April 28, 1953

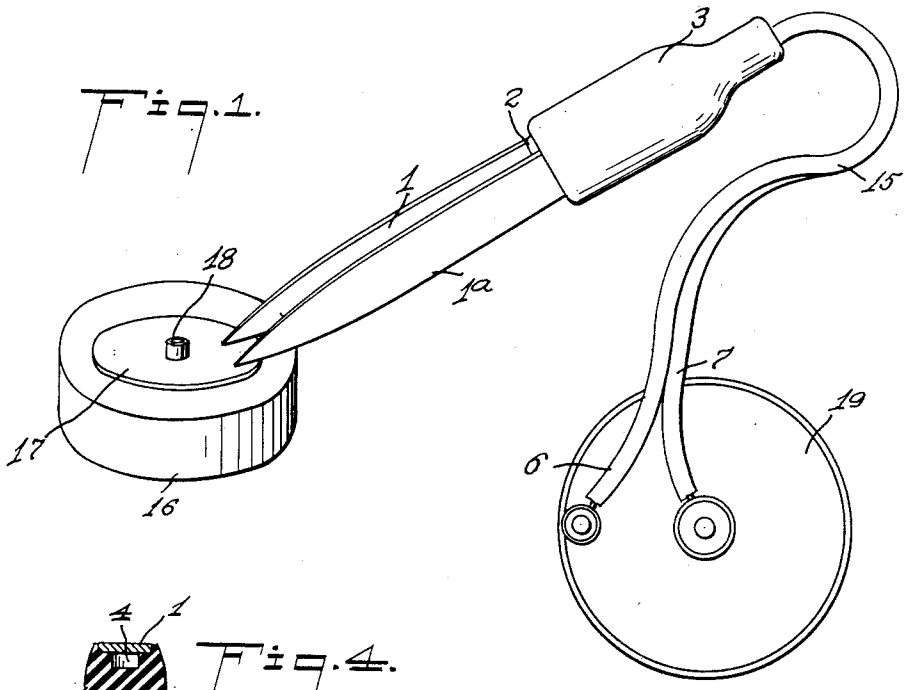
W. H. DELBROOK

2,636,971

ELECTRIC JEWEL SETTING DEVICE

Filed July 2, 1951

Fig. 1.



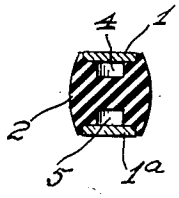


Fig. 4.

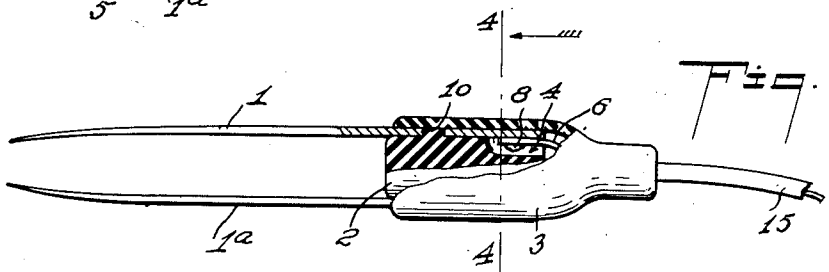


Fig. 2.

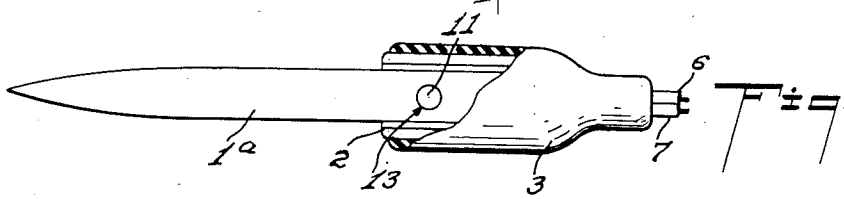


Fig. 3.

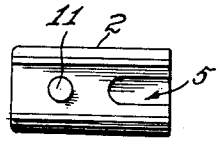


Fig. 5.

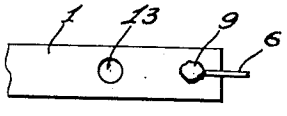


Fig. 6.

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ELECTRIC JEWEL SETTING DEVICE

William H. Delbrook, Glendale, Calif.

Application July 2, 1951, Serial No. 234,827

1 Claim. (Cl. 219—21)

1

The present invention relates to a device for heating jewels for the purpose of facilitating setting of such jewels in watches and other time pieces and also for annealing and soldering watch parts.

It has heretofore been accepted practice for the purpose of watch repairing and jewel setting to employ an alcohol lamp and while such device may be satisfactory in some cases it is generally found that the heat generated by the device is too intense and that for this reason the danger is always present of bluing or even annealing the part operated upon. It is, in view of the foregoing, the object of my invention to provide a very simple and inexpensive, electrically energized hand tool which may be applied directly to the part to be heated. It is a further object to provide, in combination with such device, a jewel support or anvil which, upon applying the tool of the invention thereto, becomes heated to transmit the heat to the jewel or jewel setting placed thereon which is required to melt or soften the shellac or other thermo-plastic material used in setting the jewel. A further object of the invention is to provide an electrically energized device which may be applied directly to the watch part to generate therein the amount of heat required for annealing or soldering purposes. These and other objects of the invention, together with the many advantageous features thereof will be appreciated upon perusal of the following detailed description and by referring to the accompanying drawing in which a preferred form of the invention is illustrated.

In the drawing:

Fig. 1 shows the device of the invention manually maintained in contact with the anvil upon which a jewel or jewel setting is held supported;

Fig. 2 is a side view of the device with portions thereof broken away in order better to illustrate the interior construction thereof;

Fig. 3 is a similar view taken at right angles to Fig. 2 with a portion of the outer casing thereof broken away for the sake of clearness;

Fig. 4 is a cross-sectional end view of the device taken substantially on line 4—4 of Fig. 3 in the direction of the arrow;

Fig. 5 is a side view of the interior central member of the device; and

Fig. 6 shows one of the current conducting members of the invention.

The device of the invention in the form shown in the drawing has a general appearance of a pair of tweezers, which is held mounted within an insulating casing and to which current from

2

a source of electric energy is applied. These tweezers are made in the form of a pair of blades 1, 1a, of suitable resilient, current conducting material, which are mounted upon a central support member 2 and held removably locked in position thereon by means of a tubular cover 3. The central member 2 is made from suitable heat and current insulating material and it is, along opposite sides thereof, recessed to form seats for the blades 1, 1a of the device. As best shown in Figs. 2 and 5, the inner ends of these recesses are notched to provide clearance for the current transmitting conductors 6 and 7 and for the lumps 8 and 9 which will accumulate at the place where the conductors are soldered in position on the inner surfaces of the blades. Within the recesses of the central member and nearer the outer end thereof are provided bosses 10, 11 projecting from the surfaces of the recesses in opposite directions and of a size snugly to fit into perforations 12, 13 of the blades. However, if preferred, short screws may be extended through the perforations to lock the blades in position.

When the parts are constructed and proportioned in such manner, it is found that the blades of the tweezers may be pushed into the recesses of the central member, whereupon a tubular cover 3, which has previously been applied to the end of the wire cable 15, may be pushed on to the assembled parts to lock them firmly in position therein. This cover may be made from a rubber composition of the proper consistency to maintain the assembled parts firmly in position and the central member 2 should be made from a suitable current and heat insulating material.

The jewel support, or anvil includes a block 16 of wood or other heat and current insulating material upon which a thin disc 17 of copper or other good current conducting material is rigidly mounted. This disc or anvil should be of a size to support thereon the jewel or jewel setting to be heated, substantially as indicated at 18, and in cases where this part is to receive heat sufficient merely to melt or soften the composition used for setting purposes, it is required to move the pointed ends of the blades 1, 1a into contact with the anvil and to maintain the blades in contact with the anvil until the setting composition is sufficiently softened. The blades are then withdrawn and the jewel setting may be transferred to the watch; but in cases where greater heat is required, as for annealing or soldering purposes, the blades are applied directly to the part to be worked on and maintained in position thereon until sufficient heat has been generated

in the part. The source of energy for these purposes may be a common dry battery 19 on the proper current capacity or the current may, of course, be taken from the ordinary light circuit by cutting into the circuit a suitable transformer. This may be a more desirable arrangement in places where several workmen are employed and where each man is provided with his own heating device.

I claim:

An electric heater for watch parts and jewels comprising, a pair of resilient current conducting blades having perforations nearer the inner ends thereof, a central support member made of resilient heat and current insulating material and lengthwise recessed on opposite sides thereof to form seats for said blades, there being in said recesses at the inner ends thereof notches and nearer the outer ends of the recesses outwardly projecting bosses fittingly engaging the perforations of the blades to lock the parts against relative longitudinal displacement, current conductors fastened to the inner surfaces of the blades and seated within said notches, and a resilient current insulating tubular cover for locking the blades firmly in position within the recesses.

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