Oct. 8, 1929. C. WAGLIE 1,730,397

ELECTRODE HOLDER FOR ELECTRIC ARC WELDERS

Original Filed June 29, 1927

Fig. 1.

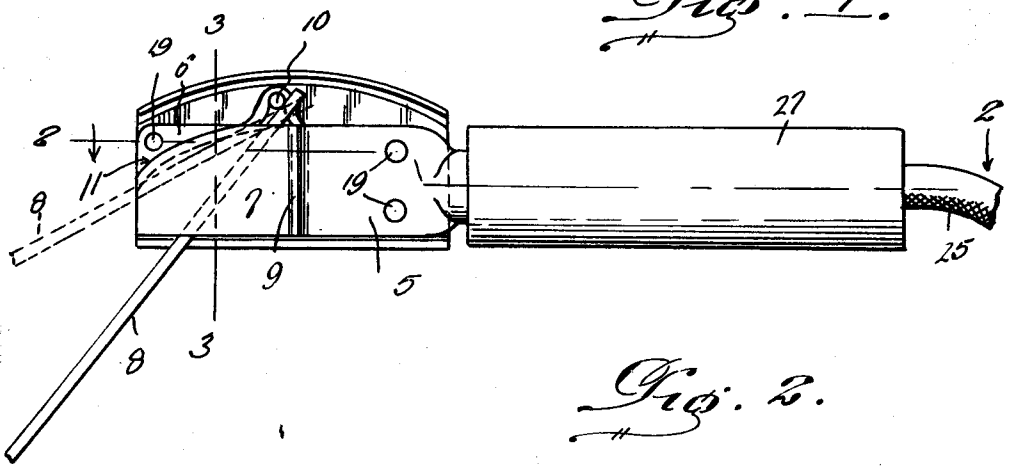
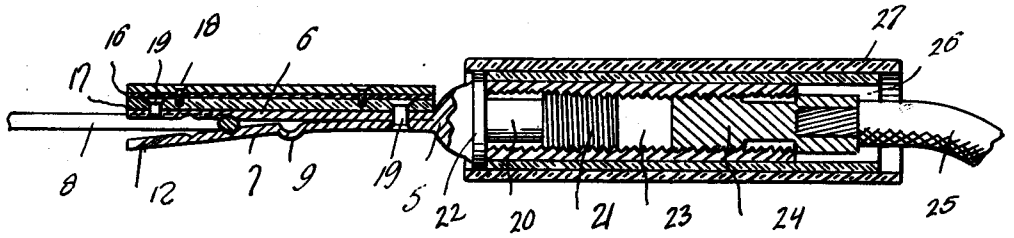



Fig. 2.



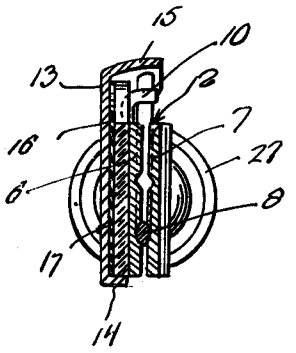




Fig. 3.

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# UNITED STATES PATENT OFFICE

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## ELECTRODE HOLDER FOR ELECTRIC-ARC WELDERS

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My invention relates to electrode holders for electric arc welders and has for its object to provide a simple and practical device of this character embodying a bifurcated plate of spring steel adapted to firmly secure one end of the electrode in adjusted angular position between the same, one of the sections of said plate having a lug formed thereon to provide a fulcrum for the engaged end of the electrode whereby to permit the same to be easily and quickly swung into its various angular positions, the inner end of said plate being formed into a threaded shank forming a convenient means for connecting an electric cable to the plate and for carrying an insulated handle for the operator of the tool.

A further object is to provide a guard plate covering one side of the electrode retaining plate and protecting the edges of said electrode plate as well as the lug formed thereon from contact with objects during the working of the tool whereby to prevent grounding of the current by said plate.

A still further object is to provide a tool of this character of simple, strong and durable construction, efficient and reliable in performance, relatively inexpensive to manufacture, and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the special construction, combination and arrangement of the various elements forming the invention as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein:

Figure 1 is a top plan view showing the tool in operative position.

Figure 2 is a longitudinal sectional view therethrough taken substantially along a line 2—2 of Figure 1, and,

Figure 3 is a transverse sectional view taken along a line 3—3 of Figure 1.

Referring now to the drawing wherein for the purpose of illustration I have disclosed a practical embodiment of my invention, I provide an electrode holder, a plate 5 formed of spring steel including a pair of bifurcated sections open at one end and along each side and constituting an inner section 6 and outer section 7 adapted to have one end of an electrode 8 inserted therebetween and retained thereby by virtue of the reflex action of said section. The inner face of each of the plate sections are provided with complementary grooves 9 and arranged at different angles on the plate and extending radially with respect to a lug 10 integrally formed at one end of one of said plate sections and extending transversely with respect to the edge of said plate.

The outer corner of the outer plate section 7 at the edge thereof adjacent the lug 10 is cut away as shown at 11 in Figure 1 of the drawing, with the under edge of said cut-away section bevelled as indicated at 12, more clearly illustrated in Figures 2 and 3. The lug 10 is spaced from the edge of the plate section to permit the electrode 8 to be inserted therebetween and by forcing the electrode under the bevelled edge 12, using the lug 10 as a fulcrum, the electrode will thus be forced between the plate sections 6 and 7 and seated in one of the grooves 9. This construction permits the outer end of the electrode to be easily and quickly moved into any desired angle with respect to the plate to adapt the tool for working under various conditions.

A metallic guard plate 13 is arranged at one side of the holder, said guard plate being of a substantially channel-shaped formation in cross section as shown in Figure 3 and provided with a flange 14 along one side thereof and a substantially arc-shaped flange 15 at its opposite side adapted to be spaced from the adjacent edge of the holder to accommodate the lug 10. The guard plate is arranged at that side of the holder adjacent the inner section 6 and has interposed therebetween a pair of insulation plates 16 and 17, the plates 16 being arranged adjacent the guard plate and secured thereto by screws 18 which also extend slightly into the plate 17 arranged adjacent the inner section 6 with the insulation plate 17 being secured at its outer edge to the inner section 6 by rivets 19 and at its inner end similar rivets which extend through both sections of the plate.

The inner end of the plate 5 is formed into a shank 20 having a threaded end 21, an an-

nular flange 22 being formed between the plate and the threaded end. The threaded end of the shank is adapted to be inserted in one end of an internally threaded sleeve 23, the opposite end of said sleeve having inserted therein the threaded end of a cable connector 24 to the outer end of which the cable 25 providing a suitable electric current is attached. A tubular handle 27 is arranged about the sleeve 23, said handle being formed of non-conductive material and as a further protection therefor an insulated sleeve 26 is interposed between the handle and the sleeve 23. The flange 22 is of sufficient diameter to abut against one end of the sleeve 26, the diameter of the flange and said sleeve being equal whereby to permit the handle 27 to be inserted over each thereof. In this manner a safe and adequate gripping surface is provided on the handle for the workman.

It is believed the foregoing description thoroughly discloses the construction and operation of the tool without further explanation thereof. It is obvious that the invention is susceptible to various changes and modifications without departing from the spirit thereof or the scope of the appended claims and I accordingly claim all such forms of the device to which I am entitled.

I claim:

1. In a tool of the class described, an electrode holder having means for selectively securing the electrode in adjusted angular position with respect to the holder and means formed on the holder for engaging the secured end of the electrode whereby to constitute a pivot therefor.

2. In an electrode holder, an electrode attaching plate having means carried thereby for securing the electrode in adjusted angular position and a lug formed on the plate and co-acting with the electrode constituting a fulcrum for moving the same into its various angular positions.

3. In an electrode holder, an electrode retaining plate, a lug formed at one side thereof, means carried by the plate extending radially from said lug for securing the electrode in adjusted angular position, said lug constituting a fulcrum cooperating with said electrode whereby to move the same into engagement by said retaining means.

4. In an electrode holder, a bifurcated plate having its sections formed of spring-like material and adapted to have one end of an electrode inserted therebetween, and a lug formed at one side of said plate, means extending radially from said lug adapted to secure the electrode in adjusted angular position with respect to the plate, said lug co-acting with the electrode to form a fulcrum for moving the former into various angular positions and a handle for the plate.

5. In a tool of the class described, an electrode holder comprising a bifurcated spring-steel plate adapted to receive one end of an electrode between the sections thereof, said sections of the plate having their inner faces provided with a plurality of grooves angularly arranged with respect to the plate, a lug formed at one edge of one of said plate sections extending transversely of the edge thereof in spaced relation therefrom, one of said plate sections having a cut-away bevelled corner adjacent said lug, said lug and said bevelled edge coacting to permit the electrode to be readily inserted between the sections of the plate, a guard plate at one side of the bifurcated plate, insulation plates interposed therebetween, a shank formed on the electrode plate having a threaded end for insertion in one end of an internally threaded sleeve, a cable connector threadedly carried in the opposite end of said sleeve and an insulated handle arranged on said sleeve.

In testimony whereof I affix my signaure.

CARL WAGLIE.