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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte KAZAKI KAWAKUBO

Appeal 2012-000858
Application 11/990,016
Technology Center 1700

Before PETER F. KRATZ, MARK NAGUMO, and JAMES C. HOUSEL, *Administrative Patent Judges*.

HOUSEL, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134 from the Examiner's decision finally rejecting claims 3-8. We have jurisdiction over the appeal under 35 U.S.C. § 6(b).[1]

We AFFIRM.[2]

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[1] An oral hearing was conducted before this panel on February 13, 2013.
[2] Our decision refers to Appellants' Brief (App. Br.) (pages unnumbered) filed March 30, 2011, the Examiner's Answer (Ans.) mailed June 20, 2011, and Appellants' Reply Brief (Reply Br.) filed August 19, 2011.

CLAIMED SUBJECT MATTER

The invention is directed to a method of sealing and molding an optical device with resin. A first mold capable of holding a substrate and another mold including a cavity having a lens molding portion are prepared. The substrate with an optical device mounted thereon is then fixed to the first mold and translucent molten resin is present in the cavity of the other mold. Thereafter, the first mold and the other mold are closed together to immerse the optical device in the molten resin and distribute the molten resin uniformly in the cavity. The molten resin alters to be a translucent resin mold product to provide a lens member. Finally, the first mold and the other mold are opened to detach the substrate bearing the lens member from the other mold, and the substrate bearing the lens member is removed from the first mold. Spec. 3:22-4:4.

Alternatively, the cavity of the other mold may instead form an intermediate resin mold product and the substrate made thereby will then bear a translucent resin mold product that may then be placed in and fixed to a second mold capable of holding the substrate bearing the translucent resin mold product. Additional translucent resin material is introduced into a cavity having a lens molding portion in a second other mold. The second mold and the second other mold are then closed together to distribute the other translucent resin material uniformly in the second other mold cavity. Subsequently the additional translucent resin material alters to be a lens mold product, and the second mold and the second other mold are opened to detach the substrate bearing a lens member from the second other mold. Finally, the substrate bearing the lens member is removed from the second one mold. Spec. 4:5-27.

Claim 3, representative of the claims on appeal, is reproduced below:

3. A method of sealing and molding an optical device with resin, comprising:
preparing one mold capable of holding a substrate and another mold including a cavity having a lens molding portion corresponding to a geometry of a lens;
fixing to said one mold said substrate having an optical device mounted thereon;
allowing molten resin or liquid resin to be present in said other mold directly in contact with a molding surface of said cavity, the molten resin or the liquid resin being directly in contact with a material forming a body of said other mold;
closing said one mold and said other mold together to immerse said optical device in said molten resin or said liquid resin and also distribute said molten resin or said liquid resin in said cavity uniformly;
altering said molten resin or said liquid resin to be a translucent resin mold product to provide a lens member;
opening said one mold and said other mold to detach from said other mold said substrate bearing said lens member; and
removing from said one mold said substrate bearing said lens member.

App. Br., Claims App'x.

REJECTIONS

The Examiner maintains the following grounds of rejection under 35 U.S.C. §103(a):

1. Claim 3 as being unpatentable over Takase[3] in view of Kataoka[4]. Ans. 4-7.

2. Claim 4 as being unpatentable over Takase in view of Kataoka and further in view of Kida[5]. Ans. 8-11.

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[3] US 2005/0242452 A1, published Nov. 3, 2005.
[4] WO 2005/032757 A1, published Apr. 14, 2005.

3. Claims 5 and 6 as being unpatentable over Takase in view of Kataoka, and further in view of Harris[6] and Erban[7]. Ans. 12-13.

4. Claims 7 and 8 as being unpatentable over Takase in view of Kataoka and Kida, and further in view of Harris and Erban. Ans. 13-15.

ISSUE

Appellants' arguments raise the following issue:

Does the proposed combination of Takase in view of Kataoka teach away from the claimed invention and/or render Takase unsatisfactory for its intended purpose?

We answer this question in the negative and affirm the Examiner's decision to reject claims 3-8 for the reasons expressed in the Answer. *See generally*, Ans. 4-17. We note the Examiner has fully addressed Appellants' separate arguments in support of patentability of the above-noted claims. We add the following discussion of the above-listed issue for completeness.

ANALYSIS

Appellants do not present separate arguments in support of patentability of the claims.[8] *See* App. Br. 6-12; Reply Br. 3-9. Accordingly, we decide patentability of all claims on the basis of claim 3. 37 C.F.R. § 41.37(c)(1)(vii).

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[5] US 2004/0016873 A1, published Jan. 29, 2004.
[6] US 2004/0194507 A1, published Oct. 7, 2004.
[7] US 2,588,373, issued Mar. 11, 1952.
[8] We note Appellants' arguments jointly discuss common limitations in independent claims 3 and 4.

The Examiner finds Takase teaches a method of sealing and molding an optical device with resin, comprising the steps of preparing a mold capable of holding a substrate and another mold including a cavity having a lens molding portion, fixing a substrate carrying an optical device to the mold, allowing molten resin present in the another mold directly in contact with a molding surface of the cavity, closing the mold and another mold together to uniformly distribute resin in the cavity and immerse the optical device in resin, altering the resin to be a translucent resin mold product to provide a lens member, opening the mold and another mold to detach the substrate bearing the lens member from the another mold, and removing the substrate bearing the lens member from the mold. Ans. 4-6. The Examiner further finds Takase teaches a release film may be provided to enhance release of the product from the mold. *Id.* at 6.

Although the Examiner previously found the resin directly contacts a molding surface of the cavity (*Id.* at 5, ll. 6-9), the Examiner acknowledges "Takase does not teach the method wherein the molten material directly contacts the material forming the body of the mold." (*Id.* at 6, ll. 5-7). Therefore, the Examiner turns to Kataoka for the suggestion of either using a release film permanently attached to the molds, or omitting the release film in the molding of optical devices. *Id.* In both instances, the Examiner finds that Kataoka teaches these to be solutions to the problem of undesirable undulations in the use of a thin release film. *Id.* The Examiner concludes that it would have been obvious to one of ordinary skill in the art to modify Takase's method by implementing either solution thereby eliminating the non-integrated release film. *Id.* The Examiner notes that Takase's release film and Kataoka's permanently attached release layer address the same

purpose, i.e. facilitating release of the molded product from the mold. *Id.* In addition, the Examiner indicates that such a modification of Takase "merely requires the simple substitution of one known element for another and yields only the predictable result of an easily releasable molding." *Id.* at 7.

Appellants argue that the proposed combination teach away from the claimed invention and would render Takase unsatisfactory for its intended purpose. App. Br. 8; Reply Br. 8. "A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant." *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994). Further, references in a combination may be said to teach away where their combined teachings would produce a "seemingly inoperative device". *See In re Sponnoble*, 405 F.2d 578, 587 (CCPA 1969).

The Examiner and Appellants disagree on Takase's intended purpose. The Examiner finds that Takase's purpose is the molding of optical electrical components (Ans. 15), whereas Appellants contend that Takase's purpose is "to sandwich a release film 7 between a second piece (i.e., the intermediate piece 4) and a third piece (e.g., the bottom die 3), and place the release film 7 into close contact with each of the concaves 5a in the cavity's entire surface 5 along the cavity's geometry." (Reply Br. 4). Although Appellants are correct that Takase provides a specific solution to the manner in which a release film is deployed so as to ensure close contact with the mold surface, we are in agreement with the Examiner that the primary purpose of this solution is to enable higher quality molding of optical electrical components. Takase "contemplates a method of sealing and thus molding an optical

device with resin". Takase, ¶ [0013]. Takase discloses a mechanism for deploying the release film in a manner so as to better conform to the contours of the molding surface. We find that Kataoka addresses a similar problem of providing a release film that more accurately conforms to the contours of the molding surface. Thus, the problem Takase sought to solve is precisely the problem addressed by Kataoka.

Appellants further argue Takase's film prevents the resin from making direct contact with the curved portions 5a of the cavity surface 5. App. Br. 8. Appellants contend that this film is "the central concept of his invention" because the molded product can be removed from the mold by blowing air against the mold via the release film to push the product out, without employing an eject pin.[9] *Id.* The Examiner responds that the proposed modification, substituting a permanently attached release film as taught by Kataoka for Takase's release film, maintains the primary functionality of Takase to produce a quality optical electrical component. Ans. 15.

We agree with the Examiner that the proposed combination of Takase and Kataoka involves the mere substitution of Kataoka's permanently attached release film for that of Takase. While doing so would obviate numerous structures used by Takase to secure the release film to the mold, one of ordinary skill in the art would nonetheless have found it obvious as

[9] The Examiner indicates that Takase contemplates use of an ejection pin, and that the current claims do not exclude such a pin. Ans. 15. Appellants nonetheless argue that Takase teaches away from using an ejection pin, noting Takase teaches ejection pins may damage the molded product. Reply Br. 6. However, Appellants contend, and we agree, that whether or not an ejection pin is used has no relationship to whether or not the release film is used. *Id.* Accordingly, we need not address this matter further.

Kataoka addresses the same problem Takase addresses, i.e. providing an accurate representation of the molding surface with a release film. *See KSR Intern. Co. v. Teleflex Inc.*, 550 U.S. 398, 401 (2007) ("[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill."). Appellants do not argue that the proposed combination requires more than ordinary skill in the art, nor do we find it so. As such, we are not persuaded that the references would have discouraged one of ordinary skill in the art from following the path set out by the Examiner's proposed combination.

We also find that while the Examiner indicates that Takase does not teach that the resin directly contacts the body of the mold, Takase allows "molten resin to be present in said other mold directly in contact with a molding surface of said cavity." Ans. 5. In other words, the resin directly contacts the molding surface of the cavity which is defined by both the mold and the release film. The Examiner finds that Kataoka's permanently attached release film and mold are the final formed mold and the resin is in direct contact with the material forming the mold, i.e. directly contacts the body of the mold. *Id.* at 17.

As such, based on the totality of the record before us, we do not find reversible error in the Examiner's conclusion of obviousness over each of the applied references.

CONCLUSION

In sum, for the reasons expressed in the Answer and above, we find a preponderance of the evidence favors the Examiner's conclusion of obviousness as to appealed claims 3-8. We sustain all grounds of rejection maintained by the Examiner.

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).

DECISION

The decision of the Examiner is AFFIRMED.

AFFIRMED

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