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6 UNITED STATES PATENT AND TRADEMARK OFFICE
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8
9 BEFORE THE BOARD OF PATENT APPEALS
10 AND INTERFERENCES
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12
13 *Ex parte* LLOYD W. ROGERS, JEFFREY S. HAMMINGA,
14 JOSEPH D. LONG and JOSEPH M. JOHNSON
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17 Appeal 2008-0105
18 Application 10/379,785
19 Technology Center 3600
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22 Decided: January 14, 2009
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25 Before: WILLIAM F. PATE, III, JENNIFER D. BAHR, and
26 FRED A. SILVERBERG, *Administrative Patent Judges.*
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28 SILVERBERG, *Administrative Patent Judge.*
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31 DECISION ON APPEAL
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33 STATEMENT OF THE CASE

34 Appellants appeal under 35 U.S.C. § 134 (2002) from a Final Office
35 Action of claims 4, 8, 10 and 12. We have jurisdiction under 35 U.S.C.
36 § 6(b) (2002).
37

SUMMARY OF DECISION

2 We REVERSE.

THE INVENTION

5 The Appellants' claimed invention is directed to a drive unit that is
6 installed in a motor vehicle to power open and close a vehicle closure such
7 as a lift gate. Claim 1, reproduced below, is representative of the subject
8 matter on appeal.

9 1. A drive unit for a power operated vehicle closure
10 comprising:
11 a track,
12 a guide engaging the track for sliding movement along
13 the track,
14 a link attached to the guide at one end and adapted to be
15 attached to the vehicle closure at the opposite end, and
16 a motor assembly including a housing attached to the
17 track for moving the guide along the track,
18 the motor assembly having an electric motor and a speed
19 reducer driven by the electric motor, the speed reducer having a
20 first speed reducing stage and a second speed reducing stage
21 that is driven by the first speed reducing stage and that is
22 drivingly connected to the guide for moving the guide along the
23 track wherein the first stage includes a belt drive and wherein
24 the second stage is a spur gear set.

THE REJECTIONS

27 The Examiner relies upon the following as evidence of
28 unpatentability:

29 Fleytman US 5,992,259 Nov. 30, 1999
30 Daniels WO 01/83247 A2 Nov. 8, 2001

- 1 The following rejections are before us for review:
- 2 1. Claims 4 and 12 are rejected under 35 U.S.C. § 102(b) (2002) as being
3 as being anticipated by Daniels.
- 4 2. Claims 8 and 10 are rejected under 35 U.S.C. § 103(a) (2004) as being
5 unpatentable over Daniels in view of Fleytman.
- 6

7 ISSUES

8 The issues before us are whether the Appellants have shown that the
9 Examiner erred in rejecting claims 4 and 12 over Daniels, and claims 8 and
10 10 over Daniels in view of Fleytman. These issues turn on whether: (1)
11 Daniels discloses a first speed reducing stage including a belt drive as called
12 for in claim 1; and (2) the combined disclosure of Daniels and Fleytman
13 discloses a first speed reducing stage including a worm gear having a lead
14 angle in the range of about 30 to 35 degrees and five to seven leads as called
15 for in claims 8 and 10.

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17 FINDINGS OF FACT

18 We find that the following enumerated findings are supported by at
19 least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d
20 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for
21 proceedings before the Office).

- 22 1. The Appellants' Specification discloses a drive unit 20 for a power
23 operated vehicle closure comprising a track 24, a guide 26 engages
24 the track for sliding movement along the track, a link 34 attached
25 to the guide at one end and adapted to be attached to the vehicle
26 closure 12 at the opposite end, and a motor assembly 22 includes a

1 housing 38 attached to the track for moving the guide along the
2 track, the motor assembly has an electric motor 36 and a speed
3 reducer driven by the electric motor.

4 2. The Appellants' Specification further discloses that the speed
5 reducer has a first speed reducing stage 40, 42, 44 and a second
6 speed reducing stage 46, 48 that is driven by the first speed
7 reducing stage and that is drivingly connected to the guide 26 for
8 moving the guide along the track wherein the first stage includes a
9 belt drive 42 and wherein the second stage is a spur gear set 46, 48
10 (Appellants' figs. 4 and 5).

11 3. The Appellants' Specification still further discloses an alternate
12 drive unit 120 (Spec. 5, l. 22), wherein the speed reducer has a first
13 speed reducing stage and a second speed reducing stage, the first
14 stage includes a worm gear 140 and a mating helical gear 142, the
15 second stage being a spur gear set 148 that is driven by the first
16 speed reducing stage and that is drivingly connected to the guide
17 for moving the guide along the track, and wherein the worm gear
18 140 has a lead angle in the range of about 30 degrees to 35 degrees
19 and five to seven leads (Specification 5, l. 34-Specification 6, l. 1)
20 (Appellants' fig. 8).

21 4. Daniels discloses a drive unit 10 for a power operated vehicle
22 closure comprising a track 36, 38, a guide 40 that engages the
23 track for sliding movement along the track, a link 46 attached to
24 the guide 40 at one end and adapted to be attached to the vehicle
25 closure 12 at the opposite end, and a motor assembly 58 that
26 moves the guide along the track, the motor assembly has an

electric motor 58, the motor provides a rotational force, the rotational force is transferred to a transmission gear 60, the transmission gear 60 transmits the rotation force to an upper gear 62 via a chain link 64 (Daniels figs. 1 and 4).

5. Daniels further discloses that a transmission gear/worm gear combination may be substituted for the gears 60, 62 and chain 64 (Daniels 4, ll. 14-15).

6. Fleytman discloses that the enveloping angle of a worm gear is greater than 30 degrees (Fleytman claim 4).

PRINCIPLES OF LAW

12 On appeal, Appellants bear the burden of showing that the Examiner
13 has not established a legally sufficient basis for rejecting claims 4 and 12
14 over Daniels, and claims 8 and 10 over Daniels in view of Fleytman.

15 Anticipation is established only when a single prior art reference
16 discloses, expressly or under the principles of inherency, each and every
17 element of a claimed invention. *RCA Corp. v. Applied Digital Data Sys.,*
18 *Inc.*, 730 F.2d 1440, 1444 (Fed. Cir. 1984). In other words, there must be no
19 difference between the claimed invention and the reference disclosure, as
20 viewed by a person of ordinary skill in the field of the invention. *Scripps*
21 *Clinic & Research Found. v. Genentech Inc.*, 927 F.2d 1565, 1576 (Fed. Cir.
22 1991). It is not necessary that the reference teach what the subject
23 application teaches, but only that the claim read on something disclosed in
24 the reference, i.e., that all of the limitations in the claim be found in or fully
25 met by the reference. *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 772
26 (Fed. Cir. 1983), cert. denied, 465 U.S. 1026 (1984).

When construing claim terminology in the United States Patent and Trademark Office, claims are to be given their broadest reasonable interpretation consistent with the specification, reading claim language in light of the specification as it would be interpreted by one of ordinary skill in the art. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004).

ANALYSIS

Appellants argue claims 4, 8, 10 and 12 separately.

Daniels discloses a drive unit 10 for a power operated vehicle closure comprising a track 36, 38, a guide 40 engaging the track for sliding movement along the track, a link 46 attached to the guide 40 at one end and adapted to be attached to the vehicle closure 12 at the opposite end, and a motor assembly 58 that moves the guide along the track (Fact 4). Daniels further discloses that the motor assembly has an electric motor 58 that provides a rotational force, which is transferred to a transmission gear 60, which in turn transmits the rotation force to an upper gear 62 via a chain link 64 (Daniels figs. 1 and 4) (Fact 4).

19 Appellants argue that Daniels does not disclose a speed reducer
20 having a first and a second stage (Br. 4). The Examiner states that Daniels
21 discloses a speed reducer for a first stage at page 1, lines 30 and 31 (Ans. 4-
22 5). However, Appellants correctly point out that in Daniels, the disclosure
23 set forth on page 1, lines 30 and 31 is in the Description of the Related Art
24 and refers to a U.S. patent to Moore et al, and not to Daniels' invention (Br.
25 7). Appellants state that in Daniels, motor assembly 58 drives transmission
26 gear 60 through an unlabeled gear box, wherein the elements inside the gear

1 box are not illustrated in the drawings nor described in the specification (Br.
2 4). Appellants refer to the unlabeled gear box as gear box X (Br.4 and Br.
3 Exhibit A). Daniels discloses the following: “The motor 58 provides a
4 bidirectional rotational force through an output shaft (not shown). The
5 rotational force of the output shaft is transferred to a transmission gear 60”
6 (Daniels 4, ll. 11-13). Therefore, it is speculative, at best, as to what is
7 actually disclosed in box X. Accordingly, we find that box X can not be
8 considered to contain a second speed reducing stage as called for in claims
9 4, 8 and 10 (Ans. 5). The Examiner has the burden in the first instance of
10 establishing by a preponderance of the evidence that the prior art has the
11 features relied on in the rejection, in this instance, a second speed reducing
12 stage. This merely means that the Examiner must show that it is more likely
13 than not that Daniels contains a second speed reducing stage (cl. 4)
14 comprised of a worm gear and a mating helical gear (cls. 8 and 10). While
15 we acknowledge that Daniels mentions a worm shaft and gears in the
16 Description of the Related Art section of his disclosure (p. 1, ll. 30 and 31),
17 it is unclear as to whether he contemplates such on his apparatus. On
18 balance we must agree with Appellants’ argument (Br. 4-7) that the
19 Examiner has not shown the presence of a second speed reducing stage at
20 least to a preponderance of the evidence.

21 The Examiner acknowledges that Daniels does not disclose the
22 limitation “wherein the worm gear has a lead angle in the range of about 30
23 degrees to 35 degrees and five to seven leads” (claim 8, ll. 14-15 and claim
24 10, ll. 16 and 17) and refers to Fleytman as disclosing the omitted limitation
25 (Ans. 4). We do not agree with the Examiner’s analysis (Ans. 4) as we find
26 that Appellants (Br. 8-9) correctly point out that Fleytman does not disclose

1 the omitted limitation, in particular, the number of leads of the worm gear as
2 called for in claims 8 and 10.

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4 CONCLUSION OF LAW

5 We conclude that the Appellants have shown that the Examiner erred
6 in rejecting claims 4 and 12 under 35 U.S.C. § 102(b) as being anticipated
7 by Daniels, and claims 8 and 10 under 35 U.S.C. § 103(a) as being
8 unpatentable over Daniels in view of Fleytman.

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10 DECISION

11 The decision of the Examiner to reject claims 4 and 12 over Daniels,
12 and claims 8 and 10 over Daniels in view of Fleytman is reversed.

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14 REVERSED

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Appeal 2008-0105
Application 10/379,785

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13 DELPHI TECHNOLOGIES, INC.

14 M/C 480-410-202

15 PO BOX 5052

16 TROY, MI 48007