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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte NICHOLAS STILLWELL

Appeal 2019-004673
Application 14/373,764
Technology Center 1700

Before LINDA M. GAUDETTE, JAMES C. HOUSEL, and
BRIAN D. RANGE, *Administrative Patent Judges*.

HOUSEL, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE¹

Pursuant to 35 U.S.C. § 134(a), Appellant² appeals from the Examiner's decision to reject claims 1–3 and 5–9. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ This Decision refers to the Specification (“Spec.”) filed July 22, 2014, the Appeal Brief (“Appeal Br.”) filed November 8, 2018, and the Examiner’s Answer (“Ans.”) dated March 8, 2019.

² We use the word Appellant to refer to “applicant” as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as Upcycle Holdings Limited. Appeal Br. 2.

CLAIMED SUBJECT MATTER

The invention relates to a large format polystyrene (“PS”) panel with a continuous outer skin and a cellular core structure. Spec. 1:1–6. Appellant discloses that this panel may be used in furniture and interior design applications, wherein the panel comprises an outer skin formed of polystyrene or high-impact polystyrene (“HIPS”) which completely encapsulates a cellular plastic core formed from a heat-activated foamable plastic particulate material. *Id.* at 3:1–5. In addition, the outer skin may comprise recycled PS or HIPS, and the core may comprise mixed waste plastic and/or reinforcement members. *Id.* at 3:12–14. The panel may include anti-microbial agents and fire retardant agents, and the outer skin of the panel may have a surface texture and incorporate a high temperature printed film. *Id.* at 3:16–21.

Claim 1, reproduced below from the Claims Appendix to the Appeal Brief, is illustrative of the claimed subject matter:

1. A large format panel for use in furniture and interior design applications, comprising a continuous stiff outer skin of high impact polystyrene completely encapsulating a cellular plastic core formed from a heat activated foamable plastic particulate material comprising mixed waste plastic, wherein the area of the largest face of the panel is greater than 1 m².

REFERENCES

The Examiner relies on the following prior art:

Name	Reference	Date
Frank	US 2,950,505	Aug. 30, 1960
Ooba et al. (“Ooba”)	US 3,857,799	Dec. 31, 1974
Ellingson	US 5,601,912	Feb. 11, 1997
Sutelan	US 6,205,728 B1	Mar. 27, 2001
Yeh	US 2006/0105650 A1	May 18, 2006
Moriya et al. (“Moriya”)	US 2007/0128428 A1	June 7, 2007
Luna et al. (“Luna”)	Study of the Processability of Post-Consumer and Post-Industrial Recycled High-Impact Polystyrene ³	2004

REJECTIONS

The Examiner maintains, and Appellant requests our review of, the following rejections:

1. Claims 1, 2, 6, 8, and 9 under 35 U.S.C. § 103 as unpatentable over Frank in view of Sutelan, Ooba, and Ellingson;
 2. Claim 3 under 35 U.S.C. § 103 as unpatentable over Frank in view of Sutelan, Ooba, and Ellingson, and further in view of Luna;
 3. Claim 5 under 35 U.S.C. § 103 as unpatentable over Frank in view of Sutelan, Ooba, and Ellingson, and further in view of Moriya;
- and

³ Laura Luna, et al., *Study of the Processability of Post-Consumer and Post-Industrial Recycled High-Impact Polystyrene*, ANTEC 3762–5, Soc. of Plastics Engineers (2004) (available at www.knovel.com). The Examiner refers to this reference as “Perera,” the last name of the fourth-named author. In this Decision, we adopt the standard convention of referring to this reference by the last name of the first-named author.

4. Claim 7 under 35 U.S.C. § 103 as unpatentable over Frank in view of Sutelan, Ooba, and Ellingson, and further in view of Yeh.

OPINION

We review the appealed rejections for error based upon the issues Appellant identifies, and in light of the arguments and evidence produced thereon. *Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential) (cited with approval in *In re Jung*, 637 F.3d 1356, 1365 (Fed. Cir. 2011) (“[I]t has long been the Board’s practice to require an applicant to identify the alleged error in the examiner’s rejections.”). After considering the argued claims and each of Appellant’s arguments, we are not persuaded of reversible error in the appealed rejections. Accordingly, we affirm the appeal rejections for the reasons set forth in the Examiner’s Answer. We add the following primarily for emphasis.

Appellant focuses on claim 1 only, and does not otherwise argue either the claims or the rejections separately. We, therefore, decide the appeal as to all grounds of rejection based on the arguments made in support of patentability of claim 1.

The Examiner finds that Frank discloses a molded panel comprising a continuous PS outer skin completely encapsulating a heat-activated, foamable plastic particulate core (PS cellular core), but acknowledges that Frank fails to teach, in relevant part, that the outer skin is formed of HIPS and the core includes mixed waste plastics. Ans. 3–6. The Examiner finds that Ellingson teaches molded foam products for building construction comprising a HIPS outer skin over a cellular core. *Id.* at 6. The Examiner further finds that Ellingson teaches that HIPS is a well-known material in the art. *Id.* Therefore, the Examiner concludes that it would have been obvious

to have selected HIPS as the material for Frank's outer skin because Ellingson teaches that HIPS is a well-known material that provides toughness, flexibility, and resiliency and is used as the outer skin of molded products. *Id.*

The Examiner further finds that Ooba teaches molded panels made from a heat-activated, foamable plastic particulate material comprising mixed waste plastic. Ans. 5. The Examiner concludes that it would have been obvious to have substituted Ooba's heat-activated, foamable plastic particulate material comprising mixed waste plastic for Frank's PS core material in order to provide a means of reusing waste plastics, at lower cost and environmental impact. *Id.* at 5–6. We note that Ellingson also suggests that the foamable core may include recycled plastic. Ellingson 2:63–67.

Appellant argues that Frank fails to disclose or suggest that the outer skin is formed of HIPS and that it would not have been obvious to have selected HIPS as Frank's outer skin. Appeal Br. 8. Appellant asserts that HIPS is not encompassed by PS, but is an entirely different material. *Id.* at 9. In particular, Appellant states that PS is a known, clear, and brittle homopolymer formed of styrene monomers, while HIPS is a co-polymer of styrene monomers with another material that is added to provide much better impact resistance. *Id.*

Appellant's argument is not persuasive of reversible error because Appellant fails to address the evidence, specifically Ellingson, upon which the Examiner's rejection relies for suggesting the use of HIPS as Frank's outer skin material. *See* Ans. 9–10.

Appellant next argues that the Examiner's reliance on Ooba to suggest the use of mixed waste plastics in Frank's core "represents impermissible

shopping of the references using the claimed invention as an instruction manual or ‘template’ to piece together [the] teachings of [the] prior art.” Appeal Br. 9 (citing *In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992)). We disagree. To begin, we note that:

Any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning, but so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made and does not include knowledge gleaned only from applicant’s disclosure, such a reconstruction is proper.

In re McLaughlin, 443 F.2d 1392, 1395 (CCPA 1971). Here, the Examiner articulates findings of fact and reasoning supporting the obviousness conclusion. *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”), *quoted with approval in KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). Appellant fails to address, with any particularity, either the Examiner’s findings or reasoning, or otherwise establish that any aspect of the Examiner’s rejection is based on knowledge gleaned only from Appellant’s Specification.

Appellant further argues that the combination of Frank and Ooba does not result in the claimed subject matter because Ooba forms a mixed plastic brick by chemical binding that is then molded to the desired shape. Appeal Br. 9–10. Appellant urges that Ooba does not “even remotely” form a skin on the object and uses polyesters, not PS. *Id.* at 10. Appellant also contends that Ooba’s process temperatures are unsuitable for use with either PS or HIPS. *Id.* Moreover, Appellant asserts that Ooba’s molded articles of

regenerated waste plastics would be unsuitable for Frank's "soft core" because Ooba's articles are already molded. *Id.*

Appellant's arguments are unpersuasive of reversible error because they mischaracterize the rejection. Appellant's arguments appear to assume that the rejection requires somehow replacing Frank's core with Ooba's already expanded and molded articles. Quite the opposite, the rejection is based on substituting Ooba's heat-activatable, foamable plastic particulate material comprising mixed waste plastic for Frank's core material *prior to being heat-activated, foamed, and molded* into Frank's final panel with an outer skin. Additionally, Appellant fails to direct our attention to any technical reasoning or evidentiary support for the contention that Ooba's process temperatures are unsuitable for use with either PS or HIPS. On the contrary, the Examiner finds that Frank's process molds PS using temperatures at or above Ooba's. Ans. 12. The Examiner also finds that Frank teaches that a different temperature may be selected if modified PS is used. *Id.*

Appellant does not otherwise address the Examiner's obviousness rejections. Accordingly, we sustain the Examiner's rejection of claim 1, and dependent claims 2, 3, and 5-9.

CONCLUSION

Upon consideration of the record, and for the reasons given above and in the Answer, the Examiner's decision to reject claims 1-3 and 5-9 under 35 U.S.C. § 103 as unpatentable over a combination of Frank, Sutelan, Ooba, and Ellingson, alone or further combined with Luna, Moriya, or Yeh, is *affirmed*.

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1, 2, 6, 8, 9	103	Frank, Sutelan, Ooba, Ellingson	1, 2, 6, 8, 9	
3	103	Frank, Sutelan, Ooba, Ellingson, Luna	3	
5	103	Frank, Sutelan, Ooba, Ellingson, Moriya	5	
7	103	Frank, Sutelan, Ooba, Ellingson, Yeh	7	
Overall Outcome			1-3, 5-9	

TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED