Paper No. 33

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TATSUHIRO YAMAMOTO and MANABU TAKAOKA

Appeal No. 2001-0302
Application No. 08/635,614

ON BRIEF

Before COHEN, STAAB, and NASE, *Administrative Patent Judges*.

STAAB, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on an appeal from the examiner's final rejection of claims 1, 6 and 8. Claims 2, 3, 5, 7 and 9, the only other claims in the application, have been withdrawn from consideration pursuant to 37 CFR § 1.142(b) as not being readable on the elected species.

Appellants' invention pertains to a motor operated power steering device, and in particular to a motor operated power

steering device having a torque limiter fitted between the steering shaft (3c, 3d) and the drive gear (10) of the motor. A copy of the appealed claims can be found in the Appendix to appellants' main brief.[1]

The references of record relied upon by the examiner as evidence of anticipation and obviousness are:

Ito et al. (Ito)	4,901,831	Feb. 20, 1990
Takaoka et al. (Takaoka)	5,482,128	Jan. 9, 1996

Wehr[2] DE 916,370 Aug. 9, 1954
(published German Patent Application)

Parker et al. (Parker), *Materials and Methods of Architectural Construction*, pp. 326-27 (3rd Ed., 1958).

Milby, *Plastics Technology*, pp. 486-89 (McGraw-Hill Book Co., New York, 1973).

Each of appealed claims 1, 6 and 8 have been finally rejected as follows:

(a) under 35 U.S.C. § 112, second paragraph, "as being indefinite" (answer, page 6);

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[1]The Appendix to the main brief also includes claims 2, 3, 5, 7 and 9, which, as noted above, have been withdrawn from consideration pursuant to 37 CFR § 1.142(b).

[2]Our understanding of this German language reference is derived from a translation prepared in the Patent and Trademark Office. A copy of said translation is attached to this decision.

(b) under 35 U.S.C. § 112, first paragraph, "as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention" (answer, page 4);

(c) under 35 U.S.C. § 102(b), as being anticipated by Ito;

(d) under 35 U.S.C. § 103, as being unpatentable over Ito or Takaoka in view of Wehr;

(e) under 35 U.S.C. § 103, as being unpatentable over Ito in view of either Milby or Parker; and

(f) under 35 U.S.C. § 103, as being unpatentable over Ito or Takaoka in view of Wehr, and further in view of Milby or Parker.

Reference is made to appellants' main and reply briefs (Paper Nos. 22 and 27) and to the examiner's answer (Paper No. 23) for the respective positions of appellants and the examiner regarding the merits of these rejections.

Preliminary Matters

Before discussing the merits of the foregoing rejections, we note that the appellants have raised as issues in this appeal the finality of the office action mailed May 24, 1999 (Paper No. 18), as well as objections to the drawings under 35 CFR § 1.83(a) (see

pages 20 and 21 in the main brief) which were made by the examiner in said office action. The matters complained of are clearly within the examiner's discretion, and we exercise no general supervisory power over the examining corps (*compare In re Mindick,* 371 F.2d 892, 894, 152 USPQ 566, 568 (CCPA 1967); *In re Hengehold*, 440 F.2d 1395, 1403-1404, 169 USPQ 473, 479 (CCPA 1971); *In re Deters*, 515 F.2d 1152, 1156, 185 USPQ 644, 648 (CCPA 1975)). Accordingly, we decline to consider whether the examiner abused his discretion in these matters. The relief sought by appellants would appear to have properly been presented by petition under 37 CFR § 1.181.

The Rejection under 35 U.S.C. § 112, second paragraph

We take up first for consideration the examiner's rejection under 35 U.S.C. § 112, second paragraph (rejection (a)).

The examiner's first difficulty with the claims is set forth on page 6 of the answer as follows: "The distinction, if any, between the recited 'torque limiter' and the 'torque setting member' [in claim 1] is not understood. They appear to be disclosed as being one and the same element i.e.[,] 51 (Figs., 1, 4 and 5)." We do not agree. In our view, the ordinarily skilled artisan would readily understand that the term "torque limiter"

is a broad term that refers to the torque limiter as a whole including, for example, the ring-like member 51 and the adjacent portions of the steering shaft 3 and worm wheel 10 that cooperate therewith to confine and compress member 51, and that the term "torque setting member" is a narrower term that refers to the ring-like member 51. Hence, the claim language "the torque limiter includes a torque setting member" does not constitute a "double claiming" of a single disclosed element, as maintained by the examiner.

The examiner also contends that the terms "diametric direction," "diametric deformation" and "diametric movement" appearing in the claims are novel terms whose meaning would not be known to the ordinarily skilled artisan. Again, we do not agree. 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, 194 USPQ 187, 193 (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.* Applying these principles here, it is our view that the ordinarily skilled artisan would have no trouble understanding the meaning of the terms in question. In this regard, while appellants' specification does not expressly define the terms noted by the examiner, a commonly accepted definition of the adjective "diametric" appearing in each of these terms is "of, relating to, or along a diameter."[3] Consistent with this definition, and in keeping with the underlying disclosure, the ordinarily skilled artisan would understand, for example, the phrase "diametric deformation along the diametric direction" (claim 1, line 10) as meaning deformation in a direction along the diameter of the steering shaft.

In light of the above, we shall not sustain the standing rejection of claims 1, 6 and 8 under 35 U.S.C. § 112, second paragraph.

The Rejection under 35 U.S.C. § 112, first paragraph

Based on the language used by the examiner in the answer in explaining the rejection under the first paragraph of 35 U.S.C.

[3]*Webster's II New Riverside University Dictionary,* copyright © 1984 by Houghton Mifflin Company.

§ 112 (rejection (b)), it is not altogether clear whether this rejection is based on the enablement requirement or the written description requirement found in the first paragraph of the statute.[4] We therefore shall evaluate the rejection in light of both requirements.

The test for determining compliance with the written description requirement is whether the disclosure of the application as originally filed reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter, rather than the presence or absence of literal support in the specification for the claim language. *In re Kaslow*, 707 F.2d 1366, 1375, 217 USPQ 1089, 1096 (Fed. Cir. 1983).

On page 4 of the answer, the examiner states that the terms "diametric direction" and "diametric deformation" in claim 1, and the term "diametric movement" in claim 8, "are not defined in the specification so as to convey to one of ordinary skill in the art the meaning of such terms." In addition, on pages 4-5 of the answer, the examiner states that "[t]here is no basis in either

[4]The written description and enablement requirements are, of course, separate and distinct. *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991).

the original claims or specification for the amendment to line 7 of claim 1[5] . . . . The terms/language in the claim must be defined in the remainder of the specification, M.P.E.P. 608.01(i), 37 CFR 1.75(d)(1)."

In our view, support for the invention as presently claimed[6] is found, among other places, in the paragraph spanning pages 23 and 24 of the specification. Thus, we conclude that the ordinarily skilled artisan would recognize that appellants were in possession of the invention as presently claimed at the time the application was filed. It follows that we shall not sustain the examiner's rejection under 35 U.S.C. § 112, first paragraph, based on the description requirement.

Insofar as the enablement requirement is concerned, the dispositive issue is whether appellants' disclosure, considering the level of ordinary skill in the art as of the date of appellants' application, would have enabled a person of such

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[5]The questioned language added by amendment describes the torque limiter as "having a diametric direction defined by a diameter of the torque limiter."

[6]E.g., a torque setting member (51) that is subject to deformation along a diametric direction defined by the diameter of the torque limiter (11) as a result of being fitted in between the outer circumference of the steering shaft (3c, 3d) and the inner circumference of the gear (10).

skill to make and use appellants' invention without undue experimentation. *In re Strahilevitz*, 668 F.2d 1229, 1232, 212 USPQ 561, 563-64 (CCPA 1982). In calling into question the enablement of appellants' disclosure, the examiner has the initial burden of advancing acceptable reasoning inconsistent with enablement. *Id.*

The reasoning inconsistent with enablement advanced by the examiner in the answer involves for the most part an alleged lack of detail in appellants' specification of how to determine and set the diametric deformation of the torque setting member so that the torque limiter functions in the area of the diametric force/diametric deformation curve (see Figure 6) set forth in the last three paragraphs of claim 1. According to the examiner:

> The specification does not define values of any magnitude or within any range for the member 51 . . . . The specification fails to either recite[] any test results or procedure for testing or <u>setting</u> any torque values . . . . It is well known that it is "difficult", (e.g.[,] see prior art document X[7], page 6.5, paragraph bridging the left and right columns) to determine the specific range of values for the characteristics of linearly elastic materials that form stress/strain curves such as shown in Fig 6.3 of X and Fig. 6 of appellants['] drawings. Fig. 6 and page 24,

[7]Document "X" is the *Standard Handbook of Civil Engineers,* cited by the examiner in the final rejection as evidence supporting the standing rejection under 35 U.S.C. § 112, first paragraph.

> lines 7-20 of appellants[’] disclosure do not show or explain anything other than a conventional standard generic stress/force - strain/deformation curve. [Answer, pages 5-6.]

The examiner further contends (answer, page 14) that the artisan desiring to make or use appellants’ invention would have to start from the very beginning without any aid from appellants’ disclosure because appellants have failed to provide any numerical values for the range recited in next to the last paragraph of claim 1. It is also the examiner’s view (answer, page 15) that undue experimentation would be required to make and use appellants’ claimed invention. The examiner further maintains (answer, page 16) that the specification does not explain or suggest how the desired results are accomplished.

At the outset, for the reasons set forth by appellants on page 17 of the main brief in discussing the graph found in the *Standard Handbook for Civil Engineers* (the examiner’s document “X”), we do not agree with the examiner’s position to the effect that it would be “difficult” (i.e., involve undue experimentation) to set the diametric deformation of the torque setting member of appellants’ torque limiter so that the torque

limiter functions in the area of the diametric force/diametric deformation curve (see Figure 6) set forth in the last three paragraphs of claim 1.[8]

Upon careful consideration of the positions of the examiner and appellants, it is our view that the ordinarily skilled artisan, armed with the principles found in appellants' disclosure[9], would not have any difficulty determining the necessary sizes for the outer circumference of the steering shaft (3) and the inner circumference of the power assist gear (10) needed in order to deform the torque setting member (51) as a result of being fitted therebetween to bring about the sort of diametric deformation of the torque setting member called for in the last three paragraphs of claim 1 in order to achieve appellants' objectives and practice appellants' invention. In this regard, while we acknowledge that the skilled artisan might

[8]Also of interest in this regard is appellants' discussion on page 29-31 of the main brief of the graphs found in Milby and Parker (respectively, examiner's documents "U" and "V") which have been relied upon in a rejection of the appealed claims under 35 U.S.C. § 103.

[9]As we see it, the relevant portions of appellants' specification include those at page 23, line 14 through page 24, line 20; page 26, line 15 through page 27, line 23; page 28, line 21 through page 30, line 6; especially when read in conjunction with appellants' drawing Figures 4 and 6.

be called upon to perform a certain amount of experimentation in order to determine the amount of compression needed, we see no basis for concluding, as the examiner has done, that said artisan would be called upon to engage in undue experimentation to achieve this result.[10]

In light of the foregoing, we shall not sustain the examiner's rejection of the appealed claims under 35 U.S.C. § 112, first paragraph, based on the enablement requirement thereof.

The Rejections under 35 U.S.C. §§ 102(b) and 103

With reference to appellants' Figures 1 and 4, claim 1, the sole independent claim on appeal, is directed to a motor operated power steering device comprising a steering shaft (3a-3d), a gear (10) fitted around the steering shaft, a steering assist motor (8) for transmitting a rotational force via the gear to the steering shaft, and a torque limiter (11) that includes a torque setting member (51) fitted between the steering shaft and the

[10]Our view in this regard is bolstered by the Wehr reference, of record and cited by the examiner against appellants' claims in certain rejections based on prior art. More specifically, Wehr discloses an overload coupling remarkably similar to the one disclosed by appellants, and indicates that it may be readily set to a desired overload release value.

gear. The torque setting member, defined in lines 12-13 of claim 1 as including a ring with a circumference around which plural projections are spaced and project diametrically, "is subject to diametric deformation along the diametric direction as a result of being fitted in between the outer circumference of the steering shaft and the inner circumference of the gear" (claim 1, lines 9-11). The last three paragraphs of claim 1 set forth the diametric deformation of the torque setting member. More particularly, and with reference to appellants' Figure 6, the last three paragraphs of claim 1 call for the torque setting member (51) to have a diametric deformation (generally, δb in Figure 6) such that the torque limiter (11) functions in the area "A" of the diametric force/diametric deformation curve shown in Figure 6, that is, to the right of the "specific value" δa.

We consider first the Section 102 rejection of claims 1, 6 and 8 based on Ito (rejection (c)). The Ito reference pertains to an electric power steering assembly having a clutch located between the outer circumference of the steering shaft 13 and the inner circumference of a gear 11 that is driven by a power assist motor 47. The examiner refers to several of the embodiments of

clutches shown in the various drawing figures of Ito and states (answer, page 7) that the rejection is based "primarily" on the sprag clutch embodiment shown in Figures 24 and 28. Notwithstanding the above, the examiner then takes the position that Ito meets the structural requirements for the torque limiter set forth in claim 1 because "[t]he first, tenth and other embodiments of Ito et al[.] have respective torque limiters with some common elements and/or functionally equivalent structural features" (answer, page 7). However, regardless of which of Ito's clutches the examiner relies upon, the examiner's conclusion of anticipation is not well founded. In particular, Ito does not disclose a torque limiter including a torque setting element, wherein the torque setting member "is subject to *diametric* deformation *along the diametric direction* as a result of being fitted in between the outer circumference of the steering shaft and the inner circumference of the gear" (emphasis added) as called for in lines 9-11 of claim 1. Regarding the diametric deformation setting called for in the last three paragraphs of claim 1, the examiner further considers that this claim requirement is an inherent characteristic of Ito. This

position also is not sound because it is speculative at best and clearly unsupported by any evidence in the record.[11]

In light of the foregoing, we shall not sustain the anticipation rejection of the appealed claims based on Ito.

Turning to the Section 103 rejection of claims 1, 6 and 8 based on Ito or Takaoka in view of Wehr (rejection(d)), Takaoka pertains to a power steering apparatus having a slip clutch located between the outer circumference of the steering shaft 2 and the inner circumference of a gear 6 that is driven by power assist motor M. Several embodiments of the slip clutch are disclosed, including the Figure 6 embodiment wherein a slip plate 9 having stable friction characteristics (see column 11, lines 6-22) is positioned between an adjustable nut 8 and the gear 6. Wehr, the examiner's secondary reference, is directed to a overload coupling for connecting a hub to a shaft comprising an inner bushing 3 coupled to a shaft 2, an outer bushing coupled to a hub 1, and a series of pretensioned resilient rings 8 positioned between the inner and outer bushings.

[11]It is, of course, well established that inherency may not be established by probabilities or possibilities, and the mere fact that a certain thing may result from a given set of circumstances is not sufficient. *In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981)).

Even if we were to agree with the examiner that it would have been obvious to replace the clutch of Ito and/or the slip clutch of Takaoka with an overload coupling device of the sort taught by Wehr, the claimed subject matter would not, in our opinion, result. In this regard, while the overload coupler taught by Wehr could perhaps be reconfigured to meet the requirement of the last paragraph of claim 1, there is no teaching in the applied references for doing so and it is not an inherent characteristic of Wehr. We are therefore in agreement with the argument presented by appellants on pages 30-31 of the main brief to the effect that the applied references simply do not teach or suggest the claimed range of deformation values δb in a torque setting member so that the torque limiter functions in the area "A" of the diametric force/diametric deformation curve to the right of the "specific value" δa. It follows that we shall not sustain the standing Section 103 rejection of the appealed claims based on Ito or Takaoka.

Finally, we have also considered the Section 103 rejection of the appealed claims based on Ito in view of either Milby or Parker (rejection (e)), and the Section 103 rejection of the appealed claims based on Ito or Takaoka in view of Wehr, and

further in view of Milby or Parker (rejection (f)). In the present case, it is not apparent to us, and the examiner has not explained, where the range of deformation values δb for the torque limiter member called for in the last paragraph of claim 1 is taught or suggested by Milby and/or Parker. For this reason, Milby and Parker, taken either collectively or individually, do not make up for the deficiencies of Ito, Takaoka and Wehr discussed above. Therefore, rejections (e) and (f) also shall not be sustained.

Conclusion

The examiner's rejections are reversed.

The decision of the examiner finally rejecting the appealed claims is reversed.

REVERSED

IRWIN CHARLES COHEN Administrative Patent Judge	)	
LAWRENCE J. STAAB Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
JEFFREY V. NASE Administrative Patent Judge	)	

LJS:hh

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