

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JAN TUMA

Appeal 2006-2308
Application 10/343,154
Technology Center 1700

Decided: September 26, 2006

Before WALTZ, TIMM, and GAUDETTE, *Administrative Patent Judges*.

GAUDETTE, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the Final Rejection mailed October 21, 2005. Claims 11-25 are pending and on appeal. Claims 1-10 have been cancelled.

Appeal 2006-2308
Application 10/343,154

REFERENCES RELIED ON BY THE EXAMINER

The Examiner relies upon the following references as evidence of unpatentability:

Nestegard	US 4,894,060	Jan. 16, 1990
Thomas	US 5,116,563	May 26, 1992
Reed	US 5,312,456	May 17, 1994
Hammer	WO 98/20767	May 22, 1998
Tuma	WO 00/25620	May 11, 2000
Hammer ¹	US 6,287,665	Sep. 11, 2001
Tuma ²	US 6,669,884	Dec. 30, 2003
Tuma (as translated)	WO 00/25620	May 2006
Hammer (as translated)	WO 98/20767	May 2006

Claim 11, the sole independent claim on appeal, is illustrative of the subject matter now on appeal and is reproduced below:

11. A process for producing an adhesive closing part with laterally symmetrical interlocking structures integrally connected to a backing, each interlocking structure having a stem part, a head part at one end of the stem part, and a base part at an opposite end of the stem part connecting the stem part to the backing, the process comprising the steps of:

supplying moldable material to a shaping zone between a pressure tool and a molding tool;

¹ Hammer was subsequently published as US 6,287,665 to Hammer. The U.S. Patent was relied upon as an English language equivalent of WO 98/20767 during prosecution.

² Tuma was subsequently published as US 6,669,884. The U.S. Patent was relied upon as an English language equivalent of WO 00/25620 during prosecution

driving the pressure tool and the molding tool to form the backing in the shaping zone and conveying the backing in a transport direction; and

molding the moldable material in mold cavities in the molding tool, each of the mold cavities having boundary walls opposite one another extending in a lengthwise direction of the mold cavity continuously along a convex path, each convex path having a curvature in a form of a hyperboloid with a more pronounced portion defined by decreased radii of curvature and by narrowing of spaces between the boundary walls, each more pronounced portion being closer to a head molding part of the cavity than to a base molding part of the cavity, each cavity being rotationally symmetrical to form rotationally symmetrical interlocking structures.

GROUNDS OF REJECTION

1. Claims 11,14-16, 18-20 and 22-25 stand rejected under 35 U.S.C. §103 as unpatentable over Hammer in view of Thomas.
2. Claims 12 and 13 stand rejected under 35 U.S.C. §103 as unpatentable over Hammer in view of Thomas when further considered in view of Reed.
3. Claim 17 stands rejected under 35 U.S.C. §103 as unpatentable over Hammer in view of Thomas when further considered in view of Tuma.
4. Claim 21 stands rejected under 35 U.S.C. §103 as unpatentable over Hammer and Thomas in view of Nestegard.

We REVERSE as to all four grounds of rejection.

BACKGROUND

The invention relates to a process for producing an adhesive closing part with laterally symmetrical interlocking structures integrally connected to a backing. Each interlocking structure has a stem part, a head part at one end of the stem part, and a base part at an opposite end of the stem part where the stem part is connected to the backing. The process involves supplying moldable material to a shaping zone between a pressure tool and a molding tool to form the backing. The molding tool contains mold cavities, having a rotationally symmetrical hyperboloid shape. According to Appellant, the shape of the mold cavities facilitates removal of the interlocking structures from the mold cavities, even at very high production rates. In addition, Appellant maintains that the interlocking structures formed by the claimed process adhere well and can be joined easily to one another, since the interlocking structures are properly formed and are not damaged during removal from the mold cavities.

DISCUSSION

Claims 11, 14-16, 18-20 and 22-25 stand rejected under 35 U.S.C. §103 as unpatentable over Hammer in view of Thomas. The Examiner relies

Appeal 2006-2308
Application 10/343,154

on Hammer for the basic process of producing an adhesive closing part with a laterally and rotationally symmetrical structure using a pressure tool and a molding tool, where the molding tool has cavities with walls extending along a convex path. The Examiner concedes that Hammer does not disclose cavities having “a curvature in a form of a hyperboloid with a more pronounced portion defined by decreased radii of curvature and by narrowing of spaces between the boundary walls, each more pronounced portion being closer to a head molding part of the cavity than to a base molding part of the cavity.” (Answer 4). Accordingly, the Examiner relies on Thomas for a teaching of the claimed hyperboloid shape. (Answer 5) (citing embodiments shown in Fig. 6A to Fig. 9B, particularly Fig. 7A).³ According to the Examiner, Thomas “teaches that the length of the prong may be varied according to the material the shank is designed to intercept (9:62-10:24). Thomas also teaches the decreased radii of curvature and narrowing of spaces between the boundary walls, each more pronounced

³ “Thomas’ figures show curvatures that encompass hyperboloid shapes, and in the alternative, the drawings and text of the Thomas patent provide clear suggestion and teaching that the particular curvature be changed and optimized.” (Answer 12).

Appeal 2006-2308
Application 10/343,154

portion being closer to a head molding part of the cavity than to the base molding part of the cavity (Figs. 6-9).” (Answer 5). The Examiner maintains that it would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to incorporate a hyperboloid-shaped interlocking means as taught by Thomas in the method of Hammer, because doing so would have provided enhanced shear strength at the base of the fastener and decreased rigidity at the top of the fastener, allowing for easier removal from the substrate. (Answer 5).

Appellant disagrees with the Examiner’s finding that Thomas discloses the “hyperboloid shape” of the appealed claims. Answer 6. Appellant notes that Thomas discloses “laterally or rotationally asymmetrical” shapes (i.e., the two opposite sides of the cavities are not mirror images of one another). According to Appellant, one of ordinary skill in the art would not have considered using these asymmetrical shapes in the Hammer method which is limited to rotationally symmetrical shapes. (Appeal Br. 5). In particular, Appellant maintains that nothing in the Hammer and Thomas patents indicates why the decreasing radii curvature

Appeal 2006-2308
Application 10/343,154

and narrowing between the boundary walls should be employed within the Hammer method. (Br. 6).

The Examiner, relying on *Ex parte Pfeiffer* 135 USPQ 31 (BPAI 1961), maintains that “to be entitled to weight in method claims, recited structural limitations must affect the method in a manipulative sense and not amount to mere claiming of a use of a particular structure.” According to the Examiner, Appellant’s hyperboloid-shaped forming screen is a structural article, the configuration of which is a matter of choice that would have been obvious to a person of ordinary skill in the art. (Answer 9) (citing *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966)). The Examiner submits that the prior art clearly shows the method steps, and Appellant has not provided evidence that shows that the particular shape of the article materially affects the method. (Answer 12).

As pointed out by Appellant, in determining obviousness, all limitations of a claim must be considered. There are no per se rules when 1565, 37 USPQ2d 1127 (Fed. Cir. 1995)). Appellant has explained that the shape of the mold plainly affects the claimed method in a manipulative

Appeal 2006-2308
Application 10/343,154

determining obviousness under 35 U.S.C. § 103.⁴ (*In re Ochiai*, 71 F.3d sense, in particular, as to how the material is molded in the cavities and then subsequently released from those cavities for use. We note that the importance of the claimed shape in facilitating removal of the formed adhesive closing part from the mold is clearly described in the Examiner has failed to explain why one of ordinary skill in the art would have been motivated to use a symmetrical hyperboloid-shape in Hammer's method given Thomas' limited disclosure of asymmetrical shapes. See Thomas, col.

⁴ As stated in *Ochiai*, 71 F.3d at 1572, 37 USPQ2d at 1133:

The use of per se rules, while undoubtedly less laborious than a searching comparison of the claimed invention - including all its limitations - with the teachings of the prior art, flouts section 103 and the fundamental case law applying it. Per se rules that eliminate the need for fact-specific analysis of claims and prior art may be administratively convenient for PTO Examiners and the Board. Indeed, they have been sanctioned by the Board as well. But reliance on per se rules of obviousness is legally incorrect and must cease. Any such administrative convenience is simply inconsistent with section 103, which, according to Graham [v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966)] and its progeny, entitles an applicant to issuance of an otherwise proper patent unless the PTO established that the invention as claimed in the application is obvious over cited prior art, based on the specific comparison of that prior art with claim limitations.

Appeal 2006-2308
Application 10/343,154

Specification.⁵ Moreover, we are in agreement with Appellant that the 9, 11, 28-36 (indicating a preference for orienting the shank “in an acute angular relation” relative to the plane of the substrate).

Accordingly, we reverse the rejection of claims 11, 14-16, 18-20 and 22-25 under 35 U.S.C. § 103.

The remaining claims stand rejected under 35 U.S.C. § 103 as unpatentable over Hammer in view of Thomas when further considered in view of Reed (as to claims 12 and 13), Tuma (as to claim 17) and Nestegard (as to claim 21). The Examiner relies on the combined teachings of Hammer and Thomas as discussed in connection with the rejection of independent claim 11, citing the additional references for a showing of features recited in

⁵ “The object of the invention is to further improve the known process such that good ejection of the interlocking means after the shaping process is achieved, even at very high production rates, and that the interlocking means produced in this way leads to closing parts which adhere well and which can be joined to one another.” (Spec., 3).

“This continuous transition along the convex path then leads essentially to unimpeded mold removal process without the danger of the head parts tearing off from their assigned stem part over sharp-edged shape transitions.” (Spec., 4).

Appeal 2006-2308
Application 10/343,154

dependent claims 12, 13, 17 and 21. Accordingly, we also reverse the remaining three grounds of rejection for the reasons set forth above.

REVERSED

LMG/tf

Mark S. Bicks
Roylance, Abrams, Berdo & Goodman
Suite 600
1300 19th Street, N.W.
Washington, D.C. 20036