

1 The claimed invention is directed to a sealed bearing unit for a marine
2 propulsion system such as a mud motor. Claim 40, reproduced below is further
3 illustrative of the claimed subject matter:

4 40. A sealed bearing unit for a marine propulsion system, comprising:

5
6 a) a casing configured for rotatably receiving a propeller shaft
7 therethrough, wherein a lower end of the casing includes;

8
9 b) a bearing housing, having a lower end;

10
11 c) a bearing, in rotational communication between the bearing
12 housing and the propeller shaft; and

13
14 d) a seal, contained within the bearing housing, configured to
15 restrict contaminants from entering the bearing housing.
16

17 The reference of record relied upon by the Examiner as evidence of
18 anticipation is:

19 Lovell US 4,710,142 Dec. 1, 1987
20

21 Claims 40-42, 44-46, 48, 49, 51, and 52 stand rejected under 35 U.S.C. §
22 102(b) as clearly anticipated by Lovell. We further acknowledge multiple
23 Declarations of record in the application. Some averments of the Declarations run
24 to the definition of claim terms. We must note, however, that claim interpretation
25 is a matter of law.

26 The claims are not argued separately. Thus, they stand or fall together.

27 ISSUES

28 The sole issue for our consideration in this appeal is whether the Examiner
29 has established that Lovell anticipates the claims on appeal.
30

FINDINGS OF FACT

1
2 Lovell discloses a propeller shaft bearing for a boat or other marine
3 propulsion systems. Specifically, Lovell has a casing 10 for receiving a propeller
4 shaft 16 therein with a lower end of the casing including a bearing 40 and a grease
5 seal 75. The grease seal prevents the accumulation of mud. See col. 4, l. 69.

6 Lovell further provides a rear end cap 62. The invention of Lovell comprises a
7 well known cutlass bearing which consists of a bronze outer shell 42 and a hard
8 rubber insert 44 bonded to the inside of the outer shell 42. The inner shell has a
9 series of longitudinal ribs 46 which define longitudinal channels 48 therebetween.
10 The cutlass bearing 40 is both water lubricated and cleansed by water which flows
11 longitudinally therethrough after the water is scooped by a pair of water scoops 84
12 located on opposite sites of the propeller shaft.

13 It is our further finding that Appellant's Specification (3:4-4:10)
14 discusses the prior art in the following explanation:

15
16 The use of a long propeller shaft and casing necessitates the provision
17 of bearings or bushings at the ends of the casing, including the end
18 closest to the propeller. While in use, the propeller and adjacent
19 bearing will be submerged for the vast majority of operation. In the
20 prior art, bushings made from brass or the like have heretofore been
21 most commonly used, due to the substantial water exposure.
22 Unfortunately, submerged roller or ball bearings which are not
23 adequately protected from the water rapidly lose grease or other
24 lubricants, thereby leading to early bearing failure. In addition,
25 bushings may be manufactured to add very little extra size to the
26 casing beyond the diameter of the rotating shaft, while bearings tend
27 to be much larger and therefore more prominent. Adjacent the
28 propeller, a prominent bearing translates into significant drag through
29 the water and undesirable mass adjacent the propeller. Because
30 bearings are intrinsically larger than bushings, where they have been
31 used there has been an effort to minimize the package for the bearing,

1 to attempt to offset the bearing dimensions. Unfortunately, it has
2 heretofore been extremely difficult to service those bearings, since
3 some of the features that enabled a part to be serviced in the prior art
4 were the very same features that contributed undesirably to size.
5 Patents exemplary of the prior art include U.S. patents 941,827 to
6 Trouche; 1,953,599 to Grimes; 3,430,603 to Parish; 3,752,111 to
7 Meynier; 4,676,756 to Rodrigue et al; 4,726,796 to Rivette et al; and
8 Des 259,488 to Carter et al, each incorporated herein by reference for
9 their teachings of marine propulsion systems. These patents, several
10 which are associated with commercial products being sold presently,
11 illustrate the use of bushings, particularly adjacent the propeller.

12 Bushings have for many years been known to present greater
13 friction and wear than bearings, and so to be less desirable, for all but
14 the lowest cost applications where the extra expense of bearings could
15 not be justified and for the special situations where bearings are not
16 acceptable. In the case of the marine vehicles, the added expense of
17 bearings is nominal, and not the motivation for using bushings.
18 Instead, as aforementioned, water exposure and size are primarily
19 responsible for designers resorting to bushings. Chandler et al, in
20 U.S. patent 2,096,223 incorporated herein by reference, illustrate the
21 use of bearings at both the top and bottom of the propeller shaft.
22 Unfortunately, the Chandler et al patent incorporates the bearings into
23 a much larger and more expensive cast propeller shaft housing. This
24 structure adds significant drag in the water.

25 26 PRINCIPLES OF LAW

27 The prior art may anticipate a claimed invention, and thereby render it
28 non-novel, either expressly or inherently. *In re Cruciferous Sprout Litig.*, 301 F.3d
29 1343, 1349, 64 USPQ2d 1202, 1206 (Fed. Cir. 2002), *cert. denied*, 538 U.S. 907
30 (2003). Express anticipation occurs when the prior art expressly discloses each
31 limitation (i.e., each element) of a claim. *Id.* In addition, “[i]t is well settled that a
32 prior art reference may anticipate when the claim limitations not expressly found in
33 that reference are nonetheless inherent in it.” *Id.*

1 Claim terms “are generally given their ordinary and customary meaning.”
2 *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312, 75 USPQ2d 1321, 1326 (Fed. Cir.
3 2005) (en banc) (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576,
4 1582, 39 USPQ2d 1573, 1576-77 (Fed. Cir. 1996)). And “the ordinary and
5 customary meaning of a claim term is the meaning that the term would have to a
6 person of ordinary skill in the art.” *Id.* at 1313, 75 USPQ2d at 1326. The PTO
7 applies to the verbiage of the proposed claims the broadest reasonable meaning of
8 the words in their ordinary usage as they would be understood by one of ordinary
9 skill in the art, taking into account whatever enlightenment by way of definitions
10 or otherwise that may be afforded by the written description contained in the
11 Applicant's Specification. *In re Morris*, 127 F.3d 1048, 1053-54, 44 USPQ2d
12 1023, 1027(Fed. Cir. 1997). This is the standard for claim interpretation in both
13 original examination and re-examination. *See In re Yamamoto*, 740 F.2d 1569,
14 1571, 222 USPQ 934, 936 (Fed. Cir. 1984).

15 The Federal Circuit recently restated: “It is a ‘bedrock principle’ of patent
16 law that ‘the claims of a patent define the invention to which the patentee is
17 entitled the right to exclude.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13
18 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water, Inc. v. Safari Water*
19 *Filtration Sys., Inc.*, 381 F.3d 1111, 1115, 72 USPQ2d 1001, 1004 (Fed. Cir.
20 2004)). “The inquiry into how a person of ordinary skill in the art understands a
21 claim term provides an objective baseline from which to begin claim
22 interpretation.” *Id.* “Importantly, the person of ordinary skill in the art is deemed
23 to read the claim term not only in the context of the particular claim in which the
24 disputed term appears, but in the context of the entire patent, including the
25 specification.” *Id.*

1 ANALYSIS

2 Appellant's chief argument with respect to the claims on appeal is found in
3 the first full paragraph on page 8 of the substitute Appeal Brief. The argument is
4 that Lovell illustrates a bushing and not a bearing. Appellant further argues that
5 the bushing cannot be in rotational communication between the housing and the
6 propeller shaft as recited in paragraph c of the independent claim 40, and that
7 Lovell is unsuitable for a mud motor.

8 Taking the last argument first, we note that the independent claims 40 and
9 46 are simply not directed to a mud motor. A mud motor is not mentioned; a mud
10 motor is not even implied.

11 With respect to rotational communication, this argument is also
12 unconvincing. The inner part or rubber insert 44 is contacted by the rotating
13 propeller shaft 16 while the outer part of the bearing, whether it be the bronze outer
14 shell 42 or the inner bearing 30, contacts the bearing assembly 10 and does not
15 rotate. This is exactly the same relationship as Appellants disclosed ball, roller, or
16 needle bearings. The inner part of the bearing contacts the rotating shaft and the
17 outer part contacts the housing the bearing is installed in.

18 We acknowledge that claim limitations are given their broadest reasonable
19 interpretation consistent with the Appellant's Specification. We further
20 acknowledge that Appellant's Specification does distinguish between bearings and
21 bushings (Specification at 3). Appellant states that in the prior art "bushings made
22 from brass [bronze] or the like have been most commonly used." Next, Appellant
23 discusses roller or ball bearing which are said to rapidly use grease or other
24 lubricants which leads to early bearing failure. While this paragraph does mention
25 roller or ball bearing, in no way does this paragraph state that the term "bearing" is
26 restricted to roller, ball, or needle bearings, and it leaves open the possibility that

1 other bearing structures are contemplated as “bearings” beyond simple bushings
2 already described as the prior art. While our reviewing Court has indicated a
3 willingness to let Applicants act as their own lexicographers and define terms that
4 are later used in the claims, such definitions must be clear and unequivocal before
5 the PTO will diverge from the broadest reasonable interpretation of claim terms.

6 In this instance, Appellant desires us to limit the term “bearing” to anti-
7 friction bearings having ball, roller, or needle anti-friction elements. This we
8 decline to do. The term “bearing” as it is used in the Specification and claims of
9 Appellant does not exclude a bearing such as the cutlass bearing shown in Lovell, a
10 bearing that is more sophisticated than the simple bushing distinguished in
11 Appellant’s Specification and a structure long recognized by those of ordinary skill
12 in the art as a “bearing.” See Lovell at col. 3, ll. 54-6 (“The Cutlass bearing is a
13 type of bearing well known to those in the art,...”). It is our view that the
14 Examiner’s construction of the claim limitations is correct, and we hold that
15 “bearing” in this instance does not implicitly include nonrecited features such as an
16 antifriction bearing with needles, rollers, or balls used as anti-friction elements.

17 Since we have interpreted the cutlass bearing shown in Lovell to be a
18 bearing within the scope of Appellant’s claim, we hold that Appellant’s claims on
19 appeal are anticipated by the Lovell reference. Therefore, it is our factual finding
20 that all claims on appeal lack novelty over the Lovell reference.

1 CONCLUSION and ORDER

2 All claims on appeal lack novelty over the Lovell reference. The rejection
3 on appeal is affirmed.

4 No time period for taking any subsequent action in connection with this
5 appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv) (2006).

6 AFFIRMED

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