

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 27

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte NORISHIGE YAMAGUCHI, HIROYUKI MORITA, HIDEAKI TOKUGAWA,
KAZUHIRO HASHIMOTO and AKIHIRO SUGAWARA

Appeal No. 2002-2092
Application 09/328,467

HEARD: April 8, 2003

Before ABRAMS, FRANKFORT, and McQUADE, Administrative Patent Judges.

FRANKFORT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1 through 4 and 7 through 10, and from the examiner's refusal to allow claims 5 and 6 as amended subsequent to the final rejection in a paper filed June 29, 2001 (Paper No. 13). Claims 1 through 10 are all of the claims pending in this application.¹

¹ As noted in the advisory action mailed July 17, 2001 (Paper No. 14), following entry of the amendment of June 29,

(continued...)

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As noted on page 1 of the specification, appellants' invention is directed to a cracking-resistant gasket having a function to stably prevent an explosion, a method of molding such a gasket, and a cylindrical alkaline-manganese dioxide cell incorporating the gasket to provide an excellent leakage-proof structure. Independent claims 1, 5 and 7 are representative of the subject matter on appeal and a copy of those claims can be found in the Appendix to appellants' brief.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

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|------------------------------|-----------|-----------------------|
| Georgopoulos | 5,227,261 | Jul. 13, 1993 |
| Yamaguchi et al. (Yamaguchi) | 5,728,484 | Mar. 17, 1998 |
| Passaniti et al. (Passaniti) | 6,010,802 | Jan. 4, 2000 |
| | | (filed Jan. 22, 1996) |

Claims 1 through 4 and 7 through 10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Passaniti in view of Georgopoulos.

¹(...continued)

2001, the rejection of claims 5 and 6 under 35 U.S.C. § 112, second paragraph, made in the final rejection has been overcome.

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Claims 5 and 6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamaguchi in view of Passaniti.

Rather than attempt to reiterate the examiner's full commentary with regard to the above-noted rejections and the conflicting viewpoints advanced by the examiner and appellants regarding those rejections, we make reference to the examiner's answer (Paper No. 18, mailed March 12, 2002) for the reasoning in support of the rejections, and to appellants' brief (Paper No. 17, filed January 4, 2002) and reply brief (Paper No. 20, filed May 31, 2002) for the arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to appellants' specification and claims, to the applied prior art references, and to the respective positions articulated by appellants and the examiner. As a consequence of our review, we have made the determinations which follow.

Turning first to the examiner's rejection of claims 1 through 4 and 7 through 10 under 35 U.S.C. § 103(a), we note that the examiner has determined that Passaniti (e.g., Fig. 4A) discloses all of the elements of appellants' independent claims 1 and 7 on appeal except for a hole in the cylindrical or hub portion of the gasket wherein the hole is open at the top and bottom and wherein the lower opening is larger than the upper one. To account for this difference, the examiner points to the teachings of Georgopoulos and the hole (15) in the hub portion of the gasket seen in Figures 1 and 3 thereof, urging that this patent teaches making a hole in the hub portion of a gasket of the configuration claimed by appellants so that the insertion stresses associated with inserting the current collector (13) are absorbed at the top or first end thereof. From the collective teachings of the applied patents, the examiner concludes that it would have been obvious to one of ordinary skill in the art at the time appellants' invention was made to form the hole of Passaniti's gasket in the manner taught in Georgopoulos so as to permit it to absorb insertion stresses when the current collector is inserted therein.

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While we find no fault with the examiner's above-noted combination of the applied patents to Passaniti and Georgopoulos, we do not agree with the examiner's findings concerning the gasket seen in Figure 4A of Passaniti, or with the examiner's apparent position that the proposed combination of these patents in the manner set forth in the rejection before us on appeal would result in the subject matter claimed by appellants.

Independent claims 1 and 7 on appeal require a gasket which includes "a cylindrical portion whose lower portion is gradually increased in thickness towards the lower end thereof," i.e., hub portion (3) as seen in Figure 10 of the application, a disc-shaped portion (4) formed contiguously along the outer circumference of and concentrically with the cylindrical portion, and a thin portion (5) formed between the cylindrical and disc-shaped portions, concentrically with the cylindrical portion and in a position nearer to the bottom of the disc-shaped portion, with "the boundary between the cylindrical and thin portions being chamfered or curved," as more clearly shown in Figures 13A and 13B of appellants' application. While we agree with the examiner that the gasket seen in Figure 4A and/or Figure 3B of Passaniti includes a central cylindrical hub portion (44) having

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a lower portion (between reference character (44) and the thin portion (46) of the gasket seen in Figures 3B and 4A) that gradually increases in thickness toward the lower end (50), we find no boundary between the cylindrical and thin portions of the gasket in Passaniti which is "chamfered or curved" as required in appellants' claims 1 and 7 on appeal and as seen in Figures 13A and 13B of the present application.

The examiner's attempt to read the chamfered or curved boundary of appellants' claimed subject matter on the area "just below the lead line for '44'" in Passaniti's Figure 3B (answer, page 6), is unavailing because that portion has already been read by the examiner (answer, page 3) as corresponding to the gradually thickening lower portion of the cylindrical hub portion of the gasket, and thus cannot also serve as the chamfered or curved boundary set forth in appellants' claimed gasket as defined in claims 1 and 7 on appeal. As a further point, we find the examiner's handling of claims 2 through 4 and 8 through 10 in the answer (page 4) to be specious and without foundation in the applied references.

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For the above reasons, we will not sustain the examiner's rejection of claims 1 through 4 and 7 through 10 under 35 U.S.C. § 103(a) based on Passaniti in view of Georgopoulos.

The next rejection for our review is that of claims 5 and 6 under 35 U.S.C. § 103(a) as being unpatentable over Yamaguchi in view of Passaniti. Appellants' independent claim 5 reads as follows:

5. A method of molding a gasket using a mold assembly which comprises:

assembling a male and female mold, which when assembled define spaces into which a resin is filled to mold a gasket,

said spaces comprising:

a cylindrical space

a disc-shaped space positioned along the outer circumference of the cylindrical space;

a curved space contiguous to the outer circumference of the disc-shaped space; and

a narrow space resulted from a projection formed on the male mold between the cylindrical and disc-shaped spaces, the projection being chamfered or curved at a side thereof facing the cylindrical space and directed downward in the direction of the female mold:

the male mold having formed therein an injection gate open at the top of the cylindrical space; and

at least any one of an ejector sleeve formed on the female mold at the bottom of the cylindrical space and an ejector pin

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formed in the curved space, being provided for the resin to be filled uniformly into the mold assembly.

The examiner's position with regard to claims 5 and 6 is set forth on page 4 of the answer as follows:

Yamaguchi discloses a method of molding a gasket using a mold assembly having a male 20 and female 21 mold. The molds assemble together to define spaces (cylinder (near line 24 in Fig. 13), flat (radially outward of the cylinder), and curved 51). A resin enters through gate 25 and fills the spaces to form a gasket for a battery cell. The female mold includes an ejector sleeve 30. The spaces do not include a narrow space from a projection with a chamfer.

Passaniti teaches a gasket formed with a thin portion having a chamfer that will rupture to vent pressures built up in the cell. It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the structure of the gasket and thus the mold to include the thin portion with the chamfer to allow pressure venting in the cell.

Like appellants, absent hindsight, we find no basis in the teachings of Passaniti and Yamaguchi which would have provided any reason, suggestion, or motivation for one of ordinary skill in the art to attempt to modify the mold assembly and sealing gasket of Yamaguchi (Figs. 10-17) in the manner proposed by the examiner based on Passaniti. Moreover, even if some combination thereof may have been possible, i.e., such as forming the injection molded (col. 7, lines 60-61) sealing gasket seen in

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Figure 4A of Passaniti using a male and female mold assembly as very generally taught in Yamaguchi or in appellants' prior art Figures 8 and 9, we find no basis in such prior art for a method as recited in appellants' claim 5 on appeal including a mold assembly having the features set forth in claim 5, i.e., a male mold having formed therein an injection gate "open at the top of the cylindrical space," and "at least any one of an ejector sleeve formed on the female mold at the bottom of the cylindrical space and an ejector pin formed in the curved space."

Accordingly, we find that the examiner has failed to establish a *prima facie* case of obviousness, and for that reason, will not sustain the rejection of claims 5 and 6 under 35 U.S.C. § 103(a).

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In view of the foregoing, the examiner's decision rejecting claims 1 through 10 of the present patent application under 35 U.S.C. § 103(a) is reversed.

REVERSED

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|-----------------------------|---|-----------------|
| NEAL E. ABRAMS |) | |
| Administrative Patent Judge |) | |
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| |) | |
| |) | BOARD OF PATENT |
| CHARLES E. FRANKFORT |) | |
| Administrative Patent Judge |) | APPEALS AND |
| |) | |
| |) | INTERFERENCES |
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| JOHN P. McQUADE |) | |
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