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JOHNS MANVILLE 10100 WEST UTE AVENUE PO BOX 625005 LITTLETON, CO 80162-5005			QIAN, YUN	
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte KIARASH ALAVI SHOOSHTARI

Appeal 2021-001620
Application 13/490,638
Technology Center 1700

Before TERRY J. OWENS, N. WHITNEY WILSON, and
JEFFREY R. SNAY, *Administrative Patent Judges*.

SNAY, *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, 4, 7, 10, 12, 17, 19, 20, 22, 23, 34, and 36. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

¹ “Appellant” refers to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies Johns Manville Company as the real party in interest. Appeal Br. 3.

CLAIMED SUBJECT MATTER

The invention relates to binder compositions suitable for use with fiber products such as fiberglass insulation. Spec. ¶¶ 2, 5. Claim 1 reads as follows:

1. A binder composition comprising:
a reducing sugar monosaccharide; and
a crosslinking agent that is a reaction product of a urea compound and an aldehyde-containing compound, wherein the crosslinking agent and the reducing sugar have a molar ratio of 1:2 to 1:50; and
a catalyst for catalyzing a crosslinking reaction between the reducing sugar and the crosslinking agent, wherein the catalyst comprises a sulfonic acid compound.

Appeal Br. 8 (Claims Appendix).

Claims 23 and 36 recite binder compositions which include features similar to those of claim 1. Each remaining claim on appeal depends from claim 1 or 23.

REJECTION

Claims 1, 4, 7, 10, 12, 17, 19, 20, 22, 23, 34, and 36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang² and Floyd.³

OPINION

Each independent claim on appeal recites a binder composition which includes, *inter alia*, a sulfonic acid catalyst. In rejecting Appellant's claims, the Examiner finds Wang discloses a binder composition which includes a

² US 2007/0082187 A1, published April 12, 2007.

³ US 5,691,426, issued November 25, 1997.

pH adjuster, such as HCl. Final Act. 3. The Examiner determines it would have been obvious to one of ordinary skill in the art to substitute sulfonic acid for Wang's HCl pH adjuster because Floyd teaches use of either HCl or p-toluene sulfonic acid as a mineral acid catalyst in a binder composition. *Id.* at 4.

Appellant argues Wang discloses addition of HCl solely as a pH adjuster, to inhibit unwanted polymerization, whereas Floyd teaches use of HCl or sulfonic acid as an acid catalyst to facilitate crosslinking reactions. Appeal Br. 4. On that basis, Appellant contends Floyd would not have suggested equivalence of HCl and sulfonic acid for use as pH adjusters in Wang. *Id.* at 6.

Setting forth a prima facie case of obviousness requires establishing that the applied prior art would have provided one of ordinary skill in the art with an apparent reason to modify the prior art to arrive at the claimed invention. See *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

Here, the Examiner's sole reason for substituting Floyd's sulfonic acid for Wang's HCl is that Floyd teaches both as alternative components in a binder composition. However, as Appellant correctly explains, Wang provides HCl for the sole purpose of adjusting pH to inhibit unwanted polymerization. See Wang ¶¶ 26, 27, 50. Floyd, on the other hand, teaches use of HCl or sulfonic acid as an acid catalyst to effect crosslinking reactions. Floyd 3:50–57.

The Examiner's obviousness determination fails to identify a reason why one of ordinary skill in the art would have sought to include an acid catalyst in Wang's composition. Nor does the Examiner point to evidence to support a finding that sulfonic acid would have been recognized as an

equivalent pH adjuster for Wang's purpose of inhibiting polymerization. To the contrary, Wang's desire to inhibit polymerization and Floyd's desire to effect crosslinking appear contradictory.

For the foregoing reasons, we are persuaded the Examiner's finding that the cited prior art would have provided the skilled artisan with a reason to substitute sulfonic acid for HCl in Wang's composition is not supported by evidence. Accordingly, the rejection is not sustained.

CONCLUSION

The Examiner's decision rejecting claims 1, 4, 7, 10, 12, 17, 19, 20, 22, 23, 34, and 36 is reversed.

DECISION SUMMARY

In summary:

Claim(s) Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1, 4, 7, 10, 12, 17, 19, 20, 22, 23, 34, 36	103(a)	Wang, Floyd		1, 4, 7, 10, 12, 17, 19, 20, 22, 23, 34, 36

REVERSED