J. E. BURNDAHL.

TOOL HANDLE.

APPLICATION FILED SEPT. 27, 1920.

1,384,887. Patented July 19, 1921.

FIG. 1

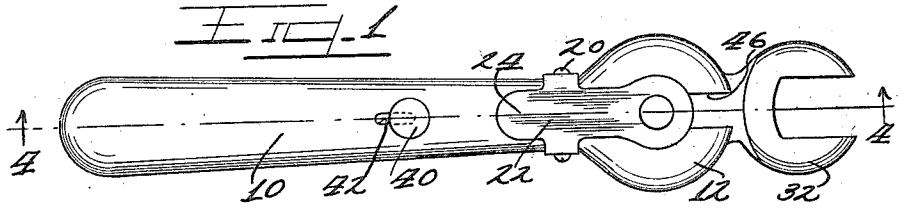


FIG. 3

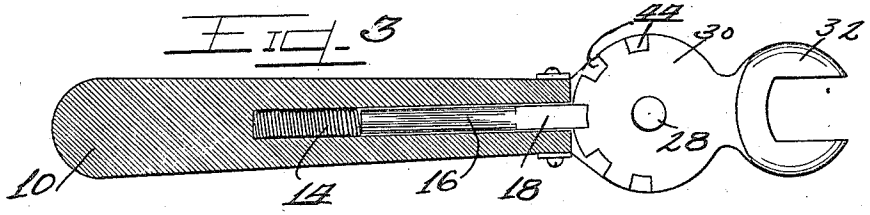


FIG. 2

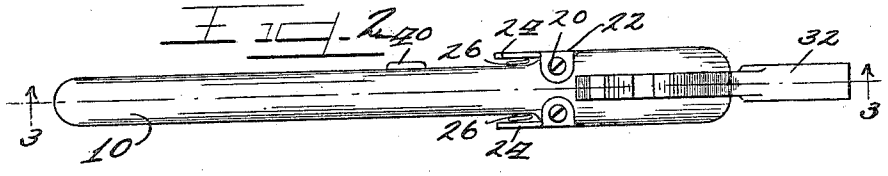


FIG. 4

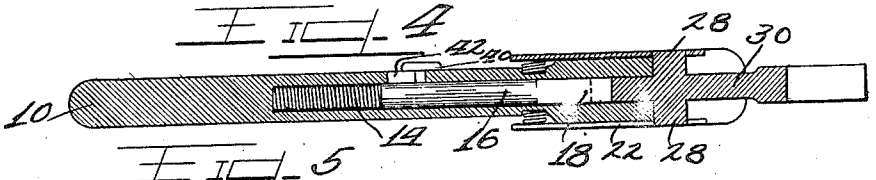


FIG. 5

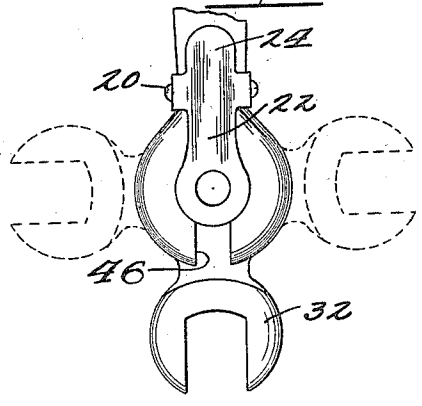
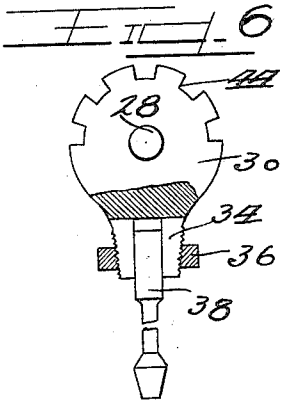


FIG. 6



Witnesses

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UNITED STATES PATENT OFFICE.

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TOOL-HANDLE.

1,384,887. Specification of Letters Patent. Patented July 19, 1921.

Application filed September 27, 1920. Serial No. 413,007.

To all whom it may concern:

Be it known that I, JOHN E. BURNDAHL, a citizen of the United States, and a resident of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Tool-Handles; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the numerals of reference marked thereon, which form a part of this specification.

This invention relates to improvements in tool handles and is especially directed to the provision or production of a tool handle which can be used with practically any sort of a tool and in almost any position therefore making it particularly useful in close places. In the embodiment of this invention disclosed in the drawings and specification, this improved tool handle is shown as applied and directed chiefly to a wrench and to a screw driver, but it is to be understood that this handle may be applied to practically any sort of tool and to any desired size thereof.

An object of this invention is the provision of a tool handle which when used in connection with a tool such as a wrench, screw driver, or the like, can be adjusted into almost any position at different angles to the tool whereby screws, bolts and the like, which are ordinarily difficult of access, may be reached and turned easily. This device is especially useful in the case of automobiles, where the parts and different members are so closely associated that at times it is practically impossible to reach a particular bolt, screw or nut without first removing quite a number of other parts of the apparatus or the engine which, had a convenient wrench of this sort been available, would have been entirely unnecessary.

A further object of this invention is the provision of a tool handle wherein a plurality of tools may be used and where the tools may be changed from one to the other and different sizes of the same sort of tool substituted with a minimum of trouble and inconvenience, and with no loss of time.

A still further object of this invention is the provision of a tool handle which, when used in connection with a wrench, screw driver or the like, can be manipulated by means of an adjustment in the handle whereby the bolt, nut, screw or like part may be turned or manipulated without removing the tool from its position or from the head of the bolt or screw.

Still another important object of this invention is the provision of a tool handle wherein a wrench or screw driver or the like may be operated by only one hand of the operator, thereby leaving the other hand of the operator free to hold the screw or bolt into position or for any other purpose.

Other and further important objects of this invention will be apparent from the disclosures in the drawings and specification.

The invention (in a preferred form) is illustrated in the drawings and more fully described in the accompanying specification.

In the drawings:

Figure 1 is a top plan view of a tool constructed according to the principles of this invention.

Fig. 2 is a side elevation of the tool.

Fig. 3 is a view showing the handle of the tool in section, this being taken on the line 3—3 of Fig. 2.

Fig. 4 is a full sectional view of the tool taken on the line 4—4 of Fig. 1.

Fig. 5 is a detail plan view of the end of the tool, showing a wrench applied thereto and the different positions in which the head of the wrench may be used.

Fig. 6 is a detail view of an attachment for the handle, showing a screw driver applied thereto.

As shown on the drawings:

The reference numeral 10 indicates the handle of a tool, having integral therewith the bifurcated rounded end portions 12. The central portion of the handle is hollow, as shown in Figs. 3 and 4. Said hollow communicates at its outer end with the space between the bifurcations 12, and has inserted therein a helical spring 14 and a rod 16, the rod 16 being seated upon the spring and being preferably formed with a square end portion 18, which is adapted to prevent its turning in the hollowed-out portion of the handle 10. The handle 10 and the rod 16 are preferably made of steel or any other suitable material. Pivoted at the point near the juncture of the handle 10 and the rounded portions 12 by means of bolts, screws or rivets 20 positioned on the side of the handle, are a pair of clamps 22, one positioned on the top and the other on the bottom of the handle. These clamps which are preferably of case hardened metal have bent

over portions through which the pivot pins pass and are provided with projecting finger pieces 24, which are held in normal position by means of compressed helical springs 26. The ends of the clamping members 22 are sunk flush with the surface of the members 12 and are provided with circular apertures which are adapted to receive and hold in position both ends of a corresponding lug which is fitted upon any particular member adapted to be inserted into the handle. These lugs are designated at 28 and are provided upon the central portion of members 30, which have attached thereto either wrench heads integral therewith, as at 32, or may be provided with a split and threaded socket, as shown at 34, having in connection therewith in the usual manner a nut 36 adapted to be turned down into position and securely hold therein any part of a tool or tools, such as a screw driver, which is shown in Fig. 6. Screwed, riveted or threaded into the cylindrical rod 16 in any convenient manner is a projecting lug having a head 40 which slides in a slot 42 provided therefor in the handle 10.

The members 30, which are adapted to carry the tools, such as the wrenches 32, or the screw driver 38, or any other desired tool, are provided with a plurality of notches 44, cut into the periphery of the head of the tool and extending approximately half way therearound.

The operation is as follows:

Whenever it is desired to use a particular kind of tool in connection with this improved tool handle, the tool desired, such as the wrench shown at 32, may be inserted therein by merely dropping or sliding the lugs 28 upon the head 30 of the tool into the notch provided therefor at 46 in the head 12 of the tool. The central apertures in the ends of the clamping members 22 are then brought into position over the head of the outwardly extending lugs 28. This results in securely holding the member 30 in position, but allowing it to turn about the lugs 28 as a center.

It will be seen that the end 18 of the rod 16 will be spring-pressed into position into one of the notches 44 in the head of the tool holding member 30. The end of the rod 16 is made square, as shown at 18, and is adapted to fit into the corresponding notches 44 and is thereby prevented from turning in the same on account of its square construction, which results in a more secure holding of the head 30 in position, it being understood that the rod 16 is always spring-pressed into position by means of the compression in the helical spring 14.

It will also be seen that there is no unusual strain imposed upon the clamping members 22, as they are sunk flush with the faces of the members 12 and as the lugs 28 are adapted to fit very closely and turn in the end of the slots 46 provided therefor in the head 12.

As shown in Fig. 5, by means of the dotted lines, it will be seen that the head of a wrench, when used in connection with this tool handle, may be swung through an angle of 180° and held in several different positions in the tool handle, thereby allowing of the use of the wrench in positions, and places which would ordinarily be inaccessible. It will also be seen that by manipulation of the lugs or knobs 40, which can easily be controlled by the thumb of the operator, the handle of the wrench may be swung around through an arc of 180° without disturbing the position of the wrench or tool, thereby enabling the operator thereof to work in a very restricted space away from the bolt at each turning operation, and moreover gives an adjustability and freedom of movement which permits of the handling and manipulation of bolts, screws and the like in otherwise impossible places.

It will be understood that this tool handle is not limited in its uses to a wrench or screw driver, this merely being a form which was shown in the drawings, and for purposes of illustration only. This tool may be used in connection with a hammer head or with a saw blade, such as a hack saw, or many other tool elements which could be adapted to such use by applying them to heads 30 which are adapted to coöperate with the particular handle.

It will also be seen that a plurality of wrenches of different sizes, as shown at 32, may be used in connection with this handle, and that the change from one size to another may be very readily accomplished by merely releasing one size of wrench from its position in the handle by manipulation of the clips 22 and sliding another different size wrench into place.

I am aware that numerous details of construction may be varied through a wide range without departing from the principles of this invention, and I therefore do not purpose limiting the patent granted otherwise than necessitated by the prior art.

I claim as my invention:

1. A tool and handle therefor arranged to have an angular adjustment with relation to the tool and from which the tool may be readily detached, comprising a tool having a circular angle determining head, the handle having means for engagement with the head at the desired angle and means carried by the handle normally engaging the head on opposite sides thereof in a manner to permit the pivoting in the desired position but movable to disengage such pivotal engagement, and having extensions providing means for readily so moving them and thus detaching the tool head.

2. A tool and handle therefor arranged to have an angular adjustment with relation to the tool and from which the tool may be readily detached, comprising a tool having a circular angle determining head, the handle having means for engagement with the head at the desired angle and means carried by the handle normally engaging the head on opposite sides thereof in a manner to permit the pivoting in the desired position but movable to disengage such pivotal engagement, and having extensions providing means for readily so moving them and thus detaching the tool head, said tool head carrying a tool projecting in the plane of the circular head.

3. A tool and handle therefor arranged to have an angular adjustment with relation to the tool and from which the tool may be readily detached, comprising a tool having a circular angle determining head, the handle having means for engagement with the head at the desired angle and means carried by the handle normally engaging the head on opposite sides thereof in a manner to permit the pivoting in the desired position but movable to disengage such pivotal engagement, and having extensions providing means for readily so moving them and thus detaching the tool head, said handle being slotted to receive the circular tool head and provided with another slot transverse to the first, the tool head having lateral trunnions engageable by and seated in the end of the transverse slot.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

JOHN E. BURNDAHL.

Witnesses:

HULDA BURNDAHL,

RALPH R. BURNDAHL.