as it implies the presence of an inner first layer when in fact no such inner layer is recited in the claim, nor in parent claim 21. Deletion of the term “first” from claim 32 is suggested to address this aspect of the rejection.

Regarding Claim 39, the claim provides the limitation to “the functional element” in lines 1-2. There is no proper and sufficient antecedent basis for this limitation in the claim, nor in any upon which claim 39 depends (currently, claim 33). Claim dependency appears incorrect (*cf.*, claim 38).

Regarding Claim 57, the claim provides the limitation to “the functional element” in lines 1-2. There is no proper and sufficient antecedent basis for this limitation in the claim, nor in any upon which claim 57 depends (currently, claim 49). Claim dependency appears in error (*cf.*, claim 55).

Regarding Claim 66, the claim provides the limitation to “the flexible article surface” in line 2. There is no proper and sufficient antecedent basis for this limitation in the claim, nor in any upon which claim 66 depends (currently, claims 38/33). Claim dependency appears incorrect (*cf.*, claim 58). For purposes of substantive examination, claim 66 is being treated as if dependent upon independent claim 58.

Claim Rejections – Nonstatutory Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on nonstatutory double patenting provided the reference application or patent either is shown to be commonly owned with the examined application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. See MPEP § 717.02 for applications subject to examination under the first inventor to file provisions of the AIA as explained in MPEP § 2159. See MPEP § 2146 *et seq.* for applications not subject to examination under the first inventor to file provisions of the AIA. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

The filing of a terminal disclaimer by itself is not a complete reply to a nonstatutory double patenting (NSDP) rejection. A complete reply requires that the terminal disclaimer be accompanied by a reply requesting reconsideration of the prior Office action. Even where the NSDP rejection is provisional the reply must be complete. See MPEP § 804, subsection I.B.1. For a reply to a non-final Office action, see 37 CFR 1.111(a). For a reply to final Office action, see 37 CFR 1.113(c). A request for reconsideration while not provided for in 37 CFR 1.113(c) may be filed after final for consideration. See MPEP §§ 706.07(e) and 714.13.

The USPTO Internet website contains terminal disclaimer forms which may be used. Please visit www.uspto.gov/patent/patents-forms. The actual filing date of the application in which the form is filed determines what form (e.g., PTO/SB/25, PTO/SB/26, PTO/AIA/25, or PTO/AIA/26) should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to www.uspto.gov/patents/apply/applying-online/eterminal-disclaimer.

Claims 21-22, 29, 49, 51, 53 and 54 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1, 2, 4, 6 and 10 of U.S. Patent No. 11,124,027 B2 ('027).

Although the claims at issue are not identical, they are not patentably distinct from each other because they differ merely in matters of scope and/or semantics. In particular, pending claim 21 is directed to an assembly for attachment to a vulcanized rubber article, the assembly comprising:

- an outer layer of flexible material having a visually defining feature; and
- an adhesive layer adhered to an interface surface of the outer layer, wherein at least a portion of the adhesive layer or the outer layer adjacent the interface surface comprises material composition that is protective, and wherein the adhesive layer is formed from a material capable of bonding with a surface of a vulcanized rubber article.

Pending claim 22 is drawn to the assembly as recited in claim 21, wherein the flexible material is an elastomeric material.

Claim 1 of '027 is directed to an assembly for attachment with a vulcanized rubber article comprising:

- an outer layer of elastomeric material having a visual feature; and
- 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, and wherein the adhesive layer is formed from a material capable of chemically bonding with a surface of a vulcanized rubber article. Further, claim 6 of '027 is drawn to the assembly as recited in claim 1 further comprising a protective layer disposed over the outer layer and forming an outermost surface of the assembly, the protective layer formed from an optically transparent material.

The listed claims of '027 thus read on the instant assembly in that “an outer layer of elastomeric material having a visual feature” reads on “an outer layer of flexible material having a visually defining feature ... wherein the flexible material is an elastomeric material”; “an adhesive layer adhered to an

interface surface of the outer layer ... wherein the adhesive layer is formed from a material capable of chemically bonding with a surface of a vulcanized rubber article” is a common element of the respective inventions; “a protective layer disposed over the outer layer ...” reads on “a portion of the ... outer layer adjacent the interface surface comprises material composition that is protective” as claimed herein.

And while claim 1 of ‘027 further recites that “the outer layer adjacent the interface surface comprises a barrier material composition,” the same or equivalent feature is in no way excluded from pending claim 27 given the open (comprising) transitional language.

Regarding pending claim 29, note that claim 4 of ‘027 recites the identical feature of an intermediate layer interposed between the outer layer and the adhesive layer.

Regarding pending claims 49 and 54, claims 1 and 6 of ‘027 read on the instant assembly for attachment with a “flexible article” (which reads on a vulcanized rubber article) in that “an outer layer of elastomeric material having a visual feature” reads on “an outer layer of flexible material having a visually defining feature ... wherein the flexible material comprises one or more of ... an elastomeric composition”; “an adhesive layer adhered to an interface surface of the outer layer ... wherein the adhesive layer is formed from a material capable of chemically bonding with a surface of a vulcanized rubber article” is a common element of the respective inventions; “a protective layer disposed over the outer layer ...” reads on “one or more of the outer layer or the adhesive layer has a material composition that is protective” as claimed herein; and the “barrier material composition” present in the patented assembly is not excluded from pending claim 49 in view of the open (comprising) transitional language.

Regarding pending claim 51, note that claim 2 of ‘027 define the outer layer as comprising a first layer and a second layer disposed beneath the first layer; wherein the “first layer” corresponds to the instant “further layer disposed over the outer layer opposite the interface surface.”

Regarding pending claim 53, note that claim 10 of ‘027 recites that “the first layer includes one or more openings therethrough, and wherein the second layer is visible through the one or more

openings.” This corresponds to the embodiment of claim 53 wherein “at least a portion of the second layer ... is visible from outside of the first layer.”

Common Ownership Notice

This application currently names joint inventors. In considering patentability of the claims the examiner presumes that the subject matter of the various claims was commonly owned as of the effective filing date of the claimed invention(s) absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and effective filing dates of each claim that was not commonly owned as of the effective filing date of the later invention in order for the examiner to consider the applicability of 35 U.S.C. 102(b)(2)(C) for any potential 35 U.S.C. 102(a)(2) prior art against the later invention.

Claim Rejections – 35 U.S.C. 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a)(1) the claimed invention was patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention.

Claims 21-22, 27-29, 33-37, 42-44, 49, 54, 58-62 and 67-68 are rejected under 35 U.S.C. 102(a)(1) as being anticipated by DeTrano et al (US 5300164; hereinafter, ‘DeTrano’).

Regarding Claims 21-22 and 27: DeTrano discloses an assembly (FIGS. 1 -4: applique **20**) for attachment with a vulcanized rubber article, specifically a vehicle tire (Col. 1, lines 57-59; FIG. 1: tire **10**) [for claim 27], the assembly comprising:

an outer layer (FIGS 2-4: outer or visible layer **21**) of elastomeric material [for claim 22] having a visually defining feature (Col. 3, lines 21-25, 35-37; Col. 4, lines 1-20); and

an adhesive layer adhered to an interface surface of the outer layer (FIG. 3: adhesive layer **24**), wherein one or both of the outer layer or the adhesive layer has a barrier material composition (Col. 4, line 33: the barrier layer may [be] an adhesive layer; and Col. 6, lines 31-35: the adhesive layer, such as adhesive layer **24**, may also function as a barrier layer in a manner similar to barrier layer **22**. The adhesives discussed hereinabove may have barrier properties to prevent staining of visible layer **12**), and wherein the adhesive layer is formed from a material capable of chemically bonding with a surface of a vulcanized rubber article (Col. 5, lines 46-51). Further, the stated purpose of barrier layer **22** is to prevent certain ingredients in tire **10**, such as antioxidants, from reaching and discoloring visible layer **21** (Col. 5, lines 25-28). As such, DeTrano is considered to implicitly teach that the barrier layer **22** performs a protective function by preventing (i.e., mitigating) passage of certain ingredients from the tire **10** to visible layer **12**, thereby meeting the requirement that “at least a portion of the adhesive layer or the outer layer adjacent the interface surface comprises a material composition that is protective,” per claim 21.

Regarding Claim 28, DeTrano further discloses wherein the assembly is configured for attachment with a sidewall surface of the vehicle tire (col. 2, lines 20-24).

Regarding Claim 29, DeTrano further discloses the assembly comprising an intermediate layer interposed between the outer layer and the adhesive layer (FIG. 3 and Col. 4, lines 55-58: compatibilizing layer **23** interposed between visible layer **21** and adhesive layer **24**).

Regarding Claim 33, DeTrano further discloses a method for attaching an assembly to a surface of a vulcanized rubber article comprising the steps of:

placing the assembly into contact with a surface of the vulcanized rubber article (Col. 7, lines 52-55), wherein the assembly comprises an outer layer of flexible material that is in contact with an

adhesive layer interposed between the surface and the assembly (FIG. 2: visible layer **21** in contact with adhesive layer **24** (via barrier layer **22** and compatibilizing layer **23**) interposed between sidewall surface **12** and applique **20**), and wherein at least one of the adhesive layer or the outer layer comprises a material composition that is protective to the assembly (FIG. 2 and Col. 4, lines 25-30: barrier layer **22** functions as protective material composition by preventing certain ingredients in tire **10** from reaching and discoloring visible layer **21**); and

bonding the assembly to the vulcanized rubber article (Col. 5, lines 51-53: adhesive **24** is any adhesive which will bond applique **20** securely to tire **10**).

Regarding Claims 34-35, DeTrano further discloses applying pressure to the assembly after the step of placing and heating the adhesive layer after the step of placing (Col. 6, lines 15-17: Depending upon the particular adhesive chosen, applique **20** may be bonded to tire **10** with or without heat and/or pressure being applied thereto).

Regarding Claim 36: as discussed above, DeTrano describes that the purpose of barrier layer **22** is to prevent certain ingredients in tire **10**, such as antioxidants, from reaching and discoloring visible layer **21**. This description is considered essentially equivalent to claimed functional limitation that “the material construction (composition?) does at least one of mitigates migration of a material from the vulcanized rubber article to the assembly ...”.

Regarding Claim 37, DeTrano further discloses wherein the vulcanized rubber article is a vehicle tire and the surface placed into contact with the assembly is a sidewall surface of the vehicle tire (FIG. 1: tire **10** and FIG. 3: applique **20** depicted as bonded to sidewall **12**).

Regarding Claim 42, DeTrano further discloses the claimed method comprising an intermediate layer interposed between the outer layer and the adhesive layer (FIG. 3 and Col. 4, lines 55-58: compatibilizing layer **23** interposed between visible layer **21** and adhesive layer **24**).

Regarding Claim 43, DeTrano further discloses a vulcanized rubber article comprising:

a target surface disposed along a portion of the rubber tire (Fig. 1: sidewall **12**; Fig. 3: channel **32**);

an assembly bonded to the target surface (FIG. 3: applique **20** bonded to channel **32** in sidewall **12**) and comprising:

an outer layer of flexible material (FIGS 2-4: outer or visible layer **21**) having a visually defining feature (Col. 3, lines 21-25, 35-37; Col. 4, lines 1-20); and

an adhesive layer interposed between the outer layer and the target surface (FIG. 3: adhesive layer **24** interposed between visible layer **21** and surface of channel **32**),

wherein the adhesive layer is formed from a material capable of forming an attachment bond between the assembly to the target surface of the vulcanized rubber article (Col. 5, lines 46-51);

wherein at least a portion of at least one of the adhesive layer or the outer layer comprises a material composition that is protective to the assembly (Col. 5, lines 22-28: purpose of barrier layer **22** is to prevent certain ingredients in tire **10**, such as antioxidants, from reaching and discoloring visible layer **21** (thereby, protective to the applique **20**)).

Regarding Claim 44, DeTrano further discloses wherein the vulcanized rubber article is a vehicle tire and the target surface is a sidewall surface of the vehicle tire (col. 2, lines 20-24).

Regarding Claim 49, DeTrano further discloses an assembly (FIG. 2: applique **20**) for attachment with a flexible article (FIG. 1: tire **10**) comprising:

an outer layer of flexible material (FIGS 2-4: outer or visible layer **21**) having a visually defining feature (Col. 3, lines 21-25, 35-37; Col. 4, lines 1-20); and

an adhesive layer adhered to an interface surface of the outer layer (FIG. 3: adhesive layer **24**), wherein one or more of the outer layer or the adhesive layer has a material composition that is protective ((Col.

5, lines 22-28: purpose of barrier layer **22** is to prevent certain ingredients in tire **10**, such as

antioxidants, from reaching and discoloring visible layer **21** (thereby, protective to the applique **20**)), and

wherein the adhesive layer is formed from a material that bonds with a surface of a flexible article (Col. 5, lines 46-51).

Regarding Claim 54, DeTrano further discloses the claimed assembly wherein the flexible article is an elastomeric composition (Col. 3, lines 13-17: composition of tire **10** (as “flexible article”) includes conventional components such as synthetic and/or natural rubbers).

Regarding Claim 58, DeTrano further discloses a method for attaching an assembly (FIG. 2: applique **20**) to a surface of a flexible article (FIG. 1: tire **10**) comprising the steps of:

placing the assembly into contact with a surface of the flexible article (Col. 7, lines 52-55), wherein the assembly comprises an outer layer of flexible material, wherein the outer layer is in contact with an adhesive layer interposed between the surface and the assembly (FIG. 2: visible layer **21** in contact with adhesive layer **24** (via barrier layer **22** and compatibilizing layer **23**) interposed between sidewall surface **12** and applique **20**), and wherein the outer layer comprises a material composition that is protective to the assembly (FIG. 2 and Col. 4, lines 25-30: visible layer **21** comprises barrier layer **22** that functions as material composition protective to applique **20** by preventing certain ingredients in tire **10** from reaching and discoloring visible layer **21**); and

bonding the assembly to the vulcanized rubber article (Col. 5, lines 51-53: adhesive **24** is any adhesive which will bond applique **20** securely to tire **10**).

Regarding Claims 59-60, DeTrano further discloses applying pressure to the assembly after the step of placing and heating the adhesive layer after the step of placing (Col. 6, lines 15-17: Depending upon the particular adhesive chosen, applique **20** may be bonded to tire **10** with or without heat and/or pressure being applied thereto).

Regarding Claim 61: as discussed above, DeTrano describes that the purpose of barrier layer **22** is to prevent certain ingredients in tire **10**, such as antioxidants, from reaching and discoloring visible layer **21**. This description is considered essentially equivalent to claimed functional limitation that “the

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material construction (composition?) does at least one of mitigates migration of a material from the vulcanized rubber article to the assembly ...”.

Regarding Claim 62, DeTrano further discloses wherein the flexible article is formed from an elastomeric material (Col. 3, lines 13-17: composition of tire **10** (as “flexible article”) includes conventional components such as synthetic and/or natural rubbers, and wherein the surface placed into contact with the assembly is a visible surface of the flexible article (FIG. 3: applique **20** placed into contact with sidewall **12** comprises visible layer **21**).

Regarding Claim 67, DeTrano further discloses a flexible article (FIG. 1: tire **10**) comprising:
a target surface disposed along a portion of the flexible article (Fig. 1: sidewall **12**; Fig. 3: channel **32**);

an assembly disposed onto the target surface (FIG. 3: applique **20** bonded to channel **32** in sidewall **12**) and comprising:

an outer layer of flexible material (FIGS 2-4: outer or visible layer **21**) having a visually defining feature (Col. 3, lines 21-25, 35-37; Col. 4, lines 1-20); and

an adhesive layer connected with the outer layer and the target surface (FIG. 3: adhesive layer **24** connected (indirectly) with visible layer **21**),

wherein at least a portion of the adhesive layer or the outer layer comprises a material composition that is protective (Col. 5, lines 22-28: outer or visible layer **21** comprises barrier layer **22**, the purpose of which is to prevent certain ingredients in tire **10**, such as antioxidants, from reaching and discoloring visible layer **21** (thereby, protective to the applique **20**)).

Regarding Claim 68, DeTrano further discloses wherein the flexible article is formed from an elastomeric material (Col. 3, lines 13-17: composition of tire **10** (as “flexible article”) includes conventional components such as synthetic and/or natural rubbers).

Claims 81-82, 84, 86-90 are rejected under 35 U.S.C. 102(a)(1) as being anticipated by Rensel et al (US 6860303 B2; hereinafter, 'Rensel').

Regarding Claim 81: Rensel discloses an assembly for attachment with a vulcanized rubber article (Col. 1, lines 20-23 and FIG. 2: patch assembly **60** depicted as attached to tire innerliner **75**), the assembly comprising:

a layer of flexible material having an outer surface (FIG. 1 and Col. 3, lines 45-46 and 58+: patch **10** has first (outer) side **12** and is made of rubber (hence, a flexible material);

an adhesive layer connected with the layer of flexible material opposite the outer surface (Col. 4, lines 10-12 and FIG. 1: dual cure bonding layer **20** affixed to second side **22** of patch **10**), wherein the adhesive layer is formed from a material capable of bonding with a surface of the vulcanized rubber article (Col. 4, lines 38-40: vulcanized tire and the patch assembly/tire assembly is allowed to cure for a sufficient time and temperature to form a strong bond between the tire and the patch assembly); and

a cavity having an opening extending along a portion of the outer surface (Col. 3, lines 45-49 and FIG. 1: cavity **16** depicted as extending along first (outer) side **12** of patch **10**).

Regarding Claim 82: Rensel further discloses wherein the cavity contains an electronic device (Col. 5, lines 14-18 and FIG. 6: tag assembly **70** contained in cavity **16**; Col. 4, lines 50-54 and Col. 5, lines 4-6 and 17-18: tag assembly **70** formed from electronic monitoring device **34** encapsulated in a potting material **40**).

Regarding Claim 84, Rensel further discloses a method for attaching the assembly of claim 81 to a vulcanized rubber article comprising placing the assembly into contact with a surface of the vulcanized rubber article during a process of manufacture the vulcanized rubber article (Col. 3, lines 52-53: the rubber patch is vulcanized and then assembled to the vulcanized tire; and Col. 4, lines 37-39: patch assembly is then stitched (hence, placed into contact) to the innerliner of the vulcanized tire and the patch assembly/tire assembly is allowed to cure ...).

Regarding Claim 86, Rensel further discloses wherein after the step of placing the assembly, a compatible material of the adhesive layer and contact surface of the vulcanized rubber article form a bonded connection (Col. 4, lines 37-40: patch assembly is then stitched to the innerliner of the vulcanized tire and the patch assembly/tire assembly is allowed to cure ... to form a strong bond between the tire and the patch assembly).

Regarding Claim 88, Rensel further discloses wherein after the step of placing the assembly, the assembly is bonded to the contact surface of the vulcanized rubber article, and wherein during or after placing the assembly at least one of heat, pressure, or time is used to strengthen the bond (Col. 4, lines 37-45: vulcanized tire and the patch assembly/tire assembly is allowed to cure for a sufficient time and temperature to form a strong bond between the tire and the patch assembly. ... To ensure a strong bond, the patch assembly optionally may be clamped to the tire innerliner **75** (thereby creating pressure), until the curing cycle is completed).

Regarding Claim 89, Rensel further discloses wherein the surface of the vulcanized rubber article is an inner liner of a tire (FIG. 2: patch assembly **60** depicted as attached to tire innerliner **75**).

Regarding Claim 90, Rensel further discloses wherein a sensor is placed within the cavity of the assembly before or after the step of placing the assembly (Col. 4, lines 46-47: electronic monitoring device is a circuit board which includes sensors ...; and Col. 5, lines 20-23: sequence of assembling tag assembly **70** (which contains encapsulated electronic monitoring device) into the rubber patch housing may be accomplished either before or after the rubber patch is attached to the tire innerliner).

Claim Rejections – 35 U.S.C. 103

The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention

and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries for establishing a background for determining obviousness under 35 U.S.C.

103 are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 41, 48, 50, 53, 66, 69 and 73 are rejected under 35 U.S.C. 103 as being unpatentable over DeTrano.

Regarding Claims 41, 50, 66 and 69, DeTrano discloses the method, assembly, flexible article and method as recited in claims 33, 49, 58 and 67, respectively, as discussed above. DeTrano does not directly disclose wherein the outer layer is formed from a material that is different from that of the vulcanized rubber article surface (claim 41) or the flexible article (claims 50, 69). However, DeTrano does teach a preferred embodiment wherein the visible layer **21** is a white material and presents an exemplary white wall stock formulation in Table I (Col. 4). DeTrano further teaches (Col. 3, lines 13-17) that the composition of tire **10** (as “flexible article”) includes conventional components such as synthetic and/or natural rubbers, fillers, carbon black, anti-aging components and the like. In light of these teachings, it would have been obvious to one of ordinary skill in the art at the time of effective filing to select DeTrano’s exemplary white wall stock formulation for forming visible layer **21**. The resultant assembly would thus comprise an outer layer formed from a material that is different from that of the vulcanized rubber article surface or flexible article, as claimed, at least insofar as common whitening

additives present in the white wall stock formulation such as titanium dioxide would be absent from the conventional components included in the composition of tire **10** of DeTrano.

Regarding Claims 48, 53 and 73, DeTrano discloses the vulcanized rubber article, assembly and flexible article as recited in claims 43, 49 and 67, respectively, as discussed above. DeTrano does not directly disclose wherein the outer layer comprises a first layer and a second layer, and wherein at least a portion of the adhesive layer or the second layer is visible from outside the first layer. However, DeTrano does indicate the possibility of more than one decorative visible layer (corresponding to claimed outer layer) and states that visible layer **21** may be provided with a plurality of colors, designs, markings, textures, lettering or the like (Col. 3, lines 25-29, 40-45). In light of this disclosure, it would have been obvious to one of ordinary skill in the art at the time of effective filing to provide such decoration by conventional means, as by printing a layer on top of visible layer **21**, such additional layer having a different color than the layer **21** and not completely covering the layer **21** so that the underlying (second) layer is visible from outside the first layer, as claimed.

Claims 23-26, 38-40, 45-47, 55-57, 63-65, 70-72 and 75-80 are rejected under 35 U.S.C. 103 as being unpatentable over DeTrano in view of Parsons (US 2005/0059308 A1).

Regarding Claims 23-26 and 75, DeTrano discloses an assembly as recited in claim 21 as discussed above. DeTrano does not directly disclose the assembly further comprising a functional device (claim 23), such as an electrical element (claim 26), or wherein the assembly comprises a cavity, and wherein the functional device is connected with the cavity (claim 25). However, the purpose of the cavity is to accept an object or element such as an RFID element (as per para. [0049] herein) which is a species of the functional device and electrical element as specified in present claims 23 and 26. In this regard, it is known from Parsons to integrate a RFID element (**24**) in a label for mounting on a surface of a tire, wherein the element is positioned in a cavity formed in the adhesive layer (**22**) either beneath the

display layer (**20**) (Fig. 2) or extending along a surface of the label (**14**) (Fig. 3) [for claim 75]. Parsons further teaches (para. [0004]) the desirability of applying labels to a cured tire, which is consistent with the main object of DeTrano (*cf.* Col. 1, lines 10-12, 48-49). Given their similar goals, it would have been obvious to one of ordinary skill in the art at the time of effective filing to modify DeTrano by providing a cavity in adhesive layer **24** or along the surface of visible layer **21** for disposing a RFID element therein as per Parsons. The motivation to do so and a reasonable expectation of success comes from the predictable enhancement of identifying indicia in applique **20** of DeTrano by inclusion of a RFID element positioned in a cavity formed therein.

Regarding Claims 38-40 and 76, DeTrano discloses a method as recited in claim 33 as discussed above. DeTrano does not directly disclose the method wherein the assembly comprises a functional device (claim 38), such as an electrical device (claim 39), or wherein the functional element is disposed within a cavity, and wherein the cavity is disposed in or on a portion of the assembly (claim 40). However, as noted above, the purpose of the cavity is to accept an object or element such as an RFID element, which is a species of the functional device and electrical device as specified in present claims 38 and 39. In this regard, it is known from Parsons to integrate a RFID element (**24**) in a label for mounting on a surface of a tire, wherein the element is positioned in a cavity formed in the adhesive layer (**22**) either beneath the display layer (**20**) (Fig. 2) or extending along a surface of the label (**14**) (Fig. 3) [for claim 76]. Parsons further teaches (para. [0004]) the desirability of applying labels to a cured tire, which is consistent with the main object of DeTrano (*cf.* Col. 1, lines 10-12, 48-49). Given their similar goals, it would have been obvious to one of ordinary skill in the art at the time of effective filing to modify DeTrano by providing a cavity in adhesive layer **24** or along the surface of visible layer **21** for disposing a RFID element therein as per Parsons. The motivation to do so and a reasonable expectation of success comes from the predictable enhancement of identifying indicia in applique **20** of DeTrano by inclusion of a RFID element positioned in a cavity formed therein.

Regarding Claims 45-47 and 77, DeTrano discloses a vulcanized rubber article as recited in claim 43 as discussed above. DeTrano does not directly disclose the vulcanized rubber article further comprising a functional element (claim 45), such as an electrical device (claim 46), or wherein the functional element is connected to a cavity, and wherein the cavity is disposed in or on a portion of the assembly (claim 47). However, as noted above, the purpose of the cavity is to accept an object or element such as an RFID element, which is a species of the functional element and electrical device as specified in present claims 45 and 46. In this regard, it is known from Parsons to integrate a RFID element (**24**) in a label for mounting on a surface of a tire, wherein the element is positioned in a cavity formed in the adhesive layer (**22**) either beneath the display layer (**20**) (Fig. 2) or extending along a surface of the label (**14**) (Fig. 3) [for claim 76]. Parsons further teaches (para. [0004]) the desirability of applying labels to a cured tire, which is consistent with the main object of DeTrano (*cf.* Col. 1, lines 10-12, 48-49). Given their similar goals, it would have been obvious to one of ordinary skill in the art at the time of effective filing to modify DeTrano by providing a cavity in adhesive layer **24** or along the surface of visible layer **21** for disposing a RFID element therein as per Parsons. The motivation to do so and a reasonable expectation of success comes from the predictable enhancement of identifying indicia in applique **20** of DeTrano by inclusion of a RFID element positioned in a cavity formed therein.

Regarding Claims 55-57 and 78, DeTrano discloses an assembly as recited in claim 49 as discussed above. DeTrano does not directly disclose the assembly comprising a functional element (claim 55), such as an electrical device (claim 56), or wherein the functional element is connected with a cavity, and wherein the cavity is disposed in or on the outer layer (claim 57). However, as noted above, the purpose of the cavity is to accept an object or element such as an RFID element, which is a species of the functional element and electrical device as specified in present claims 55 and 56. In this regard, it is known from Parsons to integrate a RFID element (**24**) in a label for mounting on a surface of a tire, wherein the element is positioned in a cavity formed in the adhesive layer (**22**) either beneath the

display layer **(20)** (Fig. 2) or extending along a surface of the label **(14)** (Fig. 3) [for claims 57, 78]. Parsons further teaches (para. [0004]) the desirability of applying labels to a cured tire, which is consistent with the main object of DeTrano (*cf.* Col. 1, lines 10-12, 48-49). Given their similar goals, it would have been obvious to one of ordinary skill in the art at the time of effective filing to modify DeTrano by providing a cavity in adhesive layer **24** or along the surface of visible layer **21** for disposing a RFID element therein as per Parsons. The motivation to do so and a reasonable expectation of success comes from the predictable enhancement of identifying indicia in applique **20** of DeTrano by inclusion of a RFID element positioned in a cavity formed therein.

Regarding Claims 63-65 and 79, DeTrano discloses a method as recited in claim 58 as discussed above. DeTrano does not directly disclose the method wherein the assembly comprises a functional element (claim 63), such as an electrical device (claim 64), or wherein the functional element is connected with a cavity, and wherein the cavity is disposed in or on a portion of the assembly (claim 65). However, as noted above, the purpose of the cavity is to accept an object or element such as an RFID element, which is a species of the functional element and electrical device as specified in present claims 63 and 64. In this regard, it is known from Parsons to integrate a RFID element **(24)** in a label for mounting on a surface of a tire, wherein the element is positioned in a cavity formed in the adhesive layer **(22)** either beneath the display layer **(20)** (Fig. 2) or extending along a surface of the label **(14)** (Fig. 3) [for claim 79]. Parsons further teaches (para. [0004]) the desirability of applying labels to a cured tire, which is consistent with the main object of DeTrano (*cf.* Col. 1, lines 10-12, 48-49). Given their similar goals, it would have been obvious to one of ordinary skill in the art at the time of effective filing to modify DeTrano by providing a cavity in adhesive layer **24** or along the surface of visible layer **21** for disposing a RFID element therein as per Parsons. The motivation to do so and a reasonable expectation of success comes from the predictable enhancement of identifying indicia in applique **20** of DeTrano by inclusion of a RFID element positioned in a cavity formed therein.

Regarding Claims 70-72 and 80, DeTrano discloses a flexible article as recited in claim 67 as discussed above. DeTrano does not directly disclose the flexible article further comprising a functional element (claim 70), such as an electrical device (claim 71), or wherein the functional element is connected to a cavity, and wherein the cavity is disposed in or on a portion of the assembly (claim 72). However, as noted above, the purpose of the cavity is to accept an object or element such as an RFID element, which is a species of the functional element and electrical device as specified in present claims 70 and 71. In this regard, it is known from Parsons to integrate a RFID element (**24**) in a label for mounting on a surface of a tire, wherein the element is positioned in a cavity formed in the adhesive layer (**22**) either beneath the display layer (**20**) (Fig. 2) or extending along a surface of the label (**14**) (Fig. 3) [for claim 80]. Parsons further teaches (para. [0004]) the desirability of applying labels to a cured tire, which is consistent with the main object of DeTrano (*cf.* Col. 1, lines 10-12, 48-49). Given their similar goals, it would have been obvious to one of ordinary skill in the art at the time of effective filing to modify DeTrano by providing a cavity in adhesive layer **24** or along the surface of visible layer **21** for disposing a RFID element therein as per Parsons. The motivation to do so and a reasonable expectation of success comes from the predictable enhancement of identifying indicia in applique **20** of DeTrano by inclusion of a RFID element positioned in a cavity formed therein.

Claims 30-31, 51-52 and 74 are rejected under 35 U.S.C. 103 as being unpatentable over DeTrano in view of Miyazaki et al (US 6235376 B1; hereinafter, 'Miyazaki').

Regarding Claims 30-31, DeTrano discloses an assembly as recited in claim 21 as discussed above. DeTrano does not directly disclose the assembly comprising a further layer disposed over the outer layer opposite the adhesive layer, wherein the further layer comprises a material composition different than that of the outer layer (claim 30); and wherein the further layer is at least one of a visual or protective layer (claim 31). However, the use of a protective layer **12** in a display assembly **10** for

application to the sidewall surface of a rubber tire **42**, wherein the protective layer **12** may be transparent, is well known in the art as taught by Miyazaki (FIG. 1; Col. 3, lines 9-11; Col. 9, lines 1-16 and Col. 10, lines 48-50). Miyazaki further teaches the material used for the protective layer **12** may include various types of resins or various types of rubbers as listed in column 9, line 20 *et seq.* Miyazaki thus teaches a protective layer **12** comprising a material composition different than that of the outer, visible layer **21** of DeTrano (*cf.*, Table I, exemplary white wall stock formulation). It would have been obvious to one of ordinary skill in the art at the time of effective filing to modify DeTrano by disposing a protective layer as per Miyazaki over the visible layer **21** of the applique **20**, as such modification merely involves the straightforward use of a known material to perform its previously established function in an analogous context. Indeed, the selection of a known element/material based on its suitability for its intended use has been held to be *prima facie* obvious (see MPEP 2144.07).

Regarding Claims 51-52, DeTrano discloses an assembly as recited in claim 49 as discussed above. DeTrano does not directly disclose the assembly comprising a further layer disposed over the outer layer opposite the adhesive layer, wherein the further layer comprises a material composition different than that of the outer layer (claim 51); and wherein the further layer is at least one of a visual or protective layer (claim 52). However, as noted above, the use of a protective layer **12** in a display assembly **10** for application to the sidewall surface of a rubber tire **42**, wherein the protective layer **12** may be transparent, is well known in the art as taught by Miyazaki. Miyazaki further teaches the material used for the protective layer **12** may include various types of resins or various types of rubbers as listed in column 9, line 20 *et seq.* Miyazaki thus teaches a protective layer **12** comprising a material composition different than that of the outer, visible layer **21** of DeTrano (*cf.*, Table I, exemplary white wall stock formulation). It would have been obvious to one of ordinary skill in the art at the time of effective filing to modify DeTrano by disposing a protective layer as per Miyazaki over the visible layer **21** of the applique **20**, as such modification merely involves the straightforward use of a known material

to perform its previously established function in an analogous context. Indeed, the selection of a known element/material based on its suitability for its intended use has been held to be *prima facie* obvious (see MPEP 2144.07).

Regarding Claim 74, DeTrano discloses a flexible article as recited in claim 67 as discussed above. DeTrano does not directly disclose the flexible article further comprising a surface layer disposed above the outer layer opposite the adhesive layer, wherein the surface layer is a visual or a protective layer. However, as noted above, the use of a protective layer **12** in a display assembly **10** for application to the sidewall surface of a rubber tire **42**, wherein the protective layer **12** may be transparent, is well known in the art as taught by Miyazaki. It would have been obvious to one of ordinary skill in the art at the time of effective filing to modify DeTrano by disposing a protective layer as per Miyazaki above the visible layer **21** of the applique **20**, as such modification merely involves the straightforward use of a known material to perform its previously established function in an analogous context. Indeed, the selection of a known element/material based on its suitability for its intended use has been held to be *prima facie* obvious (see MPEP 2144.07).

Claims 83 and 85 are rejected under 35 U.S.C. 103 as being unpatentable over Rensel.

Regarding Claim 83, Rensel discloses the assembly of claim 81 as discussed above. Rensel does not directly disclose wherein at least one additional layer of flexible material is connected between the layer of flexible material opposite the outer surface and the adhesive layer, as claimed. Nevertheless, Rensel does teach to apply a non-curing cement to the second side **18** (opposite the first (outer) side **12**) of the vulcanized rubber patch in order to hold the dual cure bonding layer **20** onto the patch. Given its non-curing nature, the cement is considered a “flexible material” as claimed. It would have been obvious to one of ordinary skill in the art at the time of effective filing to modify Rensel by applying the

non-curing cement as an additional layer between the second side **18** and the dual cure bonding layer **20** in order to ensure formation of a uniform bond between the patch **10** and said layer **20**.

Regarding Claim 85, Rensel discloses the method of claim 84 as discussed above. Rensel does not directly disclose wherein at least the step of placing takes place after the vulcanized rubber article has exited a curing chamber. However, Rensel does teach a preferred embodiment in which the rubber patch is vulcanized and then assembled to the vulcanized tire (Col. 3, lines 52-53). Rensel further teaches the alternativeness between the rubber patch being assembled to the tire and vulcanized with the tire, or permanently assembling the patch to the innerliner of a vulcanized tire, with the latter being indicated as “much more practical” (Col. 2, lines 30-34). In light of this teaching, one of ordinary skill would have reasonably been expected to follow the more practical approach and apply the patch assembly of Rensel to the innerliner after the tire has been vulcanized. And since tire vulcanization routinely takes place in some type of curing chamber, it would have obvious to one of ordinary skill in the art at the time of effective filing to modify Rensel by applying (i.e., placing) the patch **10** to the innerliner **75** after the vulcanized rubber article (tire) has exited a curing chamber, in the expectation of obtaining equivalent results in terms of attachment of the electronic monitoring device to the tire.

Allowable Subject Matter

Claim 32 would be would be allowable if amended or rewritten to overcome the rejection under 35 U.S.C. 112 set forth in this Office action and to include all the limitations of the base claim and any intervening claim. Note, however, that allowability also requires resolution of the nonstatutory double-patenting rejection.

The closest prior art to DeTrano, Parsons and Miyazaki, discussed above, does not describe the invention of instant claim 32, or provide proper rationale to modify any of their respective inventions into the invention of instant claim 32.

Correspondence

Any inquiry concerning this communication should be directed to Examiner F. M. Teskin whose telephone number is (571) 272-1116. The examiner can normally be reached on Monday through Friday from 9:00 AM - 5:30 PM.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Jones, can be reached at (571) 270-7733. The appropriate fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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