

Ex parte Abbey

File

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 25

UNITED STATES PATENT AND TRADEMARK OFFICE

MAILED

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

MAY 08 1996

Ex parte HAROLD G. ABBEY

PAT & TM OFFICE
BOARD OF PATENT APPEALS
AND INTERFERENCES

Appeal No. 96-0849
Reexamination 90/003,310¹

Before CALVERT, 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, 2 and 4 in a Reexamination proceeding

¹ Request filed January 12, 1994, for reexamination of U.S. Patent No. 4,387,685, issued June 14, 1983, to Harold G. Abbey, based on Application 06/307,956, filed October 2, 1981, which is a continuation-in-part of Application 06/214,626, filed December 10, 1980, now U.S. Patent No. 4,308,835.

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identified by Control No. 90/003,310 for U.S. Patent No. 4,387,685, issued on June 14, 1983. The original patent included claims 1 through 15. The patentability of claims 3 and 5 through 15 has been confirmed by the examiner.²

Appellant's invention relates to a variable structure for metering, proportioning and blending fluids, wherein a movable element of the structure is automatically shifted as a function of the mass-volume of the fluids passing through the structure to provide an output which is representative of the volume and density or mass of the fluids. In particular, appellant notes that the structure of the invention is applicable to internal combustion automotive engines to proportion the ratio of combustion air to fuel so as to maintain an optimum ratio thereof under varying conditions of load and speed throughout a wide operating range, thereby attaining higher combustion efficiency, increased fuel economy and reduced emissions of pollutants. A copy of appealed claims 1, 2 and 4, as they appear in the Appendices to appellant's brief, is attached to this decision.

² We are informed by Paper No. 24, filed February 8, 1996, that the litigation (infringement action), Case No. 93-6231-CIV-FERGUSON, involving U.S. Patent No. 4,387,685 to Harold G. Abbey, in the United States District Court for the Southern District of Florida has been DISMISSED without prejudice, but that the Court therein will retain jurisdiction to reinstate that action on the application of any party pending the outcome of this Reexamination Proceeding.

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The prior art references of record relied upon by the examiner in rejections of claims 1, 2 and 4 are:

De Rugeris	3,339,900	Sep. 5, 1967
Holzbaaur et al. (Holzbaaur)	4,263,235	Apr. 21, 1981

John Passini (Passini), "Weber Carburettors," Speedsport Motorbooks, Middlesex, November 1973, pp. 1-13.

Claims 1 and 4 stand rejected under 35 U.S.C. 102(b) as being anticipated by De Rugeris.

Claims 1 and 4 stand additionally rejected under 35 U.S.C. 102(e) as being anticipated by Holzbaaur.

Claim 2 stands rejected under 35 U.S.C. 103 as being unpatentable over Holzbaaur in view of Passini.

Rather than reiterate the examiner's explanation of the above-noted rejections and the conflicting viewpoints advanced by the examiner and appellant regarding those rejections, we make reference to the examiner's answer (Paper No. 20, mailed April 12, 1995) and supplemental examiner's answer (Paper No. 21) for the examiner's complete reasoning in support of the rejections, and to appellant's brief (Paper No. 19, filed March 1, 1995) and

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reply brief (Paper No. 22) for appellant's arguments thereagainst.³

OPINION

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

Turning first to the examiner's rejection of claims 1 and 4 under 35 U.S.C. 102(b) based on De Rugeris, we note that an anticipation under 35 U.S.C. 102(b) is established only when a single prior art reference discloses, either expressly or under principles of inherency, each and every element of a claimed invention. See RCA Corp. v. Applied Digital Data Systems, Inc.,

³ We note that appellant's reply brief (Paper No. 22) appears to address issues which are not relevant to the rejections presently before us on appeal. In like manner, Mr. Abbey's response to the Motion to Dismiss in Civil Action No. 93-6231-CIV-FERGUSON, attached to the reply brief, and its accompanying materials, do not appear to be relevant to the issues before us on appeal either. However, we note that, like appellant, we do not consider the amendment made to claim 1 in this Reexamination Proceeding to be a "substantive change" in the scope of the claim, since the original claim language setting forth that the exterior passage "is always open" clearly implies, or includes by definition, that the passage "remains open."

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730 F.2d 1440, 221 USPQ 385 (Fed. Cir. 1984). However, we also observe that the law of anticipation does not require that the reference teach what the appellant has disclosed and is claiming but only that the claims on appeal "read on" something disclosed in the reference, i.e., all limitations of the claim are found in the reference. See Kalman v. Kimberly Clark Corp., 713 F.2d 760, 218 USPQ 871 (Fed. Cir. 1983).

Claim 1 on appeal defines a variable structure which provides throughout a range of operation "the characteristics of a Venturi whose differential velocity-pressure output is proportional to the mass-volume of the fluid stream passing therethrough." The variable structure is said to comprise A) a tubular casing into which the fluid stream is admitted; B) a cylindrical spool supported within the casing for movement therein, the spool including an interior flow passage and defining an exterior flow passage in the annular space between the spool and the casing, with said spool having "a Venturi-contoured surface lying in at least one of said passages," causing the fluid stream to exert a hydrodynamic force on the spool which acts to displace the spool axially in a downstream direction, and C) means imposing a countervailing force on the spool whereby the extent of spool displacement is the resultant of the hydrodynamic and countervailing forces. Claim 4 adds to claim 1 that the countervailing force is provided by a spring.

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The De Rugeris patent is directed to a carburetor device used in connection with an internal combustion engine to establish a mixture of fuel and combustion air for delivery to the pistons of the engine. As the examiner has generally noted (answer, page 4), this device includes A) a tubular casing or shell (12) having an open upper portion (18) into which a fluid stream is admitted; B) a cylindrical spool or nozzle element (24) supported in the casing for movement therein, with the spool having an interior flow passage (any of the passages 122), said spool further defining an exterior flow passage in the annular space between the spool and the casing, with said spool having "a Venturi-contoured surface lying in at least one of said passages," causing the fluid stream to exert a hydrodynamic force on the spool which acts to displace the spool axially in a downstream direction; and C) spring means (42) imposing a countervailing force on the spool whereby the extent of spool displacement is the resultant of the hydrodynamic and countervailing forces. Thus, it appears to us, as it did to the examiner, that De Rugeris discloses, either expressly or under principles of inherency, each and every element of appellant's invention as defined in claims 1 and 4 on appeal.

Appellant contends (brief, pages 9-11) that the nozzle element (24) of De Rugeris is a narrow edged disk which has "an almost flat upstream surface," and that, contrary to the

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examiner's position, the disk does not provide convergence to a throat section in conjunction with the contours of the casing (12). Appellant further urges that there is no reference in De Rugeris to any "Venturi effect" and that no such effect is utilized therein. In addition, appellant argues that the spring of De Rugeris merely holds the tube (38) at its uppermost position, while the spring of claim 4 on appeal provides a countervailing force on the spool proportioned to the mass flow of the admitted fluid, and that there is no comparable usage or function performed by the spring in De Rugeris. We do not find these arguments persuasive of error in the examiner's rejection of appellant's claims 1 and 4 on appeal.

Appellant's independent claim 1 on appeal does not expressly or positively set forth a "Venturi" or a "Venturi effect." Instead appellant's claim 1 broadly recites a "variable structure" which provides "the characteristics of a Venturi whose differential velocity-pressure output is proportional to the mass-volume of the fluid stream passing therethrough." In addition, claim 1 recites that the movable spool has "a Venturi-contoured surface" lying within at least one of the interior or exterior flow passages set forth in the claim. Like the examiner, it is our view that the movable spool or nozzle member (24) of De Rugeris has a "Venturi-contoured surface" lying within the exterior flow passage defined in the annular space between

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the spool and the casing (12), and that the variable structure of De Rugeris is thus a structure which has "the characteristics of a Venturi" as set forth in claim 1 on appeal and as such terminology is broadly defined in appellant's specification at column 5, lines 63-68.

More specifically, looking at Figure 1 of De Rugeris, the downwardly sloping top surface (62) of the spool or nozzle member (24), along with the edge region and the bottom surface of the spool, defines "a Venturi-contoured surface," in that this surface of the spool together with the internal surface of the casing (12) defines, as set forth in column 5, lines 63-68, of appellant's specification, "a tube [or annular space] whose inlet or entry section converges toward a constricted throat section [134 of De Rugeris] which in turn leads to a diverging outlet section, all sections having a circular cross section."

Moreover, in contrast to appellant's argument, it is repeatedly made clear in De Rugeris that the movement of the spool or nozzle member (24) of the variable structure therein provides a differential output that is proportional to the mass-volume of the fluid stream passing through the structure. See, for example, column 3, lines 33-48; column 4, line 67 through column 5, line 14; and column 6, lines 49-71 of De Rugeris. Contrary to appellant's further argument, the spring (42) of De Rugeris is not merely present to hold the tube (38) in its uppermost

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position, but also provides a countervailing force on the spool member (24) proportioned to the mass volume of the admitted fluid stream. Note particularly, column 6 lines 49-71 of De Rugeris, wherein the spring (42) is described as a "control spring... which opposes the downward movement of the nozzle disk" or spool (24) of the variable carburetor structure. Like appellant, De Rugeris describes the variable structure therein as providing "[t]he proper proportioning of the explosive fuel/air mixture under all conditions of operation" achieved by the "automatic fuel metering and air flow control arrangement" of the invention, which cooperate to provide not only superior performance of the engine, but also an efficiency in the combustion process that is reflected in "an extraordinary economy in fuel consumption, a minimum of carbon deposits in the engine and a minimum of smog formation."

In light of the foregoing, we sustain the examiner's rejection of claims 1 and 4 under 35 U.S.C. 102(b) based on De Rugeris.

We next consider the examiner's rejection of claims 1 and 4 under 35 U.S.C. 102(e) as being anticipated by Holzbaaur. This patent, like appellant and De Rugeris, is concerned with a carburetor device, Figure 1, used in connection with an internal combustion engine to establish a controlled mixture of fuel and combustion air for delivery to the engine's pistons. As the

examiner has noted (answer, page 4), viewing the left side of Figure 1⁴, the variable device therein includes A) a tubular casing (1) having an open upper portion into which a fluid stream is admitted; B) a cylindrical spool element (2, 17) supported in the casing for movement therein, with the spool having an interior flow passage (18, between members 2 and 17), said spool further defining an exterior flow passage in the annular space between the spool and the casing (1), with said spool having "a Venturi-contoured surface lying in at least one of said passages," causing the fluid stream to exert a hydrodynamic force on the spool which acts to displace the spool axially in a downstream direction; and C) spring means (9) imposing a countervailing force on the spool whereby the extent of spool displacement is the resultant of the hydrodynamic and countervailing forces. Thus, it appears to us, as it did to the examiner, that Holzbaaur discloses, either expressly or under principles of inherency, each and every element of appellant's invention as defined in claims 1 and 4 on appeal.

⁴ As noted at column 3, lines 30-42, of Holzbaaur, drawing Figure 1 of that patent shows two different operational positions of the apparatus therein. To the left side of the actuation rod (7), the position of the vane body (2) is seen during engine idling, while to the right side of the rod (7) is shown the location of the elements during a full-load position.

As for the argued distinctions pointed to by appellant on pages 11-12 of the brief, we again note that claim 1 on appeal does not positively, or otherwise, set forth a "Venturi" or a "Venturi effect." Instead claim 1 broadly recites a "variable structure" which provides "the characteristics of a Venturi," and that the movable spool therein has "a Venturi-contoured surface" lying within at least one of the interior or exterior flow passages required in the claim. Giving this language of appellant's claim 1 its broadest reasonable interpretation consistent with the specification (In re Yamamoto, 740 F.2d 1569, 222 USPQ 934 (Fed. Cir. 1984)), we have determined, in contrast to appellant's argument, that the movable spool member (2, 17) of Holzbaur has a "Venturi-contoured surface" lying within the exterior flow passage defined in the annular space between the spool and the casing (1), and that the variable structure of Holzbaur is thus a structure which has "the characteristics of a Venturi" as set forth in claim 1 on appeal, and as such terminology is broadly defined in appellant's specification at column 5, lines 63-68. Looking to Figure 1 of Holzbaur, the downwardly sloping outer surface of the flow-shaping guide element (17), along with the surface of the vane body (2) below element (17), in our opinion, defines "a Venturi-contoured surface," in that this surface of the spool member (2, 17) together with the internal surface of the casing (1) defines, as

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set forth in column 5, lines 63-68, of appellant's specification, "a tube [or annular space] whose inlet or entry section converges toward a constricted throat section which in turn leads to a diverging outlet section, all sections having a circular cross section." Thus, appellant's arguments regarding the examiner's rejection of claims 1 and 4 under 35 U.S.C. 102(e) based on Holzbaaur are not persuasive of error.

As for the argument on page 12 of the brief relating to the effective filing date which the present subject matter on appeal should be entitled to under 35 U.S.C. 120, we are in total agreement with the examiner's position as stated in the paragraph bridging pages 7 and 8 of the answer. In the first place, we observe that appellant has not disputed the examiner's position, indicated on page 8 of the answer, that the subject matter of the claims on appeal in this Continuation-in-Part application was not disclosed or adequately supported by a proper disclosure under 35 U.S.C. 112, first paragraph, in either application Serial Number 214,626, referenced specifically herein, or in any of the other prior applications filed before the Holzbaaur reference. We see nothing of record to indicate that the examiner's position in this regard is in error. Thus, appellant has not even met the threshold requirement for obtaining benefit of the filing date of an earlier application which might predate the effective date of the Holzbaaur patent. Moreover, even if such subject matter were

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properly disclosed in those applications, we agree with the examiner that since appellant has not provided "a specific reference" to the earlier applications (mentioned in the parent case) in this application, by serial number, filing date and relationship of the applications, he is not entitled to the benefit of the filing date of those earlier applications. In this regard, we are in accord with the determinations made by the Courts of Appeals for the 9th and 7th Circuits in the cases cited by the examiner on page 7 of the final rejection (Paper No. 17) in this Reexamination Proceeding. Note also, Sampson v. Ampex Corp., 463 F.2d 1042, 174 USPQ 417 (2nd Cir. 1972). In our opinion, the fact that some of the earlier applications appellant is seeking benefit of became U.S. patents, as opposed to becoming abandoned applications as in the cases relied upon by the examiner, has no bearing on the requirement in 35 U.S.C. 120 that "a specific reference" to the earlier applications must be made in order to be entitled to the earlier filing date desired.

Based on the foregoing, the examiner's rejection of appellant's claims 1 and 4 under 35 U.S.C. 102(e) over the Holzbaur patent is sustained.

The last of the examiner's rejections for our review is that of claim 2 under 35 U.S.C. 103 as being unpatentable over Holzbaur in view of Passini. According to the examiner, it would have been obvious to one of ordinary skill in the art, in view of

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the teachings in Passini, to modify the carburetor of Holzbaur to include pressure taps in the inner wall of the casing (1) at the throat area and at the inlet thereof to allow the taking of pressure measurements at these locations. After reviewing the collective teachings of the applied references, we are in agreement with the examiner that such a modification would have been obvious to one of ordinary skill in the art seeking such pressure information about the Holzbaur carburetor. This position, of course, requires that we presume skill on the part of the artisan rather than the converse (see In re Sovish, 769 F.2d 738, 226 USPQ 771 (Fed. Cir. 1985)), and that it be recognized that the conclusion of obviousness may be made from common knowledge and common sense of the person of ordinary skill in the art without any specific hint or express suggestion in a particular reference of the proposed combination (see In re Bozek, 416 F.2d 1385, 163 USPQ 545 (CCPA 1969)).

Appellant's arguments (brief, pages 12-13) regarding the rejection under §103 are adequately answered by the examiner at pages 8-10 of the examiner's answer. We note again that the claims on appeal do not require a "Venturi" or "Venturi passage." Claim 2 merely sets forth that the inner wall of the casing has "a Venturi form." As clearly seen in Figure 1 of the Holzbaur patent, the inner wall of the casing (1) of the carburetor therein has a "Venturi form." Passini provides a teaching (page

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9) of providing a carburetor casing having an inner wall of a "Venturi form" with pressure taps at the inlet and at the throat so as to accommodate pressure gauges (h1, h2) thereby facilitating pressure measurements at those locations.

Considering the collective teachings of the applied references, we must agree with the examiner's conclusion of obviousness regarding appellant's claim 2 on appeal. Having found appellant's arguments unpersuasive, we will sustain the examiner's rejection of claim 2 under 35 U.S.C. 103.

To summarize:

The examiner's rejection of claims 1 and 4 under 35 U.S.C. 102(b) based on De Rugeris has been sustained.

The examiner's rejection of claims 1 and 4 under 35 U.S.C. 102(e) based on Holzbuar has likewise been sustained.

The examiner's rejection of claim 2 under 35 U.S.C. 103 based on Holzbuar in view of Passini has also been sustained.

Based on the foregoing, the decision of the examiner is affirmed.

Further proceedings in this case may be taken in accordance with 35 U.S.C. § 141 and § 145 and § 306, and 37 CFR § 1.301 to § 1.304. Note also 37 CFR § 1.197(b). If the patent owner fails to continue prosecution, the reexamination proceeding will be terminated, and a certificate under 35 U.S.C. § 307 and

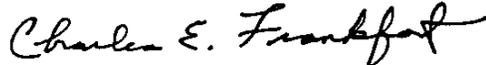
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37 CFR § 1.570 will be issued canceling the patent claims, the
rejection of which has been affirmed.

AFFIRMED



IAN A. CALVERT)
Administrative Patent Judge)



CHARLES E. FRANKFORT)
Administrative Patent Judge)

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JOHN P. McQUADE)
Administrative Patent Judge)

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APPENDIX

1. A variable structure which provides throughout an extended range the characteristics of a Venturi whose differential velocity-pressure output is proportional to the mass-volume of a fluid stream passing therethrough, said structure comprising:

- A a tubular casing into which the fluid stream is admitted;
- B a cylindrical spool supported within the casing for free axial movement therein, said spool having an interior flow passage, said spool defining an exterior flow passage in the annular space between the spool and the casing which exterior passage is always open and remains open in the course of said movement whereby the stream admitted into the casing is divided and flows through the interior and exterior passages, said spool having a Venturi-contoured surface lying in at least one of said passages, causing said stream to exert a hydrodynamic force on the spool which acts to displace the spool axially in the downstream direction; and
- C means imposing a countervailing force on the spool whereby the extent of spool displacement is the resultant of the hydrodynamic and countervailing forces, said displacement providing a differential velocity-pressure output proportional to the mass volume of the admitted fluid stream throughout an extended range.

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2. A structure as set forth in claim 1, wherein said inner wall of said casing has a Venturi form whose throat is provided with a pressure tap, said casing having an inlet tap whereby a pressure differential is developed between said taps when fluid passes through said structure.

4. A structure as set forth in claim 1, wherein said countervailing force is provided by a spring operatively coupled to the spool.