Oct. 25, 1938. J. E. GAEDE 2,134,081

WRENCH

Filed Dec. 17, 1936

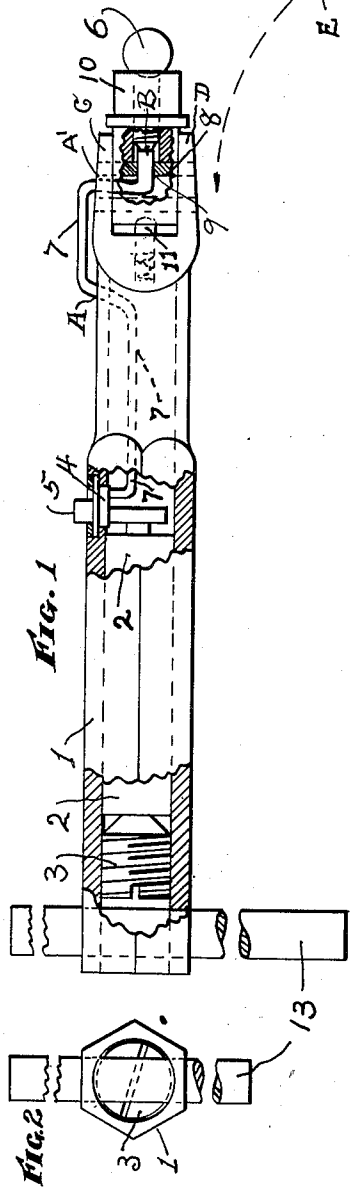


Fig. 1

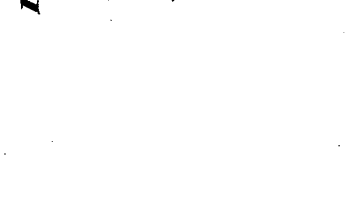


Fig. 2

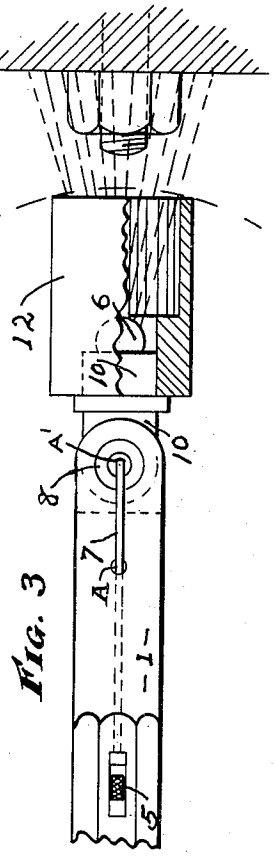


Fig. 3



Fig. 4

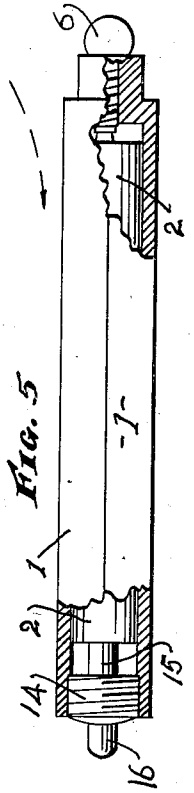


Fig. 5



Fig. 6

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# UNITED STATES PATENT OFFICE

2,134,081

## WRENCH

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Application December 17, 1936, Serial No. 116,317

2 Claims. (Cl. 240—6.46)

My invention relates to a wrench for placing or removing nuts from threaded bolts, and means to turn the wrench.

The object of my invention is to provide an electric luminating system carried by a wrench mechanism, the system consisting of a dry cell battery, lamp, and switch to make and break the current, whereby a mechanic is able to work in dark places or under subdued light conditions, rendering it possible to quickly locate a bolt head or nut to which the wrench jaws or socketed head is to be applied.

A further object of my invention is to provide the lamp so that the light rays therefrom are concealed from the eyes of the workman, and being directed axial with and through the wrench socket to search for and focus upon the bolt head or nut to which the wrench will be applied.

These and other objects will hereinafter be more fully explained, reference being had to the accompanying drawing forming a part of this specification in which like characters will apply to like parts in the different views.

Referring to the drawing:

Fig. 1 is a side view of the mechanism, parts removed for convenience of illustration, the socket wrench being removed.

Fig. 2 is an end view of Fig. 1, opposite the lamp.

Fig. 3 is a side view of the mechanism transverse to that shown in Fig. 1, parts removed for convenience of illustration, and the rocking movement of the wrench head, illustrated by dotted lines, also a nut upon which the rays of the lamp are focused.

Fig. 4 is an end view showing a 12 point wrench and lamp concentrically positioned.

Fig. 5 is a modification of the switch mechanism, the wrench removed.

Fig. 6 is an end view of the lamp and of Fig. 5.

The invention herein disclosed consists of a stock 1, axially bored to receive a battery 2, removably seated therein, and being secured by a threaded stud 3, the inner end of which is frusto conical to engage upon the adjacent end of the battery, as conducting means for one side of the current through the stock to a switch 4, the said switch having a throw lever 5 to make and break the current that is conducted to a lamp 6, through the medium of an insulated wire 7, that is connected to said switch, the said wire extending through the bore of the stock and emerging therefrom as at A, and extending therealong to a pin 8 that is axially bored as at A' to receive the end of said wire positioned therein and extending therefrom through an aperture 9, in the shell of said pin so that the end of said wire is in contact with the base B of the said lamp for the purpose heretofore described. One end of the said stock is bifurcated, having two legs C and D between which a rockably mounted head 10, is pivotedly carried through the medium of the said pin 8 above described, the said pin being rigidly connected to the head and turning therewith, by which means the end of the wire will remain in contact with the base of the lamp when the said head is turned to a desired angle. Note that the inner end of the head is arcuate in form, the radii of which are from the center of the pin, and to secure the head axially extending from the stock, there is arranged a ball-headed pin 11, seating in a socket positioned in the arced portion of the head, but free to move therefrom when said head is turned in either direction, the said pin being spring tensioned toward the head, as shown by dotted lines. The outer end of the head is rectangular in form as shown at D' in Fig. 4, the purpose of which is to seat snugly in a rectangular opening of a socket wrench 12, as shown in Figs. 3 and 4, the said wrench element having twelve points to engage with the corners of a nut, it being understood that the latter will vary in size to conform to nuts of different dimension. The said head is bored axial with its rectangular portion, and being threaded to receive the base of the lamp as shown in Figs. 1 and 5, by which means the said lamp is removable and replaceable, and being adapted to focus its rays outward through the said wrench element upon a nut or the like as shown in Fig. 3. The light feature also functions to search for such nut or head of a bolt in subdued light, the purpose of which is to avoid other means of illumination when such would not be available. In other words, my invention with respect to an illuminating means will take the place of other lighting means heretofore employed. The other end of the stock is bored transversely to receive a lever 13, loosely engaging therein and functioning as turning means for the stock of the mechanism. It will be understood, however, that the said stock will function as a handle to turn the wrench when the latter is positioned at right angles thereto, as shown by dotted lines E—E. In Fig. 5 is shown a threaded stud 14, having an extension 15 inward to contact with the end of the said battery as closing means for the circuit, and to break the circuit the said stud is screwed outward therefrom through the medium of an outward extension 16, gripping it with the fingers to turn the

same, the said extension being integrally joined to the stud, and in said Fig. 5 it is shown that the end of the battery is in contact with the base of the lamp. It is now readily shown how the current is conducted to the lamp through the stock.

While I have shown a hexagon stock, the same may be cylindrical or other polygonal shape, and other means for turning the stock and wrench may be accomplished by the application of any desired method to grip the same, and such other modification may be employed as lies within the scope of the appended claims.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a wrench, a stock axially bored from one end to near the other end, a head pivotally carried at the last named end of the stock, the head being axially bored and threaded and an electric lamp threadedly engaging in the bore, a battery carried in the bore of the stock and means to secure the battery therein and ground the same to the stock, a switch positioned on the stock and movable to and from contact with its adjacent end of the battery, and a wire connecting the switch with the lamp to illuminate the same when the switch is closed with the battery, a socket wrench to engage with the head and surrounding the lamp for the purpose specified.

2. In a wrench mechanism of the class described, comprising a stock and a head pivotally mounted to one end of the stock through the medium of a hollow pin, the head axially bored and threaded from the outer end, inward toward the pin, the pin being apertured in alignment with the bore, an electric lamp threadedly engaging in the head, the outer end of the head adapted to receive a socket point engaging wrench through which rays of the lamp will extend, an insulated wire extending into the hollow of the pin and through the aperture, so that the open end of the wire is in contact with the base of the lamp, the other portion of the wire extending into the hollow of the stock, and a switch element carried by the stock and being connected to the other open end of the wire, a battery positioned in the bore of the stock and having one end in close proximity to the switch, the said switch, when moved in contact with the battery is circuit closing means for the lamp, a threaded stud to engage in the bore of the stock and being in contact with the end of the battery to ground said battery to the stock.

JOHN E. GAEDE.