

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today was not written for publication in a law journal and is not binding precedent of the Board.

Page No. 19

UNITED STATES PATENT AND TRADEMARK OFFICE

MAILED

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

JUL 25 1966

PATENT OFFICE
BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte EDWIN D. PHILLIPS

Appeal No. 96-0221
Application 08/013240

ON BRIEF

Before LYDDANE, FRANKFORT and STAAB, Administrative Patent
Judges.

STAAB, Administrative Patent Judge.

DECISION ON APPEAL

Edwin D. Phillips appeals from the decision of the examiner twice rejecting claims 19-28, which are the only claims remaining.

Application for patent filed February 4, 1966

Appeal No. 96-0221
Application 08/013,401

in the application. We reverse and give a new ground of
rejection of claim 19.

The appellant's invention comprises a shoelace comprising
a body consisting essentially of a strand of expanded
PTFE (polytetrafluoroethylene) which is stretched,
illustrative of the subject matter on appeal. The claim reads as
follows:

19. A shoelace comprising a body consisting essentially of
a strand of expanded PTFE formed by the extrusion of
extrusion resin through an orifice which stretches the strand
longwise 120% to 1200%.

The references of record relied upon by the examiner as
evidence of obviousness are:

- Springer 3,864,100 May 18, 1906
- Rosa 3,581,303 May 25, 1926
- Schrag 3,902,153 Jun 01, 1971
- Cogswell et al. (Cogswell) 4,029,078 Jan 08, 1976
- British Patent 245,937 Dec 31, 1984
- Specification (Paton) Dec 31, 1925

The following rejections under 35 U.S.C. § 103 are before us
for review:

On pages 1-2 of the answer, the appellant indicated that the
present appeal was inappropriate. The examiner indicated that the
second action on a set of newly submitted claims was a final
subsequent decision on petition, page No. 10. However, in a
1996 decision it was determined that claims 1-3 were allowable
within the meaning of 35 U.S.C. § 103.

a) claim 1 as being unpatentable over Cogswell in view of Gore;
b) claims 2, 22, 23, 25 and 26 as being unpatentable over Cogswell in view of Gore and further in view of Sonntag;
c) claim 21 as being unpatentable over Cogswell in view of Gore and Sonntag and further in view of Paton;
d) claim 27 as being unpatentable over Cogswell in view of Gore and Sonntag and further in view of Rose and/or Stirckler.
Cogswell contains a composition formed from a blend of tetrafluoroethylene polymers and a polymer capable of forming an anisotropic melt. The composition may contain anywhere from 0.05 to 99.95% by weight of PTFE and 0.5 to 99.95% by weight of the polymer capable of forming an anisotropic melt. The advantages arising from the composition depend on the relative proportions of the PTFE and the polymer capable of forming an anisotropic melt. For compositions containing a major proportion of PTFE, i.e., at least 50%, the melt viscosity of the composition is reduced relative to the PTFE itself to the point that conventional processing techniques such as injection molding and conventional extrusion, not readily available for processing tetrafluoroethylene polymers, may be employed. The composition may be prepared by any of the conventional methods of blending

materials (column 2, lines 40-41) and may include dry blending powder, then feeding them into a screw extruder where they are compounded at an elevated temperature and the extruded product is cooled into granular form. See, for example, Examples 1 and 6.

Gore relates to a highly porous, high strength tetrafluoroethylene product. The process for making same. The process is described at column 1, line 43 through column 2, line 8 and involves paste forming a tetrafluoroethylene polymer into a shaped article, e.g., a sheet, rod or tube, then expanding the shaped article by stretching, then heating the article while it is held stretched, and then cooling the article. In the above described process, the step of paste forming includes extruding tetrafluoroethylene resin and then drying the extruded shape to drive off lubricants added to facilitate extruding. Gore indicates that the amount of stretching may involve stretching "about 2, 5, 15, 25, 50, 100, 200, and up to 1760 times the original lengths of the samples" (column 4, lines 1-2). Useful products made by the Gore process include filtering members or semi-permeable membranes, thermal insulators, electrical insulators, and fine filaments.

Considering first the standing rejection of claim 19 as being unpatentable over Cogswell in view of Gore, the examiner considers that

Cogswell et al discloses applicant's claimed device of a lace having a body formed of a single strand by extruding PTFE material through a nozzle; see column 4, example 2 & 3 and column 5, example 5, except for the particular range of stretching the strand lengthwise between 120% to 2100% [sic, 1200%]. [answer, sentence spanning pages 3 and 4].

According to the examiner, it would have been obvious "to stretch the lace (strand) of Cogswell et al lengthwise from 120% to 1200%, if so desired in the manner taught and suggested by Gore" (answer page 4).

We will not support this rejection. The "lace" or "strand" of Cogswell referred to by the examiner appears to be the intermediate extrudate formed by Cogswell during the blending of the tetrafluoroethylene polymer and polymer capable of forming an anisotropic melt. As is made clear by a careful reading of Cogswell, the intermediate "lace" extrudate is subsequently chopped in granule form, presumably for ease of handling during further processing. See, for example, Example 1, column 3, lines 41-50 (dry blended components fed to screw extruder where they are compounded and extruded, extruded product chopped into granule form, then injection molded into tensile bar and disc

specimens) and Example 5, column 5, lines 49-61 (components dry blended and then compounded in an extruder, composition extruded as a "lace" and cut into granules for molding, granular product then injection molded into discs for testing). The examiner has not explained, nor is it apparent to us, why one of ordinary skill in the art would have found it desirable, and thus obvious, to stretch the "lace" or strands produced by the compounding extruder of Cogswell to several times its original length in view of Gore's teachings, especially in view of the fact that the extruded "lace" or strands of Cogswell are intended to be chopped into granule form prior to further processing. In this regard, while Gore indicates that stretching and subsequent heat setting of the stretched PTFE shaped product increases the strength thereof, it is clear that these steps are not the precursor of additional chopping and/or molding steps, as with Cogswell's extruded "lace" or strand. Thus, we are at a loss as to what would motivate the ordinarily skilled artisan to employ Gore's stretching step in Cogswell's process. For these reasons, the standing § 103 rejection of claim 19 based on Cogswell in view of Gore will not be sustained.

As to the standing § 103 rejections of the dependent claims based on Cogswell, Gore and additional references, each of the

Appeal No. 96-0221
Application 08/013,401

additional references was cited for its showing of various details of the tips of shoelaces. We have carefully considered each of these additional references but find nothing therein which makes up for the deficiencies of the Cogswell/Gore combination noted above. Therefore, the standing § 103 rejections of the dependent claims also will not be sustained.

Pursuant to our authority under 37 CFR § 1.196(b), we enter the following new ground of rejection.

Claim 19 is rejected under 35 U.S.C. §§ 102(b)/103 as being anticipated by, or in the alternative obvious in view of, the Gore reference cited by the examiner against the appealed claims. Claim 19 calls for a shoelace comprising a body "consisting essential of a single strand of expanded PTFE formed by extruding PTFE extrusion resin through an orifice, then stretching the strand lengthwise 120% to 1200%." Gore discloses, inter alia, a cylindrical rod sample of five thirty-seconds inch diameter made by extruding a paste of PTFE, expanding the rod by stretching at a given controlled temperature in an oven, raising the oven temperature while holding the rod in the stretching condition, and then cooling the rod. See column 7, lines 28-52. As previously noted, Gore states that the amount of stretching may involve stretching about 2, 5, 15, 25, 50, 100, 200, and up to

Appeal No. 96-0221
Application 08/013,401

1760 times the original lengths of the sample (column 4, lines 1-2). To the extent the discussion of the cylindrical rod samples found at column 7, lines 28-52 of Gore does not constitute a disclosure of stretching the rod samples to a degree within the claimed range of 120% to 1200%, it would have been obvious to do so in view of Gore's teaching at column 4, lines 1-2.

As for the product by process limitations of claim 19, in that appellant's extrusion process, "which is based on the well-known 'Gore' process" (specification, page 3), appears to be at the very least substantially the same as the process disclosed in the Gore reference for making expanded rods, tubes and filaments, there is a reasonable basis for concluding that the rods, tubes and filaments of the Gore reference have the same properties, including soft feel, compressibility, and resistance to stretch, as appellant's strand. In this regard, appellant's preferred method (specification, page 4, lines 2-13) and the Gore reference's process each include the steps of mixing PTFE with an extrusion aid to form a paste, extruding the paste into a preform with a paste extruder, drying the extruded shape to remove the extrusion aid, stretching the extruded shape to an appropriate

amount³ while passing it through an oven heated to an appropriate temperature⁴, and then cooling the material to "lock in" the expansion. Thus, we conclude that the body portion of claim 19, i.e., that portion of the claim which follows the transition word "comprising," does not patentably distinguish over Gore. There remains the issue of the effect to be given the term "shoelace" appearing in the preamble of the claim.

The question of when the introductory words of a claim, the preamble, constitute a statement of purpose for a device or are, in themselves, additional structural limitations of the claim is a matter to be determined by the facts of each case in view of the claimed invention as a whole. See *Corning Glass Works v. Sumitomo Electric U.S.A., Inc.*, 868 F.2d 1251, 1257, 9 USPQ2d 1962, 1966 (Fed. Cir. 1989); *In re Stencel*, 828 F.2d 751, 754, 4 USPQ2d 1071, 1073 (Fed. Cir. 1987). The effect preamble language

³"[T]he product is stretched 120% - 1200%, preferably 200% to 300%" (appellant's specification, page 4, lines 9-10); "Useful products have been produced by stretching samples in the range of a few hundred percent" (Gore, column 3, lines 58-59).

⁴"[T]he product is . . . passed through a heated chamber containing steam at 800° to 100° [sic, 1000°?] F" (appellant's specification, page 4, lines 9-12); "After the sample had been expanded by stretching . . . the oven temperature was raised to 370° C for 10 minutes while the samples were held clamped in their extended condition" (Gore, column 7, lines 49-53).

Appeal No. 96-0221
Application 08/013,401

should be given can be resolved only on review of the entirety of the record to gain an understanding of what the inventor actually invented and intended to encompass by the claim. *Corning Glass Works v. Sumitomo Electric U.S.A., Inc. supra.* In the present instance, appellant's specification on page 3 states the following:

A shoelace embodying the invention, as shown in Figures 1-3, comprises a soft, cylindrical body 10 which is cut from an indefinite length of polytetrafluoroethylene (PTFE, or "Teflon") material extruded through a circular orifice under substantial pressure. Except for the lace's ends 12 and 14, the cross-section of the body, shown in Figure 3, is generally uniform, although it may be possible to emboss the surface of the body for decoration. *The ends themselves have been permanently reduced in diameter by squeezing them between the jaws of a press, which renders them hard, like solid PTFE. [emphasis added]*

Thus, appellant's specification would appear to require that in order for the expanded strand to qualify as a "shoelace," the ends thereof must be laterally compressed into hardened tips. However, a review of the appealed claims reveals that appellant has chosen to claim this tip feature in dependent claim 20 rather than in independent claim 19. Accordingly, it is apparent that the subject matter of claim 19 encompasses strands which do not necessarily have compressed hardened tips as called for in dependent claim 20. Based on the claim format appellant has

Appeal No. 96-0221
Application 08/013,401

chosen to employ, we conclude that, in this instance, the preamble term "shoelace" does not require any particular structure for the strand, and in particular that the preamble does not require any particular end structure for the strand. Rather, in this instance, the preamble is merely a statement of purpose or intended use for the structure positively recited in the body of the claim. Accordingly, it is our view that the preamble of appealed claim 19 does not constitute a limitation of the claim. See *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 480-81 (CCPA 1951). Such a preamble recitation, in our view, is merely a statement of purpose which may not be relied on as a further structural limitation to distinguish that which follows over the prior art. See *In re Pearson*, 494 F.2d 1399, 1403, 181 USPQ 641, 644 (CCPA 1974); *In re Yanush*, 477 F.2d 958, 959, 177 USPQ 705, 706 (CCPA 1973) and *In re Casey*, 370 F.2d 576, 580, 152 USPQ 235, 238 (CCPA 1967). Accordingly, we construe claim 19 as being directed to a cylindrical body cut from an indefinite length of TPE material extruded through an orifice and then stretched lengthwise 120% to 1200%. Thus, it is our opinion that claim 19 does not patentably distinguish over Gore alone. Moreover, we see no reason why the rod sample disclosed in

Appeal No. 96-0221
Application 08/013,401

Example 1 of Gore would not be fully capable of being used as a shoelace.

The appellant's arguments in the brief that are relevant to our new ground of rejection have been considered but are not persuasive. In particular, that it may not have occurred to a person in the field of shoelace design to make a shoelace from an expanded, single strand PTFE extrusion is simple not relevant to the patentability of claim 19 over Gore given the breadth of claim 19 as construed above.

In summary, the standing § 103 rejections of the appealed claims are reversed, and a new rejection of claim 19 has been entered.

Any request for reconsideration or modification of this decision by the Board of Patent Appeals and Interferences based upon the same record must be filed within one month from the date of the decision (37 CFR § 1.197). Should appellant elect to have further prosecution before the examiner in response to the new rejection under 37 CFR § 1.196(b) by way of amendment or showing of facts, or both, not previously of record, a shortened statutory period for making such response is hereby set to expire two months from the date of this decision.

Appeal No. 96-0221
Application 08/013,401

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

REVERSED, 37 CFR 1.196(b)

William E. Lyddane

WILLIAM E. LYDDANE)
Administrative Patent Judge)

Charles E. Frankfort

CHARLES E. FRANKFORT)
Administrative Patent Judge)

) BOARD OF PATENT

) APPEALS AND

) INTERFERENCES

Lawrence J. Staab

LAWRENCE J. STAAB)
Administrative Patent Judge)

Appeal No. 96-0221
Application 08/013,401

Charles Fallow
Shoemaker and Mattare, Ltd.
2001 Jefferson Davis Hwy.
Arlington, VA 22202