

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 36

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DAVID C. MAY, SITHYA S. KHIEU, CRISTINA U. THOMAS, WARREN J. JOHNSON,
RONALD W. GERDES and DAVID J. LANDON

Appeal No. 1999-0941
Application No. 08/756,424¹

ON BRIEF

Before COHEN, ABRAMS, and BAHR, Administrative Patent Judges.

BAHR, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's refusal to allow claims 31-44, 49 and 50. The examiner has indicated claims 64-67 as allowable and has objected to claims 45-48 as being

¹ Application for patent filed November 26, 1996. According to appellants, the application is a continuation of application No. 08/445,285, filed May 19, 1995, now abandoned.

dependent upon a rejected base claim. No other claims remain pending in this application.² We
AFFIRM.

BACKGROUND

Appellants' invention relates to a raised pavement marker comprising a generally hollow shell, a base plate, a plurality of ribs extending between the base plate and the shell and a retroreflective lens positioned on the shell. According to appellants, it is essential that the pavement marker have an apparent flexural modulus greater than about 80,000 psi.

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

Taylor-Myers	3,427,933	Feb. 18, 1969
May	4,875,798	Oct. 24, 1989
Steere et al. (Steere)	5,340,231	Aug. 23, 1994
Webb (British patent specification)	1,028,832	May 11, 1966

Appellants' admitted prior art (AAPA) on page 18 of the specification and the TABLE accompanying the specification.

The following rejections are before us for review.

² Claims 54, 63, 68 and 69 were canceled pursuant to entered Paper No. 31 after the final rejection. The amendment after final rejection filed July 31, 1998 (Paper No. 28) has not been entered.

1. Claims 31-33, 35-38, 40, 41, 43, 44, 49 and 50 stand rejected under 35 U.S.C. § 103 as being unpatentable over Steere in view of AAPA (specification, page 18, lines 4-5, and the attached TABLE) and May.
2. Claim 34 stands rejected under 35 U.S.C. § 103 as being unpatentable over Steere in view of AAPA (specification, page 18, lines 4-5 and the attached TABLE) and May, as applied above, and further in view of Taylor-Myers.
3. Claims 39 and 42 stand rejected under 35 U.S.C. § 103 as being unpatentable over Steere in view of AAPA (specification, page 18, lines 4-5 and the attached TABLE) and May, as applied above, and further in view of Webb.

Reference is made to the brief (Paper No. 30) and the answer (Paper No. 33) for the respective positions of appellants and the examiner with regard to the merits of these rejections.

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 make the determinations which follow.

At the outset, we note that appellants' brief (page 4) states that all claims involved in this appeal stand or fall with claim 31. Therefore, we shall decide the appeal of the standing rejections on the basis

of representative claim 31 and treat claims 32-44, 49 and 50 as standing or falling therewith. See In re Young, 927 F.2d 588, 590, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991); In re Wood, 582 F.2d 638, 642, 199 USPQ 137, 140 (CCPA 1978).

Steere (Figures 14 and 15) discloses a raised pavement marker comprising a top wall (176), a bottom plate (220) and ribs (172, 173) extending between the top wall and bottom plate. The examiner finds that Steere discloses a raised pavement marker as recited in claim 31 with the exception that Steere fails to expressly disclose any "apparent modulus" values. Appellants have not challenged this assertion and we detect no error in the examiner's finding.

The examiner (answer, page 6) concludes that "it is likely that the marker of [Steere] would inherently have an 'apparent modulus' greater than 80,000 PSI" on the basis that (1) Steere discloses acrylic-styrene-acrylonitrile (ASA) as the base or housing material (column 3, lines 60-61) and (2) May teaches that impact-modified acrylic resins have a flexural modulus of at least 200,000 psi (column 4, lines 44-47). While the examiner's conclusion may be reasonable, we also note that a showing of likely or probable inherency is not sufficient to support a rejection under 35 U.S.C. § 102 or 103 under the theory of inherency.

Under principles of inherency, when a reference is silent about an asserted inherent characteristic, it must be clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Continental

Can Co. v. Monsanto Co., 948 F.2d 1264, 1268, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991). As the court stated in In re Oelrich, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981) (quoting Hansgirg v. Kemmer, 102 F.2d 212, 214, 40 USPQ 665, 667 (CCPA 1939)):

Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient. [Citations omitted.] If, however, the disclosure is sufficient to show that the natural result flowing from the operation as taught would result in the performance of the questioned function, it seems to be well settled that the disclosure should be regarded as sufficient.

As Steere is silent as to critical dimensions, such as wall, rib and bottom plate thicknesses, which contribute to the apparent modulus of the marker as a whole, it is our opinion that the evidence relied upon by the examiner is insufficient to establish that the pavement marker of Steere necessarily possesses an apparent modulus of at least about 80,000 psi.

In the alternative, however, the examiner asserts that, even if the Steere marker does not inherently have an apparent modulus of greater than about 80,000 psi, it would nonetheless have been obvious to construct the Steere marker so as to provide such an apparent modulus in view of the combined teachings of Steere and the AAPA. Specifically, as pointed out by the examiner, Steere discloses that hollow shell markers which are potted with a rigid epoxy-type material produce marker structures which are relatively rigid and over the years have proven to be remarkably durable in use (column 1, lines 60-68) and further that

[s]amples using a bottom plate like FIG. 14 tested in compression showed no cracks in the housing 160 during loading. Furthermore, no cutting into the bituminous adhesive surface was seen. Without the bottom plate or epoxy potting material, the center core area or the waffle area cut into the bitumen. The loading causes the bituminous material to be forced into the cores or recesses 175 of the housing 168 while the perimeter of the marker deflects upwardly because the reaction forces are not restrained at the boundaries. This situation causes enough downward deflection through the marker center leading to crack propagation and potential loss of bond to the pavement [column 9, lines 41-53].

Additionally, we note that Steere points out that the disclosed pavement marker, comprising a hollow housing including a top wall, depending ribs and either an epoxy filling or a bottom wall (220) "combines the strength of the epoxy fill - and generally planar bottom surface 310, with the attributes of 'air' cell type retroreflectors, with full walls for the cells so as to provide added strength and minimize propagation of damage throughout the entire lens" (column 8, lines 35-40).

The examiner relies on the statement on page 18, in lines 4 and 5, of appellants' specification and Examples 21, 22 and 24 in the TABLE attached thereto (AAPA) to show that available markers with known good road adhesion performance exhibit an apparent modulus of greater than approximately 80,000 psi. With the caveat that the prior art markers referenced by appellants in these statements are limited to filled markers and do not include hollow markers, appellants do not challenge this characterization of the admitted prior art by the examiner (brief, page 6, footnote 2).

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 at 591, 18 USPQ2d at 1091 (Fed. Cir. 1991) and In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). Indeed, a *prima facie* case of obviousness is established where the reference teachings would appear to be sufficient for one of ordinary skill in the art having those teachings before him to make the proposed combination or modification. See In re Lintner, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972). Moreover, in evaluating such references it is proper to take into account not only the specific teachings of the references but also the inferences which one skilled in the art would reasonably be expected to draw therefrom. In re Preda, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968).

Like the examiner, we are satisfied that the aforementioned teachings of Steere, viewed as a whole, would have suggested to one of ordinary skill in the art that the epoxy potting material (175') or, in lieu thereof, the bottom plate (220) provides two important performance enhancing attributes, rigidity and a generally planar bottom surface, to the disclosed hollow shell of Steere and, accordingly, would have led such an artisan to construct the marker embodied in Figures 14 and 15 using materials and dimensions so as to approximate the rigidity of conventional potted markers which have proven to be successful in use.³ As available prior art potted markers known in the art to have good road adhesion

³ An artisan must be presumed to know something about the art apart from what the references disclose (see In re Jacoby, 309 F.2d 513, 516, 135 USPQ 317, 319 (CCPA 1962)) and the conclusion of obviousness may be made from "common knowledge and common sense" of the person of ordinary skill in the art (see In re Bozek, 416

(continued...)

performance exhibit an apparent modulus of greater than about 80,000 psi, as taught by the AAPA, we feel confident that one of ordinary skill in the art, in following the teachings of Steere, would have arrived at a marker having an apparent modulus falling within this range. This accords with the general rule that discovery of an optimum value of a result effective variable (in this case, the optimum rigidity) is ordinarily within the skill of the art. See In re Boesch, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980) and In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

We have carefully considered appellants' argument (brief, page 6) that a marker having a "relatively high apparent modulus (i.e., over 80,000 PSI)" would have been contrary to the teaching of Steere that the marker should be capable of "permitting some flexure to conform with irregularities in the roadway with which the marker is to be associated" (column 5, lines 61-63), but we do not find it persuasive. We understand Steere as teaching a pavement marker which is "relatively rigid" (column 1, lines 66-68; see also column 6, line 24), while still permitting some flexure. From our viewpoint, this is consistent with an apparent modulus greater than about 80,000 psi, which, according to appellants' own specification (page 4), falls only marginally above the low modulus range. Appellants' argument seems to presume that a structure having an apparent modulus of greater than about 80,000 psi would

³(...continued)

F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969)). Moreover, skill is presumed on the part of those practicing in the art. See In re Sovish, 769 F.2d 738, 743, 226 USPQ 771, 774 (Fed. Cir. 1985).

not be capable of the type of flexure described by Steere, but is not accompanied by any evidence or rationale to support this conclusion.⁴

For the foregoing reasons, we shall sustain the examiner's rejections of claim 31 and of claims 32-44, 49 and 50 which stand or fall with claim 31.

CONCLUSION

To summarize, the decision of the examiner to reject claims 31-44, 49 and 50 under 35 U.S.C. § 103 is affirmed.

⁴ Attorney's arguments in a brief cannot take the place of evidence. In re Pearson, 494 F.2d 1399, 1405, 181 USPQ 641, 646 (CCPA 1974).

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

AFFIRMED

IRWIN CHARLES COHEN
Administrative Patent Judge

NEAL E. ABRAMS
Administrative Patent Judge

JENNIFER D. BAHR
Administrative Patent Judge

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