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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte LOUIS BIBEAU

Appeal 2020-001660
Application 15/006,448
Technology Center 1700

Before ADRIENE LEPIANE HANLON, JEFFREY T. SMITH, and
JEFFREY B. ROBERTSON, *Administrative Patent Judges*.

SMITH, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 1–7, 9, and 10. *See* Final Act. 1. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

¹ We use the term “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as Appeal Brief under 37 C.F.R. § 41.37. The real party in interest is Logistik Unicorp Inc. Appeal Br. 2.

CLAIMED SUBJECT MATTER

The claims are directed generally to an insulating garment for use as a thermal and moisture repellent barrier in firefighter bunker gear. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. An insulating garment for use as thermal and moist repellent barrier in a firefighter bunker gear, the garment being made from a fire-resistant insulating fabric comprising:
 - a first woven or knitted fire-resistant fabric layer;
 - a second woven or knitted fire-resistant fabric layer; and
 - at least one monofilament yarn interconnecting the first and second layers, thereby creating an insulating space between the layers, each monofilament yarn comprising at least one of polyphenylene sulphide, polyether ether ketone, or polyetherimide to maintain the insulating space between the layers and therefore thermal and moist insulation.

REFERENCES

The prior art relied upon by the Examiner is:

Name	Reference	Date
Aldridge	US 5,095,549	Mar. 17, 1992
Flay	US 2007/0284558 A1	Dec. 13, 2007
Hagihara	US 7,681,417 B2	Mar. 23, 2010
Kuroda	US 2013/0174334 A1	July 11, 2013

REJECTION

Claims 1–7, 9, and 10 are rejected under 35 U.S.C. § 103 as unpatentable over Flay in view of Kuroda, Hagihara, and/or Aldridge. Final Act. 2.

OPINION

We review the appealed rejection for error based upon the issues Appellant identifies, and in light of the arguments and evidence produced

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thereon. *See 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,” citing *Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential)).

After review of the respective positions Appellant and the Examiner provide, we determine that Appellant has identified reversible error in the Examiner’s rejection under 35 U.S.C. § 103.

We limit our discussion to independent claim 1, the sole independent claim, as Appellant argues in the Appeal Brief. (Appeal Br. 4–11).

The Examiner finds Flay discloses a firefighter garment with first and second fire-resistant fabric layers, and a yarn interconnecting those two layers creating an insulating space between them. (Final Act. 3.) The Examiner finds Flay does not disclose the interconnecting yarn is made of at least one of polyphenylene sulphide, polyether ether ketone, or polyetherimide as required by independent claim 1. (Final Act. 3.) The Examiner finds Kuroda discloses heat protective clothing comprising polyphenylene sulfide fibers or polyetherimide fibers. (Final Act. 3.) The Examiner concludes it would have been obvious to make the interconnecting fibers of Flay from any suitable flame resistant material. The Examiner specifically states:

[I]t would have been obvious to one having ordinary skill in the art at the time the invention was made to make the interconnecting yarn of Flay comprise any suitable flame retardant fiber material, such as polyphenylene sulfide fibers and/or polyetherimide fibers, because it is within the general skill of a worker in the art to select a known material on the basis of its availability, suitability, and desired characteristics.

(Final Act. 3.)

The Examiner finds Flay does not describe the interconnecting yarn as having a monofilament structure. (Final Act. 3.) The Examiner finds Hagihara discloses that yarn having monofilament or multifilament structures were known to persons of ordinary skill in the art. (Final Act. 3; Hagihara col. 1 ll. 7–10.) The Examiner concludes it would have been obvious to make the interconnecting yarn of Flay with the known monofilament structure. (Final Act. 3.)

Appellant argues the Examiner failed to provide proper rationale to support an obviousness rejection based on the teachings of Flay and Kuroda. (Appeal Br. 5–6.) Appellant argues Kuroda teaches utilizing polyphenylene sulfide fibers and polyetherimide fibers for traditional fire-resistant fabric layers. (Appeal Br. 6.) Appellant argues Kuroda, however, “does not teach that these materials are appropriate for an interconnecting yarn for the fabric layers that maintains an insulating space between those fabric layers, which is dependent on certain properties, including compressive strength and resiliency.” (Appeal Br. 6.) Appellant further argues:

At the time of the invention, polyphenylene sulfide fibers and polyetherimide fibers were not known materials for such an interconnecting yarn that creates this insulating space between the inner and outer layers.

(Appeal Br. 7.)

Appellant’s Specification also provides a discussion of the cited Flay reference. The Specification specifically states:

Flay refers indistinctly to the use of pile yarns for attaching the two layers: in addition to using the term “pile yarn”, which is appropriate only when the connecting yarn of double density velvet fabric has been severed, Flay fails to identify the overall essential function of the connecting yarn, in terms of material, flammability, and architecture, in order to ensure, the required resistance to high compression, for instance in bunker gear areas such as knees and elbows, or shoulders.

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(Spec. 2, ll. 21–27.)

It is well settled that the initial burden of presenting evidence to support an obvious determination rests with the Examiner. *See In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). The Examiner must provide a reasoned explanation of a suggestion or motivation to modify the teachings of the cited prior art to arrive at the claimed invention in order to support a conclusion of obviousness. This suggestion or motivation may be derived from the prior art reference itself, from the knowledge of one of ordinary skill in the art, or from the nature of the problem to be solved. *See Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1573 (Fed. Cir. 1996).

The Examiner has failed to meet the initial burden in this case. The Examiner relies on Kuroda's broad disclosure of using polyphenylene sulfide fibers or polyetherimide fibers for heat resistant layers in protective clothing as suggestive of the suitability of utilizing the fibers for an interconnecting yarn in Flay. Flay discloses heat protective clothing but fails to disclose the interconnecting yarn for the multiple layers can be formed from polyphenylene sulphide fibers, polyether ether ketone fibers, or polyetherimide fibers as claimed. The fact that Kuroda teaches the claimed materials can be used for layers in heat protective clothing, has no bearing on whether it would have been obvious to one of ordinary skill in the art to make Flay's interconnecting yarn with the claimed materials. The Examiner has not identified portions of Kuroda describing properties of polyphenylene sulfide fibers or polyetherimide fibers that would be necessary to maintain the insulating space in Flay. "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational

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underpinning to support the legal conclusion of obviousness.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

Appellant has persuasively argued that the Examiner’s proposed motivation for combining the applied prior art is not supported by the evidence of record. Rather, the Examiner appears to have relied on impermissible hindsight reasoning in determining it would have been obvious to have used polyphenylene sulfide fibers or polyetherimide fibers as the interconnecting yarn in Flay’s heat protective clothing. The fact that Flay discloses heat protective clothing, and Kuroda states that the claimed materials can be used for heat protective clothing, does not establish that it would have been obvious to a skilled artisan to make the interconnecting yarn with the claimed materials.

For the foregoing reasons, we do not sustain the Examiner’s rejection of claims 1–7, 9, and 10 rejected under 35 U.S.C. § 103.

DECISION SUMMARY

Claim(s) Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–7, 9, 10	103	Flay, Kuroda, Hagihara, Aldridge		1–7, 9, 10

REVERSED