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Please find below and/or attached an Office communication concerning this application or proceeding.

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte LEONID BORIS SHARIVKER and
SERGEI VLADIMIR BOULAKHOV

Appeal 2015-000697
Application 13/245,013
Technology Center 3700

Before: LYNNE H. BROWNE, THOMAS F. SMEGAL, and
BRENT M. DOUGAL, *Administrative Patent Judges*.

DOUGAL, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from a Final Rejection of claims 1, 2, 4, and 5 under 35 U.S.C. §102(b) as anticipated by Hiyama (JP 2003-300112, pub. Oct. 21, 2003). We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

CLAIMED SUBJECT MATTER

The claims are directed to a milling cutter for cutting a ninety-degree shoulder in a workpiece. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A milling cutter, comprising:
 - a shank portion;
 - a cutting portion having a cylindrical outer surface, the cutting portion defining an axis of rotation of the cutter about a central, longitudinal axis;
 - at least one major cutting edge extending from an end face toward the shank portion;
 - at least one minor cutting edge disposed at the end face of the cutting portion, the end face defining an outer diameter, D, of the milling cutter;
 - a corner formed at an intersection of the end face and the relief surface; and
 - a relief surface formed on the cylindrical outer surface proximate the corner and extending from the end face toward the shank portion,
 - wherein the corner is formed at an angle less than 90° , and
 - wherein the relief surface is parallel to the central, longitudinal axis of the milling cutter such that the at least one major cutting edge cuts a perfect 90° shoulder in a workpiece during a machining operation.

OPINION

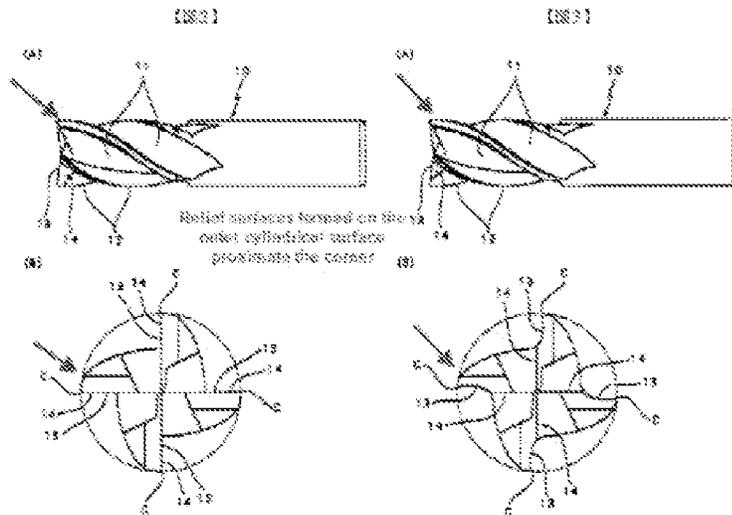
Claim 1 is the sole independent claim, claims 2, 4, and 5 being dependent therefrom.

Appellants argue that claim 1 is not anticipated because Hiyama does not teach “a cutting portion having a cylindrical outer surface” or “a relief surface (30) formed on the cylindrical outer surface (19)” together with the claimed features of the relief surface. Appeal Br. 7.

Appellants argue that “Hiyama is directed to a gash arrangement to strengthen the blade tip,” but nowhere discloses the claimed relief surface. *Id.* at 8. Appellants also note that the only support for the Examiner’s position is a marked-up copy of the figures of Hiyama with an arrow pointing to a corner of the cutter, but again does not identify the claimed relief surface. *Id.* at 8–9.

The Examiner responds by arguing that gash surfaces and relief surfaces are not mutually exclusive and asserting that Hiyama does disclose the claimed relief surface. Answer 3. The Examiner further explains that relief surfaces are disclosed “at the corners behind the major cutting edges, extending toward the shank . . . i.e., the angled portion adjacent directly behind the side cutting edge.” Answer 4. And that “[t]he cited figures indeed show the taper of the relief surface behind the cutting edge on the outer cylindrical surface.” *Id.*

“A claim is anticipated only if each and every element as set forth in the claim is found either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros., Ind. V. Union Oil Col. of Cal.*, 814 F.2d 628, 631 (Fed. Cir. 1987). The Examiner relies upon the annotated copy of Hiyama’s Figures 2A–B and 3A–B, reproduced below:



Figs. 2A–B are schematic diagrams showing one embodiment of a square end mill and Figs. 3A–B are schematic diagrams showing another embodiment of a square end mill. The Examiner relies upon the arrows added to these Figures to identify the portion of Hiyama that corresponds to the limitation at issue. *See* Final Act. 2. However, it is unclear how Hiyama’s relief surface which the Examiner states is an “angled portion” that “taper[s] . . . behind the cutting edge” is also a “parallel to the central, longitudinal axis of the milling cutter” as required by the claim as the drawings do not clearly show these features. Thus, the Examiner’s finding is not supported by a preponderance of evidence.

For this reason we do not sustain the anticipation rejection of claim 1. For the same reason, we do not sustain the rejections of claims 2, 4, and 5, which depend from claim 1.

DECISION

The Examiner’s rejection of claims 1, 2, 4, and 5 is reversed.

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Application 13/245,013

REVERSED