Sept. 28, 1937. S. M. HARVEY 2,094,121

ELECTRODE HOLDER

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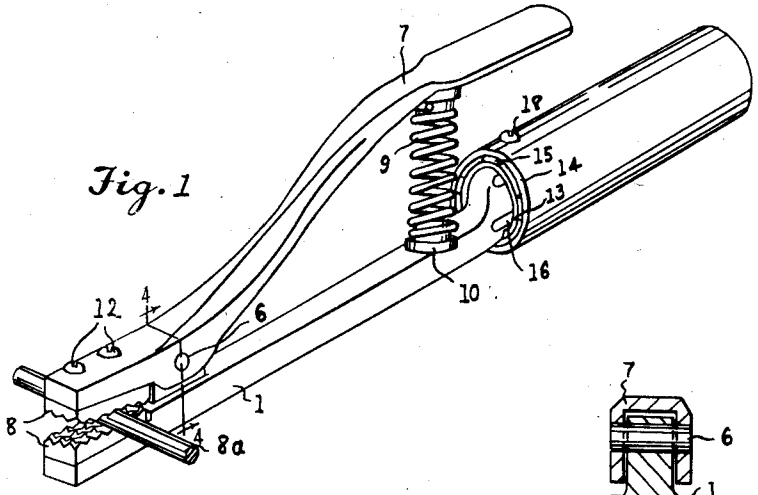


Fig. 1

Fig. 4

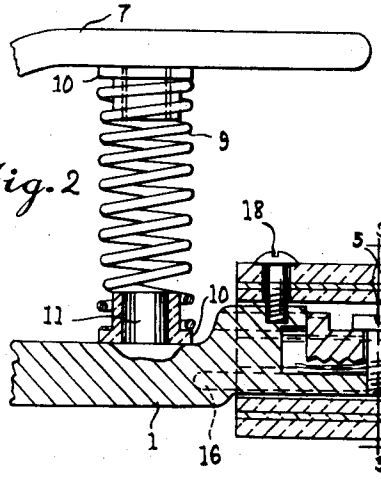
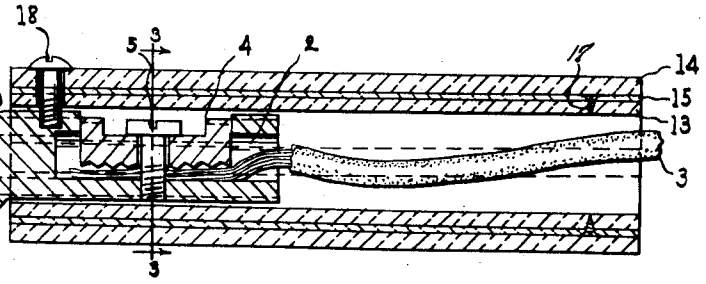


Fig. 2



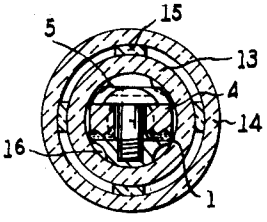


Fig. 3

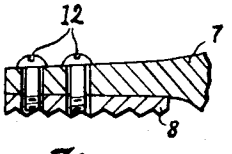


Fig. 5

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ELECTRODE HOLDER

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Application May 25, 1936, Serial No. 81,622

4 Claims. (Cl. 16—116)

This invention relates to holders for welding electrodes, and particularly holders having paired jaws for gripping an electrode.

An object of the invention is to provide an electrode holder with a handle having both electrical and thermal insulating properties, and formed with air passages materially increasing such properties.

Another object is to provide an electrode holder with readily removable and replaceable jaws for gripping an electrode.

A further object is to employ a spring urging the jaws together, and to safeguard such spring from overheating by use of suitable insulation.

These and various other objects the invention attains in the accompanying drawing, wherein:

Fig. 1 is a perspective view of the improved holder.

Fig. 2 is an enlarged axial sectional view of the rear portion of the holder, particularly showing the handle and spring thereof.

Fig. 3 is a cross sectional view of the handle, taken on the line 3—3 of Fig. 2.

Fig. 4 is a cross sectional view, taken on the line 4—4 of Fig. 1, and particularly showing the pivotal connection between the jaw-supporting members.

Fig. 5 is a sectional view showing the attachment of one of the jaws to the holder.

In these views, the reference character 1 designates an electrically conductive metal bar having an enlarged rear end portion and a socket 2 therein, receiving the bared end of a cable 3. To mechanically and electrically interconnect such cable and bar, it is preferred to mount a clamping lug 4 in a recess exteriorly formed in the bar and opening into the socket, and to engage such lug by a clamping screw 5 extending diametrically through the socket and tapped into the wall thereof opposed to said lug.

Pivoted on the forward portion of the bar 1 at 6 is a lever 7, preferably metallic, the front end portions of the lever and bar carrying a pair of jaws 8, coacting to grip a welding electrode 8a, the rear portion of the lever being offset from the bar to accommodate therebetween a coiled spring 9 imposing a suitable clamping force on the jaws. It is preferred to electrically and thermally insulate such spring from the holder by engaging the spring ends with abutments 10 of fiber or like insulation, carried by a pair of opposed bosses 11 on the lever and bar. The jaws are preferably secured to the holder by screws 12 tapped into the jaws but passing freely through openings in the holder, as best appears in Fig. 5. Thus, by shearing off the screw heads with a chisel, the jaws may be removed when damaged by heat, and new ones installed. Preferably the opposed faces of the jaws are serrated to assure their firm electrical connection with the gripped electrode. The serrations will cut through any coating carried by the electrode, and avoid detriment from poor conductivity of such coating.

The rear or socket portion of the bar 1 fits snugly into a handle providing both a thermal and electrical insulation for such bar. Thus the handle comprises inner and outer spaced coaxial tubes 13 and 14 formed of fiber or material of like insulating properties. The spaced relation of such tubes is established preferably by engaging therebetween a suitable number of spaced strips 15 of fiber or like insulation, extending substantially the full length of the handle, whereby a plurality of air passages, open at both ends of the handle, are formed between the tubes. Also it is preferred to form air passages between the bar 1 and embracing portion of the handle as by exteriorly forming the bar with a plurality of grooves 16 extending from the rear end of the bar and opening forwardly of the handle. The strips 15 are preferably secured in any desired manner to either or both of the tubes. Thus, as illustrated, the rear end portions of the strips are bradded to the tube 13 as indicated at 17. The described handle is preferably removable to afford access when desired to the clamping screw 5, and as illustrated is held in place by a screw 18 attaching its forward portion to the bar 1.

In use of the described implement, a hand gripping the handle is thoroughly insulated both thermally and electrically from the holder. Considerable heat is frequently induced in the bar 1 by transmission from the electrode, and the described air passages between the handle-forming tubes and between the handle and bar 1 assure almost complete dissipation to the atmosphere of such heat at the handle-engaging end of the implement.

The invention is presented as including all such modifications and changes as come within the scope of the following claims.

What I claim is:

1. A handle for implements subjected in use to heat, comprising inner and outer tubes spaced to form a heat-dissipating air space, and a plurality of spacer members interposed between the tubes, and extending substantially from end to end thereof.

2. A handle for implements subjected in use to

heat, comprising inner and outer tubes of insulating material and further comprising a plurality of strips interposed between and extending longitudinally of the tubes and forming heat-dissipating spaces within the handle.

3. A handle for implements subjected in use to heat, comprising inner and outer tubes formed of insulating material, and insulating means for spacing the tubes affording an air passage between the tubes substantially from end to end thereof.

4. A handle for implements subjected in use to heat, comprising inner and outer tubes of insulating material, and a plurality of strips of insulating material interposed between the tubes and extending longitudinally thereof, and means securing said strips to one of the tubes.

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