UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MASAHIRO YAMANAKA

Appeal 2008-3393
Application 10/354,115
Technology Center 3600

Decided: December 23, 2008

Before: WILLIAM F. PATE, III, MURRIEL E. CRAWFORD and JOSEPH A. FISCHETTI, *Administrative Patent Judges*.

CRAWFORD, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF CASE

Claims 1-3 and 5-15 were rejected in the Final Office Action mailed May 24, 2006. Appellant cancelled claims 13-14 in an Amendment filed July 11, 2006, and the Examiner entered that Amendment via an Advisory

Action mailed July 24, 2006. Accordingly, Appellant appeals under 35 U.S.C. § 134 (2002) the rejection of remaining claims 1-3, 5-12 and 15.[1]

We have jurisdiction under 35 U.S.C. § 6(b) (2002).

Appellant invented a bicycle crank arm assembly including a bicycle crank arm and a tubular member. (Specification 2:¶8).

The only independent claim under appeal reads as follows:

> 1. A bicycle crank arm assembly, comprising:
>
> a bicycle crank arm including a first end configured to be coupled to an axle of a bottom bracket and a second end having a bore for receiving a bicycle pedal shaft;
>
> a tubular member retained in the bore of the cycle crank arm in a press fit engagement, the tubular member including
>
> a tubular portion having an external circumferential surface non-releasably retained in the bore of the bicycle crank arm in a press fit engagement and an internal circumferential surface being configured to be coupled to the bicycle pedal shaft, and

[1] We note that the rejection of the limitation "free of serrations" set forth on pages 12-13 of the Examiner's Answer mailed October 4, 2007 appears to be a new ground of rejection under 37 C.F.R. § 41.39(a)(2). This new ground is not set forth in Section (6) of the Examiner's Answer as required. Nevertheless, because Appellant filed a Reply Brief specifically addressing the rejection as required by 37 C.F.R. § 41.39(b)(2), we will treat the issue as moot and address the rejection on the merits.

> a plurality of serrations formed on the external circumferential surface of the tubular portion, each of the plurality of serrations individually extending as a longitudinal protrusion in an axial direction of the tubular portion to non-rotatably couple the tubular member to the bore of the bicycle crank arm; and
>
> a washer with an opening being disposed adjacent one axial end of the tubular portion,
>
> the bore of the second end of the bicycle crank arm being free of serrations formed on and extending from an internal circumferential surface of the bore.

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Nagano	US 4,446,753	May 8, 1984
Smith	US 2003/006190	April 3, 2003

The Examiner rejected claims 1-3, 5-12 and 15 under 35 U.S.C. § 112, first and second paragraphs.

The Examiner rejected claims 1, 3, 5-10 and 12 under 35 U.S.C. § 102(b) as being anticipated by Nagano.

The Examiner rejected claims 2 and 11 under 35 U.S.C. § 103(a) as being unpatentable over Nagano.

The Examiner rejected claim 15 under 35 U.S.C. § 103(a) as being unpatentable over Nagano in view of Smith.

We REVERSE.

ISSUE

Did the Appellant show that the Examiner erred in finding that the phrase "non-releasably retained" recited in claim 1 renders claim 1 indefinite?

Did the Appellant show that the Examiner erred in finding that the recitation in claim 1 of "the bore of the second end of the bicycle crank being free of serrations formed on and extending from an internal circumferential surface of the bore" is not clearly supported by the specification?

Did the Appellant show that the Examiner erred in finding that Nagano discloses subject matter sufficient to anticipate the recitation in claim 1 of "a tubular portion having an external circumferential surface non-releasably retained in the bore of the bicycle crank arm in a press fit engagement?"

FINDINGS OF FACT

Appellant invented bicycle crank arm assembly 12 including tubular member 44 and bicycle crank arm 14 having pedal attachment bore 40 (Specification 2, ll. 20-21; Figs. 3-4). Tubular member 44 is coupled to pedal attachment bore 40 such that "once the tubular member 44 is press fitted into the pedal attachment bore 40, the tubular member 44 cannot be removed, i.e., the tubular member 44 is non-releasably coupled to the crank arm 14." (Specification 8, ll. 10-17.)

Cylindrical surface 52 is free of serrations when tubular member 44 is not retained in pedal attachment bore 40 (Fig. 9).

Nagano discloses an adjustable length crank arm for a bicycle where "a pair of first and second adapters are provided with engaging portions on opposite sides of the crank arm respectively, the engaging portions being drawn toward each other and press-contacted to both sides of the crank arm by use of the connecting means, thereby rigidly fixing the adapters to the crank arm. Thus, the crank of the invention eliminates the problem of a loosening pedal shaft, or the separation of the adapters from the crankshaft by vibrations or impacts during the bicycle's running" (col. 2, ll. 12-24).

Nagano discloses that the length of the crank arm is adjusted by removing and rotating first and second adapters 3, 4 relative to through bore 11 (col. 3, l. 51 through col. 4, l. 8).

First and second adapters 3, 4 are fixed to crank arm 1 via screw threaded portion 21 of pedal shaft 2, one set screw 6, or screw member 5 (Figs. 2-5; col. 3, ll. 65-67; col. 4, ll. 23-27, 38-42).

A press fit is an interference or force fit made through the use of a press. See ASM Material Engineering Dictionary 343 (1992).

PRINCIPLES OF LAW

The second paragraph of 35 U.S.C. § 112 requires claims to set out and circumscribe a particular area with a reasonable degree of precision and particularity. *In re Johnson*, 558 F.2d 1008, 1015, (CCPA 1977). In making this determination, the definiteness of the language employed in the claims must be analyzed, not in a vacuum, but always in light of the teachings of the prior art and of the particular application disclosure as it would be

interpreted by one possessing the ordinary level of skill in the pertinent art. Id.

A claim is definite if "one skilled in the art would understand the bounds of the claim when read in light of the specification." *Personalized Media Communications, LLC v. ITC*, 161 F.3d 696, 705 (Fed. Cir. 1998).

"That some claim language may not be precise, however, does not automatically render a claim invalid." *Seattle Box Company, Inc. v. Industrial Crating & Packing, Inc. et al.*, 731 F.2d 818 (Fed. Cir. 1984).

"In many cases that give rise to litigation, however, determining the ordinary and customary meaning of the claim requires examination of terms that have a particular meaning in a field of art. Because the meaning of a claim term as understood by persons of skill in the art is often not immediately apparent, and because patentees frequently use terms idiosyncratically, the court looks to 'those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean.' Those sources include 'the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.'" *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (internal citations omitted).

"Quite apart from the written description and the prosecution history, the claims themselves provide substantial guidance as to the meaning of particular claim terms. To begin with, the context in which a term is used in the asserted claim can be highly instructive." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (internal citations omitted).

"[U]nder proper circumstances, drawings alone may provide a 'written description' of an invention as required by §112." *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1565 (Fed. Cir. 1991).

ANALYSIS

"*Non-releasably retained*"

The Examiner asserts that the phrase "non-releasably retained" in claim 1 is indefinite because the Appellant does not distinguish between "*permanently* non-releasably retained" and "*temporarily* non-releasably retained" (Examiner's Answer 7-9). However, claim terms do not have to be exactly precise in every respect. *See Seattle Box Company, Inc.*, 730 F.2d at 705. The Examiner's focus during examination of claims for compliance with the requirement for definiteness of 35 U.S.C. § 112, second paragraph, is whether the claims meet the threshold requirements of clarity and precision, not whether more suitable language or modes of expression are available. Some latitude in the manner of expression and the aptness of terms is permitted. As long as one skilled in the art would understand the bounds of the claim term, the claim is definite. *See Personalized Media Communications, LLC*, 161 F.3d 705.

In this case, both the claim itself and the specification provide adequate guidance as to the meaning of "non-releasably retained." *See Phillips*, 415 F.3d at 1314. Independent claim 1 recites "a tubular portion having an external circumferential surface non-releasably retained in the bore of the bicycle crank arm *in a press fit engagement*" (emphasis added).

The specification recites:

> [t]hus, the tubular member 44 can be *press fitted* into the pedal attachment bore 40 so that the tubular member cannot rotate or move axially. In other words, once the tubular member 44 is *press fitted* into the pedal attachment bore 40, the tubular member 44 cannot be removed, i.e., the tubular member 44 is *non-releasably coupled* to the crank arm 44.

(Specification 8:10-14; emphasis added). Accordingly, a tubular portion in a press fit engagement with a bore is "non-releasably retained," and thus the phrase is sufficiently definite for the purposes of 35 U.S.C. § 112, second paragraph.

We will not sustain this rejection.

"Free of serrations"

The Examiner asserts that the Specification does not adequately describe "the bore of the second end of the bicycle crank arm being free of serrations" (Examiner's Answer 12-13). However, Fig. 9 of the Specification discloses cylindrical surface 52 being free of serrations (Reply Brief 6-7). *See Vas-Cath Inc*, 935 F.2d at 1565. While press fitting tubular member 44 into bore 40 may cause serrations 44e to deform bore 40, there is no guarantee that such deformations would result. As Fig. 9 unambiguously discloses cylindrical surface 52 being free of serrations, the Appellant has sufficiently described this feature so as to comply with the first paragraph of 35 U.S.C. § 112.

We will not sustain this rejection.

Rejection in view of Nagano

Independent claim 1 recites "a tubular portion having an external circumferential surface non-releasably retained in the bore of the bicycle crank arm in a press fit engagement." The Examiner admits that "Nagano does not explicitly disclose the so-called 'non-releasable, press fit engagement' between [tubular portions] 3 and 4 and the bore 11" (Examiner's Answer 15). The Examiner then asserts, however, that first and second adapters 3, 4 are press fitted into through bore 11 of crank arm 1 (Examiner's Answer 15-16). As support, the Examiner cites col. 2, lines 14-24 of Nagano:

> [T]his invention is characterized in that a pair of first and second adapters are provided with engaging portions on opposite sides of the crank arm respectively, the engaging portions being drawn toward each other and ***press-contacted*** to both sides of the crank arm by use of the connecting means, thereby rigidly fixing the adapters to the crank arm. Thus, the crank of the invention eliminates the problem of a loosening pedal shaft, or the separation of the adapters from the crankshaft by vibrations or impacts during the bicycle's running. (Emphasis added.)

In other words, Nagano discloses that first and second adapters 3, 4 press against opposite sides of crank arm 1 in an *axial* direction of through bore 11. However, a press fit is an interference fit where each of first and second adapters 3, 4 would be pressed against through bore 11 in a *radial* direction. Nagano does not disclose such a press fit between first and second adapters 3, 4 and through bore 11. Indeed, first and second adapters 3, 4 are unlikely to be press fitted into through bore 11 because to do so

would impede the removal and rotation of first and second adapters 3, 4 for adjusting the length of crank arm 1.

The Examiner asserts that "Nagano's tubular portion 41 must be or is capable of being non-releasably press fitted into the bore 11 of the crank arm 1 during the time of the operating of the bicycle" (Examiner's Answer 16). However, first and second adapters 3, 4 are fixed to crank arm 1 during operation of the bicycle by connecting means (e.g., screw threaded portion 21 of pedal shaft 2, one set screw 6, or screw member 5), and not by a press fitting of first and second adapters 3, 4 into through bore 11.

Accordingly, we will not sustain this rejection.

Claims 2-3, 5-12 and 15 depend from claim 1 and are rejected as being either anticipated by or obvious in view of Nagano. For the same reasons we do not sustain the rejection of claim 1, we also do not sustain these rejections.

CONCLUSIONS OF LAW

The Appellant did show that the Examiner erred in finding that the term "non-releasably retained" recited in claim 1 is indefinite. We will not sustain the rejection of claims 1-3, 5-12 and 15 under 35 U.S.C. § 112, second paragraph.

The Appellant did show that the Examiner erred in finding that the recitation in claim 1 of "the bore of the second end of the bicycle crank being free of serrations formed on and extending from an internal circumferential surface of the bore" is not clearly supported by the

Specification. We will not sustain the rejection of claims 1-3, 5-12 and 15 under 35 U.S.C. § 112, first paragraph.

The Appellant did show that the Examiner erred in finding that Nagano discloses subject matter sufficient to anticipate the recitation in claim 1 of "a tubular portion having an external circumferential surface non-releasably retained in the bore of the bicycle crank arm in a press fit engagement." We will not sustain the rejection of claims 1, 3, 5-10 and 12 under 35 U.S.C. § 102(b) as being anticipated by Nagano; claims 2 and 11 under 35 U.S.C. § 103(a) as being unpatentable over Nagano; and claim 15 under 35 U.S.C. § 103(a) as being unpatentable over Nagano in view of Smith.

DECISION

The decision of the Examiner to reject claims 1-3, 5-12 and 15 is reversed.

REVERSED

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