

The opinion in support of the decision being entered today is
not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ISMAEL A. HERNANDEZ

Appeal 2007-1381
Application 10/686,069
Technology Center 1700

Decided: July 25, 2007

Before BRADLEY R. GARRIS, CHARLES F. WARREN, and
CATHERINE Q. TIMM, *Administrative Patent Judges*.

TIMM, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134(a) from the Examiner's decision rejecting claims 1, 3-8, and 10-18. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

I. BACKGROUND

The invention relates to a glass forming tube. Claim 5 is illustrative of the subject matter on appeal:

5. A glass forming tube about which newly formed and coated glass fiber is wound to form a cake of glass fiber, the forming tube comprising:

a plurality of paperboard plies spirally wound one upon another about an axis of the forming tube and adhered together to form a tubular body wall, the paperboard plies being free of silicone coating, wherein at least an outermost one of the plies comprises paperboard treated with a sizing compound so as to render the paperboard substantially impervious to liquid coating composition applied to the glass fiber but pervious to vapors generated during curing and drying of a cake of glass fiber.

The Examiner relies on the following prior art references to show unpatentability:

McClellan	US 4,026,690	May 31, 1977
Von Hoessle	US 5,710,853	Jan. 20, 1998
Pauley	US 6,165,321	Dec. 26, 2000

Specifically, the Examiner rejects claim 5 under 35 U.S.C. § 103(a) as unpatentable over McClellan in view of Von Hoessle and Pauley.

II. DISCUSSION

A. Issue

The issue before us is: Has the Examiner properly established a prima facie case of obviousness within the meaning of 35 U.S.C. § 103(a)?

B. Facts

The following facts are supported by a preponderance of the evidence:

1. McClellan is directed to a forming tube for winding glass fibers that, like the claimed tube, is formed from spirally wound paperboard plies (McClellan, col. 2, ll. 23-36).
2. The process of winding involves winding glass fibers treated with binder onto the forming tube, and drying the binder. After drying, the forming tube is removed from the glass fiber winding by partially collapsing the tube and extracting it (McClellan, col. 3, l. 3-col. 4, l. 1).
3. The outer ply of McClellan's tube is treated with a conventional release agent to facilitate release of the tube from the glass fiber winding (McClellan, col. 2, ll. 42-47). The only release agent taught in McClellan as conventional for this use is silicone release agent (McClellan, col. 1, ll. 31-35; col. 5, ll. 36-39).
4. McClellan is silent with respect to the use of a sizing agent or any other agent that provides liquid impermeability but vapor permeability to the paperboard of the forming tube.
5. Von Hoessle is directed to a coil form. This coil form has a coil support with up to 100 km of a fiber-optic waveguide wound upon it. In use, the coil form is carried on board an airplane or missile and the fiber-optic wave guide is unwound from the coil support (Von Hoessle, col. 1, ll. 10-20). The coil support is not removed from the winding by collapsing it as in the McClellan process.

6. During the winding process of Von Hoessle, the fiber-optic waveguide is provided with a binding agent. The binding agent contains a volatile solvent that is removed during drying (Von Hoessle, col. 1, ll. 22-26).
7. The coil support of Von Hoessle is made from a porous ceramic. The pores allow diffusion of the solvent through the support during drying (Von Hoessle, col. 2, ll. 17-31).
8. Pauley is directed to a sizing agent for use on various substrates including paperboard (Abstract). The sizing agent imparts water resistance, but allows the substrate to breathe (Pauley, col. 1, ll. 7-9; col. 4, ll. 23-25 and 31-36; col. 6, ll. 40-43).
9. The substrates treated with the sizing agent of Pauley are imparted with stain resistance to aqueous fluids (Pauley, col. 6, ll. 54-56).

C. Principles of Law

The examiner bears the initial burden of presenting a *prima facie* case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). In order to establish a *prima facie* case of obviousness, the examiner must show that each and every limitation of the claim is described or suggested by the prior art or would have been obvious based on the knowledge of those of ordinary skill in the art. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988).

D. Analysis

In the present case, the Examiner has not established that it would have been obvious to one of ordinary skill in the art of making glass forming tubes to eliminate the silicone release coating conventionally used on the

forming tube and to add a sizing compound that provides the claimed impermeability to the liquid coating composition but remains pervious to vapors. This is because McClellan specifically requires the addition of a release agent, silicone being the only such agent disclosed (FF 3), and there is no suggestion in the art that a sizing agent such as that disclosed in Pauley would provide the required release property.

The Examiner relies upon the disclosure in Pauley that the sizing agent imparts stain resistance to aqueous fluids as a basis for concluding the sizing agent would serve as a release agent because staining is a type of bonding (Answer 6). The Examiner states that:

As stated by applicant at page 2, lines 1-5 of the instant specification, it is conventional in the art of paper tubes used in glass fiber production, to coat the paper tubes with silicone to render them impervious to the liquid of the aqueous binder that coats the glass fiber during production. The conventional silicone coatings thus serve the purpose of preventing penetration of the aqueous coating into the paper to preserve strength as admitted by appellant and also the purpose of preventing bonding of the aqueous coating with the paper tube to allow release and removal of the coated glass fiber from the paper tube as taught by McClellan.

The position of the examiner is that the size of Pauley et al. would serve similar dual purposes since it excludes wetting of the paperboard as well as resists staining, which is a type of bonding. A prevention of the formation of any bond between the size and paper of the tube would aide in release and removal of the dried glass fiber. Thus use of the size of Pauley et al. as an agent to resist water but still allow vapor permeability, instead of a silicone coating that blocks both, would not destroy the function of release of the glass fiber from the paper tube of McClelland [sic, McClellan].

We cannot agree that Pauley's disclosure that the sizing agent imparts stain resistance (FF 8) shows that one of ordinary skill in the art would have had a reasonable expectation that the sizing agent would have the necessary release properties when used on the forming tube of McClellan. The function of stain resistance is not sufficiently analogous to the function of releasing coated fibers from paperboard to support the Examiner's determination.

Von Hoessle does not remedy the deficiency in the rejection. While Von Hoessle indicates that, in the art of making coil forms including coil supports wound with very long windings of optical fiber waveguides, the problem of trapping of the solvent and uneven drying near the coil support was a known problem, this problem was addressed in a different way than Appellant addressed it. Von Hoessle addresses the problem by using a porous ceramic support. The Examiner does not provide adequate evidence that using a sizing agent impermeable to the liquid solvent, but permeable to the liquid vapor of the binder, as claimed by Appellant, was a known way of solving the uneven drying problem.

III. CONCLUSION

We conclude that the Examiner has not properly established a *prima facie* case of obviousness within the meaning of 35 U.S.C. § 103(a).

IV. DECISION

With respect to the decision of the Examiner rejecting claim 5 as unpatentable under 35 U.S.C. § 103(a), we reverse.

REVERSED

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