

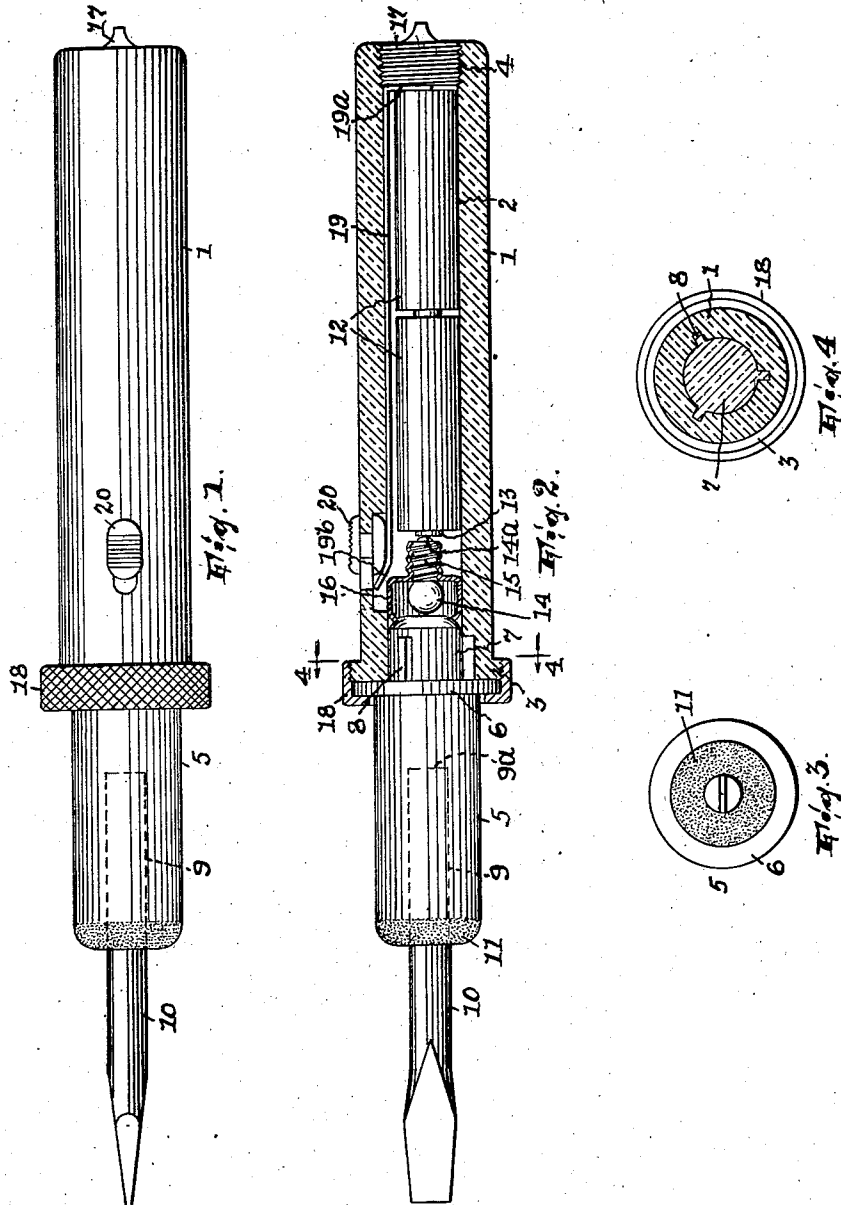
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WORK ILLUMINATING TOOL

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WORK ILLUMINATING TOOL

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1 Claim. (Cl. 240—6.46)

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This invention relates to implements of the class characterized by a handle-including structure and a tool proper therein and means in said structure to illuminate the region in which the tool proper is operating. In the present instance the implement is treated as a screw-driver but of course such is not to be regarded as a limitation.

According to this invention a handle is formed with a bore open at one end and a tool-holder of strong, durable material, as Lucite, is removably affixed to the handle in closing relation to and projecting beyond said end of the bore and from near its own free end to near the handle it is cylindrical and coaxially related to the bore and it is also transparent from its said free end to its other end; said tool-holder is of appreciably greater diameter, from its said free end to the handle, than the bore; and it has a tool-socket extending from such free end toward but terminating remote from the handle and of appreciably less diameter than the bore. In the bore is a lighting device, preferably constructed as will appear. The construction is such, as will appear, especially in view of the transparent nature of the tool-holder and the relative diameters of the said tool-holder bore and tool-socket, that when the implement is in use the rays of light are concentrated in a small area of the surface immediately adjacent the working or free end of the tool held in said socket. Further, the free end of the tool-holder is preferably translucent, as by being frosted, which in practice I find also materially contributes to good illumination.

The invention also comprehends a certain novel arrangement of the parts of the handle-including structure and its contents (the lamp and dry-cell unit) whereby the same are efficiently co-related when the implement is in operative state and said structure and its contents may be readily assembled and disassembled.

In the drawing,

Fig. 1 is a side elevation of the implement;

Fig. 2 is a view showing the implement partly in longitudinal section and partly in side elevation, turned 90° from the position of Fig. 1;

Fig. 3 is a left-hand elevation of the implement; and

Fig. 4 a section on line 4—4, Fig. 2.

The handle 1 may be of wood or some plastic and is preferably opaque or substantially so. It is formed with an axial bore 2 and in this example has an exterior flange 3 at one end and internal threading 4 at the other end.

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At 5 is the tool-holder. This is elongated and here cylindrical. Near one end it has an exterior flange 6 to bear against the flanged end of the handle and from the flange to said end it exists as a plug 7 which fits the bore of the handle, being preferably splined thereto as at 8. From its other or free end it is formed with a socket 9 which terminates at 9a appreciably remote from the flange 6 and hence from the handle; otherwise the tool-holder is solid, i. e., spaceless, from end to end. This socket is adapted to contain the butt of the bit or tool proper 10 fixed therein against rotation relatively to the tool-holder and abutting the socket at 9a as by being set in the tool-holder when the latter is molded.

Given, as will appear, a source of light in the bore of the handle, the construction is such that the bit or tool proper, since it is remote from the adjacent end of and is of appreciably less diameter than the bore, while the bore is itself of appreciably less diameter than the exposed portion of the tool-holder, does not obstruct the light rays as it would if it extended to or into the bore and its effect to cast a shadow on the region at which the tool proper is operating is appreciably reduced as an incident of the light rays undergoing repeated reflection by the cylindrical surface of the tool-holder until they finally issue from the free end of the tool-holder to produce a brightly lighted small area around the free or working end of the tool in the tool-socket. Further, in the preferred construction the free end of the tool-holder is made translucent, as frosted, as at 11, which materially contributes to good illumination, as already stated. When I define the socket as terminating remote from the handle I mean that it does so sufficiently so that whatever shadow the tool, abutting the socket at 9a, would tend to cast would be the circular base of a quite sharp cone whose apex is the light-source within the bore of the handle.

The dry-cell unit here comprises two dry-cells 12 (but the number is immaterial) in abutting (i. e., electro-conductive) relation to each other. They are arranged in the bore with one pole 13 of such unit adjoining the end of the handle to which the tool-holder is affixed.

Let 14 be a conventional form of electric lamp having one of its terminals formed by the usual metallic bushing 15 and its other terminal at 14a. I provide a metallic and hence electro-conductive cup-shaped element 16 which fairly snugly fits the bore of the handle and into which the bushing 15 is screwed. Thus, with 14a as one

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terminal of the lamp, the parts 15—16 become a lamp-holder which forms the other terminal.

Screwed into the threaded end 4 of the bore is a removable plug 17. A flanged ring 18, screwed onto flange 6 of the handle, secures the tool-holder to the handle.

With the dry-cell unit and the lighting device in the bore of the handle and formed by the lamp and lamp-holder and said device arranged as shown, or so that it is between said unit and the tool-holder and its terminal 14a faces away from the latter, such unit and device exists, in the assembled state of the implement, clamped together by the tool-holder and the seat afforded by plug 17 so that the terminal 14a and pole 13 contact each other. The contained parts may be removed from the handle by removing either of the parts 5 and 17.

For closing the circuit as between said terminal and the other pole of the dry-cell unit, as the metal shell of the right-hand cell, I provide in this example an elastic metal strip 19 arranged in the bore and having one end, as 19a, bent off so as to be clamped between said unit and the plug and its other end 19b normally out of con-

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tact with said terminal but movable into contact therewith by a switch-device 20 slidable in a longitudinal slot of the handle.

Having thus fully described my invention, what I claim is:

The combination of a handle having a bore open at one end of the handle, an elongated tool-holder removably affixed to and abutting the handle at and projecting beyond said end of the bore and, from near its own free end to near the handle, being cylindrical and coaxially related to the bore and being also transparent, said tool-holder from near its free end to the handle being of appreciably greater diameter than the bore and having a tool-socket extending from its said free end toward but terminating remote from the handle and of appreciably less diameter than the bore and coaxial with the bore, said tool-holder, except for said socket, being otherwise solid from end to end and illuminating means in the bore adjacent said open end thereof, said tool-holder having at its end-portion adjacent the handle a plug extending therefrom into and fitting the bore.

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