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PANCAKE TYPE FLEXIBLE DRIVE SOCKET WRENCH

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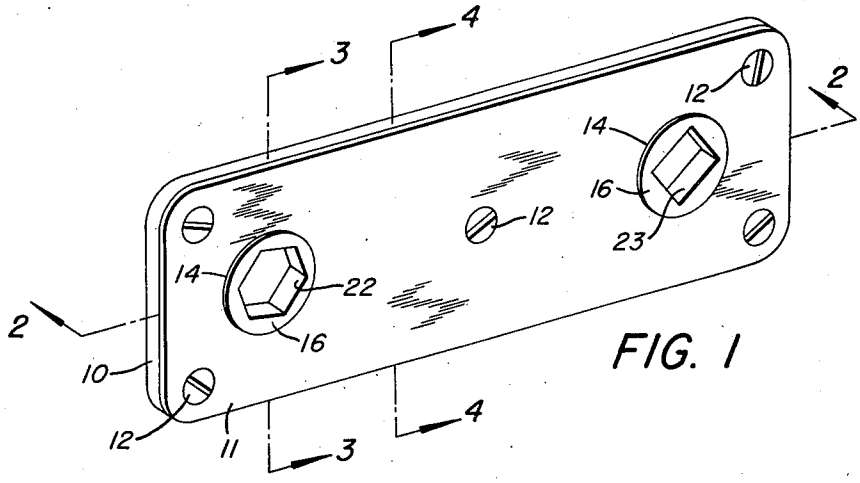


FIG. 1

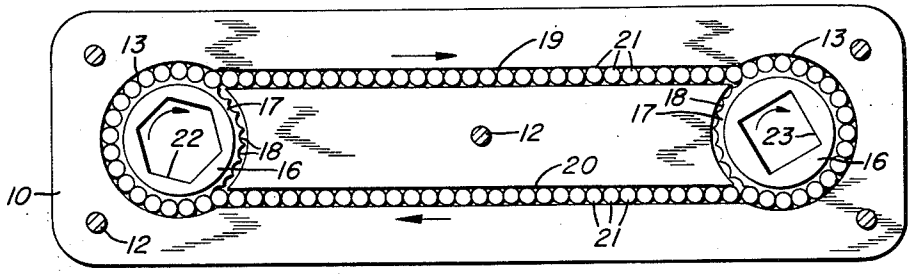


FIG. 2

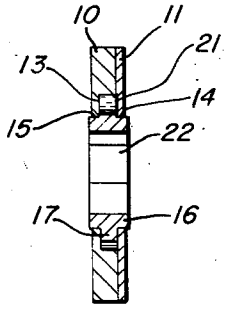


FIG. 3

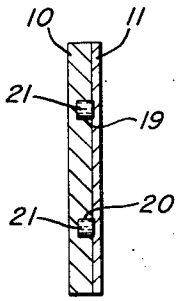


FIG. 4

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PANCAKE TYPE FLEXIBLE DRIVE SOCKET WRENCH

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2 Claims. (Cl. 81—57)

This invention relates to a wrench and more particularly to a flexible drive socket wrench by means of which a socket wrench fitting may be rotated in a relatively inaccessible location.

The principal object of the invention is the provision of a flexible drive socket wrench comprising a device in which a driving member of a socket wrench set may be positioned and a remotely positioned member in which a driven portion of a socket wrench set may be positioned, the interconnecting portions of the flexible drive socket wrench being relatively thin and flat so that the device may be positioned in relatively inaccessible locations.

A further object of the invention is the provision of a flexible drive socket wrench comprising a thin flat elongated body having a pair of socket defining members rotatably positioned therein, channels interconnecting said socket defining members and a plurality of rollers disposed in said channels and engaged with said socket defining members for transmitting motion from one to the other.

A still further object of the invention is the provision of a flexible drive socket wrench incorporating a pair of spaced rotatable socket defining members and motion conveying means interconnecting said members.

The flexible drive socket wrench disclosed herein comprises an improvement in the art relating to socket wrench constructions in that a flat thin elongated body member is disclosed which may be utilized with a socket wrench set to provide for driving a socket wrench portion at a substantially offset location with respect to the driving member and in an otherwise inaccessible location.

The device is simply formed and may be of any desired length with the rotatable socket defining portions thereof of any desired configuration.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being the intention to cover all changes and modifications of the example of the invention herein chosen for purposes of the disclosure, which do not constitute departures from the spirit and scope of the invention.

The invention is illustrated in the accompanying drawing, wherein:

Figure 1 is a perspective view of the flexible drive socket wrench.

Figure 2 is a vertical section taken on line 2—2 of Figure 1.

Figure 3 is a vertical section taken on line 3—3 of Figure 1.

Figure 4 is a vertical section taken on line 4—4 of Figure 1.

By referring to the drawing and Figure 1 in particular it will be seen that the flexible drive socket wrench comprises a thin flat elongated rigid body member **10** having a secondary body member secured thereto by a plurality of fasteners **12—12**. The body members **10** and **11** each have a pair of half-circular openings **13—13** and **14—14**,

respectively, formed therein in longitudinally spaced relation. The openings **13—13** in the body member **10** are flanged as at **15—15**, as best seen in Figure 3 of the drawing, so that a pair of circular apertured disc-like members **16—16** may be positioned therein in registry with the flanges **15—15** and held in rotatable position by the secondary body member **11—11**, as also best illustrated in Figure 3 of the drawing.

It will be observed that the disc-like members **16—16** have peripheral flanges **17—17** which are narrower than the members **16—16** and spaced inwardly with respect to the sides of the members **16—16** and that the peripheral flanges **17—17** are scalloped as at **18—18**, as best seen in Figure 2 of the drawing.

A pair of channels **19** and **20**, cross sectionally square in configuration, are formed in the body member **10** in spaced parallel relation with their respective ends communicating with the openings **13—13** formed therein and a plurality of rollers **21—21** are positioned in side-by-side relation in the channels **19** and **20** and in the peripheral areas of the openings **13—13** around and about the portions of the disc-like members **16—16** so that a continuous row of the rollers **21—21** extends through the channels **19** and **20** and around and about approximately two-thirds of each of the disc-like members **16** where each of the rollers **21—21** is engaged in one of the scallops **18** thereon.

It will be observed that the channels **19** and **20**, being formed in the thin flat body member **10**, confine the rollers **21** so that it is possible for them to move only in a longitudinal direction as defined by the channels **19** and **20** and in a circular direction when they enter the openings **13—13** and engage the peripheral scallops **18** on the flanges **17** of the disc-like members **16—16**.

The disc-like members **16—16** are apertured, as aforesaid, the apertures defining suitable configurations for the reception of driving and driven portions of a socket wrench set (not shown). The apertures may, therefore, be either hexagonal or square, as indicated by the numerals **22** and **23**, or any other desired configuration.

It will thus be seen that the flexible drive socket wrench disclosed herein makes it possible for a driven member, for example, a squared shank of a socket wrench set, to be positioned in the squared aperture **23** of the device and engaged in a member to be rotated, while an hexagonal driving member of the socket wrench set may be positioned in the aperture **22** and the wrench operated through the device.

Alternately, either one of the apertures **22** and **23** may be positioned over a bolt, nut or stud to be rotated and a socket wrench applied to the other aperture of the device so that rotating motion imparted thereto will be conveyed by the device to the desired point of operation.

It will thus be seen that the flexible drive socket wrench disclosed herein meets the several objects of the invention.

Having thus described our invention, what we claim is:

1. A flexible drive socket wrench comprising an elongated flat body member having a pair of openings formed therein and a pair of channels formed therein extending in spaced relation to one another between said openings, a pair of apertured disc-like members disposed one in each of said openings, each of said apertured disc-like members having a scalloped peripheral flange positioned inwardly from the sides of said disc-like member, and a plurality of rollers positioned in said channels in side-by-side relation and around and about portions of said disc-like members so that rotary motion imparted to one of the disc-like members will move said rollers in side-to-side relation longitudinally of said channels to impart similar motion to the other of said rotatable disc-like members, means for retaining said disc-like members and said rollers in said body member.

2. The offset socket wrench set forth in claim 1 and wherein the means for retaining said rollers and rotatable disc-like members comprises a secondary thin flat body member secured to said body member adjacent the channels formed therein, said secondary thin flat body member having openings formed therein for registry with said rotatable disc-like members said openings being of larger diameter than said disc-like members and of smaller diameter than said scalloped peripheral flanges thereon.

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