Paper No. 35

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MARTINE CERF, OLIVIER DENIZART
and CHRISTIAN DOUSSON

Appeal No. 2000-1131
Application No. 08/505,183

HEARD: March 21, 2002

Before OWENS, TIMM, and NAGUMO, *Administrative Patent Judges*.

TIMM, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the Examiner's final rejection of claims 1 and 3-8, which are all of the claims pending in this application.

BACKGROUND

Appellants' invention relates to a multilayered article and processes for producing it. Claims 1 and 7 are illustrative:

1. A multilayered article comprising a layer of vulcanized elastomer overmoulded directly on a thermoplastic layer, wherein the thermoplastic layer is polybutylene terephthalate, a polyvinylidene fluoride containing mixture, an ethylene/vinyl alcohol copolymer, or an ethylene/tetrafluoroethylene copolymer, the elastomer being an epichlorohydrin elastomer or an elastomer functionalized with carboxylic, epoxy or amino groups.

7. A composite tubular article comprising an outer sheath of a vulcanized elastomer directly associated with a thermoplastic, wherein the thermoplastic is selected from the group consisting of polybutylene terephthalate, polyvinylidene fluoride, a polyvinylidene fluoride containing mixture comprising polyvinylidene fluoride, polymethacrylate and an elastomer, an ethylene/vinyl alcohol copolymer, and an ethylene/tetrafluoroethylene copolymer.

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

Stevens	5,320,888	Jun. 14, 1994
Hert et al. (Hert)	5,637,407	Jun. 10, 1997 (filed Nov. 10, 1994)

We further rely upon the following prior art reference:

Modern Plastics Encyclopedia 43-44 (Rosalind Juran et al. eds., 1987)

The Examiner maintains the following rejections:[1]

1. Claims 1 and 3-8 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5 of Hert (Answer, pages 3-4).

2. Claims 1 and 3-8 stand rejected under 35 U.S.C. § 112, first paragraph as not enabled (Answer, page 4). See the Final Rejection, page 4 for the Examiner's reasoning.

3. Claims 1 and 4-8[2] stand rejected under 35 U.S.C. § 102 as being anticipated by Stevens (Answer, pages 4-5).

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[1]The 35 U.S.C. § 102 rejection based on Strassel presented in the Final Rejection has been withdrawn by the Examiner (Answer, page 3). The rejections under 35 U.S.C. § 112, second paragraph presented in the Final Rejection were deemed to have been overcome by amendment (Advisory Action mailed May 5, 1999, Paper No. 28).

[2]The rejection of claim 3 on this ground was withdrawn (Answer, page 3).

Because Appellants did not contest the obviousness-type double patenting rejection over Hert, we summarily affirm. Furthermore, pursuant to our authority under 37 CFR § 1.196(b), we make a new ground of rejection over Hert in view of Modern Plastics Encyclopedia. While we find that Stevens does not anticipate the subject matter of claims 1 and 4-8, we conclude that Stevens renders the subject matter of claims 1, 4, and 6-8 obvious. Therefore, we reverse the decision of the Examiner to reject claims 1 and 4-8 under 35 U.S.C. § 102, but, pursuant to our authority under 37 CFR 1.196(b), we make a new ground of rejection of claims 1, 4, and 6-8 under 35 U.S.C. § 103(a). We reverse the 35 U.S.C. § 112, first paragraph rejection. Our reasons and new rejections follow.

OPINION

Obviousness Double Patenting

Appellants note the Examiner's rejection of claims 1 and 3-8 under the judicially created doctrine of obviousness-type double patenting over claims 1-5 of Hert and request that the requirement for a terminal disclaimer be held in abeyance until allowable subject matter has been indicated (Brief, page 3 n.1). Appellants, thus, have acquiesced in the rejection and we therefore summarily affirm.

New Ground of Rejection over Hert in View of Modern Plastics Encyclopedia

We make the following new ground of rejection pursuant to our authority under 37 CFR § 1.196(b):

Claims 1, 4, 5, and 7 are rejected under 35 U.S.C. § 103(a) as unpatentable over Hert in view of Modern Plastics Encyclopedia.

Hert[3] describes a multilayered article in which a layer of vulcanized elastomer, called TPV (col. 1, lines 8-11), is directly adhered to a thermoplastic layer (col. 2, lines 32-35) by, for example, overmolding or coextruding (col. 2, lines 27-31). Hert, therefore, describes the general article structure and processing steps of claims 1, 4, 5 and 7.

Hert also suggests using elastomers of the claimed composition. The vulcanized elastomer is functionalized, for example, with carboxylic, epoxy or amino groups or by halogens (col. 4, lines 5-7). The elastomer may also contain epichlorohydrin rubbers (col. 4, line 30). The elastomer contains a vulcanizing system and is vulcanized during blending (col. 3, lines 58-61).

According to Hert, the thermoplastic layer adhered to the elastomer layer may be selected from, for example, semicrystalline polyesters (col. 6, line 5). According to Appellants' claims, the thermoplastic may be polybutylene terephthalate. While polybutylene terephthalate is not specifically described by Hert, as evidenced by the Modern Plastics Encyclopedia, polybutylene terephthalate was known to those of ordinary skill in the art at the time of invention as a

[3] Hert is available as prior art under 35 U.S.C. § 102(e). Appellants have not perfected their claim to the benefit of priority under 35 U.S.C. § 119 by filing a certified translation of their French priority document. Because this application was filed piror to Nov. 29, 1999, a terminal dislcaimer cannot be used to overcome this rejection as Hert qualifies as prior art under the provisions of 35 U.S.C. § 102(e). See 35 U.S.C. § 103(c)(1999).

semicrystalline polyester with properties such as good chemical resistance, electrical properties and low moisture absorption.

In view of the teachings and suggestions of Hert in combination with what was known to those of ordinary skill in the art as evidenced by the Modern Plastics Encyclopedia, it would have been obvious to one of ordinary skill in the art to have overmoulded or coextruded a vulcanized elastomer functionalized with carboxylic, epoxy or amino groups on or with a polybutylene terephthalate semicrystalline polyester to obtain a composite including a thermoplastic layer with the properties of polybutylene terephthalate. As polybutylene terephthalate is a semicrystalline polyester, one of ordinary skill in the art would have had a reasonable expectation of success based on Hert's disclosure that semicrystalline polyesters may be used in combination with the TPVs.

Unpatentability over Stevens

Stevens describes a multilayered article such as a fuel hose (col. 3, line 3-5) including a second layer which is a non-elastomeric fluoroplastic material such as polyvinylidene fluoride (VF2) and copolymers of VF2 with hexafluoropropylene (HFP) and tetrafluoroethylene (TFE) (col. 2, lines 21-24) or fluoropolymers containing copolymers of tetrafluoroethylene and ethylene (col. 2, lines 31-32), compositions which can be used in the thermoplastic layer of claims 1 and 7. This thermoplastic layer is bonded to a non-fluorinated elastomer (col. 2, lines 65-67). The non-fluorinated elastomer is, for example, an epichlorohydrin elastomer (col. 2, lines 45-47), i.e. one of the elastomeric compositions recited in claim 1. The elastomer is applied over the

thermoplastic (col. 3, lines 3-5) and thus "overmoulded directly" as required by claim 1 and "directly associated" as required by claim 7. The structure is then cured by heating (col. 3, lines 5-8), i.e. to vulcanize the elastomers (col. 4, lines 49-51). The composite tubular article additionally includes an inner layer with barrier properties as required by claim 8 (col. 1, line 50 to col. 2, lines 19).

Appellants do not dispute that Stevens describes using a vulcanized elastomer of the claimed composition directly associated with a thermoplastic of the claimed composition. Nonetheless, we observe that some picking and choosing is necessary to obtain the claimed composite composition. Therefore, we reverse the rejection based on 35 U.S.C. § 102. However, because it would have been obvious to one of ordinary skill in the art to have chosen the combinations of polymers listed by Stevens for the second and third layers of a hose, based on a reasonable expectation that any of the combinations would have the properties desired, we make a new ground of rejection under 35 U.S.C. § 103(a). This new ground of rejection is limited to claims 1, 4, and 6-8.[4]

Appellants' sole argument with regard to the rejection is that Stevens does not disclose or fairly suggest the vulcanization of an elastomer onto the thermoplastic layer but merely promotes

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[4]While Appellants failed to argue that Stevens does not teach the coextrusion process of claim 5, as we are making a new ground of rejection we are constrained not to reject claim 5 under 35 U.S.C. § 103(a) because Stevens does not suggest coextrusion. It is not the function of the Board to examine patent applications and we have not here conducted the type of thorough search and examination required to determine whether claim 5 is patentable. The Examiner should make such a determination.

adhesion by a conventional corona discharge treatment, which Appellants urge is completely different from the vulcanization process utilized in the present invention (Brief, page 11). We do not find this argument persuasive because Stevens describes curing or vulcanizing the elastomer while the elastomeric layer is in contact with the thermoplastic layer (col. 3, lines 3-8 and col. 4, lines 49-51). While Stevens additionally performs a corona discharge treatment, the claims do not exclude the inclusion of such a treatment nor is there any evidence that the resulting product is different than the claimed product. Moreover, Stevens indicates that the corona discharge treatment promotes adhesion. A vulcanized elastomer is "overmoulded directly" onto the thermoplastic as required by claim 1 and is "directly associated" as required by claim 7. Moreover, the vulcanization occurs subsequent to overmoulding as required by claim 6.

With respect to claim 6, Appellants argue that Stevens fails to disclose vulcanizing during or subsequent to moulding. We disagree. Stevens describes curing by heating in the general discussion of the invention (col. 3, lines 6-8) and then more specifically describes the curing process in Examples 2 and 3 as involving placing the hose in a steam vulcanizer to crosslink the elastomers (col. 4, lines 49-51). The vulcanizing step occurs subsequent to overmoulding (col. 3, lines 3-8; col. 4, lines 46-51) as recited in claim 6.

With respect to claim 8, Appellants argue that Stevens does not disclose or suggest coating of an inner layer which has barrier properties (Brief, page 11). The Examiner, on the other hand, refers to column 1, line 50 to column 2, line 3 for a description of an inner layer of fluoroelastomer. This inner layer is to be used to form hoses with greater fuel permeation

resistance (col. 1, lines 25-27). The fluoropolymers listed in column 1, line 50 to column 2, line 3 inherently have barrier properties against liquids as claimed.

While we reverse the rejection of claims 1 and 4-8 under 35 U.S.C. § 102, we make the above new ground of rejection under 35 U.S.C. § 103(a) on the basis that there is a *prima facie* case of obviousness with respect to the subject matter of claims 1, 4 and 6-8.

Enablement

The Examiner has rejected claims 1 and 3-8 as not enabled on the basis that "[t]he specification fails to disclose the characteristic physical and chemical properties of the elastomers in enough detail to enable one of ordinary skill in the art to which the invention is directed to practice the invention." (Final Rejection, page 4). In order to establish lack of enablement, the Examiner must show that one of ordinary skill in the art would not be able to replicate the claimed invention without undue experimentation. *Nat'l Recovery Tech. Inc, v. Magnetic Separations Sys. Inc.*, 166 F.3d 1190, 1196, 49 USPQ2d 1671, 1676 (Fed. Cir. 1999). Factors that are often important in such an analysis are discussed in In re Wands 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988). In the present case, the specification indicates that the elastomers are well known in the art (page 4, lines 13-16) and identifies specific useful elastomers by chemical name (page 5, lines 16-24, Examples) and Tradename (Examples). The Examiner has not put forward reasoning or evidence which indicates that undue experimentation would have been required to replicate the claimed invention. Therefore, the Examiner has failed to establish a *prima facie* case of non-enablement.

\ ***CONCLUSION***

To summarize, the decision of the Examiner to reject claims 1 and 3-8 under the judicially created doctrine of obviousness-type double patenting is summarily affirmed. We make a new ground of rejection under 35 U.S.C, § 103(a), pursuant to our authority under 37 CFR § 1.196(b), over Hert in view of Modern Plastics Encyclopedia. We reverse the decision of the Examiner to reject claims 1 and 4-8 under 35 U.S.C. § 102 as anticipated by Stevens. However, we make a new ground of rejection with regard to claims 1, 4, and 6-8 under 35 U.S.C. § 103(a) over Stevens. We reverse the decision of the Examiner to reject claims 1 and 3-8 under 35 U.S.C. § 112, first paragraph.

This decision contains a new ground of rejection pursuant to 37 CFR § 1.196(b)(amended effective Dec. 1, 1997, by final rule notice, 62 Fed. Reg. 53,131, 53,197 (Oct. 10, 1997), 1203 Off. Gaz. Pat. & Trademark Office 63, 122 (Oct. 21, 1997)). 37 CFR § 1.196(b) provides that "[a] new ground of rejection shall not be considered final for purposes of judicial review."

37 CFR § 1.196(b) also provides that the appellant, ***WITHIN TWO MONTHS FROM THE DATE OF THE DECISION***, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of proceedings (37 CFR § 1.197(c)) as to the rejected claims:

> (1) Submit an appropriate amendment of the claims so rejected or a showing of facts relating to the claims so rejected, or

> both, and have the matter considered by the examiner, in which event the application will be remanded to the examiner. . . .
>
> (2) Request that the application be reheard under § 1.197(b) by the Board of Patent Appeals and Interferences upon the same record. . . .

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED, 37 CFR § 1.196(b)

TERRY J. OWENS)
Administrative Patent Judge)
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	) BOARD OF PATENT
CATHERINE TIMM	) APPEALS
Administrative Patent Judge	) AND
	) INTERFERENCES
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	)
MARK NAGUMO	)
Administrative Patent Judge	)

TC:pgg
Norman H. Stepno
Burns, Doane Swecker & Mathis
P.O. Box 1404
Alexandria, VA 22313-1404