Paper No. 18

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte MEI-CHEN WANG

Appeal No. 2004-0390
Application No. 09/727,397

ON BRIEF

Before ABRAMS, STAAB, and NASE, Administrative Patent Judges.
NASE, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection (Paper no. 7, mailed March 19, 2002) of claims 1 to 3 and 5. Claims 8 to 11 have been allowed. Claims 6 and 7 have been objected to as depending from a non-allowed claim. Claim 4 has been canceled.

We REVERSE.

BACKGROUND

The appellant's invention relates to a wrench having a universal-joint ratchet wheel, and more particularly to a wrench having a box end in which a universal-joint ratchet wheel is mounted (specification, p. 1). A copy of the claims under appeal is set forth in the appendix to the appellant's brief.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Allen	1,261,092	Apr. 2, 1918
Kohal	4,662,251	May 5, 1987
Chow	5,533,427	July 9, 1996
Hu	6,148,695	Nov. 21, 2000

Claims 1 to 3 stand rejected under 35 U.S.C. § 103 as being unpatentable over Allen in view of Kohal.

Claim 5 stands rejected under 35 U.S.C. § 103 as being unpatentable over Allen in view of Kohal as applied to claim 1, and further in view of either Chow or Hu.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellant regarding the above-noted rejections, we make reference to the answer (Paper No. 14, mailed March 20, 2003) for the examiner's complete reasoning in

support of the rejections, and to the brief (Paper No. 13, filed January 24, 2003) for the appellant's arguments thereagainst.

OPINION

Initially we note that the examiner's objection to the disclosure (final rejection, p. 2) relates to a petitionable matter and not to an appealable matter. See Manual of Patent Examining Procedure (MPEP) §§ 1002 and 1201. Accordingly, we will not review the issue raised by the appellant on pages 2-3 of the brief.

In reaching our decision in this appeal, we have given careful consideration to the appellant's specification and claims, to the applied prior art references, and to the respective positions articulated by the appellant and the examiner. Upon evaluation of all the evidence before us, it is our conclusion that the evidence adduced by the examiner is insufficient to establish a prima facie case of obviousness with respect to the claims under appeal. Accordingly, we will not sustain the examiner's rejection of claims 1 to 3 and 5 under 35 U.S.C. § 103. Our reasoning for this determination follows.

In rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a prima facie case of obviousness. See In re Rijckaert, 9 F.3d 1531,

1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993). A prima facie case of obviousness is established by presenting evidence that would have led one of ordinary skill in the art to combine the relevant teachings of the references to arrive at the claimed invention. See In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988) and In re Lintner, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972). The mere fact that the prior art could be modified in the manner suggested by the examiner does not make such a modification obvious unless the prior art suggested the desirability of the modification. See In re Gordon, 773 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984).

Claim 1, the only independent claim on appeal, reads as follows:

> A wrench comprising:
> a box end comprising a compartment and a cavity;
> a ratchet wheel rotatably mounted in the compartment, an inner periphery defining the compartment of the box end allowing universal movement of the ratchet wheel, the ratchet wheel including a plurality of teeth on an outer periphery thereof;
> a pawl mounted in the cavity for engaging with the ratchet wheel; and
> means for biasing the pawl toward the ratchet wheel and thus engaging with the teeth of the ratchet wheel;
> the ratchet wheel being completely received in the compartment of the box end when a central axis of the ratchet wheel is coincident with a central axis of the compartment of the box end.

Allen states (page 1, lines 9-23) that:

> This invention relates to a ratchet wrench and has for its object to provide a wrench of this character having a substantially spherical work engaging member mounted in the socket portion of the handle to receive a universal movement therein, said member having teeth on its curved surface engaged by a spring pressed pawl carried by the handle whereby a reciprocating movement of the handle causes a rotary motion of said member, the spherical member being provided with work engaging means, and also with means for limiting the angular movement of the handle relative to the axis of its work engaging socket.

Figures 1-4 of Allen depict a wrench having a substantially circular body portion 10 whose center portion is cut out to form a socket 11. One edge of the socket portion is cut away as at 12 and a collar 13 is threaded therein to provide means for readily positioning a substantially spherical work engaging member 14 into the socket. The center portion 15 of the work engaging member is formed into a hollow square for the reception of the work directly or of a work engaging tool 16. This work engaging member is preferably formed into the shape of a ball or sphere, and the same is provided with longitudinal teeth 19 made in a circular form on its outer surface. The body portion of the wrench is provided with an elongated handle 17 in which is mounted a round bodied pawl 18 pressed outward into engagement with the teeth by a spring 20. In order to limit the angular motion of the work engaging member in its socket relative to the axis of the handle, so that the sphere will not turn completely around in its socket and close the work receiving aperture therein, Allen provided a boss, collar or projection 21-22 about each end of the opening through the work receiving member, which projections are

adapted to bear against the edges 23 and 24 of the socket and so insure the work receiving opening in the member being always in position to receive the work.

Kohal's invention relates to the field of socket wrenches, and more particularly to a socket wrench having a ratchet head which is orthogonally pivotable with respect to the wrench handle so that the wrench handle may be adjusted at an angle with respect to the surrounding work surface. As shown in Figures 1-7, the socket wrench has a ratchet housing 4 extending from a wrench handle 2. Ratchet housing 4 has a circular hole therein, about axis 102. The inside of the hole has an interior surface 41 which is partially spherical in shape. On opposite sides of interior surface 41 are two flat portions 42a and 42b which are orthogonally intersected by axis 103. Axis 103 is the ratchet head pivot axis. Within ratchet housing 4 is disposed a ratchet head 6 which is generally circular in shape and has an exterior surface 61 which is also partially spherical in shape. Exterior surface 61 movably fits within interior surface 41 of ratchet housing 4. Ratchet head 6 also has flat portions 62a and 62b which abut flat portions 42a and 42b, respectively. Thus, as ratchet head 6 pivots within ratchet housing 4, flat portions 62a and 62b rotate about axis 103 and slidably abut flat portions 42a and 42b as bearing surfaces. During such pivoting, exterior surface 61 rotates within interior surface 41. Within ratchet head 6, is mounted a ratchet device 8 which includes drive member 10 and ratchet lever 12. Drive member 10 is adapted to be coupled to various

wrench sockets and other well-known tools. Ratchet lever 12 is used to reverse the ratchet action of ratchet device 8 in a well-known manner. Thus, the ratchet device can be adjusted so that drive member 10 rotates in a clockwise or counterclockwise direction with respect to ratchet head 6.

Kohal teaches that it is desirable to prevent ratchet head 6 from pivoting beyond 45° with respect to ratchet housing 4. Thus, the pivot angle between the ratchet head 6 and the ratchet housing 4 should be limited to 45°. In actual practice, Kohal discovered that it is preferable if this pivot angle is limited to ±30°since this ensures that the majority of force applied to wrench handle 2 is transmitted as torque in drive member 10. To prevent the pivot angle from exceeding 30°, ratchet housing 4 includes a cylindrical pin 14 tangentially mounted within the hole in ratchet housing 4 so as to be parallel with axis 103 (see Figure 2). Pin 14 is fixed in ratchet housing 4. Ratchet head 6 has a circumferential detent 16 (see Figures 3 and 6) which co-acts with pin 14 to prevent the pivot angle from exceeding 30°.

Kohal further teaches that it is preferable that means be provided to temporarily fix the angle between ratchet head 6 and ratchet housing 4 so that stability may be provided for the operator and so that the majority of force applied to wrench handle 2 is properly transmitted to drive member 10. To perform such a function, a ball 18 is

provided which is biased by spring 20 into one of a plurality of detents 22. Thus, as ratchet head 6 is rotated about ratchet housing 4, ball 18 is forced into one of the detents 22 by spring 20. With ball 18 engaged in one of detents 22, the wrench handle is no longer free to pivot about the ratchet head. This ensures a temporary fixing of the pivot angle so that stability may be provided in the application of force to the pivoted ratchet head.

After the scope and content of the prior art are determined, the differences between the prior art and the claims at issue are to be ascertained. Graham v. John Deere Co., 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966).

Based on our analysis and review of Allen and claim 1, it is our opinion that the only difference is the limitation that "the ratchet wheel being completely received in the compartment of the box end when a central axis of the ratchet wheel is coincident with a central axis of the compartment of the box end."

As set forth above, a prima facie case of obviousness is established by presenting evidence that would have led one of ordinary skill in the art to combine the relevant teachings of the references to arrive at the claimed invention. In this case, it is our view that there is no evidence in the combined teachings of Allen and Kohal that

would have led one of ordinary skill in the art to have modified Allen to arrive at the claimed invention for the reasons adequately set forth in the brief (pp. 5-12). In our opinion, the only possible suggestion for modifying Allen in the manner proposed by the examiner to meet the above-noted limitations stems from hindsight knowledge derived from the appellant's own disclosure.[1]

For the reasons set forth above, the decision of the examiner to reject claim 1, and claims 2 and 3 dependent thereon, under 35 U.S.C. § 103 is reversed.

We have also reviewed the references to Chow and Hu additionally applied in the rejection of claim 5 (dependent on claim 1) but find nothing therein which makes up for the deficiencies of Allen and Kohal discussed above regarding claim 1. Accordingly, the decision of the examiner to reject claim 5 under 35 U.S.C. § 103 is also reversed.

[1] The use of such hindsight knowledge to support an obviousness rejection under 35 U.S.C. § 103 is, of course, impermissible. See, for example, W. L. Gore and Assocs., Inc. v. Garlock, Inc., 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

CONCLUSION

To summarize, the decision of the examiner to reject claims 1 to 3 and 5 under 35 U.S.C. § 103 is reversed.

REVERSED

NEAL E. ABRAMS Administrative Patent Judge	)	
LAWRENCE J. STAAB Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
JEFFREY V. NASE Administrative Patent Judge	)	

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