

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(2) is not binding precedent of the Board.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 HIDEAKI YUMOTO

Appeal No. 97-1242
Application 08/226,521¹

ON BRIEF

Before McCANDLISH, Senior Administrative Patent Judge, and COHEN
and MEISTER, Administrative Patent Judges.

COHEN, Administrative Patent Judge.

¹ Application for patent filed April 12, 1994.

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DECISION ON APPEAL

This is an appeal from the final rejection of claims 1 through 5, all of the claims in the application. In the answer (page 1), the examiner now indicates that dependent claim 5 is allowable. Accordingly, we have before us for review the rejection of claims 1 through 4.

Appellant's invention pertains to a thermally-actuated steam trap. An understanding of the invention can be derived from a reading of exemplary claim 1, a copy of which appears in the APPENDIX to appellant's main brief (Paper No. 17).

As evidence of obviousness, the examiner has applied the documents listed below:

Stalker	1,572,970	Feb. 16, 1926
Clayton et al. (Clayton)	4,295,605	Oct. 20, 1981
Yumoto	5,197,669	Mar. 30, 1993

A reference already of record in the application and applied by this panel of the board in a new ground of rejection, infra, is:

Jones	2,289,020	Jul. 7, 1942
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The following rejections are before us.

Claim 1 stands rejected under 35 U.S.C. § 103 as being unpatentable over Yumoto in view of Stalker.

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Claims 2 through 4 stand rejected under 35 U.S.C. § 103 as being unpatentable over Yumoto in view of Stalker, as applied above, further in view of Clayton.

The full text of the examiner's rejections and response to the argument presented by appellant appears in the final rejection and answer (Paper Nos. 13 and 18), while the complete statement of appellant's argument can be found in the main and reply briefs (Paper Nos. 17 and 19).

OPINION

In reaching our conclusion on the obviousness issues raised in this appeal, this panel of the board has carefully considered appellant's specification and claims, the applied patents,² and the respective viewpoints of appellant and the examiner. As a consequence of our review, we make the determinations which follow.

² In our evaluation of the applied teachings, we have considered all of the disclosure of each teaching for what it would have fairly taught one of ordinary skill in the art. See In re Boe, 355 F.2d 961, 965, 148 USPQ 507, 510 (CCPA 1966). Additionally, this panel of the board has taken into account not only the specific teachings, but also the inferences which one skilled in the art would reasonably have been expected to draw from the disclosure. See In re Preda, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968).

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The respective rejections of claim 1 and claims 2 through 4 under 35 U.S.C. § 103 are reversed.

We, of course, fully appreciate the examiner's assessment of the applied prior art, as well as the manner in which the examiner proposes that the references be applied. However, the difficulty that we have with the rejections is that when we set aside what appellant has disclosed to us in the present application, it is at once apparent to us that the applied patents themselves would not have been suggestive of the invention now claimed.

The Yumoto patent clearly addresses a thermally-actuated steam trap, acknowledged by appellant (main brief, page 12) to include a diaphragm member 15, 16 with a wave-like configuration (Figures 1 and 2). As depicted in Figure 2 of Yumoto, when the valve member 17 is seated on the valve seat member 9, the movable diaphragm member 15, 16 engages the apparently smooth top surface of the bottom member 18.

The examiner proposes to modify the aforementioned teaching based upon the Stalker patent. This reference relates to a fluid pressure diaphragm including an inner pressure containing capsule of relatively light or thin material (discs

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14, 19) combined with an outer capsule of relatively heavy and strong

material (discs 8,9) constructed to resist fatigue and to "continuously support" the expansive movement of the lighter inner capsule to the interior of which pressure is applied.

From our perspective, the teaching of Stalker would not have been suggestive of modifying the upper surface of the bottom member 18 of Yumoto to be of wave-like shape. Simply stated, unlike the operation of the diaphragm within the steam trap of Yumoto, which is a working member movable between the cover member 15 and the bottom member 18, the inner discs 18, 19 are continuously supported by the outer discs 8,9 effecting the composite wall structure of the Stalker diaphragm. Stalker simply lacks a teaching of a movable diaphragm that can engage a member at one extent of its movement.

The patent to Clayton concerns itself with a "balanced" pressure thermostatic element of a bellows (Figure 1) or a multi-diaphragm arrangement (Figures 2A and 2B) wherein volatile fluid surrounds and supports the element, distinct from the steam trap of the present invention and that of the Yumoto reference. Of interest, is the spring-biased configuration of Clayton which

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enables the leaves of the bellows (Figure 1), as well as the diaphragms of corrugated form (Figure 3), to fully nest to withstand great pressure upon a further heating (superheating) and overpressurization of the volatile fluid after the closing of the trap (valve member seating). The Clayton patent does not overcome the deficiency of the Yumoto and Stalker patents.

NEW GROUND OF REJECTION

Under the authority of 37 CFR § 1.196(b), this panel of the board introduces the following new ground of rejection.

Claims 1 and 2 are rejected under 35 U.S.C. § 103 as being unpatentable over Yumoto in view of Jones.

The patent to Yumoto (Figures 1 through 4) addresses the claimed invention but for a curved region on the upper surface of the lower disk-shaped wall member 18 corresponding to the wave configuration of the diaphragm member 15, 16.

The Jones patent informs us (page 2, column 2, lines 28 through 57, and page 3, column 1, lines 40 through 46) that in the steam trap art, at the time of appellant's invention, it was known to provide a rigid backing with annular concentric ribs corresponding to the configuration of a movable disc-like member

(Figures 1 and 5) whereby when the movable disk-like member contacts the rigid backing the member is not subject to injury due to excessive pressure, i.e., no undue stretching or rupture of the disk-like member can take place.

In applying the test for obviousness,³ this panel of the board determines that it would have been obvious to one having ordinary skill in the art, from a combined consideration of the applied teachings, to configure the upper surface of the lower disk-shaped wall member 18 of Yumoto with a curved region corresponding to the wave configuration of the diaphragm member 15, 16. In our opinion, the incentive on the part of one having ordinary skill in the art for making this modification would have simply been to gain the art recognized advantage thereof, i.e., protecting the diaphragm from undue stretching or rupture, as taught by Jones. For this reason, the subject matter of claim 1 is unpatentable. We note that the particular content of claim 2

³ The test for obviousness is what the combined teachings of references would have suggested to one of ordinary skill in the art. See In re Young, 927 F.2d 588, 591, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991) and In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981).

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is addressed by the teaching of an elastic holding member 20 in Yumoto.

In summary, this panel of the board has:

reversed the rejection of claim 1 under 35 U.S.C. § 103 as being unpatentable over Yumoto in view of Stalker; and

reversed the rejection of claims 2 through 4 under 35 U.S.C. § 103 as being unpatentable over Yumoto in view of Stalker and Clayton.

Additionally, we have introduced a new ground of rejection for claims 1 and 2 pursuant to our authority under 37 CFR § 1.196(b).

The decision of the examiner is reversed.

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 exer-

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cise 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 reconsidered 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).

REVERSED
37 CFR 1.196(b)

HARRISON E. McCANDLISH)	
Senior Administrative Patent Judge)	
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)	
IRWIN CHARLES COHEN)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
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JAMES M. MEISTER)	

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Administrative Patent Judge)

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