April 6, 1954 F. W. YOUNG 2,674,685

SCREWDRIVER WITH ILLUMINATING MEANS

Filed Feb. 10, 1950

Fig. 1.

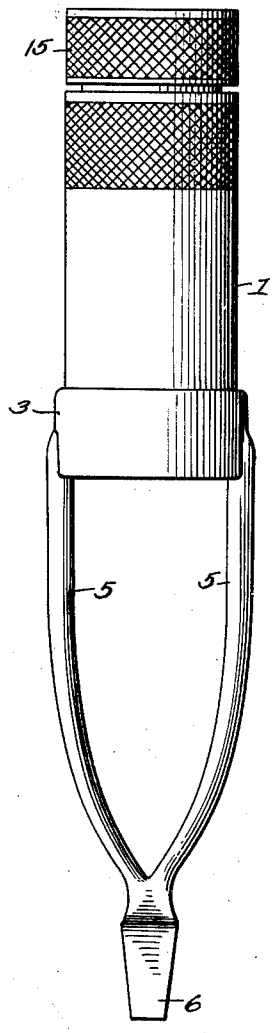


Fig. 2.

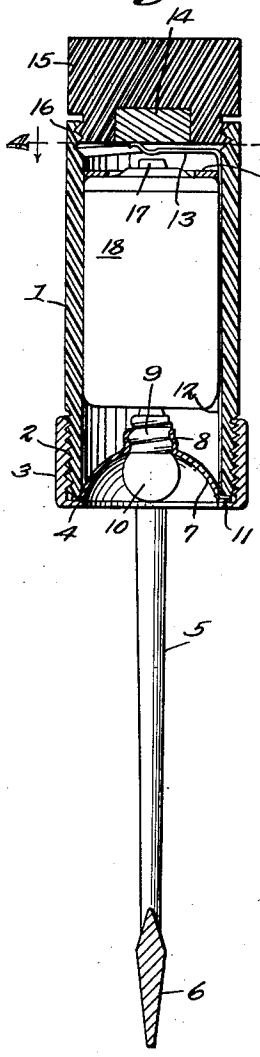


Fig. 3.

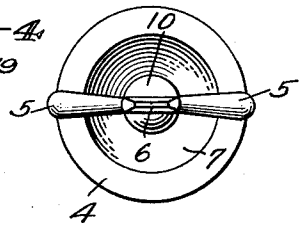
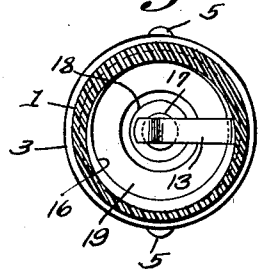


Fig. 4.



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SCREWDRIVER WITH ILLUMINATING MEANS

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1 Claim. (Cl. 240—6.46)

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This invention relates to a lighted screwdriver, so formed as to cast illumination upon and around the head of a screw or bolt to which the screwdriver is applied.

By way of backgrgound, it is believed pertinent to note that oftentimes, it is necessary to use a screwdriver in dark corners, machinery, or the like, where the ordinary illumination of a room will not reach. This renders the performance of the work quite difficult. If one attempts to hold a flash light upon the work, he is prevented from making full use of his hands, or else must call upon an assistant.

An important object of the present invention, accordingly, is to provide a screwdriver construction adapted to provide its own illumination under the swift and easy control of a user.

Another important object is to provide a lighted screwdriver construction utilizing ordinary flash light batteries and bulbs.

Still another object is to provide a lighted screwdriver construction which will be light in weight, and the handle of which will not be of any greater bulk than those of screwdrivers now in use and not embodying the advantages of the present invention.

Another important object is to provide a lighted screwdriver construction which will be capable of manufacture at low cost, but which will nevertheless be durable and capable of long and hard usage.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts, hereinafter more fully described and pointed out in the claim, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

Referring to the drawings:

Fig. 1 is an elevational view of a screwdriver formed in accordance with the present invention.

Fig. 2 is a longitudinal section.

Fig. 3 is an end elevational view as seen from the bit end of the screwdriver.

Fig. 4 is a section taken substantially on line 4—4 of Fig. 2.

Referring to the drawings in detail, I provide a cylindrical casing 1 preferably of insulating material such as plastic or the like, the casing 1 constituting a portion of a screwdriver handle and being formed as a cylinder open at both ends, one end of said cylinder being formed with the external threads 2 permitting connection of the

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internally threaded annular flange 3 extending upwardly from and formed integrally with the ring 4, there being rigidly secured to said ring and flange at diametrically opposite points thereon the inner ends of the arms 5, that converge toward the bit 6 with which they are integrally joined. Considering the arm and bit formation more particularly, it may be noted that the arms 5 are extended from said diametrically opposite points in parallelism with each other and with the axis of the casing 1, for a substantial distance, perhaps one third of the length of the arms. Thereafter, the arms are brought toward each other in gradually converging relation, meeting an appreciable distance from the flange 3 and having the bit 6 joined integrally to and immediately below the converged ends of the arms.

Clamped in position within one end of the casing 1 is the reflector 7 having the peripheral flange that is clamped between the adjacent end of the cylinder and the ring 4 when the cylinder and ring are threadedly connected.

The reflector 7 is formed with the centrally located apertured threaded neck 8 in which is engaged the threaded shell 9 of a conventional flash light bulb 10 positioned within the reflector 7 to cast its beams when illuminated around the bit 6.

For the purpose of supplying electric power through the reflector to the conductive outer shell 9 of the lamp bulb, I interpose between the reflector and casing the finger 11 formed upon the end of a conductive strip 12 extended longitudinally of the inner surface of the casing 1, the other end 13 of said conductive strip 12 being extended laterally toward the center of the opposite end of the casing 1 to provide a spring contact engageable by centrally disposed block 14 embedded in an inner recess formed in the plug 15 that has the neck 16 externally formed with the quick threads 16 engaging corresponding threads formed in the inner surface of the adjacent end of the casing 1.

Thus, when the knob 15 is partially rotated in one direction, it will force the spring contact 13 against the button 17 on one end of the flash light battery 18, said button being one post of the battery, the battery engaging at its other end the button on the end of the lamp bulb 10. In this way a circuit is closed through the lamp bulb for illumination thereof responsive to partial rotation of the plug 15.

The plug 15 and the adjacent end portion of the casing 1 are knurled for convenience in grip-

ping the same for relative rotation to illuminate or darken the flash light bulb 16. The plug 15, in this connection, is formed to the same outer diameter as the casing 1 and completes, in cooperation with said casing, formation of the screwdriver handle.

Mounted within the casing 1 is an annular stop shoulder 19 fixedly mounted in said casing to prevent the battery 18 from dropping upon the spring contact 13 when the bit portion of the lighted screwdriver is extended upwardly, which tendency of the battery would tend to accidentally illuminate the bulb 16.

It is believed to be apparent that a screwdriver formed as illustrated will illuminate a screw or bolt head and the surrounding area for the swift and accurate insertion of the bit 6 in the kerf of said screw or bolt head. At the same time, the construction is one which does not add to the size or otherwise detract from the efficient use of a screwdriver in the ordinary manner, and the plug type switch 15, constituting a part of the handle itself, is readily rotated to circuit closing or opening position as desired by the user.

It is also believed of importance to note the particular formation and relative arrangement of the clamping ring 4, reflector 7, arms 5, and bit 6. The formation and relative arrangement of these parts is such that beams reflected from the reflector 7 will travel past the bit 6 to illuminate directly the screw or bolt head, without the casting of a shadow by the bit itself except to a minor extent that does not detract in any way from the full and efficient usage of the device.

What is claimed is:

In a screw driver a handle portion which includes an elongated tubular body having external screw threads adjacent one end thereof, a shank portion which includes a ring having internal screw threads threadedly engaging the threads on the body, a pair of diametrically spaced legs carried by the ring and projecting longitudinally therefrom away from the body, the legs converging adjacent their ends remote from the ring, a tool bit carried by and projecting longitudinally from the convergent ends of the legs, an inwardly extending annular retaining and stop flange carried by the ring adjacent the end thereof adjacent the legs, a concave reflector extending into the body adjacent the threaded end thereof, said reflector being held in place by the flange on the ring, an incandescent electric lamp carried by the reflector within the body, a battery having a contact button at one end thereof within said body, a plug threadedly engaged in one end of said body opposite from said legs and tool bit, a shoulder in said body adjacent to and spaced from said plug engaging an end of said battery, a spring contact within said body between said battery and said plug and normally biased from said battery button and engageable with said button upon rotation of said plug in one direction for completing an electric circuit from said battery to said electric lamp and illuminating the tool bit.

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