

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 CALVIN B. WARD

Appeal 2006-2290
Application 10/278,190
Technology Center 1700

Decided: February 28, 2007

Before CHARLES F. WARREN, CATHERINE Q. TIMM, and
JEFFREY T. SMITH, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

DECISION ON APPEAL

Applicant appeals to the Board from the decision of the Primary Examiner rejecting claims 9 through 18, all of the claims in the Application, in the non-final Office action mailed February 28, 2005, the claims being five time rejected. 35 U.S.C. §§ 6 and 134(a) (2002); 37 C.F.R. § 41.31(a) (2004).

We reverse the decision of the Primary Examiner.

Claim 9 illustrates Appellant's invention of a method for protecting an exposed surface, and is representative of the claims on appeal:

9. A method for protecting an exposed surface:
- providing an electrostatically charged sheet having a top and bottom surface;
 - providing an absorbent layer having top and bottom surfaces, said bottom surface of said absorbent layer being in contact with said top surface of said electrostatically charged sheet; and
 - placing said bottom surface of said electrostatically charged sheet in contact with said exposed surface.

The Examiner relies on the evidence in these references:

Martin	US 4,043,331	Aug. 23, 1977
Barby	US 4,797,310	Jan. 10, 1989
Milani	US 5,807,366	Sep. 15, 1998
Reader	US 5,883,026	Mar. 16, 1999
Chen	US 6,261,679 B1	Jul. 17, 2001
Siess	US 6,379,427 B1	Apr. 30, 2002

Appellant requests review of the following grounds of rejection under 35 U.S.C. § 103(a) (Br.¹ 2-3), all advanced on appeal:

claims 9, 10, and 17 as unpatentable over Siess in view of Reader (Answer 3-4);

claims 11 and 13 as unpatentable over Siess in view of Reader as applied to claim 9 and further in view of Chen (*id.* 5);

claim 12 as unpatentable over Siess in view of Reader further in view of Chen as applied to claim 11 and further in view of Milani (*id.* 5-6);

claim 14 as unpatentable over Siess in view of Reader further in view of Chen as applied to claim 13 and further in view of Martin (*id.* 6-7); and

claims 15, 16, and 18 as unpatentable over Siess in view of Reader as applied to claim 9 and further in view of Barby (*id.* 7-8);

¹ We consider the Brief filed May 26, 2005 and the Reply Brief filed February 27, 2006.

Appellant argues the claims in each ground of rejection as a group (Brief. in entirety). We decide this appeal on the basis of independent claim 9, on which the other appealed claims directly or ultimately depend, as explained below. 37 C.F.R. § 41.37(c)(1)(vii) (2004).

The threshold issue is whether the Examiner has carried the burden of establishing a prima facie case of obviousness under § 103(a) of claim 9 over the combined teachings of Siess and Reader, the basic combination in each of the grounds of rejection.

The Examiner finds Siess would have disclosed a method for protecting the exposed surface of a face of a person from harmful airborne particles by providing a face mask having one or more electrostatically-charged polymer layers by “placing the bottom surface of said electrostatically charged sheet on” the face, citing column 11, lines 44-49, and Figs. 8 and 9 (Answer 3). The Examiner determines Siess does not disclose an absorbent layer in contact with the top surface of the electrostatically charged sheet (Answer 4). The Examiner finds Reader would have disclosed a face mask having an absorbent layer, such as a polymer layer, in contact with the top surface of an electrostatically charged sheet which is an electret meltblown layer, citing column 2, lines. 15-30, column 3, lines. 1-45, and column 4, lines 25 and 49-55 (*id.*). The Examiner contends it would have been obvious to modify the method of Siess to include providing an absorbent layer, such as a polymer layer, in contact with an electrostatically charged layer of the mask of Siess for improved filtration efficiency, breathability, and comfort as shown by Reader, citing

Reader column 2, lines 15-30, 40-55 and 65, column 3, lines 1-45, and column 4, lines 25 and 49-55 (*id.*).

Appellant finds Siess protects the face “from particles of a first charge by placing an electrostatically charged sheet having the same charge between the surface and the particles, such that the charged sheet repels the particles that are then collected on an electrostatically charged surface of the opposite charge at” another location, and “[t]he mask shown in Figure 8 includes an electrostatically charged sheet to provide the required repulsion” (Br. 5). Appellant contends Siess teaches “the mask includes one or more such charged layers” but “does not teach that the charged layers are in contact with the person’s face” (*id.*). Appellant finds that in Reader’s face mask, the “electrostatically charged sheet (the meltblown layer) is sandwiched between two spunbonded sheets, the absorbent layers,” termed “an SMS laminate,” and “is chosen to trap particles, not repel them,” thus improving filtration (*id.*). Appellant further finds “Reader teaches that a spunbonded layer is placed next to the face of the mask wearer” (*id.*).

Appellant contends the Examiner has not shown a motivation “to transport the teaching of an absorbent sheet bonded to the electrostatically charged sheet from Reader to Siess because it would provide improved filtration and comfort” (Br. 6). Appellant contends “Reader teaches two absorbent sheets, one between the wearer and the electrostatically charged sheet and one between the electrostatically charged sheet and the source of the particles” and there is no motivation or guide other than the Specification to eliminate one sheet or the other in combining this reference with Siess (*id.*). Appellant argues that “the sheet next to the wearer’s face . . . provides

the increased comfort in the mask” of Reader and thus, “the reference teaches that one would eliminate the sheet between the electret and the particles” (*id.*). “In this regard, Applicant respectfully asks the Board to take judicial notice of the fact that most people find that an electrostatically charged article placed in contact with their skin produces an uncomfortable sensation” (*id.*).

Appellant further argues “an absorbent uncharged sheet between the electret and the particles partially shields the particles from” the electret, reducing “the amount of repulsion to which the particles are subjected” (Br. 6). Appellant contends the uncharged absorbent sheet would attract and trap the charged particles and “is diametrically opposed to the teachings of Siess (*id.*). Appellant argues the Examiner’s position results in placing “an absorbent sheet next to the person’s skin, not between the electret and the particles” which does not satisfy the limitation of claim 9 (*id.* 6-7).

The Examiner responds claim 9 does not exclude any surface from protection and “the multilayered mask of Siess is shown in direct contact on an exposed . . . face” (Answer 8). The Examiner contends

Reader was not used to teach placement against the face of the mask wearer as Siess shows this, but to show that the multilayer mask of Siess comprises two adjacent electrostatically charged layers, both made of polymer fibers and the outer layer serves to not only function as filtration medium providing comfort, but also may function as an absorbent layer required by Appellant’s claims (Reader, col. 4, line 65-col. 5, line 14). Reader was used more as a supportive teaching reference to show as evidence that polymer fiber and paper layers function as absorbent layers in face masks. Further, Both [sic] layers of the face mask of Siess are electrostatically charged. Siess teaches the charge repels airborne agents (Siess, col. 11, lines 44+), naming a repelling

material named “filterette”, implying filtering functionality. Reader teaches the charged layers provide overall filtration in a multilayered face mask, made of . . . the same polymer fibers, . . . all the ingredients provide additional functionality that includes absorbency (Reader, col. 3, lines 1-14, col. 4, line 65-col. 5, line 14, and col. 5, lines 66+).

Answer 8-9.

The Examiner further contends “the mask of Reader is multilayered and made of the same material of [sic] the mask of Siess” which “shows the dual layered mask placed in direct contact and on a person’s face (Siess, FIG. 5-7), thus the bottom layer is in contact with an exposed surface, and neither reference teaches the mask is uncomfortable” (*id.* 9). The Examiner contends that “Siess and Reader are comprised of the same material and form the same structure . . . [and] would be expected to perform in the desired function” and “Appellant has not presented evidence to show the particles will be trapped and that particles are partially shielded from an electrostatic field is an absorbent layer is employed” (*id.* 10). The Examiner contends Siess “Figs. 5-7, explicitly [illustrate] the mask on a face and in direct contact with the skin” and “contains two layers of electrostatically charged surfaces . . . made of polymer fibers,” and Reader’s mask is “made of polymer fibers and are electrostatically charged (*id.*). “Reader is used to show the top fiber layer of Siess functions as an absorbent layer, and the teachings in combination would make the instant invention” (*id.*).

Appellant replies the Examiner now relies on Siess’ teaching of two electrostatically charged layers and on Reader for alternative absorbent forms of the outer layer without a showing that other absorbent materials can be electrostatically charged (Reply Br. 1-2). Appellant contends the

Examiner's alterations would not "increase the comfort of wearing the mask" because the outer layer does not contact the skin, and there is no "evidence that changing the outer layer to an absorbent would improve breathability" or filtration (*id.* 2). Appellant submits Siess' system avoids the mask filtering contaminants by repelling the contaminants.

The plain language of independent claim 9 specifies any method of protecting in any manner and to any extent, any manner of exposed surface from any undesired result to which that surface is exposed, by placing the bottom surface of any manner of sheet that is electrostatically charged to any extent, in contact to any extent with the surface to be protected, wherein the top surface of the electrostatically charged sheet is in contact to any extent with the bottom surface of any manner of absorbent layer.

There is no limitation on the exposed surface or the result to be prevented by the protection to be provided. Appellant describes, for example, the desire in the laboratory arts to protect the surface of a workbench from solvents which can damage the surface as well as flow therefrom onto any other surface (Specification 1:10-25). There is also no limitation on any additional sheet or sheets in contact with the top surface of the absorbent layer. Appellant describes a layer covering the absorbent layer (Specification 2:18-19 and 28-30, 4:18-22, and Fig. 2). The claim further does not require the electrostatically charged sheet to remain so for any particular period of time after placed in contact with the exposed surface. *See* Specification 3-4. *Cf. Exxon Chem. Pats., Inc. v. Lubrizol Corp.*, 64

F.3d 1553, 1555-58, 35 USPQ2d 1801, 1802-05 (Fed. Cir. 1995).² The absorbent layer can comprise any manner of open cell foam, as foam or sheet, as well as any manner of fibrous mat, such as meltblown nonwovens, both of which can be electrostatically charged, as provided in dependent claims 11-14.

Thus, we determine the claimed methods as encompassed by claim 9 include a method of covering a work surface with an admittedly well known absorbent with plastic backing where the plastic backing is electrostatically charged to any extent (Specification 1:12-14), as well as a method of covering a work surface in a kitchen with a electrostatically changed sheet of plastic wrap and covering the sheet of plastic wrap with a paper towel sheet to protect the work surface from uncooked meat and its juices.

We find that Siess would have disclosed to one of ordinary skill in this art a method for protecting any manner of exposed surface, including skin, from airborne contaminants, aerosol or particulate, such as in a surgical procedure environment, wherein (1) a charge of a single polarity is placed on

² *Exxon Chem. Pats.*, 64 F.3d at 1555-58, 1558, 35 USPQ2d at 1802-05, 1804:

The specification as a whole, and the claims in particular, contain no temporal limitation to the term “composition.” . . . The composition of claim 1, once its ingredients are mixed, is a composition existing during manufacture that is being used to produce the end product. Consequently, as properly interpreted, Exxon’s claims are to a composition that contains the specified ingredients at any time from the moment at which the ingredients are mixed together. This interpretation of Exxon’s claims preserves their identify as product claims, and recognizes as a matter of chemistry that the composition exists from the moment created.

the airborne contaminants and (2) an electrostatic charge of the same polarity is placed on a material so that it repels or deflects the charged airborne contaminants. Siess cols. 1-6, col. 10, l. 10, to col. 11, l. 39, and FIGs. 5-7. A face mask can be electrostatically charged. Siess col. 5, ll. 53-56; col. 10, ll. 16-18 and 44-46; col. 11, 23-26, 40-48, and 62-65; and FIGs. 5-9. Siess describes the illustrative face mask depicted in FIG. 8 as involving

a method and apparatus for applying an electrostatic charge to a face mask for repelling charged airborne agents. The apparatus is a charged mask generally indicated by the numeral **710**.

The mask 710 is comprised of one or more electrostatically-charged polymers [sic] fiber layers 712 to repel charged airborne agents. The repelling material can be of a type manufactured by 3M Corporation (USA) under the trade name filterette, or as manufactured by Hepworth.

Siess col. 11, ll. 40-48. With respect to the cited sources of “repelling material,” we notice that FiltreteTM Air Filter Media is a 3M Corporation product used in FiltreteTM Filters products which contain electrostatically charged fibers, and Hepworth Minerals & Chemicals Ltd. has the product “Technostat” which is an “electret air filter medium.”³

We find mask 710 as depicted in FIG. 8 shows only a top or front layer, a nose piece and ties for fixing the mask on the head of the wearer. No other mask component(s) is/are identifiable from FIG. 8. The face masks 416 in FIG. 5, “56” in FIG. 6, 616 in FIG. 7, and 812 in FIG. 9 show only a top or front layer and ties.

³ This information is readily available on a number of websites through any search engine.

We find Reader would have disclosed to one of ordinary skill in this art a method using face masks to protect a surface of the face of the wearer from airborne contaminants, aerosol and particulate, in a surgical procedure environment while providing liquid strike-through protection, breathability, and comfort. Reader's masks include those embodiments having a spunbonded/meltblown/spunbonded laminate, termed SMS laminate, as the outer most, top or front absorbent layer and "at least one filter fabric in the form of an electret meltblown fabric" as the only other type of layer, which layers can form "a liquid impervious composite." In these embodiments, the electret layer would necessarily be situated against the face of the wearer. Reader, e.g., col. 1, l. 5, to col. 2, l. 9, col. 2, ll. 11-15 and 20-39, col. 3, ll. 3-10, col. 4, ll. 38-47, col. 6, ll. 19-30, col. 6, l. 63, to col. 7, l. 15. The term "'electret' . . . means a treatment that imparts charges to a dielectric material such as polyolefins." Reader col. 4, ll. 49-64. Reader discloses other embodiments in which an "inner layer," formed from a variety of natural and synthetic fibers, can be used next to the electret meltblown layer "for contacting the face of the wearer," providing "comfort to the wearer and may also provide properties such as anti-wicking, liquid repellency, and particulate filtration." These mask embodiments have at least three different layers. Reader, e.g., col. 2, ll. 15-19 and 39-43, col. 3, ll. 10-25, and col. 7, ll. 16-29. Reader discloses the general form of face masks, including multilayers, ties and nose pieces. Reader col. 7, l. 29, to col. 9, l. 26.

The Examiner does not rely on the disclosure of Chen, Milani, Martin or Barby with respect to the rejection of claim 9 over the combined teachings of Siess and Reader.

Upon comparison, it is apparent that the claimed method encompassed by claim 9 would have been rendered prima facie obvious by Siess alone if the reference in fact disclosed to one of ordinary skill in this art a mask consisting of electrostatically charged polymer fiber absorbent layers as the only layers. Indeed, Siess provides clear direction to one of ordinary skill to construct the requisite layers from commercially available polymer fiber absorbent media in the form of a mat in which the fibers can carry an electrostatic charge. We agree with Appellant that these layers would be present as the top, outer or front layers to present the repelling charge to the charged airborne particles.

Such a two layer mask would necessarily place the electrostatically charged absorbent media against the face of the wearer as required by claim 9. However, Siess contains no express teaching of this construction. Thus, as Appellant points out, the Examiner must establish that Siess' masks are so constructed and worn.

The Examiner in stating the ground of rejection of claim 9 and in response to Appellant's arguments in the Brief, merely states that Siess shows the mask in direct contact with the face of the wearer. In response to Appellant's arguments in the Brief, the Examiner states that "Reader was not used to teach placement against the face of the wearer as Siess shows this," and concludes the similarity between the masks of Siess and Reader with respect to being multilayered and being made of the same kinds of materials shows the two layer mask of Siess is not uncomfortable against the face of the wearer as discomfort in this respect is not disclosed in either reference.

On this record, we agree with Appellant that the Examiner has not established the construction of Seiss's masks and that the electrostatically charged absorbent material is against the wearer's face when worn. There is no evidence in the record establishing the construction and materials in Filtrete™ Air Filter Media or "Technostat" other than our notice that these absorbent materials contain unspecified fibers which can be or are electrostatically charged. In the absence of evidence of the construction and materials, there is no basis to determine whether one of ordinary skill in this art would have reasonably expected the wearer to place a layer of electrostatically charged fibers prepared with Filtrete™ Air Filter Media or "Technostat" against the face. There is also no evidence either or both of Filtrete™ Air Filter Media or "Technostat" is/are are an electret meltblown fabric as used in the masks of Reader.

Moreover, the Examiner looks to Reader to establish "comfort" for the wearer, but the portions of the reference relied on in this respect show embodiments which have a layer of other material between the electret meltblown layer and the wearer's face for that purpose.⁴ We also do not find teachings supporting the Examiner's position in the disclosure in Reader of the different general types of layers that can be combined with an SMS laminate to form a mask or in the general information in the reference with respect to face masks.

Accordingly, in the absence of evidence in the record supporting the Examiner's position a prima facie obviousness has not been established, and

⁴ We do not accept Appellant's unsupported invitation to notice that, in general, an electrostatic article placed in contact with skin is discomforting.

we reverse the ground of rejection of claim 9 and the grounds of rejection of the other appealed claims under 35 U.S.C. § 103(a).

The Primary Examiner's decision is reversed.

Remand

We remand the application to the Examiner for consideration and explanation of the issues raised by the record. 37 C.F.R. § 41.50(a)(1) (2006); Manual of Patent Examining Procedure (MPEP) § 1211 (8th ed., Rev. 5, August 2006).

Upon further prosecution of pending claims after the disposition of this appeal, the Examiner should consider the commercially available materials FiltreteTM Air Filter Media or "Technostat" used in Siess' masks to determine whether one of ordinary skill in this art would have constructed the masks of only two layers, one to be in contact with the face of the wearer. Indeed, we found above that Reader would have disclosed to this person a two layer mask in which an electret meltblown layer is in contact with the face of the wearer.

The Examiner should consider whether the two layer masks of Reader with an electret meltblown layer in contact with the face of the wearer applies to the pending claims under 35 U.S.C. § 102(e) and/or 35 U.S.C. § 103(a). In this respect, the Examiner should consider whether one of ordinary skill in this art would have been led by Reader to insert a paper, foam, or other kind of layer between the top SMS laminate and the bottom electret melt blown layer.

The Examiner should consider whether US 3,342,613, to Schelhorn, of record in parent Application 10/278,190, applies to the appealed claims

under U.S.C. § 102(e) and/or 35 U.S.C. § 103(a). Indeed, the Examiner should consider whether the electrostatically charged plastic material of the construction of Schelhorn (Schelhorn, e.g., col. 2, ll. 22-29) would provide a protective function to any surface with which it is in contact to any extent with respect to the wrapped meat product.

The Examiner should develop the “[p]rotective materials that consist of an absorbent layer with a plastic backing” admitted by Appellant to be “well known in the art” (Specification 1:12-14) and determine whether the plastic backing in any such material would be electrostatically charged to any extent, by any means, when the material is placed in contact with any surface and thus, whether any such material applies to the pending claims 35 U.S.C. § 102(e) and/or 35 U.S.C. § 103(a).

Accordingly, the Examiner is required to take appropriate action consistent with current examining practice and procedure to consider the application of Siess, Reader, and Schelhorn along with any other prior art developed by the Examiner, to pending claims as set forth in our comments above along with other issues that arise from the developed record, and determine whether a new ground or grounds of rejection of one or more pending claims in this application under 35 U.S.C. §§ 102(b), 102(e), and 103(a) should be entered on the record subsequent to the disposition of this appeal.

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We hereby remand this application to the Examiner, via the Office of a Director of the Technology Center, for appropriate action in view of the above comments.

REVERSED AND REMANDED

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