

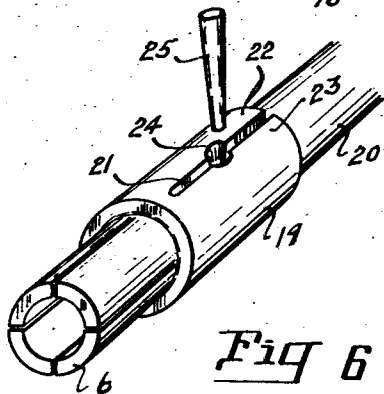
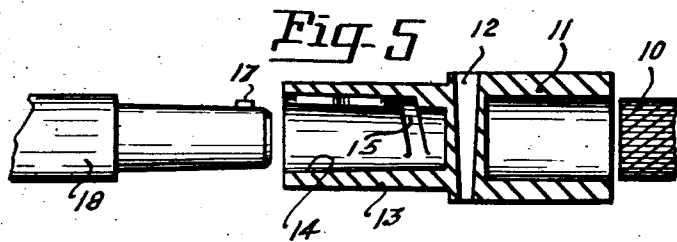
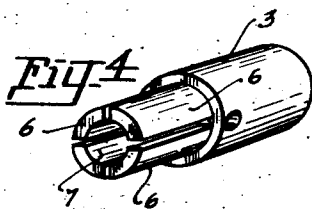
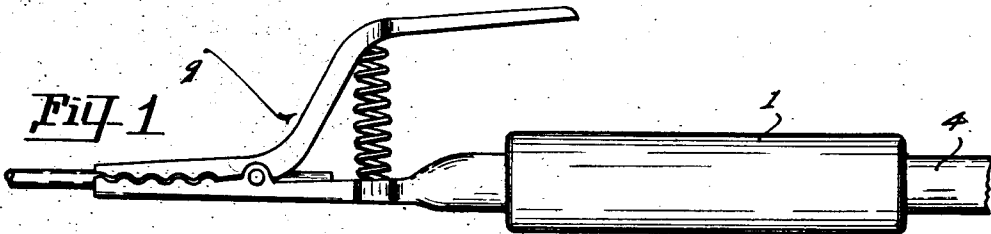
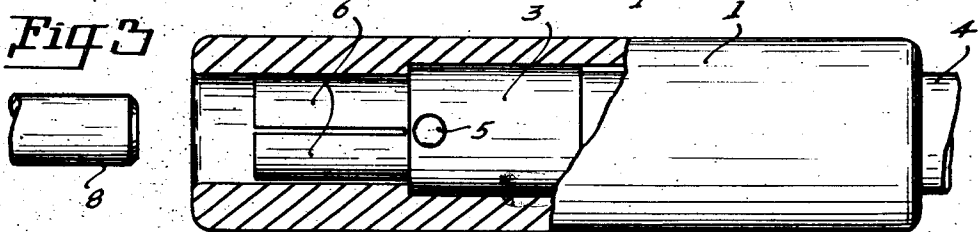
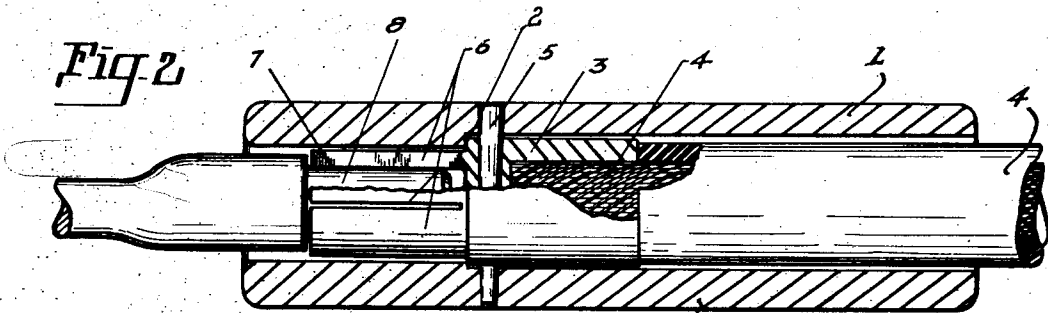
Dec. 14, 1943.

F. W. HOWARD

2,336,732

ELECTRODE HOLDER AND CONNECTOR

Filed Dec. 9, 1941



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Fig 6

334

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UNITED STATES PATENT OFFICE

2,336,732

ELECTRODE HOLDER AND CONNECTOR

Frank W. Howard, Portland, Oreg.

Application December 9, 1941, Serial No. 422,284

1 Claim. (Cl. 174-46)

This invention relates to improvements in electrode holders for use with electric arc-welding or like devices, and more particularly to new and improved means for uniting the electrode-holder in electrical contact with an electrical cable, and the further provision of means for quickly and conveniently detaching the electrode-holder from the supply of electrical current to prevent accidental electrical contacts.

The foregoing and other objects will appear as my invention is more fully hereinafter described in the following specification, illustrated in the accompanying drawing, and finally pointed out in the appended claim.

In the drawing:

Figure 1 is a side elevation of a device made in accordance with my invention.

Figure 2 is an enlarged sectional side elevation of Figure 1 with the forward portion of the electrode-holder broken away.

Figure 3 is a top plan view of Figure 2, with a fragment broken away for convenience of illustration and showing the electrode-holder removed from the end thereof.

Figure 4 is a detail view of a cap for the end of the electrical supply cable and formed integral with a plurality of spring-fingers for frictional engagement with the innermost end of the electrode-holder.

Figure 5 is a modified form of means for attaching the end of the electrode-holder to the end of the cap.

Figure 6 is a further modified form of the invention showing in detail a tapered dowel-pin serving the double purpose of uniting the cable with the cap and the cap with the handle.

Referring now more particularly to the drawing:

In Figure 1, reference numeral 1 indicates a hollow handle open at both of its ends. The interior of the body member 1 is formed with an angular shoulder 2 adapted to form a limit stop for a cap 3 secured to an electrical supply cable 4.

For anchoring the cap and cable within the handle 1 I use a tapering dowel-pin 5 adapted to be driven through tapered apertures in the handle and in the end of the cap 3.

Formed integral with, and projecting forwardly from the cap 3, is a plurality of spring-fingers 6 forming a socket generally indicated at 7 to frictionally engage with the inner-end 8 of the electrode-holder and to securely mount the same within the handle. The electrode-holder, in its entirety, is generally indicated by reference numeral 9 in Figure 1.

By the foregoing arrangement, the supply cable 4 and its cap 3 are permanently secured within the handle by means of the tapering dowel-pin 5, as aforesaid. The handle, of course, is made of insulating material and the end of the spring-fingers 6 are sufficiently inset from the end of

the handle 1 to afford proper protection or insulation against accidental contact.

When a welding job is finished, or the day's work is finished, the electrode-holder 9 can be pulled outwardly from the spring-fingers 6, thus leaving the end of the cable and spring-fingers 6 protected, as aforesaid.

In the modified form illustrated in Figure 5, reference numeral 10 indicates the electrical supply cable adapted to be secured within the cap 11, which is formed with a tapered aperture 12 for receiving the tapered dowel pin, and its forward end is formed into a forwardly projecting cylinder 13 formed interiorly with a tapering socket 14 near whose inner-end I form a curved slot 15 merging with an entrance slot 16 to receive a pin 17 formed on the inner-end 18 of the electrode-holder. When the pin 17 enters the slot 15 the holder 18 is rotated, so that its inner-end, which is tapered as shown, will be drawn into wedging engagement with the tapering interior wall 14 of the cylinder 13.

In the further modified form shown in Figure 6, the cap for the electric supply cable 20 is slotted, as at 21, at diametrically opposed points to provide two expandable halves 22 and 23. The slots are notched, as at 24, to receive a tapering dowel-pin 25, which when driven through the notches and through the cable will cause the cable to expand sufficiently to securely crowd itself within the cap, and will cause both expandable halves to expand into firm engagement with the inner walls of the handle.

While I have shown a particular form of embodiment of my invention, I am aware many minor changes therein will readily suggest themselves to others skilled in the art, without departing from the spirit and scope of the invention. Having thus described my invention, what I claim as new and desire to protect by Letters Patent is:

A handle of insulating material for an electrode holder comprising an elongated cylindrical handle provided with two diametrically opposed apertures, said handle having two longitudinal bores therethrough, one of said bores being of greater diameter than the other to form an annular shoulder therebetween, a double-ended metal cap having outside diameters corresponding with those of said bores to form a shoulder around the cap and bored at its opposite ends to receive a cable and the electrode holder, a solid integral wall intermediate said bores formed with a tapered aperture therethrough, and a tapered pin extending through the apertures in said handle and said solid wall to urge and maintain the shoulder of the double-ended cap against said annular shoulder within the cylindrical handle.

FRANK W. HOWARD.