

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 26

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

Ex parte DAVID S. COLVIN

Appeal No. 95-4727  
Application 08/213,383<sup>1</sup>

ON BRIEF

MAILED

SEP 24 1996

PAT.&T.M. OFFICE  
BOARD OF PATENT APPEALS  
AND INTERFERENCES

Before CALVERT, MEISTER and STAAB, Administrative Patent Judges.  
MEISTER, Administrative Patent Judge.

*DECISION ON APPEAL*

David S. Colvin (the appellant) appeals from the final rejection of claims 1 and 3-10, the only claims remaining in the application. We reverse.

<sup>1</sup> Application for patent filed March 15, 1994. According to appellant, the application is a continuation-in-part of Application 08/057,426, filed May 4, 1993, which is a continuation of Application 07/822,178, filed January 16, 1992.

Appeal No. 95-4727  
Application 08/213,383

The appellant's invention pertains to a socket and ratchet wrench combination. Of particular importance is the provision on the driving head of the wrench of flat drive surfaces interconnected by connecting curved surfaces which cooperate with complementary shaped surfaces on the driven end of the socket. Independent claim 10 is further illustrative of the appealed subject matter and reads as follows:

10. A socket and ratchet wrench combination, comprising:

a socket of a unitary construction having a central rotational axis, the socket having a driving end including internal engagement surfaces for receiving a nut to be torqued, the socket also having a driven end having a plurality of flat drive surfaces spaced from each other about the rotational axis, each flat drive surface of the socket having opposite ends and a midpoint therebetween, the driven end including curved connecting surfaces that connect the flat drive surfaces, each curved connecting surface of the socket having opposite ends and a midpoint therebetween, the midpoints of the flat drive surfaces of the socket being located radially inward with respect to the rotational axis from the midpoints of the curved connecting surfaces of the socket, the curved connecting surfaces including retaining grooves, and the driven end having a through hole of a round shape extending along the rotational axis so as to be capable of receiving a threaded shank extending through the nut being torqued; and

a ratchet wrench including a head and a handle extending from the head, said head including a drive gear supported for rotation thereon and having external drive teeth, the drive gear including inwardly facing spaced drive surfaces that are flat and the drive gear also including curved connecting surfaces extending between the flat drive surfaces to cooperate therewith in defining a through opening for receiving the driven end of the socket with the flat drive surfaces of the drive gear engaging the flat drive surfaces of the driven end of the socket to provide rotational driving thereof, the flat drive surfaces and

Appeal No. 95-4727  
Application 08/213,383

curved connecting surfaces of the drive gear each having opposite ends and a midpoint therebetween, the midpoints of the flat drive surfaces of drive gear being located radially inward with respect to the rotational axis from the midpoints of the curved connecting surfaces of the drive gear, the flat drive surfaces and connecting surfaces of the drive gear including retaining grooves, the drive gear including a split retaining ring received by the retaining grooves of the drive surfaces and connecting surfaces thereof, the retaining ring deflecting to be received by the retaining grooves in the connecting surfaces of the driven end of the socket to detachably retain the socket to the head of the ratchet wrench for use, and a reversing pawl mounted on the head and having teeth for engaging the drive teeth of the drive gear to provide driving and ratcheting of the socket in opposite directions that are reversible by movement of the reversing pawl.

The references of record relied on by the examiner are:

Prichard	2,869,410	Jan. 20, 1959
Shiel	4,328,720	May 11, 1982

Claims 1 and 3-10 stand rejected under 35 U.S.C. § 103 as being unpatentable over Shiel in view of Prichard. According to the examiner

Shiel shows the claimed invention except the use of the interspaced "connecting surfaces" on both the gear and the socket and the position of the midpoints of the drive and connecting surfaces. Prichard suggests the use of such "connecting surfaces" (22) that are used to space the driven surfaces (23) of the socket, with matching surfaces on the gear ring. It would therefore be [sic, have been] obvious to one skilled in the art at the time the invention was made to modify Shiel by using interspaced "connecting surfaces" on both the gear and the socket because Prichard suggests the use of such surfaces to allow for a more efficient method of torque application. Further, it must be noted that applicant has not

Appeal No. 95-4727  
Application 08/213,383

provided any reasoning as to why this structure is used as opposed to the driven surfaces of Shiel.

Further, the position of the midpoints of the drive and connecting surfaces is an obvious modification in that there is no stated criticality for this limitation in the original specification and positioning either midpoint further inward toward the central drive axis will not change the function of the drive surface or connecting surface. [See answer, page 3; emphasis in original.]

On the other hand, the appellant urges that there is nothing in either Shiel or Prichard that suggests the curved connecting surfaces and flat drive surfaces with midpoints located in the recited manner. According to the appellant this arrangement provides enhanced strength and reduces stress concentrations.

#### OPINION

Having considered the respective positions advanced by the appellant and the examiner, we find ourselves in agreement with the appellant that the combined teachings of Shiel and Prichard would not fairly suggest to the artisan the provision of flat drive surfaces that are connected by curved surfaces in such a manner that the midpoints of the flat drive surfaces are radially inward with respect to the midpoints of the curved connecting surfaces. Shiel and Prichard teach two entirely different configurations for the driving surfaces used to transmit torque

Appeal No. 95-4727  
Application 08/213,383

between the driving head of a ratchet and the driven end of a socket. That is, in Shiel the driven end on the socket has a hexagonal outer periphery while the inner periphery of the ratchet head is provided with a complementary hexagonal configuration. On the other hand, in Prichard the driven end of the socket is generally cylindrical with four radially extending ribs 23 which coact on the ratchet head with a complementary generally annular member 13 having four channels 21 for receiving the ribs on the socket. In our view, a fair appreciation of what Shiel and Prichard would have suggested to the artisan is that either one or the other of these two distinct driving arrangements should be used. In essence, what the examiner proposes to do is to single out the curved surfaces of Prichard and incorporate them into Shiel by substituting alternate flat surfaces in Shiel with Prichard's curved surfaces. While of course there are curved surfaces in Prichard which interconnect his ribs and complementary channels, absent the appellant's own teachings, we are at a complete loss to understand why one of ordinary skill in the art would have been motivated to incorporate them into Shiel as the examiner proposes to do. In the answer the examiner suggests that Prichard teaches the use of curved surfaces for the purpose of achieving compactness and

Appeal No. 95-4727  
Application 08/213,383

relies upon this finding as motivation for the modification which he proposes. However, it is not just the curved surfaces which Prichard utilizes to achieve such an advantage. Instead, it is the **entire** driving configuration which also includes the ribs 23 and channels 21. The examiner may not pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art. *See Bausch & Lomb, Inc., v. Barnes-Hind/Hydrocurve Inc.*, 796 F.2d 443, 448, 230 USPQ 416, 419 (Fed. Cir. 1986), *cert. denied*, 484 U.S. 823 (1987) and *In re Kamm*, 452 F.2d 1052, 1057, 172 USPQ 298, 301-02 (CCPA 1972)).

The examiner also makes much of the fact that the advantages urged by the appellant have not specifically been mentioned in the appellant's original specification. However, simply because they have not been included in the original specification does not mean that such advantages need not be considered as the examiner apparently believes. *See In re Chu*, 66 F.3d 292, 298, 36 USPQ2d 1089, 1094 (Fed. Cir. 1995).

Appeal No. 95-4727  
Application 08/213,383

In view of the foregoing, the decision of the examiner is  
reversed.

REVERSED

*Ian A. Calvert*

IAN A. CALVERT  
Administrative Patent Judge

*James M. Meister*

JAMES M. MEISTER  
Administrative Patent Judge

*Lawrence J. Staab*

LAWRENCE J. STAAB  
Administrative Patent Judge

)  
)  
)  
) BOARD OF PATENT  
)  
) APPEALS AND  
)  
) INTERFERENCES  
)  
)  
)

Appeal No. 95-4727  
Application 08/213,383

James A. Kushman  
Brooks & Kushman  
1000 Town Center  
Twenty-Second Floor  
Southfield, MI 48075