

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 10

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte THOMAS E. DRAGO and ROBERT H. SWIECZKOWSKI

Appeal No. 98-0358
Application 08/660,719¹

ON BRIEF

Before COHEN, McQUADE and CRAWFORD, Administrative Patent Judges.

COHEN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1 through 5. These claims constitute all of the claims in the application.

¹Application for patent filed June 10, 1996.

Appeal No. 98-0358
Application 08/660,719

Appellants' invention pertains to a burner emission device for reducing NO_x. An understanding of the invention can be derived from a reading of exemplary claim 1, a copy of which appears in the APPENDIX to the main brief (Paper No. 6).

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

Sheets et al. 1981 (Sheets)	4,284,402	Aug. 18,
Kirkpatrick et al. 1994 (Kirkpatrick)	5,333,597	Aug. 02,

The following rejection is before us for review.²

Claims 1 through 5 stand rejected under 35 U.S.C. § 103 as being unpatentable over Sheets in view of Kirkpatrick.

The full text of the examiner's rejection and response to

² A final rejection of claims 1 through 5 under 35 U.S.C. § 102(b) based upon a patent to Beall was expressly withdrawn by the examiner on page 3 of the answer (Paper No. 7).

Appeal No. 98-0358
Application 08/660,719

the argument presented by appellants appears in the answer (Paper No. 7), while the complete statement of appellants' argument can be found in the main and reply briefs (Paper Nos. 6 and 8).

According to appellants (main brief, page 2), claims 4 and 5 do not stand or fall with claims 1 through 3 or each other. In light of the above and the comments in the reply brief, claims 1 through 3 stand or fall with one another, and each of claims 4 and 5 are to be separately considered. We select claim 1 for review on appeal from the grouping of claims 1 through 3, claims 2 and 3 standing or falling therewith; 37 CFR 1.192(c)(7). Accordingly, in our analysis, *infra*, we focus our attention upon claims 1, 4, and 5.

OPINION

In reaching our conclusion on the obviousness issue raised in this appeal, this panel of the board has carefully

Appeal No. 98-0358
Application 08/660,719

considered appellants' specification and claims, the applied patents,³ and the respective viewpoints of appellants and the examiner. As a consequence of our review, we make the determinations which follow.

We affirm the rejection of claims 1 through 5 under 35 U.S.C. §103. Our reasoning in support of this stated conclusion appears below.

At the outset, we note that a reading of claim 1 in its entirety makes it apparent to us that a burner device *per se* is being claimed, notwithstanding appellants' perception to the contrary (main brief, page 4). The preamble of the claim specifies a burner emission device and the body of the claim positively sets forth features thereof, with only the "whereby" clause making reference to other than the burner emission device. However, contrary to the impression given by

³ In our evaluation of the applied patents, we have considered all of the disclosure thereof 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).

the selectively quoted portions from the "whereby" clause referred to by appellants (main brief, page 4), like the examiner (answer, page 4), we find it is accurate to say that the "whereby when" clause clearly only addresses a prospective use of the device with a burner and heat exchanger. Thus, claim 1, as indicated, is drawn to a burner emission device *per se*, and not to a combination of a burner emission device, burner, and heat exchanger. As to the recitation in claim 1 (line 2) of a single perforate member having a plurality of holes thereon, we determine that this language, read in light of the underlying disclosure (specification, page 2), is clearly intended to address a screen. The latter circumstance of the noted language of claim 1 encompassing a screen is acknowledged by appellants (main brief, page 4).

With the above understanding of claim 1, we turn now to the prior art teachings relied upon in the rejection of appellants' claims under 35 U.S.C. § 103.

Appeal No. 98-0358
Application 08/660,719

The overall disclosure of the Sheets patent makes it quite evident to us that, at the time of appellants' invention, screens were well known to those having ordinary skill in the art for the emission control of flames. More particularly, as portrayed in Figure 1 of Sheets, akin to the showing in appellants' Figure 3, a screen 30 is located in a flame. Like the examiner (answer, page 5), we appreciate that those having ordinary skill in the art would have fairly understood that the screen 30 of Sheets would be supported in use by some appropriate structure for positioning in the flame. The reference to mounting flanges for a screen in Sheets (column 1, lines 54 through 58) clearly provides support for the latter viewpoint. Further, the patent to Kirkpatrick (column 5, line 53 to column 6, line 6) additionally buttresses the aforementioned latter assessment by clearly revealing the knowledge in the art of providing an appropriate support member for the support of a screen within a flame (Fig. 3 or Fig. 5).

Applying the test for obviousness,⁴ this panel of the board makes the determination that it would have been obvious to one having ordinary skill in the art, from a combined consideration of the applied patents, to provide the screen 30 of Sheets with an appropriate support member. As we see it, the incentive on the part of one of ordinary skill in the art for providing a support member would have simply been to gain the expected and recognized benefit thereof, as exemplified by the teaching of Kirkpatrick, i.e. the benefit of support of the screen within the flame to enable the screen to perform its indicated function

of reducing NO_x. For these reasons, the rejection of claim 1 is affirmed. It follows that the rejection of claims 2 and 3 is likewise affirmed since these claims stand or fall with

⁴ The test is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test for obviousness is what the combined teachings of the 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).

Appeal No. 98-0358
Application 08/660,719

claim 1.

As to each of claims 4 and 5, we perceive the respective area and porosity ranges thereof to have been obvious matters for those having ordinary skill when appellants' invention was made.

In making this determination we, of course, presume skill on the part of those practicing this art. See In re Sovish, 769 F.2d 738, 742, 226 USPQ 771, 774 (Fed. Cir. 1985). Taking into account the knowledge and understanding of screens as a well known entity for the reduction of NO_x by those of ordinary skill in this art, as clearly evident to us from the evidence of obviousness, we conclude that the claimed parameters of screen area and porosity would have been factors of concern in the design of these screens for NO_x reduction. As such, we are of the view that the presently claimed ranges for apparent result effective variables or parameters can fairly be viewed as simply obvious optimum or working ranges that would have been readily obtainable through routine experimentation. See In re Boesch,

Appeal No. 98-0358
Application 08/660,719

617 F.2d 272, 205 USPQ 215, 219 (CCPA 1980) and In re Aller,
220

F.2d 454, 105 USPQ 233, 235 (CCPA 1955). For these reasons,
the rejection of claims 4 and 5 is affirmed.

The argument advanced by appellants in the main (pages 4 through 7) and reply briefs does not convince us of the patentability of claims 1, 4, and 5 under 35 U.S.C. § 103. Contrary to the view taken by appellants (main brief, page 4), we do not find that the labeling by Sheets of the use of radiant screens in forced air burners as "not practical" to detract from the explicit prior art teaching of screens for the reduction of NO_x emissions. We would only add that, as to air burners (not oil burners) Sheets considers screens "not practical" only in the instance when flame temperatures are "too high" and the oxidation atmosphere "too severe". Again contrary to the view of appellants (main brief, page 5), the Kirkpatrick patent as earlier indicated provides ample suggestion for a support member for a screen. Further, as we

Appeal No. 98-0358
Application 08/660,719

mentioned above, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference. As to appellants argument relative to claims 4 and 5 (main brief, pages 5 and 6 and reply brief, page 2), we refer to our discussions, supra, in response thereto. Additionally, we consider the disclosed area and porosity ranges (specification, page 3) to simply denote preferred working ranges since no indication is given by appellants in the specification that they are otherwise, e.g. yield unexpected results.

In summary, this panel of the board has affirmed the rejection of claims 1 through 5 under 35 U.S.C. § 103 as being unpatentable over Sheets in view of Kirkpatrick.

The decision of the examiner is affirmed.

No time period for taking any subsequent action in

Appeal No. 98-0358
Application 08/660,719

connection with this appeal may be extended under 37 CFR
§ 1.136(a).

AFFIRMED

IRWIN CHARLES COHEN)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
JOHN P. McQUADE)	APPEALS AND
Administrative Patent Judge)	INTERFERENCES
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MURRIEL E. CRAWFORD)	
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Appeal No. 98-0358
Application 08/660,719

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