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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MARK BENN and MICHAEL DEGEORGE

Appeal 2018-002227
Application 14/243,494¹
Technology Center 1600

Before JEFFREY N. FREDMAN, JOHN G. NEW, and DAVID COTTA,
Administrative Patent Judges.

COTTA, *Administrative Patent Judge.*

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134(a) involving claims to a powder composition. The Examiner rejected the claims on appeal under 35 U.S.C. § 112 as indefinite and under 35 U.S.C. § 103(a) as obvious.

We affirm.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. According to Appellant, the real party in interest is L’Oreal. Appeal Br. 2.

STATEMENT OF THE CASE

The Specification discloses that “there is an increasing demand for the hair care products referred to as ‘hair relaxers’ or ‘hair straighteners’ which can relax or straighten curly or kinky hair, including wavy hair.” Spec. ¶ 3. “One type of composition that can be applied onto hair in order to change its shape and make it more manageable is an alkaline composition.” *Id.* ¶ 4. One type of alkaline composition is a “no-lye composition” which “employs guanidine hydroxide as the active agent for straightening or relaxing hair.” *Id.* ¶ 5. “Guanidine hydroxide is unstable and therefore, most commercial products of this type are based on a two-component system containing a first composition comprising a hydroxide-based compound such as calcium hydroxide and a second composition comprising a carbonate compound such as guanidine carbonate.” *Id.* According to the Specification, “[t]he two compositions are mixed prior to relaxing or straightening the hair in order to produce a compound such as guanidine hydroxide that would effectively straighten or relax the hair.” *Id.*

The Specification discloses that “[t]raditionally, alkaline hair relaxing/straightening products are commercially available in liquid, lotion or cream form in order to facilitate their application onto hair.” *Id.* ¶ 6. Such products “should have a viscosity such that they do not run or drip when applied . . . so as to avoid contacting the skin . . . and . . . ensure the deposition of the alkaline agents onto the hair fibers.” *Id.* This presents formulation challenges in two component no-lye formulations, as well as challenges with packaging and transport. *Id.* In addition, the Specification discloses that there is a need for “hair relaxing and straightening products that are readily available and easy and convenient for the consumer to use,

store, and travel with, as well as provide cost savings to the manufacturer in terms of processing, storage space and transport.” *Id.* ¶ 7. The Specification thus concludes that “it would be desirable to formulate a hydroxide-based compound and a carbonate compound into single composition wherein these two ingredients remain unreacted until the composition is ready to be used to relax or straighten hair.” *Id.* ¶ 8.

The Specification states: “The present invention provides a composition in the form of a powder and method for relaxing/straightening hair in an easy, convenient manner, while remaining efficacious.” *Id.* ¶ 9. According to the Specification, it was “surprisingly and unexpectedly discovered that by combining a starch, a silica material, a liquid fatty substance, an acrylic polymer, wax, and a chelant compound with an alkaline material comprising a hydroxide-containing compound and a carbonate compound, a . . . powder composition that can be used for relaxing or straightening hair was achieved.” *Id.* ¶ 10. The Specification also states that when this powdered composition was mixed with an aqueous composition, it was “surprisingly and unexpectedly discovered” that a “ready to use composition having a pH required for effectively relaxing or straightening hair” having a “viscosity which corresponds to a thick, creamy and homogeneous consistency that facilitates the ease of application” was obtained. *Id.* ¶ 11.

Claims 1–24, 26–29, and 31 are on appeal. Claim 1 is representative and reads as follows:

1. A powder composition comprising:
 - (a) from about 8% to about 30% by weight of at least one hydroxide-containing compound selected from the group consisting of alkali metal hydroxides, alkaline-earth metal hydroxides, and mixtures thereof;

(b) from about 8% to about 30% by weight of at least one carbonate compound selected from the group consisting of lithium carbonate, sodium carbonate, potassium carbonate, guanidine carbonate, and mixtures thereof;

(c) from about 1% to about 12% by weight of at least one starch;

(d) from about 0.1 % to about 20% by weight of at least one silica material;

(e) from about 20% to about 50% by weight of at least one liquid fatty substance selected from the group consisting of a C₆-C₁₆ alkane, a non-silicone oils of plant, mineral or synthetic origin, a liquid fatty alcohol, a liquid fatty acid, a liquid ester of a fatty acid and/or of a fatty alcohol, and a mixture thereof;

(f) from about 0.5% to about 5% by weight of at least one acrylic polymer;

(g) from about 0.5% to about 10% by weight of at least one wax; and

(h) from about 0.5% to about 5% by weight of at least one chelant compound;

all weights above being based on the total weight of the powder composition.

Appeal Br. 22.

The claims stand rejected as follows:²

Claims 23 and 28 were rejected under 35 U.S.C. § 112, second paragraph, as indefinite for failing to point out and distinctly claim the subject matter the inventors regard as the invention.

² In the Examiner's Answer, the Examiner withdrew the provisional rejections of claims 1-9, 11-24, 26-29, and 31 under the doctrine of obviousness-type double patenting over the claims of co-pending Application No. 14/243,466 and over the claims of co-pending Application No. 14/243,522. Ans. 3.

Claims 1–3, 5–9, 11–24, 26–29, and 31 were rejected under 35 U.S.C. § 103 as obvious over the combination of Legrand³ and Caskey.⁴

Claims 1–7, 11–24, 26–29, and 31 were rejected under 35 U.S.C. § 103 as obvious over the combination of Legrand, Matsunaga, and Welz.⁵

Claims 1–3, 5–24, 26–29, and 31 were rejected under 35 U.S.C. § 103 as obvious over the combination of Legrand, Caskey, and Matsunaga.⁶

INDEFINITENESS

Claims 23 and 28 each require that the claimed composition have a viscosity of “from about 50 uD to about 120 uD.” The Examiner found these claims were indefinite “because they recite the undefined term ‘uD.’” Ans. 3. Appellant argues that paragraph 316 of the Specification “describes how the viscosity is measured and defines the term ‘uD’ (units of deflection).” Appeal Br. 12. We find that the Examiner has the better position.

Paragraph 316, in its entirety, states:

Viscosity was measured using the Mettler RM 180 Rheomat spindle #3 at 25°C (uD = Units of Deflection).

Spec. ¶ 316. We acknowledge that paragraph 316 defines “uD” and specifies equipment on which “uD” can be measured. However, Appellant has not identified persuasive evidence that the ordinary artisan would have understood a “unit of deflection” to correspond to a specific quantified

³ Legrand, US Patent No. 6,444,197 B2, issued Sept. 3, 2002 (“Legrand”).

⁴ Caskey, US Patent No. 5,575,989, issued Nov. 19, 1996 (“Caskey”).

⁵ Welz et al., US Patent Publication No. 2012/0009134 A1, published Jan. 12, 2012 (“Welz”).

⁶ Matsunaga, US Patent No. 6,878,169 B2, issued Apr. 12, 2005 (“Matsunaga”).

amount of deflection. The definition of “uD” provided in the Specification appears, on its face, to simply identify a generic category of measurement. Absent identification of a specific quantified amount of deflection known to correspond to a “unit,” the claimed range lacks meaning. The problem is analogous to, for example, claiming a structure of “50–120 units of length” without specifying whether the units of length should be measured in millimeters, centimeters, inches, etc. Accordingly, we affirm the Examiner’s rejection of claims 23 and 28 as indefinite.

OBVIOUSNESS OVER LEGRAND AND CASKEY

Claims 1–3, 5–9, 11–22, 24, 26, 27, 29, and 31

Appellant argues claims 1–3, 5–9, 11–22, 24, 26, 27, 29, and 31 together. We designate claim 1 as representative.

Legrand discloses “a composition for bleaching keratin fibers, for example, human keratin fibers such as the hair, comprising at least one oxidizing agent and at least on combination of two specific polyurethane polyethers.” Legrand, 1:5–9. The Examiner found that Legrand disclosed all of the elements of claim 1, although not all within the same composition. To arrive at the claimed composition, the Examiner started with Example 1 of Legrand, which discloses a bleaching composition including an anhydrous portion and an aqueous portion. The anhydrous portion of Example 1 is reproduced below.

Anhydrous composition	
Potassium persulphate	37
Sodium persulphate	30
Sodium metasilicate	12
Ammonium chloride	4
EDTA	1
Sodium C16/C18 alkyl sulphate	2
Calcium stearate	2
Aculyn 44[(Rohm & Haas)	0.8 AM*
Aculyn 46 (Rohm & Haas)	1.2 AM*
Titanium dioxide	2
Clay	8

Id. at 22:33–45.

With respect to claim elements 1(a) and 1(b), the Examiner found that Legrand taught the “inclusion of sodium hydroxide, potassium hydroxide[, and] alkali metal carbonates” for use in its inventive composition. Ans. 7. The Examiner found that the genus of alkali metals was relative small – comprised of only six elements – and thus the ordinary artisan would “immediately envisage lithium carbonate, sodium carbonate[,] and potassium carbonate for inclusion in LEGRAND’s invention as alkali metal carbonates.” *Id.* The Examiner concluded that it would have been obvious to substitute the claimed amounts of sodium or potassium hydroxide (as required by element 1(a)), and lithium, sodium, or potassium carbonate (as required by element 1(b)) for the ammonium chloride and sodium metasilicate disclosed in Legrand’s Example 1. *Id.* at 8. The Examiner reasoned the ordinary artisan would have reason to make this substitution because all of these compounds are identified in Legrand as basifying agents and because Example 1 of Legrand discloses using ammonium chloride and sodium metasilicate in an amount comprising 16% of the composition. Ans. 8; *see also*, Legrand, 20:59–68, 22:30–50.

With respect to claim element 1(c), the Examiner found that Aculyn 46, one of the components of Legrand’s Example 1 is taught to comprise 4% maltodextrine. Ans. 4. The Examiner further found that Legrand taught that “polyether (a) (i.e. Aculyn 46) generally comprise 5% of the composition.” *Id.* The Examiner then concluded that the “adjustment of particular conventional working conditions (e.g. determining result effective amounts of polyether(a) in a matrix of maltodextrin) is routine optimization which is within the skill of the ordinary artisan.” *Id.* at 4–5.

With respect to claim element 1(d), the Examiner found that Legrand disclosed both silica and titanium oxides as additives. *Id.* at 5 (citing Legrand claim 50). From this, the Examiner concluded that it would have been obvious to have substituted “2% silica for the 2% titanium dioxide” in Legrand’s Example 1 because “silica and titanium dioxide are both fillers suitable for use in the compositions of [Legrand’s] invention.” *Id.*

With respect to claim element 1(e), the Examiner found that Legrand taught that the anhydrous composition “may comprise at least one additive . . . in an amount of 0–30% by weight” which “may be mineral and synthetic waxes and oils.” *Id.* at 6. The Examiner also noted that mineral oil is disclosed “as a medium to disperse some particular polymers.” *Id.* at 6–7. The Examiner then concluded that it would have been obvious to use such oils in the amount claimed because the claimed range overlaps with the range disclosed in Legrand.

With respect to claim element 1(f), the Examiner found that Legrand taught that “Pemulen TR1 and TR2 (i.e. acrylates C10-30 alkyl acrylate crosspolymer) and Aculyn 44 and 46 may be present as additional thickeners.” Ans. 6. The Examiner noted that Aculyn 46 is present in Example 1 in an amount of 1.2%. *Id.* The Examiner then concludes that it would have been obvious to “have looked to LEGRAND’s teachings and added 1.2% acrylates C10-30 alkyl acrylate crosspolymer to the anhydrous powder because acrylates C10-30 alkyl acrylate crosspolymer (i.e. Pemulen TR1 and TR2) and Aculyn 46 are both thickening agents suitable for use in the compositions of LEGRAND’s invention.” *Id.*

With respect to claim element 1(g), the Examiner found that Example 1 of Legrand disclosed 2% calcium stearate, which met the claim

requirement that the composition comprise 0.5–10% of at least one wax. *Id.* at 5.

With respect to claim element 1(h), the Examiner found that Example 1 of Legrand disclosed 1% ethylenediaminetetraacetic acid, which met the claim requirement that the composition comprise 0.5–5% of at least one chelant compound. *Id.*

We adopt the Examiner’s findings of fact and reasoning regarding the scope and content of the prior art (Ans. 4–9, 12–18; Final Act. 5–12) and agree that the claims would have been obvious over the combination of Legrand and Caskey. We address Appellant’s arguments below.

Appellant argues that the Examiner “relies on multiple lists of optional components set forth in Legrand, picks out the claimed components from these lists, and simply lumps the claimed components together to recreate what is claimed” without “set[ting] forth reasons for the selections.” Appeal Br. 12–13. Appellant contends that “none of the claimed components are actually required in the compositions of Legrand – they are all described as *optional*” and points out that “that merely pointing to the presence of all claim elements in the prior art is not a complete statement of a rejection for obviousness.” *Id.* at 13 (citing *Examination Guidelines Update: Development in the Obviousness Inquiry After KSR v. Teleflex*, 75 Fed. Reg. 53643,, 53647 (September 1, 2010)). We are not persuaded.

Claim elements 1(c), 1(g) and 1(h) are present in the composition of Legrand’s Example 1.⁷ With respect to the other claim elements, the

⁷ Claim element 1(c) is present in the composition of Legrand’s Example 1 because Aculyn 46 includes maltodextrine. In addition, Legrand discloses that polyurethane ployether (a), which Legrand teaches is a component of its bleaching composition (Legrand 2:5–

Examiner has identified specific reasons to modify the composition of Legrand's Example 1 to arrive at the claimed composition. Ans. 4–8, 13–14. In particular, the Examiner found that Legrand disclosed that sodium hydroxide, potassium hydroxide and alkaline-earth metal carbonate, ammonium chloride, and sodium metasilicate were functionally equivalent basifying agents (Ans. 7–8, 13–14), and that silica and titanium dioxide were functionally equivalent fillers. Ans. 5, 13–14. The record supports this determination. Legrand, 20:59–67; 26:47–51. This provides reason to substitute the claim elements 1(a), 1(b), and 1(d) for the ammonium chloride, sodium metasilicate, and titanium dioxide in the composition of Legrand's Example 1.

The Examiner also found that Legrand taught that its compositions may include additives such as mineral oil, and that its compositions may include additional thickeners, such as Pemulen TR1 and TR2 and Aculyn 44 and 46. Ans. 6–7. The record supports this determination. Legrand 20:38–56, 21:46–53, 26:39–45. This provides reason to include claim elements 1(e) and 1(f) in the composition of Legrand's Example 1. In addition, the Examiner finds additional reason to include mineral oil in Legrand's teaching that mineral oil was used as a medium to disperse polymers (*see*, Legrand, 11:60) and in the knowledge of the ordinary artisan that mineral oil was an emollient and humectant. Ans. 6–7.

The Examiner's obviousness conclusion here is consistent with *Wrigley*, where the Federal Circuit found a "strong case of obviousness" where the claim at issue "recite[d] a combination of elements that were all

23), also includes Aculyn 46. Legrand 2:38–56.

known in the prior art, and all that was required to obtain that combination was to substitute one well-known . . . agent for another.” *Wm. Wrigley Jr. Co. v. Cadbury Adams USA LLC*, 683 F.3d 1356, 1364 (Fed. Cir. 2012); *see also, KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007) (“[W]hen a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result”); *Merck & Co., v. Biocraft Labs., Inc.*, 874 F.2d 804, 807 (Fed. Cir. 1989) (“That the [prior art] discloses a multitude of effective combinations does not render any particular formulation less obvious.”); *In re Kerkhoven*, 626 F.2d 846, 850 (CCPA 1980) (“It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition which is to be used for the very same purpose.”).

Appellant argues that unexpected results demonstrate that the claimed composition is not obvious. Appeal Br. 17. As support, Appellant compares a composition falling within the scope of the claims to three commercially available comparative compositions. *Id.* at 17–18. “The viscosities and pH values for the comparative commercial compositions and the inventive composition[] were measured at room temperature over various time points in order to determine how the viscosity and pH changed over a period of 60 minutes with constant mixing.” *Id.* at 17. Appellant contends that the results “show that the change in viscosity over time for the inventive formulation was surprisingly small (4.78% change) compared to the change in viscosities over time for the commercial, comparative compositions (43%, 36.2% and 45.3%).” *Id.* at 18. In addition, Appellant contends that the “pH of the inventive formulation was maintained, thereby showing that the

inventive formulation retains its viscosity without losing alkalinity.” *Id.* We are not persuaded.

As the Examiner points out, claim 1 is drawn to a powder composition and does not recite any limitations pertaining to water or other solvents.

Ans. 17. The composition on which Appellant relied to demonstrate unexpected results mixed the allegedly inventive composition with a 1:3 ratio of water. As Appellant has not directed us to persuasive evidence that the allegedly unexpected results would extend to mixtures with other amounts of water, we agree with the Examiner that the results are not commensurate with the scope of the claims.

In addition, claim 1 encompasses a range of amounts for each of components 1(a)–1(h), and each of these components describes a genus which could be met by multiple different components. In contrast, the composition Appellant relies on as evidence that the claimed composition exhibits unexpected results is limited to specific amount of specific species falling within the claimed ranges and within the claimed genera. Appellant does not direct us to persuasive evidence that these specific amounts and specific species are representative of the full scope of possible components falling within the scope of the claim. For this additional reason, we agree with the Examiner that the results are not commensurate with the scope of the claims.

Finally, we agree with the Examiner that Appellant has not compared the claimed composition to the closest prior art – the composition of Legrand. Appellant argues that the comparative examples it provided were “more applicable to what is claimed than the compositions of Legrand” because they “include a claimed hydroxide containing component

(component (a) of the claims), which is a critical element of the instant case.” Appeal Br. 19. We are not persuaded because Appellant has not directed us to persuasive evidence that the hydroxide containing component is critical. *See Johnston v. IVAC Corp.*, 885 F.2d 1574, 1581 (Fed. Cir. 1989) (“Attorneys’ argument is no substitute for evidence.”); *In re Pearson*, 494 F.2d 1399, 1405 (CCPA 1974). Moreover, we note that the comparative examples do, in fact, include hydroxide containing components, albeit not in the amounts claimed. Spec. 63 (identifying comparative compositions 5–7 as including calcium hydroxide or sodium hydroxide).

Accordingly, we affirm the Examiner’s rejection of claim 1. Because they were not argued separately, claims 1–3, 5–9, 11–22, 24, 26, 27, 29, and 31 fall with claim 1.

Claims 23 and 28

Claims 23 and 28 each require that the claimed composition have a viscosity of “from about 50 uD to about 120 uD.” The Examiner finds that Legrand teaches the composition of Legrand “necessarily has the recited viscosity because: ‘[p]roducts of identical chemical composition cannot have mutually exclusive properties.’” Ans. 8 (citing *In re Spada*, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990)). Appellant argues that the Examiner “improperly relies on inherency to account for the claimed viscosity.” Appeal Br. 15. According to Appellant, because “Legrand does not describe an ‘identical chemical composition’ (*i.e.*, a composition containing each of the claimed components) reliance on inherency is legal error.” *Id.* at 15. We find that Appellant has the better position.

The Federal Circuit has recognized that “inherency may supply a missing claim limitation in an obviousness analysis.” *PAR Pharm., Inc. v.*

TWI Pharm., Inc., 773 F.3d 1186, 1194—95 (Fed. Cir. 2014). However, “the concept of inherency must be limited when applied to obviousness, and is present only when the limitation at issue is the ‘natural result’ of the combination of prior art elements.” *Id.* at 1195 (citation omitted). Here, in contesting Appellant’s showing of unexpected results, the Examiner asserted that evidence showing that a single composition falling within the scope of claim 1 retained its viscosity did not establish unexpected results because it was not commensurate with the scope of claims encompassing several different genera of components present in a range of amounts. This argument suggests that the claimed viscosity may not be the natural result of producing a composition falling within the scope of the claims.

The Examiner contends that Legrand teaches “Appellant’s *preferred species* of non-starch, non-acrylic polymers” and that Appellant’s Specification “links [these] . . . polymer[s] to viscosity and thickening.” Ans. 14–15. We agree with the Examiner that Appellant’s Specification suggests that these polymers could be used to modify viscosity. *See*, Spec. ¶ 226. However, claims 23 and 28 do not require a non-starch, non-acrylic polymer, and the Examiner does not direct us to persuasive evidence linking the amount of these viscosity modifying polymers taught to be present in Legrand – 0.05% to 10% (*see*, Legrand, 25:58–67) – with the claimed viscosity.

However, because we affirmed the rejection of claims 23 and 28 as indefinite, we reverse, *pro forma*, the Examiner’s prior art rejection here because the claims are not sufficiently definite to allow determination of whether the prior art renders the claims obvious.

We therefore reverse the rejection over claims 23 and 28 consistent with *In re Steele* because “substantial confusion exists in the record at all levels of the prosecution as to the proper interpretation to be given to the appealed claims. We believe that this confusion arose and has continued because the claims do not particularly point out and distinctly claim the invention as required by 35 U.S.C. § 112.” *In re Steele*, 305 F.2d 859, 863 (CCPA 1962). “Our decision is not to be construed as meaning that we consider the claims on appeal to be patentable as presently drawn.” *Id.*

OBVIOUSNESS OVER LEGRAND, MATSUNAGA, AND WELZ

In rejecting claims 1–7, 11–24, 26–29, and 31 over the combination of Legrand, Caskey, Matsunaga, and Welz, the Examiner applied the Legrand as discussed above. Ans. 9. The Examiner relied upon Matsunaga and Welz to address the additional limitation recited in dependent claim 4 requiring that “the hydroxide-containing compound is calcium hydroxide and the carbonate compound is guanidine carbonate.” *Id.* at 10. The Examiner found that Matsunaga disclosed that “guanidine carbonate and hydroxide salts are alkali agents for use in hair dye compositions” and Welz disclosed that “potassium hydroxide, sodium hydroxide and calcium hydroxide are all preferred inorganic alkalizing agents for use in her [hair bleaching] composition.” *Id.* The Examiner concluded that it would have been obvious to have modified Legrand’s hair bleach powder by “substituting LEGRAND’s potassium and sodium hydroxide salts with calcium hydroxide as suggested by WELZ and substituting LEGRAND’S alkali metal carbonates with guanidine carbonate as suggested by MATSUNAGA because LEGRAND, MATSUNAGA and WELZ are [all] directed to

compositions which permanently modify the color of hair through use of alkali reagents.” *Id.*

Appellant argues that “the Examiner has not articulated any reason for picking out the specific elements from Matsunaga and Welz.” Appeal Br. 20. We are not persuaded because, as discussed above, the Examiner articulates a reason to use the elements taught by Matsunaga and Welz. Namely, the Examiner explains that Matsunaga and Welz disclose that calcium hydroxide and guanidine carbonate are alkali agents useful for modifying hair color. This provides reason to substitute calcium hydroxide and guanidine carbonate for the alkali agents taught by Legrand to be useful for modifying hair color. *KSR*, 550 U.S. at 416 (“[W]hen a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result”). Accordingly, we affirm the Examiner’s rejection of claims 1–7, 11–22, 24, 26, 27, 29, and 31 over the combination of Legrand, Matsunaga, and Welz for the reasons discussed above.

The Examiner does not rely on Matsunaga or Welz to address the deficiencies with respect to the viscosity limitations discussed above. Accordingly, we reverse the Examiner’s rejection of claims 23 and 28 for the reasons discussed above.

OBVIOUSNESS OVER LEGRAND, CASKEY, AND MATSUNAGA

In rejecting claims 1–3, 5–24, 26–29, and 31 as obvious over the combination of Legrand, Caskey, and Matsunaga, the Examiner applied Legrand and Caskey as discussed above. Ans. 11. The Examiner relied upon Matsunaga to address the additional limitation recited in claim 10

requiring that “the one or more carbonate compounds comprises guanidine carbonate.” *Id.* The Examiner found that Matsunaga rendered this additional limitation obvious for much the same reasons as discussed above in connection with the rejection over Legrand, Matsunaga, and Welz. *Id.*

Appellant does not separately argue this rejection, but argues that this rejection should be reversed for the same reasons the rejection over the combination of Legrand and Caskey and the rejection over the combination of Legrand, Matsunaga, and Welz should be reversed. Reply Br. 2 n. 1. Accordingly, we affirm the Examiner’s rejection of claims 1–3, 5–22, 24, 26, 27, 29, and 31 as obvious over the combination of Legrand, Caskey, and Matsunaga for the reasons discussed above.

The Examiner does not rely on Caskey or Matsunaga to address the deficiencies with respect to the viscosity limitations discussed above. Accordingly, we reverse the Examiner’s rejection of claims 23 and 28 for the reasons also discussed above.

CONCLUSION

In summary:

Claims Rejected	35 U.S.C. §	Basis	Affirmed	Reversed
23, 28	112	Indefiniteness	23, 28	
1-3, 5-9, 11-24, 26-29, 31	103(a)	Legrand, Caskey	1-3, 5-9, 11-22, 24, 26, 27, 29, 31	23, 28
1-7, 11-24, 26-29, 31	103(a)	Legrand, Matsunaga, Welz	1-7, 11-22, 24, 26, 27, 29, 31	23, 28
1-3, 5-24, 26-29, 31	103(a)	Legrand, Caskey, Matsunaga	1-3, 5-22, 24, 26, 27, 29, 31	23, 28
Overall Outcome			1-24, 26-29, 31	

AFFIRMED