

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JOSEF THEURER and FRIEDRICH PEITL

Appeal 2008-1830
Application 10/348,437
Technology Center 3600

Decided: September 10, 2008

Before ANTON W. FETTING, DAVID B. WALKER, and BIBHU R.
MOHANTY, *Administrative Patent Judges*.

WALKER, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants seek our review under 35 U.S.C. § 134 of the Examiner's final rejection of claims 1-3 and 5. We have jurisdiction under 35 U.S.C. § 6(b)(2002). We affirm-in-part.

Appellants claim a tamping tine for a tamping machine for tamping ballast underneath a railroad track (Specification 1:7-9). Claims 1 and 5, reproduced below, are representative of the subject matter on appeal.

1. A tamping tine for a tamping machine for tamping ballast underneath a railroad track, comprising:

a shank having a lower end;

a tine plate disposed at said lower end of said shank and having a bottom edge spaced from said shank, said tine plate having side surfaces, spaced from one another in a direction of said bottom edge and extending substantially perpendicularly to said bottom edge, and said tine plate having a front surface and a rear surface connected to one another by said side surfaces; and

hardened metal inserts in said tine plate, said inserts having a cylindrical shape and having a boundary surface substantially lying in a plane with and forming a part of a respective one of said side surfaces of said tine plate.

5. A tamping tine for a tamping machine for tamping ballast underneath a railroad track, comprising:

a shank having a lower end;

a tine plate disposed at said lower end of said shank and having a bottom edge spaced from said shank, said tine plate having side surfaces, spaced from one another in a direction of said bottom edge and extending substantially perpendicularly to said bottom edge, and said tine plate having a front surface and a rear surface connected to one another by said side surfaces; and

a plurality of hardened metal inserts in said tine plate, said inserts having a cylindrical shape and having a boundary surface projecting slightly from said side

Appeal 2008-1830
Application 10/348,437

surfaces of said tine plate.

THE REJECTION

The Examiner relies upon the following as evidence in support of the rejection:

McKenry	US 3,793,960	Feb. 26, 1974
Manway	US 5,813,474	Sep. 29, 1998

Claim 1-3 and 5 stand rejected under 35 U.S.C. § 103(a) as unpatentable over McKenry in view of Manway.

ISSUE

The issue before us is whether the Examiner erred in rejecting claims 1-3 and 5 as unpatentable over McKenry in view of Manway. The issue turns on whether the combination teaches hardened metal inserts having a boundary surface 1) substantially lying in a plane with and forming a part of a respective one of the side surfaces of a tine plate; and 2) projecting slightly from the side surfaces of the tine plate.

Rather than repeat the arguments of Appellants or the Examiner, we make reference to the Briefs and the Answer for their respective details. Only those arguments actually made by Appellants have been considered in this decision. Arguments which Appellants could have made but chose not to make in the Briefs have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii) (2007).

FINDINGS OF FACT

We find the following enumerated findings to be supported by at least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office).

1. The Specification describes the hardened inserts as having “a circular boundary surface 11 which constitutes part of the side surface 11” (Specification 6:8-9).
2. In one embodiment, the inserts may project by “about 0.5 to 1.5 millimeters” (Specification, 7:9-11).
3. There is no lexicographic definition of “lie substantially in a plane” in the Specification.
4. McKenry discloses a plate adapted for being fixed to the end of a tamper arm and having a groove extending across the leading edge and up the side edges, in which blocks of a wear resistant material are secured in place (McKenry, Abstract).
5. The blocks of wear resistant material have roof-shaped portions, which project outwardly from the mouth of the groove, which forms a portion of the side edge of the tamping tine, at least a short predetermined distance (McKenry, col. 2, ll. 30-37 and Figure 3).
6. Manway teaches a plow blade with one or more insert holes, one or more blade inserts that are mounted in the insert holes so that a wear portion of

each blade insert protrudes to some extent from the one or more insert holes (Manway, Abstract).

7. In one embodiment, the ends of the blade inserts of the Manway plow extend a distance “K” of approximately 0.125 inch, indicated from the bottom edge 34 of the plow blade (Manway, col. 5, ll. 40-45; Figure 2).
8. The blade inserts are shown as having a cylindrical portion (Manway, Figure 4). The blade inserts are described as having a convex curved surface at their exposed ends (Manway, col. 4, ll. 41-53).

PRINCIPLES OF LAW

We determine the scope of the claims in patent applications “not solely on the basis of the claim language, but upon giving claims their broadest reasonable construction ‘in light of the specification as it would be interpreted by one of ordinary skill in the art.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005) (en banc) (quoting *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004)). We must be careful not to read a particular embodiment appearing in the written description into the claim if the claim language is broader than the embodiment. See *Superguide Corp. v. DirecTV Enterprises, Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004) (“Though understanding the claim language may be aided by explanations contained in the written description, it is important not to import into a claim limitations that are not part of the claim. For example, a particular embodiment appearing in the written description may not be read into a claim when the claim language is broader than the embodiment.”) The challenge

Appeal 2008-1830
Application 10/348,437

is to interpret claims in view of the specification without unnecessarily importing limitations from the specification into the claims. See *E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1369 (Fed. Cir. 2003).

We remind appellants that it is their burden to precisely define the invention, not that of the Examiner. *In re Morris*, 127 F.3d 1048, 1056 (Fed. Cir. 1997). Appellants always have the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. *In re Prater*, 415 F.2d 1393, 1404-05 (CCPA 1969).

“Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’” *KSR Int’l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1734 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of ordinary skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). See also *KSR*, 127 S.Ct. at 1734 (“While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.”)

In *KSR*, the Supreme Court emphasized “the need for caution in granting a patent based on the combination of elements found in the prior art,” *id.* at 1739,

Appeal 2008-1830
Application 10/348,437

and reaffirmed principles based on its precedent that “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *Id.* The Court explained:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, §103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

Id. at 1740. The operative question in this “functional approach” is thus “whether the improvement is more than the predictable use of prior art elements according to their established functions.” *Id.*

In rejecting claims under 35 U.S.C. § 103(a), the examiner bears the initial burden of establishing a prima facie case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). *See also In re Piasecki*, 745 F.2d 1468, 1472 (Fed. Cir. 1984). Only if this initial burden is met does the burden of coming forward with evidence or argument shift to the appellant. *Id.* at 1445. *See also Piasecki*, 745 F.2d at 1472. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. *See Oetiker*, 977 F.2d at 1445; *Piasecki*, 745 F.2d at 1472.

ANALYSIS

Each of claims 1-3 requires hardened metal inserts “having a boundary surface substantially lying in a plane with and forming a part of a respective one of said side surfaces of said tine plate.”

The Examiner found that McKenry teaches all of the limitations of claim 1, but for failing to show the metal inserts to be of a particular shape, specifically cylindrical. The Examiner found that Manway shows a similar ground-engaging device with replaceable inserts 16, which are cylindrical (figure 4), have a boundary surface forming part of a surface of the plate 24, and are mounted in holes of a surface (figure 1) (Answer 3).

Appellants argue that, even if the combination were proper, it would not result in the claimed structure (Br. 9). Appellants point to Figure 3 of McKenry, which they argue shows that the roof-shaped portion 32 of the insert 26 projects from the plane of the side surface by a considerable amount and does not lie substantially in a plane with and form a part of a respective one of said side surfaces of said tine plate (Br. 9-10). Appellants concede that claim 1 does not require that the hardened metal inserts lie in an exact mathematical plane with a side edge of the tamping tine, but must be approximately planar, which Appellants argue is not the case in McKenry (Br. 10).

Appellants argue that if one were to combine the two references and incorporate the teeth teaching of Manway into the concepts provided by McKenry, then the teeth would have to be disposed at the lower edge of McKenry's tamping tine. Further, they would have to protrude beyond the edge formed by the tine

plate (Br. 7). According to Appellants, there exists absolutely no suggestion to: a) position the teeth at the side walls of the tine, which the Appellants argue would be entirely senseless in the context of a plough; and b) integrate the teeth into the side wall of a tine so that they form a part of the side wall (Br. 7).

There is no lexicographic definition of “lie substantially in a plane” in the Specification (Finding of Fact 3), but the Appellants figures show the hardened inserts have outer edges apparently parallel to the side edges of the tine plate. The hardened inserts are described as having “a circular boundary surface 11 which constitutes part of the side surface 11” (Finding of Fact 1). To meet the substantially in a plane limitation, we find that under a broadest reasonable interpretation in light of the Specification, it would be necessary to modify the inserts of McKenry or Manway to have a substantially flat end to allow them to substantially lie in a plane with the side surface. Under that interpretation, we find that neither the inserts of McKenry nor those of Manway meet the limitation to “having a boundary surface substantially lying in a plane with and forming a part of a respective one of said side surfaces of said tine plate.”

The inserts 26 of McKenry have roof shaped portions 32 (see figure 3) that appear to make it impossible for the inserts to lie substantially in a plane with the side surface of the tine plate (Finding of Fact 5). In one embodiment, the ends of the blade inserts of the Manway plow extend a distance “K” of approximately 0.125 inch, indicated from the bottom edge 34 of the plow blade (Finding of Fact 7). Moreover, the extensions are described as having a convex curved surface at their exposed ends that also would appear to prevent the inserts from lying

Appeal 2008-1830
Application 10/348,437

substantially in a plane with a side edge of the tamping tine of McKenry (Finding of Fact 8).

The Examiner found that figure 2-3 of McKenry show the inserts having a shape and having a boundary surface lying in a plane with and forming a part of a respective one of the side surfaces of the tine plate (Answer 3). In response to the Appellants' argument regarding the roof-shaped portion 32, the Examiner found that whether or not the boundary of 32 extends slightly outward of the plane of the side surface (as shown by the dashed line in Appellants' figure at Br. 9) is not relevant since the claim only requires substantially in the plane which is demonstrated by the portion of 32 along the dashed line shown by Appellants (Answer 6). The Examiner provides no explanation for how the roof-shaped portion meets the limitation to lie substantially in a plane with the side surface of the tamping tine. We find the Examiner's analysis conclusory and not consistent with the record. *KSR*, 127 S.Ct. at 1740-41, citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness”).

The Examiner thus has failed to establish a prima facie case of obviousness of claim 1-3 over McKenry in view of Manway.

With respect to claim 5, Appellants argue that the block inserts of McKenry project from the side edges by approximately a quarter (25%) of their extent, which they argue is considerably more than extending slightly as required by claim 5 (Br. 13-14). Appellants also argue that the Specification provides the necessary

Appeal 2008-1830
Application 10/348,437

reference to the otherwise relative limitation, slightly, by stating that the inserts may project by “about 0.5 to 1.5 millimeters” (Br. 13; citing Specification, 7:9-11).

The Examiner noted the about 0.5 to 1.5 millimeter range provided in the Specification, but found the Specification to lack any particular reason why this range is optimal or provides any particular advantage (Answer 6). The Examiner found Manway to define the dimension K to be 3 mm, and concluded that the term slightly remains sufficiently broad to include what one of ordinary skill in the art would consider slightly larger dimensions, especially since this range only would require routine skill and does not solve any particular problem (*Id.*)

We are left to determine the limits of the phrase “projecting slightly”. The Appellants point to the only portion of the Specification which describes how far an insert may project from a side surface (Finding of Fact 2). This is merely an embodiment and is not associated with or described as projecting slightly from the side surface, and we decline the Appellants’ invitation to limit the phrase “projecting slightly” strictly to that range. See *Superguide Corp.*, 358 F.3d at 875 (“[A] particular embodiment appearing in the written description may not be read into a claim when the claim language is broader than the embodiment”). McKenry states that “a roof shaped portion of the block projects outwardly from the mount of the groove at least a short predetermined distance” (Finding of Fact 5). Manway discloses an embodiment wherein the inserts protrude a distance “K” of approximately 0.125” (which is approximately 3 mm) (Finding of Fact 8).

The Appellants rely on their calculation of 25% protrusion in McKenry, apparently based on measurement of Figure 3. The Examiner found that claim 5

Appeal 2008-1830
Application 10/348,437

does not set forth limitations in which “slightly” cannot mean, i.e. 25%, as proclaimed by Appellants, and noted that drawings are not known to be of exact scale (Answer 6). There is no disclosure in McKenry that indicates the figures are drawn to scale, but we need not and expressly do not reach the question of whether “slightly” can mean 25%. The issue is not what percentage of its length the insert protrudes, but whether or not the insert protrudes only slightly from the side surface. Barring any lexicographic definition of protruding slightly, which we find absent from the Specification, we find that a broadest reasonable interpretation of protruding slightly reads on “a short predetermined distance” as taught by McKenry or 0.125” as taught by Manway. The Appellants thus have failed to show that the Examiner erred in rejecting claim 5.

CONCLUSIONS

We conclude that Appellants have shown that the Examiner erred in rejecting claim 1-3 under 35 U.S.C. § 103(a) as being unpatentable over McKenry in view of Manway. We conclude that Appellants have not shown that the Examiner erred in rejecting claim 5 under 35 U.S.C. § 103(a) as being unpatentable over McKenry in view of Manway.

DECISION

The decision of the Examiner to reject claims 1-3 is reversed. The decision of the Examiner to reject claim 5 is affirmed.

Appeal 2008-1830
Application 10/348,437

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2007).

AFFIRMED-IN-PART

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