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D. BENDE

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ELECTRODE HOLDER

Filed Feb. 19, 1932

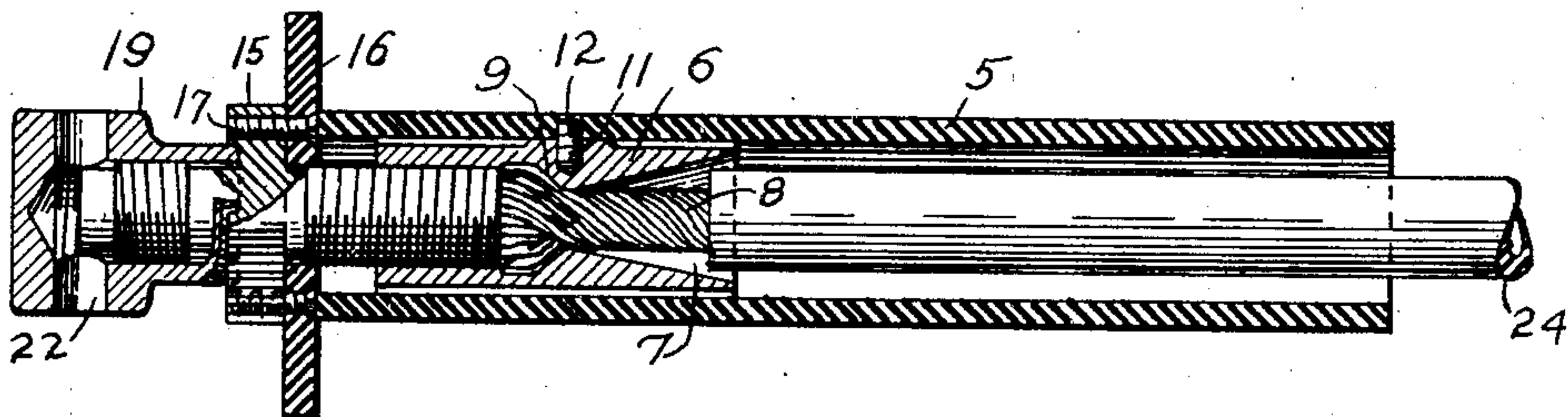


Fig. 1.

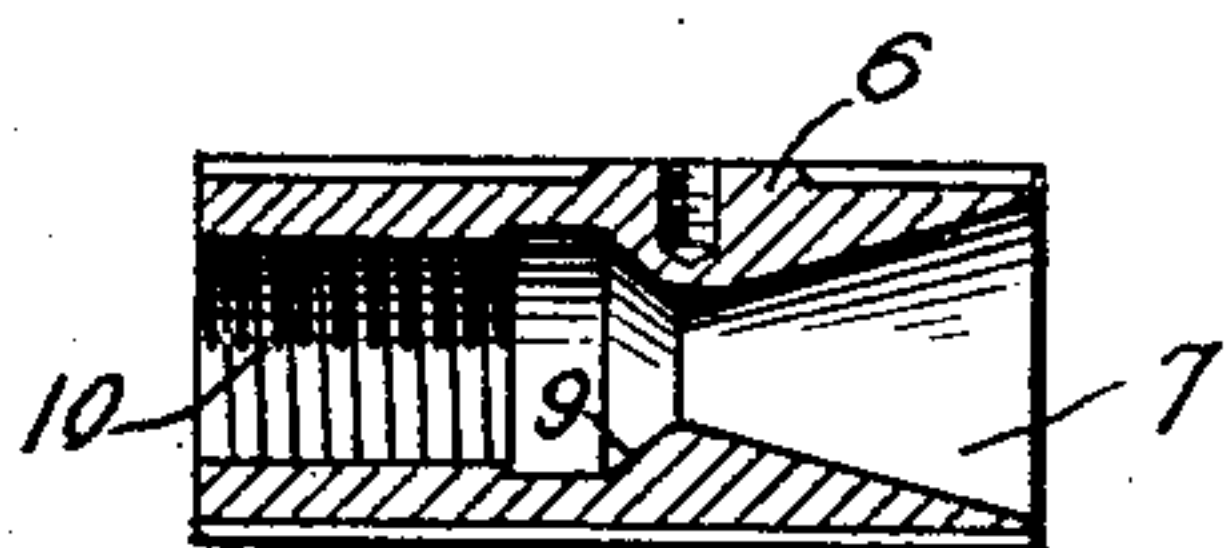


Fig. 2.

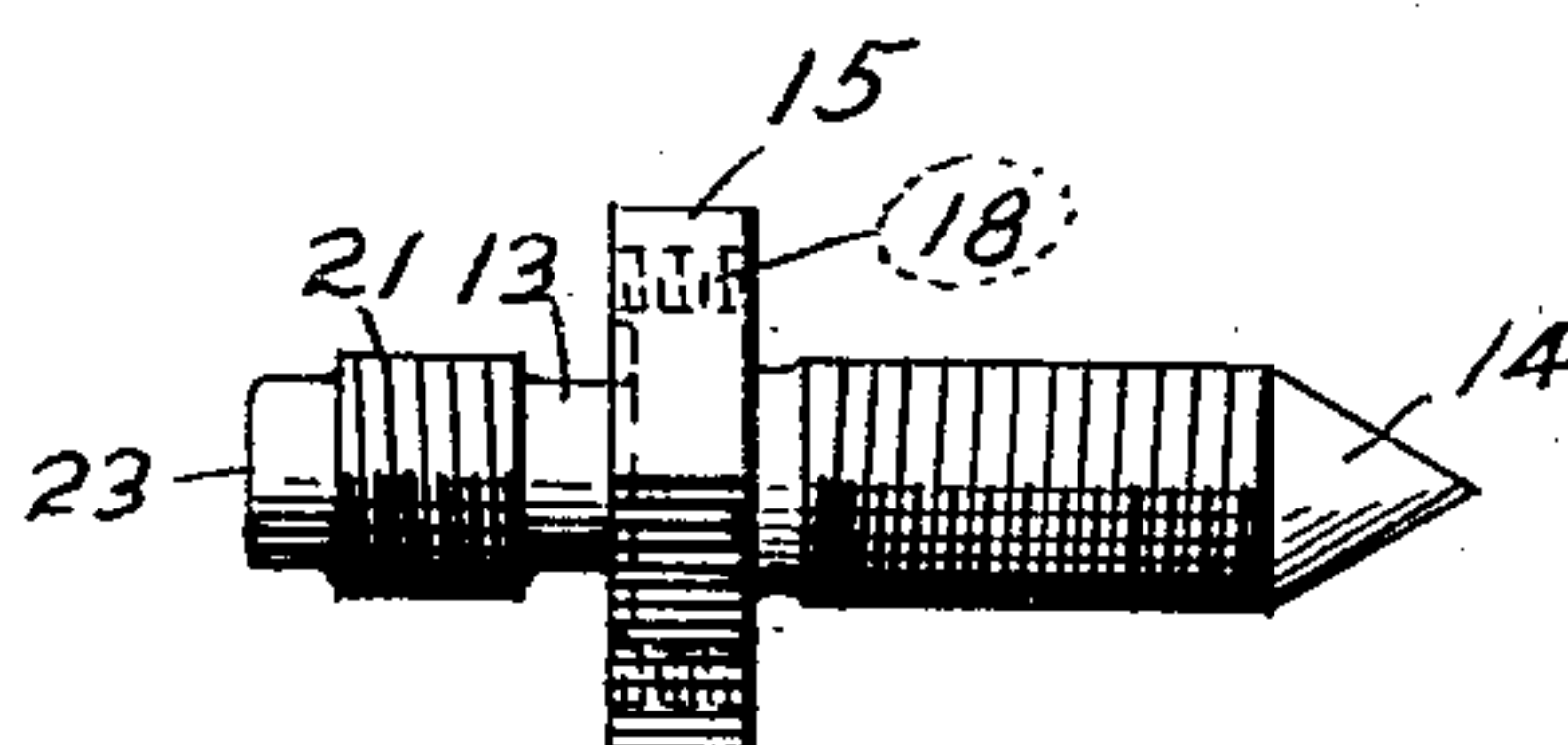


Fig. 3.

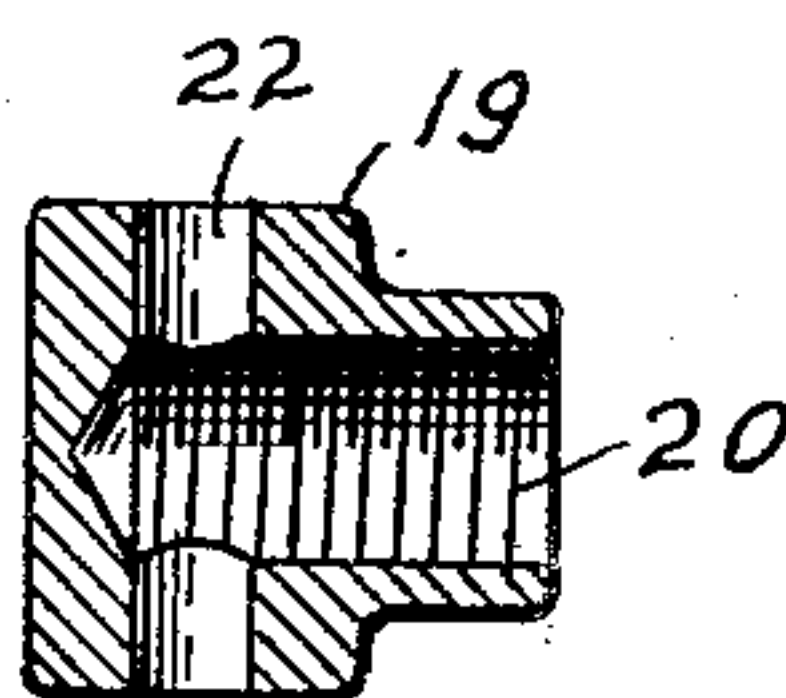


Fig. 4.

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# UNITED STATES PATENT OFFICE

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## ELECTRODE HOLDER

Application filed February 19, 1932. Serial No. 594,111.

(GRANTED UNDER THE ACT OF MARCH 3, 1883, AS AMENDED APRIL 30, 1928; 370 O. G. 757)

This invention relates to a holder for electrodes used in electric welding, and has for its object to provide a device of the class mentioned that is light in weight, simple in construction, and safe to use.

With the above and other objects in view, the invention consists in the construction, combination and arrangement of parts as will be described more fully hereinafter.

Reference is to be had to the accompanying drawing forming a part of this specification, in which like reference characters indicate corresponding parts throughout the several views, and in which:

Figure 1 is a longitudinal sectional view of my invention;

Figure 2 is a longitudinal sectional view of the expansion coupling that connects to the power supply cable;

Figure 3 is a side view of the member that conducts the electricity from the cable to the electrode;

Figure 4 is a sectional view of a cap that holds the electrode against the member shown in Figure 3.

The hollow handle 5 is made of suitable non-conducting material. Within the handle and adjacent one end thereof is a cable nut or expansion coupling 6, preferably of brass, having a portion 7 of its bore tapered to facilitate the insertion therein of cable 8 from which insulation 24 has been removed. The face 9 is steeply inclined against which the cable may be expanded by a suitable member engaged with threads 10 in the coupling to retain the cable in connection therewith. A headless set screw 11 passes through hole 12 in handle 5 and is engaged with coupling 6 to hold the coupling in position in the handle. A plurality of holes 12, spirally disposed, permit longitudinal adjustment of the coupling in the handle.

A member 13, also preferably of brass, is screwed into threads 10 of coupling 6. This member has a conical point 14 to separate the strands of cable 8 and bind them firmly against face 9 in the coupling. A polygonal portion 15 is provided to be engageable by a wrench to screw the member 13 into coupling 6. Hand guard 16 of insulating ma-

terial is secured to portion 15 by screws 17 in the threaded holes 18 in portion 15.

A cap 19 is internally threaded at 20 to engage threads 21 on the member 13 and has a transverse aperture 22 through which the welding electrode is passed, in which position it is used as a lever to screw cap 19 upon threads 21 until the electrode is firmly gripped between cap 19 and end 23 of member 13, thus establishing adequate electrical connection between the electrode and cable 8.

It will be noted that in this holder there are no springs; that connections to the cable are made without tools other than a small screw driver and a wrench; that the operator's hand is completely insulated from the power current; and that the balance of the holder is such that when laid down the guard 16 will prevent the contact of cap 19 with the surface on which it is laid.

It will be understood that the above description and accompanying drawing comprehend only the general and preferred embodiment of my invention, and that various changes in construction, proportion and arrangement of parts may be made within the scope of the appended claims, without sacrificing any of the advantages of my invention.

The herein described invention may be manufactured and used by or for the Government of the United States for governmental purposes without the payment of any royalty thereon.

I claim:

1. An electrode holder, comprising a hollow handle of insulating material, a coupling therein having a longitudinal bore whereof a portion is tapered and with a steeply inclined face having a slope opposite that of the said portion, the said bore being threaded adjacent said face; a member having a polygonal portion, a threaded portion on each side of said polygonal portion, and a conical tip at one end, the said tip being adapted to lie adjacent the sloping face of the coupling when one of the threaded portions of said member is screwed into the threads of the coupling; a cap having an internally threaded portion adapted to engage the other set



of threads on said member and an aperture adjacent the internally threaded portion to receive an electrode, means to secure the said coupling in position in said handle, and an insulating guard between said handle and said polygonal portion secured to said polygonal portion.

2. An electrode holder, comprising a hollow handle of insulating material, a coupling therein having a longitudinal bore whereof a portion is tapered and with a steeply inclined face having a slope opposite that of the said portion, the said bore being threaded adjacent said face; a member having a polygonal portion, a threaded portion on each side of said polygonal portion, and a conical tip at one end, the said tip being adapted to lie adjacent the sloping face of the coupling when one of the threaded portions of said member is screwed into the threads of the coupling; a cap having an internally threaded portion adapted to engage the other set of threads on said member and an aperture adjacent the internally threaded portion to receive an electrode, and means to secure the said coupling in position in said handle.

3. An electrode holder, comprising a hollow handle of insulating material, a coupling therein having a longitudinal bore whereof a portion is tapered and with a steeply inclined face having a slope opposite that of the said portion, the said bore being threaded adjacent said face; a member having a polygonal portion, a threaded portion on each side of said polygonal portion, and a portion to coact with said face to grip a cable; a cap having an internally threaded portion adapted to engage a set of threads on said member and an aperture adjacent the internally threaded portion to receive an electrode, and an insulating guard between said handle and said polygonal portion.

4. An electrode holder, comprising a hollow handle of insulating material, a coupling member therein, electrical conducting means to spread the strands of a cable and coact with said coupling to grip said strands, means to lock the conducting means relative to the handle, and an electrode receiving member adapted to coact with said conducting means to hold an electrode.

5. An electrode holder, comprising a hollow handle of insulating material, a coupling member therein having a tapered bore, electrical conducting means having a point to spread the strands of a cable and coact with said bore to grip said strands, and an electrode receiving member adapted to coact with said conducting means to hold an electrode.

6. An electrode holder, comprising a hollow handle of insulating material, a coupling member therein having a tapered bore, means to adjust the member within the handle, electrical conducting means coacting with said tapered bore to grip a cable, and an electrode

receiving member adapted to coact with said conducting means to hold an electrode.

7. An electrode holder, comprising a hollow handle of insulating material, a coupling member longitudinally and rotatably adjustable therein, electrical conducting means coacting with said coupling to grip a cable, means to lock said conducting means at various adjustments, and an electrode receiving member adapted to coact with said conducting means to hold an electrode.

8. An electrode holder, comprising a coupling member having a reversely tapered bore, an electrical conducting member coacting with one of the tapers of said member to grip a cable, an electrode receiving member adapted to coact with said conducting member to hold an electrode, and insulating means disposed around said coupling member to be grasped by an operator in manipulating the device.

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