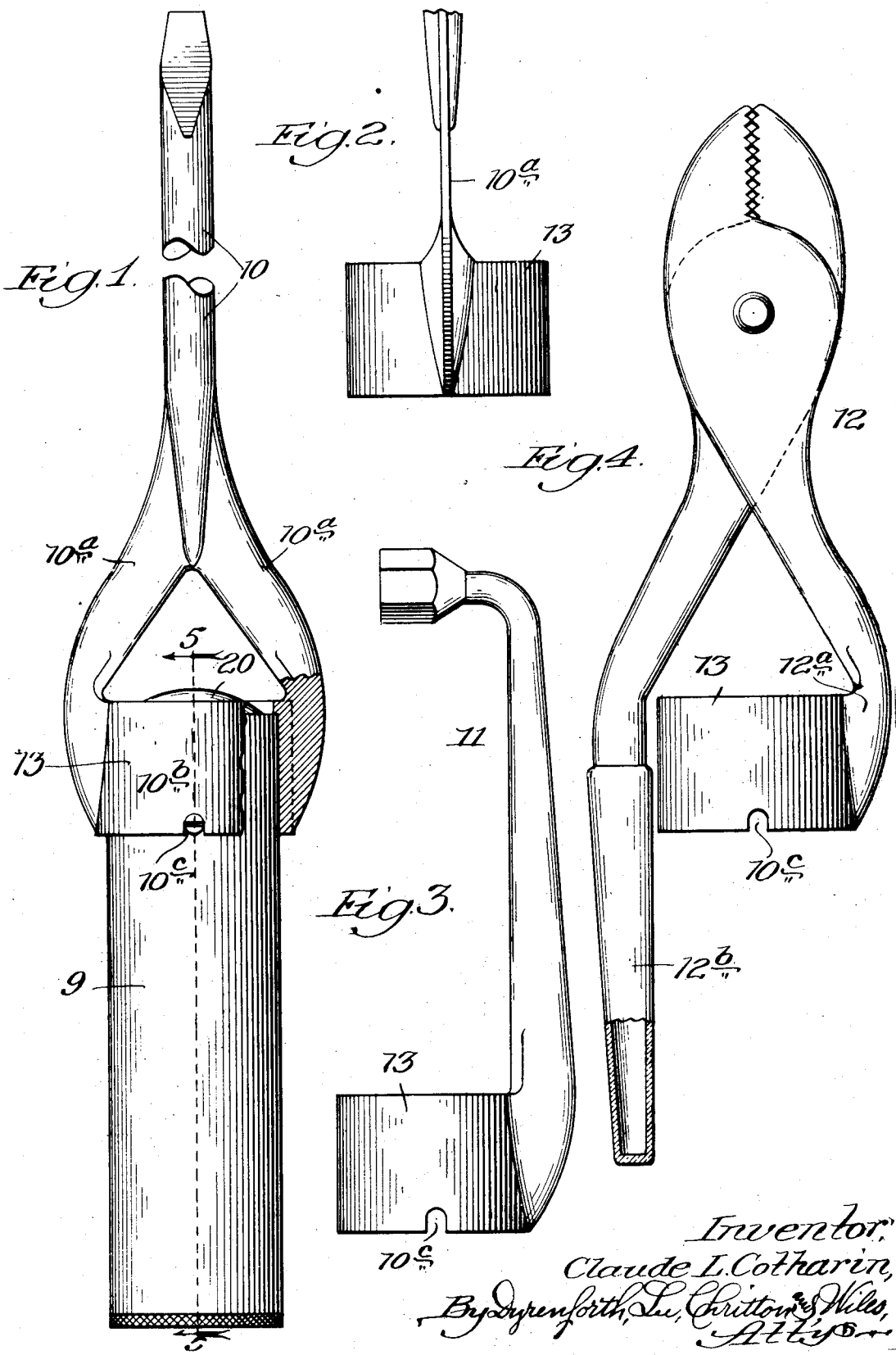


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C. L. COTHARIN.
ILLUMINATED TOOL.
FILED MAR. 11, 1922.

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2 SHEETS-SHEET 1



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UNITED STATES PATENT OFFICE.

CLAUDE L. COTHARIN, OF CHICAGO, ILLINOIS.

ILLUMINATED TOOL.

Application filed March 11, 1922. Serial No. 542,977.

To all whom it may concern:

Be it known that I, CLAUDE L. COTHARIN, a citizen of the United States, residing at 4611 North Hermitage Avenue, Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Illuminated Tools, of which the following is a specification.

My invention relates to an improvement in the class of illuminated tools wherein a tool is provided on the end of a handle formed of a flashlight serving to illuminate the tool for facilitating its use in dark places.

One of the more important objects of my improvement is to render the tool readily attachable to and detachable from the illuminating handle, thereby to enable a succession of different tools to be operatively combined with the same handle. Another such object is to provide the flashlight-form of handle of such insulated construction as to avoid exposing metal portions thereof to such contact with any external metal object that may be encountered in using the tool as would draw a spark, which might ignite surrounding gas, or adjacent gasoline with disastrous result.

In the accompanying drawing—

Figure 1 is a broken view in elevation partly sectional, showing a screw-driver applied to the illuminating handle in accordance with my invention; Figure 2 is a broken view of the same regarded from a side of the showing in Fig. 1; Figure 3 is a view in elevation of a wrench and Figure 4 is a similar view of a pair of pliers, each provided with means adapting it to be removably applied as represented of the tool in Fig. 1; Figure 5 is an enlarged broken view in section taken on line 5—5, Fig. 1; Figure 6 is a section on line 6—6, Fig. 5; Figure 7 is a rear-end view of the illuminating handle, and Figure 8 is a section of the insulated casing of the handle on line 8—8, Fig. 5 and showing a spring contact-member therein in elevation.

The preferred construction of the flashlight 9 to best adapt it for my purpose of an illuminating handle for a tool, such as a screw-driver 10, a wrench 11, a pair of pliers 12 or the like, is that most clearly illustrated in Fig. 5 and hereinafter described. The tool 10 represented in Fig. 1 as a screw-driver is shown to be formed, for

the purposes hereinafter explained, with a bifurcated extension 10^a, though the number of forks may exceed two when desirable for the strengthening purpose; and between the ends of the fork extends, integral therewith, a collar 13 to fit snugly about the lens-carrying end of the handle 9, in which position the collar is secured as by a screw 10^b inserted through an edge-slot 10^c therein and passing through the insulated flashlight-casing to prevent the handle 9 from turning in the collar in working the tool. This manner of securing the screw-driver in its illuminative position enables it to be readily detached by merely pulling the collar off the handle 9 for substituting thereon another tool provided with a similarly slotted or notched collar 13, such as the wrench 11 or pliers 12 shown, on which latter the collar extends from a shortened handle-member 12^a, the other normal handle-member being preferably covered with insulating material 12^b; and the collar on the wrench 11 extends from its rear end, as shown in Fig. 3.

The collar 13 not only forms means for both readily applying a tool provided therewith to and as readily detaching it from a flashlight, with the advantage of tool-interchangeability hereinbefore explained, but by the collar being integral with the tool, the connecting means and tool are necessarily removed in entirety, thus leaving no light-obstructing tool-attaching means permanently on the flashlight. Moreover, my collar-form of attaching means not only presents no obstruction to the light for illuminating the work-engaging end of the tool, but even when the latter is reinforced for strength, as represented in Fig. 1, by providing it with a forked extension to carry the collar, the forks are so disposed as to interpose the minimum obstruction to the light-rays between the lens of the illuminating handle and the outer tool-end.

The flashlight-type of illuminating handle shown comprises the construction described as follows:

The casing containing the usual or any suitable battery-cell 14 comprises a metal cylinder 15, preferably formed in two cylindrical sections between which is interposed a ring 15^a of insulating material, and which is encased in a cylinder 16 of insulating material, preferably lined with insulation 17, the latter being topped by an insulating seat-

ing annulus 18 for the flange of the reflector 19 forming a seat for the lens 20 held in place by a ring 20^a resiliently entering a groove 16^a in the outer cylinder 16. The lamp 21 is screwed, as usual, into a threaded socket 19^a in the base of the reflector, the screw terminating in a contact-point 21^a engaging the protruding end of the carbon-element 14^a of the cell; which latter is supported on a spiral spring 22 confined in contacting relation with the zinc element or shell of the battery by a metal plug 23 screwed into the rear end of the cylinder 15, wherein it is removably secured by a threaded pin 24 extending into registering grooves in opposing parts of that cylinder and the plug. A recess 25 is formed in the outer surface of the plug 23 to house a switch-handle 26 on a stem 27 rotatably extending centrally through the plug and carrying on its inner end a metallic arm 28 terminating in a cam-like contact-finger 28^a. A contact bar 29 is provided midway between its ends with a cross-head 29^a through the ends of which it is riveted to the inner face of the annulus 15^a, to extend from its curved forward end, which is in permanent contact with the reflector 19, with its opposite end adjacent to the contact-finger 28^a.

Thus when the switch is turned to contact the finger 28^a with the adjacent end of the bar 29 the circuit is closed, to light the lamp 21, from the reflector 19 over that bar, the switch and the spring 22 to the exterior element of the cell, thence over the carbon element 14^a to the lamp. By turning the switch to withdraw the finger 28^a from the bar 29

the circuit is opened and the lamp is extinguished.

I realize that considerable variation is possible in the details of the construction of my improvement for detachably applying a tool to an illuminating handle as herein shown and described, and I do not intend to limit myself thereto, except as pointed out in the appended claims, in which it is my intention to claim all the novelty inherent in the device as broadly as is permitted by the state of the art.

I claim:

1. As a new article of manufacture, a tool having a circular collar thereon integral therewith, said collar being adapted to take over a flashlight whereby to form a handle for said tool.
2. As a new article of manufacture, a tool having a collar thereon integral therewith and adapted to take over a flashlight whereby to form a handle for said tool, said collar being provided with means adapted to coact with a projection on a flashlight to prevent it from rotating thereon.
3. In combination, a tool-handle-forming flashlight encased throughout its handle-portion in insulating material and provided on its lens-carrying end-portion with a stop, and a tool provided on its rear end with a circular collar integral therewith fitting about said end-portion of the flashlight and removably connecting the tool therewith, said collar containing an edge-slot to engage said stop.

CLAUDE L. COTHARIN.