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**Datasheet for the decision
of 12 March 2009**

Case Number: T 2103/08 - 3.2.06

Application Number: 01309160.8

Publication Number: 1203628

IPC: B23D 51/01

Language of the proceedings: EN

Title of invention:

Reciprocating saw with special handle arrangement

Applicant:

MILWAUKEE ELECTRIC TOOL CORPORATION

Headword:

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Relevant legal provisions:

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Relevant legal provisions (EPC 1973):

EPC Art. 56

Keyword:

"Inventive step (no)"

Decisions cited:

-

Catchword:

-



Case Number: T 2103/08 - 3.2.06

D E C I S I O N
of the Technical Board of Appeal 3.2.06
of 12 March 2009

Appellant: MILWAUKEE ELECTRIC TOOL CORPORATION
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 8 April 2008
refusing European application No. 01309160.8
pursuant to Article 97(2) EPC.

Composition of the Board:

Chairman: P. Alting Van Geusau
Members: M. Harrison
W. Sekretaruk

Summary of Facts and Submissions

I. The appellant (applicant) filed an appeal against the decision of the examining division refusing European patent application No. 01309160.8, the examining division having found that the subject matter of claim 1 of the applicant's main request and first auxiliary request lacked an inventive step.

The examining division based its decision on the following documents:

D1: US 4 991 298

D2: US 4 522 270

D3: US 5 940 977

II. The appellant requested that the decision under appeal be set aside and that a patent be granted based on the claims of its main, first or second auxiliary requests filed with the appeal grounds.

III. The Board issued a summons to oral proceedings together with an annex containing its provisional opinion stating *inter alia* why the subject matter of claim 1 of each request appeared to lack an inventive step when starting from D3 and combining the teaching of D2 and/or D1 therewith.

IV. In its letter of 26 February 2009, the appellant withdrew its request for oral proceedings and confirmed that it would file no further written submissions.

V. Oral proceedings were subsequently cancelled.

VI. Claim 1 of the main request reads as follows:

"A reciprocating saw (10) comprising:
a reciprocable spindle (34) for supporting a saw blade (B) for reciprocating sawing movement; a body (18) housing a motor (26) and a drive mechanism (30) driven by the motor (26), the drive mechanism (30) being operably connected to the spindle (34) for causing reciprocation of the spindle (34), the body (18) having a forward end (F) supporting the spindle (34) and a rearward end (R); and a hand grip (22) connected to the rearward end (R) of the body (18) rearward of the motor (26) and supported for movement relative to the body (18)."

VII. Claim 1 of the first auxiliary request includes the following further features compared to claim 1 of the main request:

"a switch assembly (58) operable to electrically connect the motor (26) to a power source, at least a portion of the switch assembly (58) being supported on the hand grip (22) for movement with the hand grip (22) relative to the body (18) and relative to the motor (26)."

VIII. Claim 1 of the second auxiliary request includes the following further features compared to claim 1 of the first auxiliary request:

"a locking mechanism (78) for locking the hand grip (22) in a position relative to the body (18), wherein the locking mechanism (78) includes a recess defined by one of the body (18) and the hand grip (22)

and a projection (82) defined by another of the body (18) and the hand grip (22), the projection (82) being engageable in the recess to lock the hand grip (22) in a position relative to the body (18);" and "a wiring arrangement (66) electrically connecting the switch assembly (58) to the motor (26) and accommodating movement of the switch assembly (58) with the hand grip (22) relative to the body (18) and relative to the motor (26)."

IX. The arguments of the appellant may be summarised as follows:

Starting from D3 as the closest prior art, the skilled person would not have considered using the teaching of D2 to arrive at the subject matter of claim 1 of the main request. D3 and D2 related to tools of different sizes for different purposes, whereby different motions were used in the respective tools, one being a reciprocating motion and the other a rotary motion. The tools were thus subject to entirely different design considerations, all the more so due to the different forces arising for the user of the respective tools. Problems arising in one type of tool thus gave no incentive to a skilled person to search for a solution in another type of tool. Whilst D2 taught a hand grip pivotally connected to, and rearward of, the motor section, this teaching could not be applied to D3 because a pivotal hand grip would give rise to potential danger of contact of the user's hand with the pivotal saw blade, as well as causing a large moment about the hand grip due to the weight of the motor making the device difficult to operate. Additionally, D3 taught away from an increase in machine length, and

exactly this would occur if the pivotal hand grip of D2 were to be used since the length would be increased by the use of a pivotal connection. Also, the angular drive mechanism in D3 was essential for the angularly adjustable driven blade disclosed therein. The objective problems arising when starting from D3 would not be solved.

In regard to the first auxiliary request, neither D2 nor D3 disclosed the claimed switch arrangement; D3 disclosed a handgrip containing the trigger switch which was integrally formed with the motor section, and D2 disclosed a switch on the motor housing. Although the tree trimmer of D1 included a switch assembly mounted to the handle, it was not possible to combine this teaching with D2.

As regards the second auxiliary request, nothing in any of the cited documents disclosed or suggested such a combination of features.

Reasons for the Decision

1. *Inventive step*

1.1 *Main request*

1.1.1 D3 is found by the Board to be the closest prior art starting point for considering inventive step, since it discloses a reciprocating saw of the same type as that with which claim 1 is concerned and already has most of the features thereof. D3 is also mentioned extensively in the application as filed (see paragraphs [0003] et

seq of the published application). D1 on the other hand concerns an extendible tree trimming apparatus having a particular hand grip pivot location (see item 15 in e.g. Fig. 1), different to that in present claim 1, which pivot location is related to the manner of use of a tree trimming device operating in an extended condition. D2 is related to hand tools in general, with an embodiment concerning a hand-held screwdriver.

- 1.1.2 As stated in the decision under appeal (see page 4, second complete paragraph) and the Board's provisional opinion, the subject matter of claim 1 differs from D3 by the sole feature that the hand grip is "supported for movement relative to the body". This finding is also not contested by the appellant.

- 1.1.3 Concerning the objective problem to be solved by this feature, first it is to be noted that the saw in D3 is a mains powered device (see e.g. Figures 1 to 4, depicting the mains cable attached to the rearmost part of the saw). Claim 1 of the main request covers both mains powered and battery powered saws. When starting from the mains powered saw of D3 and given the technical problem of providing a battery powered version thereof, a skilled person is taught by D2, which relates to hand-held electric tools (see e.g. column 1, line 6 and lines 25 to 46), that proper balance of such a hand-held tool is achieved by locating the battery in the hand grip part of the tool and by mounting this grip, with its associated battery, pivotally with respect to the motor section, so as to allow an angular position to be obtained between the parts (see e.g. column 1, lines 51 to 58). A skilled person starting from D3 and wishing to solve the

problem of providing a battery driven reciprocating saw would therefore adopt the teaching of D2 and provide the saw in D3 with a hand grip which is supported for movement relative to the body, and would thus arrive at the subject matter of claim 1 without the use of inventive skill.

Whilst the aforementioned problem is found by the Board to be an objective problem with respect to D3, it is also to be noted that in respect of at least some of the problems already stated in the application itself (see e.g. paragraphs [0004], [0005] and [0009] of the published application), these problems are also addressed specifically in D2 (see e.g. column 1, lines 18 to 23) and the solution provided in D2 for these problems is indeed the connection of the hand grip to the rearward end of the body rearward of the motor so as to be supported for pivotal movement relative to the body (see column 1, lines 18 to 55).

- 1.1.4 The appellant has argued that a skilled person would not turn to D2 when trying to solve a problem starting from D3 because D2 relates to a much smaller tool with a different application, and a different operating motion, namely a hand-held screwdriver. However, the teaching of D2 in column 1, lines 25 to 55 is not limited to hand-held screwdrivers, but concerns hand-held electric tools generally. There appears therefore to be no reason why a skilled person should understand the teaching of D2 to be limited only to hand-held screw drivers, in particular because a hand-held screw driver is merely the preferred embodiment of D2 and also because the same problems and advantages given in D2 arise in a large variety of other hand-held tools.

Whether different design considerations exist for the different tools is therefore not relevant, because it is the teaching of D2 to a skilled person in relation to the objective problem to be solved that is of importance.

1.1.5 In regard to the appellant's argument that a pivotal hand grip from D2 applied to the saw of D3 would cause a potential danger due to the fact that a user's hand might come into contact with the saw blade as a result of the pivotal front end saw blade section in D3, the Board concludes that claim 1 of the main request does not exclude such a pivotal front end saw blade section anyway, so that this argument lacks relevance. Moreover, it is the teaching of D2 concerning a pivotal hand grip which is being applied to D3, whereby the skilled person is able within his normal technical considerations to make any necessary minor structural changes which might be required in order to improve device safety. Such alleged safety issues, in regard to the subject matter of claim 1, therefore do not detract from the fact that D2 teaches the skilled person to use a pivotal handle in hand-held battery-operated tools.

1.1.6 As regards the argument that D3 teaches away from D2 due to length considerations mentioned in regard to D3, the Board concludes that although overall length of the saw may be reduced in D3 by the provision of a pivotal front portion, an incentive to make the hand grip pivotal with respect to the body exists due to battery weight and bulk considerations and is not undermined by a possible desire to keep the overall length of the saw to a minimum.

1.1.7 As regards the appellant's arguments concerning the essentiality of the angular drive mechanism in D3, it is noted already in the application (see paragraph [0006] of the published application) that a problem with the drive system of D3 is evident due to the inter-engaging and pivotally arranged coupling of the motor and drive mechanism. First it is observed that claim 1 of the main request does not exclude such a front end pivotal arrangement as in D3 anyway, such that arguments of the appellant in this regard appear to lack relevance to the claimed subject matter, and further it is immediately evident to a skilled person from the depicted construction in D2 that the problems associated with such a pivotal drive would be obviated when locating the motor in the front housing portion of the tool. The appellant's arguments therefore do not alter the foregoing conclusions.

1.2 *First auxiliary request*

Claim 1 of the first auxiliary request adds, with regard to claim 1 of the main request, a switch assembly with specific features.

First, the switch assembly in D3 is already located on the hand grip portion, albeit not mounted for movement relative to the body and motor. Although the switch is located on the motor/body portion in D2 and thus not mounted pivotally on the handle, when starting from D3 and using the teaching of D2, the skilled person would regard the location of the switch assembly, in accordance with the features of claim 1, as a matter of design preference, rather than a feature having any inventive significance. Furthermore, the location of a

switch assembly on a grip portion which is pivotable with respect to the motor and body is anyway well known in the art of hand tools (see e.g. the switch assembly 13 in D1).

The additional features thus add nothing inventive to the subject matter of claim 1 of the main request.

1.3 *Second auxiliary request*

In regard to the amendments made in claim 1 of the second auxiliary request, these involve features related to two separate aspects (1) and (2) indicated below, to be taken into account when considering inventive step, namely:

(1) a locking mechanism,
defined as "a locking mechanism (78) for locking the hand grip (22) in a position relative to the body (18), wherein the locking mechanism (78) includes a recess defined by one of the body (18) and the hand grip (22) and a projection (82) defined by another of the body (18) and the hand grip (22), the projection (82) being engageable in the recess to lock the hand grip (22) in a position relative to the body (18)"

and

(2) a wiring arrangement,
defined as "a wiring arrangement (66) electrically connecting the switch assembly (58) to the motor (26) and accommodating movement of the switch assembly (58) with the hand grip (22) relative to the body (18) and relative to the motor (26)".

1.3.1 Concerning aspect (1):

In D2, the locking mechanism is provided by means of a slidable cover 3 which is provided with a projection (hook 34) which engages in the recessed area formed by the rear side of a node 28 and the casing (see e.g. Figs. 6a and 6b and the description in column 3, line 67 to column 4, line 50). Claim 1 defines a recess defined by one of the body and the hand grip and the projection defined by the part not having the recess. When compared to D2, this arrangement corresponds to the recess located behind the node 28 and the projection 34 defined by the cover 3. In this regard, it should be noted that the cover 3 is part of the body portion 1a (see e.g. Fig. 4 and Fig. 6a of D2) in the same way as the projection 82 of locking member 80 is considered to be part of the body in the present application (see Fig. 4a) and which engages with the recess 94. Thus, the device of D2 discloses a locking mechanism for locking the hand grip 2a in a position relative to the body 1a, which equates to the features that have been used to define the locking mechanism in claim 1. Use of the locking mechanism, which is already provided in D2, therefore adds nothing inventive to the subject matter of claim 1 of the first auxiliary request, when combining the teaching of D2 with D3 for the reasons stated previously.

1.3.2 Concerning aspect (2):

When arranging the switch assembly on the hand grip, which has itself been found obvious in the context of claim 1 of the first auxiliary request, it is evident for a skilled person that a wiring arrangement necessarily must accommodate the movement of the switch

assembly with the hand grip relative to the body and relative to the motor if the motor is to be operable from both positions. A switch assembly and wiring arrangement allowing motor operation in pivoted positions is also known from D1 for example (see e.g. switch 13 in Fig. 1 and the description in column 3, lines 40 to 47 and column 4, lines 1 to 6). The addition of the features relating to the wiring arrangement, when combining the teaching of D2 with the disclosure in D3 for the reasons explained above, thus also adds nothing inventive to the subject matter of claim 1 of the first auxiliary request.

- 1.4 In accordance with the foregoing, the Board concludes that the subject matter of claim 1 of the main request, and the first and second auxiliary requests respectively, does not involve an inventive step, and thus that the requirement of Article 56 EPC 1973 is not fulfilled.

None of the requests is therefore allowable.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar

The Chairman

M. Patin

P. Alting van Geusau