

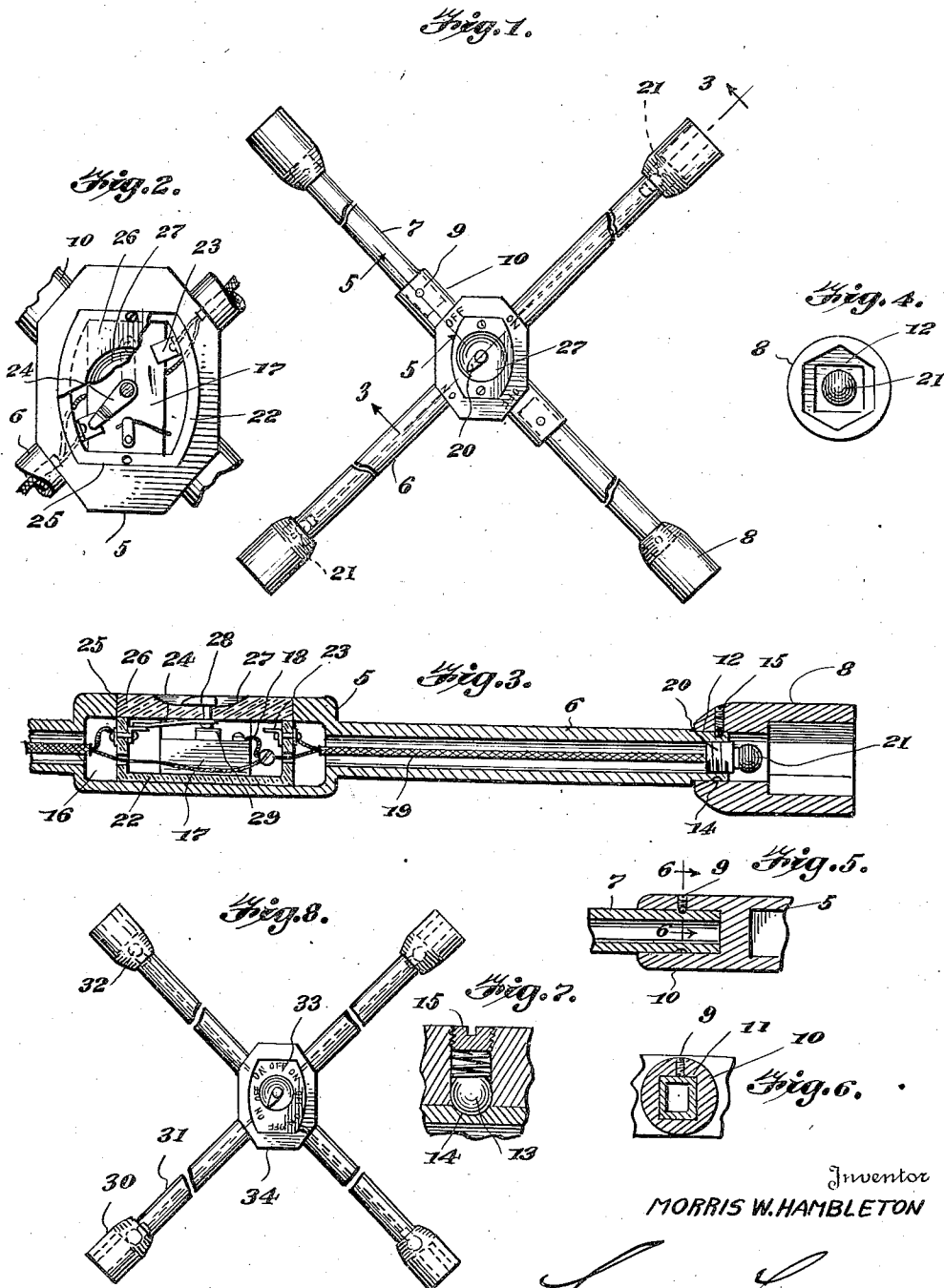
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ILLUMINATED MULTIPLE SOCKET WRENCH

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ILLUMINATED MULTIPLE SOCKET WRENCH

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This invention relates to wrenches and more particularly to that class of tools known as socket wrenches.

The object of the invention is to provide a socket wrench of simple and inexpensive construction having one or more of the work-engaging sockets thereof equipped with an electric light so as to illuminate the work when the wrench is used at night or in dark inaccessible places.

A further object of the invention is to provide a wrench comprising a hub having socket-carrying arms radiating therefrom and provided with a central switch operatively connected with the electric lamps for controlling the illumination of the work-engaging sockets.

A further object is to provide certain of the radiating socket-carrying arms detachable under certain working conditions and to house and protect the controlling switch within a depression in the central hub so as to prevent injury to or accidental turning movement of said switch in case the wrench is thrown face down on the floor or slid over the surface of said floor.

A further object is to provide certain of the radiating arms with red electric lights so that the wrench may be used as a flare or as a tail light or warning signal, when desired.

A still further object of the invention is generally to improve this class of devices so as to increase their utility, durability and efficiency.

In the accompanying drawing forming a part of this specification and in which similar numerals of reference indicate corresponding parts in all the figures of the drawing:

Figure 1 is a top plan view of a multiple illuminated socket wrench embodying the present invention,

Figure 2 is an enlarged top plan view of the central portion of the tool, portions being broken away to show the interior construction thereof,

Figure 3 is a longitudinal sectional view taken on the line 3-3 of Figure 1,

Figure 4 is an end view of one of the light carrying sockets,

Figure 5 is a detail sectional view taken on the line 5-5 of Figure 1,

Figure 6 is a transverse sectional view taken on the line 6-6 of Figure 5,

Figure 7 is an enlarged detail sectional view of the spring-pressed retaining ball, and

Figure 8 is a plan view illustrating a modified form of the invention.

The improved socket wrench forming the subject-matter of the present invention comprises a central body portion or hub 5 formed of metal

or other suitable material and having a plurality of tubular arms 6 and 7 radiating therefrom and provided with terminal work-engaging socket heads, indicated at 8.

The arms 6 are formed integral with the hub 5 while the arms 7 are detachably secured to said hub by means of set screws 9 extending through extension sleeves 10 on the hub and engaging angular terminals 11 on the inner ends of the arms 7 so as to permit said arms to be removed when desired. The outer or free ends of all of the radiating arms are provided with angular portions 12 which receive the correspondingly angular inner ends of the adjacent socket heads 8.

The socket heads 8 are secured in position on the angular portions 12 of the radiating arms by means of spring-pressed balls 13 carried by the heads 8 and fitting into annular grooves 14 formed in the angular terminals 12, there being closure caps 15 threaded in the socket heads 8 for preventing displacement of the balls 13. By this arrangement the socket heads may be quickly applied to the radiating arms and held from longitudinal displacement by the spring-pressed balls 13.

Disposed within a chamber 16 in the central hub is a battery 17 to which are connected terminals 18 of conductors 19 extending through the hollow radiating arms 6 for connection with a plug 20 in which is fitted an electric lamp 21 for illuminating the sockets at night or when using the tool in dark inaccessible places.

Fitted within the chamber 16 is an insulating cup 22 through which the conductors 19 extend for attachment to the battery and secured to the inner wall of the cup are angular contact plates 23 for engagement with a controlling switch 24.

An opening 25 is formed in the top of the hub 5 and seated in said opening is a plate 26 of insulating material having a depression 27 formed in the upper surface thereof and which receives a finger-piece 28 carried by the controlling switch 24. The finger-piece 28 is housed and protected within the depression 27 so as to prevent accidental turning movement of the finger-piece should the tool be thrown face down on the floor or carelessly slid over the surface of said floor.

By rotating the finger-piece 28 the switch arm 24 may be moved into engagement with either of the contact plates 23 so as to illuminate the lamp in the socket of either of the stationary radiating arms 6 when desired. The battery 17 is provided with the usual contact plate 29 for engagement with the controlling switch 24.

It will thus be seen that under normal conditions the wrench is provided with a plurality of radiating arms carrying work-engaging sockets which sockets may be of different sizes to engage different size nuts and that two of said sockets are provided with electric lamps which may be illuminated when the wrench is used at night or in dark inaccessible places. The wrench may be readily converted into a two socket wrench by removing the set screws 9 and detaching the radiating arms 7, as will be readily understood.

In Figure 8 of the drawing there is illustrated a modified form of the invention in which the socket 30 of each radiating arm 31 may be illuminated by an electric lamp 32 operatively connected with a battery and switch assembly 33 housed within the central hub 34, the construction and operation of the device being otherwise similar to that shown in Figure 1 of the drawing.

The sockets of some of the radiating arms shown in Figures 1 and 8 of the drawing are preferably provided with red electric lights so that the wrench may be used as a flare or as a tail light or warning signal when desired. As certain State laws require drivers to carry flares or red signals in their automobiles, the provision of red lights in certain of the sockets will permit the device to be used either as a wrench or warning signal.

The wrench is extremely simple in construction and will provide a convenient means for illuminating nuts, bolts and other objects when working in the dark and also serve as a flare or a tail light or warning signal when desired.

It will, of course, be understood that the wrenches may be made in different sizes and shapes and constructed of any suitable material without departing from the spirit of the invention.

Having thus described the invention, what is claimed as new is:

1. A multiple socket wrench comprising a hollow central hub having an opening therein, tubular arms radiating from the hub and provided with terminal work-engaging sockets, a battery housed within the hub, a plate fitted within said opening and having its upper face formed with a depression, electric lamps disposed within two of the sockets, conductors extending within the arms of the lamp carrying sockets and opera-

tively connected with the battery and lamps, a switch housed within the hub for controlling the illumination of said lamps, and a finger-piece forming a part of the switch and seated within the depression in said plate.

2. A multiple socket wrench comprising a hollow central hub, tubular arms radiating from the hub, two of said arms being integral with the hub and the others detachably connected therewith, work-engaging sockets fitted on the outer ends of all of the arms, a battery disposed within the hub, electric lamps disposed within the sockets of the integral arms, conductors extending through said integral arms and operatively connected with the battery and the adjacent electric lamps, and a switch carried by the hub and operatively connected with the battery for controlling the illumination of said lamps.

3. A multiple socket wrench comprising a hollow central hub having an opening in one side thereof, tubular arms radiating from the hub and provided with terminal work-engaging sockets, an insulated cup-shaped member fitted within the hub, a battery disposed within said cup-shaped member, a closure plate fitted within said opening and having its upper surface formed with a depression, electric lamps disposed within two of the sockets, conductors extending within the arms of the lamp carrying sockets and operatively connected with the battery and lamps, and a controlling switch housed within the hub and having a finger-piece disposed within the depression of the closure plate.

4. A multiple socket wrench comprising a hollow central hub having a depression in its upper surface and provided with integral oppositely disposed hollow arms, extension sleeves carried by the hub, hollow arms detachably fitted in the extension sleeves, work-engaging sockets mounted on the free ends of arms, electric lamps disposed within the sockets of the integral arms, a battery disposed within the hub, conductors extending through the integral arms and operatively connected with the battery and lamps, and a controlling switch centered within the hub and including a finger-piece movable over the upper surface of the hub and normally housed within said depression.

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