THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 23

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SERGE LOREK, OLIVIER DENIZART,
and DANIEL SIOUR

Appeal No. 1997-4118
Application No. 08/381,814[1]

HEARD: November 3, 1999

Before MCCANDLISH, Senior Administrative Patent Judge, and FRANKFORT, and MCQUADE, Administrative Patent Judges.

FRANKFORT, Administrative Patent Judge.

DECISION ON APPEAL

[1] Application for patent filed April 4, 1995. This application is a National stage application under 35 U.S.C. § 371 of PCT/FR94/00640 filed 06/01/94.

This is a decision on appeal from the examiner's final rejection of claims 9 through 11 and 13 through 17, which are all of the claims remaining in the application. Claims 1 through 8 and 12 have been canceled.

Appellants' invention relates to a tube or pipe for feeding petrol (gasoline), in particular to motor vehicle engines. On page 1 of the specification, appellants observe that, at present, polyamide pipes are commonly employed for transporting petrol in motor vehicles. However, the industry has now determined that such polyamide pipes no longer meet necessary permeability requirements, especially with the increasing presence of methanol in petrol. When used to transport these newer petrol formulations containing methanol, the polyamide pipes are said to swell, resulting in a decrease in the mechanical properties and undesirable dimensional changes. In an effort to overcome these disadvantages appellants have provided a five-layer polyamide-based petrol supply pipe as reflected in claim 9 on appeal having an intermediate layer of fluoropolymer. As indicated on page 4 of the specification, it has been found that

> such a pipe, consisting of a middle layer of PVDF bonded by an adhesive bonding agent to two outer and inner layer of polyamide makes it possible to reduce the permeability by a factor of at least 10 when compared with that of an equivalent polyamide pipe, while maintaining the other properties, such as the cold impact strength, within the specification limits of the motor vehicle manufacturers.

In addition, it is noted on page 7 of the specification that the pipe according to the invention is obtained in a known manner

> by coextrusion of the five components under known extrusion conditions which are appropriate to each of the thermoplastic materials. Coextrusion of the five components facilitates the extrusion of the middle fluoropolymer layer, especially of PVDF, which is relatively difficult when this layer is not "sandwiched."

Appellants' invention also relates to a method of making the above described petrol supply pipe and to a method of using such a petrol supply pipe for feeding petrol to an engine.

A copy of independent claims 9, 16 and 17, as found in the Appendix to appellants' brief, is attached to this decision.

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

Hart et al. (Hart)	4,249,875	Feb. 10, 1981
Brunnhofer	5,076,329	Dec. 31, 1991
Kerschbaumer	5,219,003	Jun. 15, 1993
Nawrot et al. (Nawrot)	5,419,374	May 30, 1995

(filed Feb. 25, 1993)

Claims 9, 10 and 15 through 17 stand rejected under 35 U.S.C. § 103 as being unpatentable over Brunnhofer in view of Nawrot.

Claim 11 stands rejected under 35 U.S.C. § 103 as being unpatentable over Brunnhofer in view of Nawrot as applied to claim 9 above, and further in view of Kerschbaumer.

Claims 13 and 14 stand rejected under 35 U.S.C. § 103 as being unpatentable over Brunnhofer in view of Nawrot "as applied to claims 9 and 11 above," and further in view of Hart.[2]

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 the rejections, we make reference to the examiner's answer (Paper No. 16, mailed May 21, 1997) for the reasoning in support of the rejections, and to appellants' brief (Paper No. 15, filed April 21, 1997) and reply brief (Paper No. 18, filed July 18, 1997) for the arguments thereagainst.

[2] To the extent that claims 13 and 14 are dependent from claim 11, we understand this rejection to actually involve the combination of Brunnhofer in view of Nawrot and Kerschbaumer as applied to claim 11, taken further in view of Hart.

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.

In rejecting claims 9, 10 and 15 through 17 under 35 U.S.C. § 103 based on Brunnhofer and Nawrot, the examiner recognizes that the polyamide-based, five layer, vehicle fuel line hose seen in Brunnhofer differs from the petrol supply tube defined in appellants' independent claim 9 on appeal in that Brunnhofer does not disclose the intermediate layer (2) therein being a fluoropolymer and does not disclose adhesive bonding layers (e.g., 3, 5) as being adhesive bonding agent polymers or copolymers that contain carbonyl groups in their polymer chains. To account for such differences, the examiner looks to the patent to Nawrot for a polyamide-based gasoline transport tube comprising an outer layer of polyamide and an inner layer of fluoropolymer, wherein the inner layer and

outer layer are bonded together by an adhesive bonding agent

polymer that contains

carbonyl groups in its polymer chain. From these teachings the examiner concludes that it would have been obvious to one of ordinary skill in the art at the time the invention was made to

> substitute for the intermediate layer and adhesives of Brunnhofer a layer of polyvinylidene fluoride adhered to the polyamides by a polymer having carbonyl groups on its polymeric chain as suggested by Nawrot in order to provide a polyamide based hose having a barrier layer that exhibits characteristics of increased resistance to permeability and an adhesive to ensure a strong bond between the fluoropolymer and polyamides, while preserving the mechanical effects of the polyamide.

After our review of the combined teachings of Brunnhofer and Nawrot, we must agree with appellants (brief, pages 9-15, and reply brief, pages 3-11) that, at best, Nawrot's teachings would have suggested replacing the innermost polyamide layer (4) in the fuel line hose of Brunnhofer with a layer of polyvinylidene fluoride and the bonding layer (3) in Brunnhofer with an adhesive bonding agent layer of polymers or copolymers that contain carbonyl groups in their polymer chains. Like appellants, we are of the view that Nawrot "teaches away" from a fuel line hose like that claimed by appellants and which would result from the combination of

Brunnhofer and Nawrot as urged by the examiner. The five-layered hose resulting from the examiner's combination of the applied references would have a layer of polyamide as its innermost layer and thus such layer would be in contact with the

gasoline-methanol formulation transported by the hose, a situation which Nawrot clearly and unambiguously teaches is undesirable.

While in retrospect, it may appear that one skilled in the art could have used a layer of polyvinylidene fluoride and bonding layers in the hose of Brunnhofer as urged by the examiner to increase the hose's resistance to permeability (answer, page 7), we observe that, like appellants, we find no fair teaching or suggestion in the references applied by the examiner for such a combination. In this regard, like appellants, we note that the mere fact that the prior art could be modified in the manner urged by the examiner would not have made such modification obvious unless the prior art suggested the desirability of the modification. See In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984) and In re Fritch, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992). As we noted above, in our opinion the patents to Brunnhofer and Nawrot not only fail to suggest any motivation for, or the desirability of, the particular modifications

espoused by the examiner, but actually teach away from such modifications

From our perspective, the examiner has relied upon impermissible hindsight and used appellants' claimed invention as an instruction manual or "template" in an attempt to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This approach to a determination of obviousness is improper and cannot be sanctioned by this Board. See In re Gorman, 933 F.2d 982, 987, 18 USPQ2d 1885, 1888 (Fed Cir. 1991) and Interconnect Planning Corp. v. Feil, 774 F.2d 1132, 1138, 227 USPQ 543, 547 (Fed. Cir. 1985). Since the teachings and suggestions found in Brunnhofer and Nawrot would not have made the subject matter as a whole of independent claims 9, 16 and 17 on appeal obvious to one of ordinary skill in the art at the time of appellants' invention, we must refuse to sustain the examiner's rejection of these claims, and of dependent claims 10 and 15, under 35 U.S.C. § 103.

We have also reviewed the teachings of the patents to Kerschbaumer and Hart relied upon be the examiner in rejections of dependent claims 11, 13 and 14 under 35 U.S.C. § 103, however, we find nothing in these references which supplies that which we have indicated above to be lacking in

the basic combination of Brunnhofer and Nawrot. Accordingly, the examiner's rejections of claims 11, 13 and 14 under 35 U.S.C. § 103 are likewise not sustained.

In view of the foregoing, the examiner's decision rejecting claims 9 through 11 and 13 through 17 of the present application under 35 U.S.C. § 103 is reversed.

REVERSED

HARRISON E. MCCANDLISH Senior Administrative Patent Judge	)
CHARLES E. FRANKFORT Administrative Patent Judge	) BOARD OF PATENT APPEALS AND INTERFERENCES
JOHN P. MCQUADE Administrative Patent Judge	)

CEF/sld

Appeal No. 1997-4118
Application No. 08/381,814

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Claims

9. A petrol supply tube comprising five concentric layers wherein the innermost layer comprises polyamide, the outermost layer comprises polyamide, the middle layer comprises fluoropolymer, and two layers of adhesive bonding agent polymers or copolymers that contain carbonyl groups in their polymer chains are situated respectively between said middle layer and said innermost and outermost layers.

16. A method of feeding petrol to an engine that comprises causing said petrol to flow from a source of petrol through a petrol feed pipe in accordance with any one of claims 9 to 11 and into said engine.

17. A method of making a petrol supply tube in accordance with any one of claims 9 to 11 which comprises coextruding said inner, outer, middle, and two adhesive layers.