Feb. 2, 1926. 1,571,836

H. J. HOCKERSMITH ET AL

SOLDERING IRON

Filed May 14, 1924 2 Sheets-Sheet 1

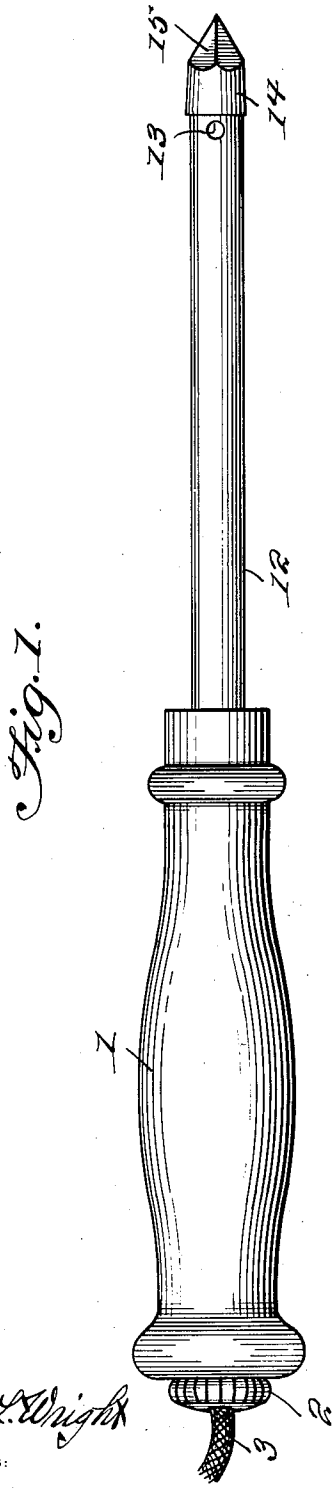


Fig. 1.

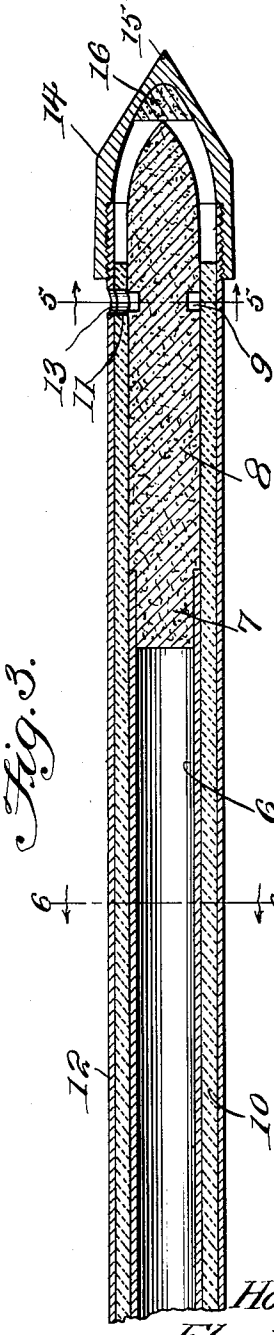


Fig. 3.

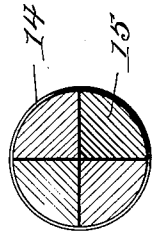


Fig. 7.

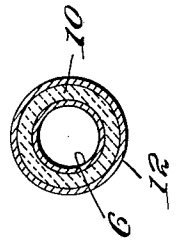


Fig. 6.

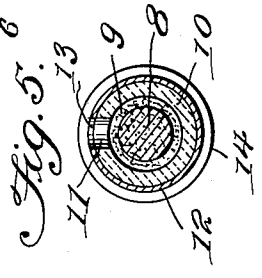


Fig. 5.

Howard J. Hockersmith
Floyd McArgerbright
INVENTOR

BY Victor J. Evans
ATTORNEY

J. L. Wright
WITNESS:

Feb. 2, 1926. 1,571,836

H. J. HOCKERSMITH ET AL

SOLDERING IRON

Filed May 14, 1924 2 Sheets-Sheet 2

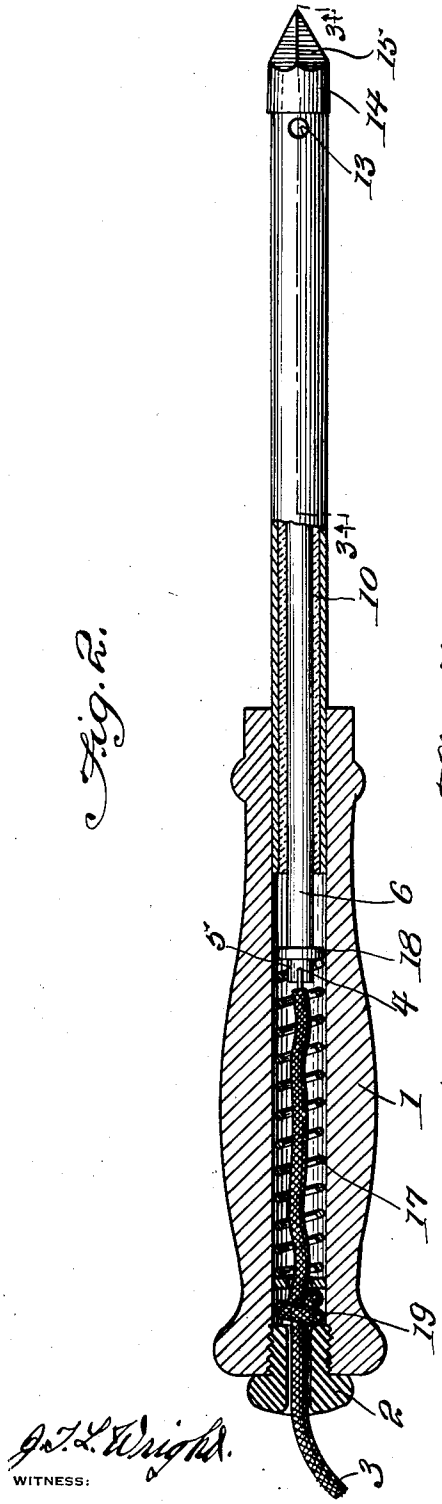


Fig. 2.

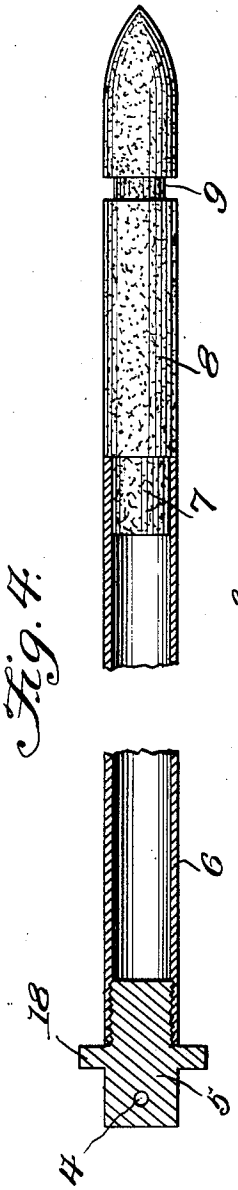


Fig. 4.

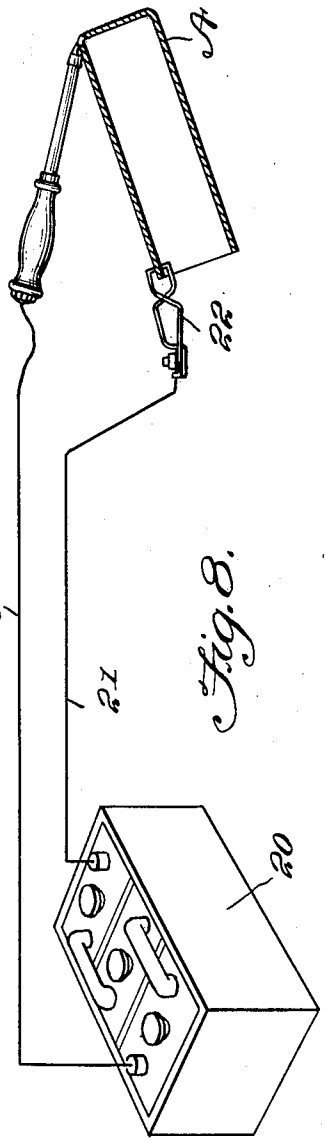


Fig. 8.

Howard J. Hockersmith
Floyd McArgerbright
INVENTOR

BY Victor J. Evans
ATTORNEY

J. L. Wright.
WITNESS:

Patented Feb. 2, 1926. 1,571,836

UNITED STATES PATENT OFFICE.

HOWARD J. HOCKERSMITH AND FLOYD M. ARGERBRIGHT, OF GREAT FALLS, MONTANA; SAID ARGERBRIGHT ASSIGNOR TO SAID HOCKERSMITH.

SOLDERING IRON.

Application filed May 14, 1924. Serial No. 713,288.

To all whom it may concern:

Be it known that we, HOWARD J. HOCKERSMITH and FLOYD M. ARGERBRIGHT, citizens of the United States, residing at Great Falls, in the county of Cascade and State of Montana, have invented new and useful Improvements in Soldering Irons, of which the following is a specification.

Our present invention has reference to a soldering iron primarily devised for use by automobilists and designed to be heated from the battery of the automobile.

Another object is the construction of a soldering iron that may be attached to and receive heat from any storage battery, in which the current may be broken by the removal of one of the circuit wires from the article being soldered, and further one in which the heat of the iron can be observed and regulated.

With the above broadly stated objects in view and others which will appear as the nature of the invention is better understood, reference is to be had to the drawings which accompany and which form part of this application.

In the drawings:—

Figure 1 is a plan view of a soldering iron in accordance with this invention.

Figure 2 is a side elevation with parts broken away and parts in section.

Figure 3 is a sectional view on the line 3—3 of Figure 2.

Figure 4 is a plan view of the carbon resistance rod and the metal casing therefor.

Figure 5 is a sectional view on the line 5—5 of Figure 3.

Figure 6 is a sectional view on the line 6—6 of Figure 3.

Figure 7 is an end view of the point of the iron.

Figure 8 is a diagrammatic view illustrating the improvement in use.

As disclosed by the drawings we make use of a handle 1 of wood or other electric resisting material. Screwed in one end of the handle there is a plug 2 and passing through this plug is one of the electric conductors, indicated by the numeral 3. The conductor is wrapped in insulating material and the handle 1 has a bore that extends throughout its length. The conductor 3 has its inner end let in an opening 4 in a metal plug 5, the said plug being screwed in a metal sleeve 6. The sleeve projects a suitable distance through the handle 1, and receives in its outer end the reduced inner portion 7 of the electric resistance rod 8. The rod is in the nature of a stick of carbon, has its outer end pointed and inward thereof is provided with an annular groove 9. Around the metal tube 6 and the carbon electrode 8 we arrange a tube 10 which is comparatively thick and which is of insulating material. The tube 10 has an opening 11 disposed opposite the groove 9 in the carbon stick 8. The tube of insulating material 10 is covered by a thin metal sleeve 12, the same being provided with an opening 13 that aligns with the opening 11 and with the groove 9. The thin metal sleeve 12 extends a suitable distance beyond the insulating tube or sleeve 10, and has screwed thereon the cylindrical body portion 14 of the copper point 15 of the iron. In the point end of the iron tip 15 there is a small carbon member 16 that contacts with the carbon electrode. The carbon is forced into engagement with the element 16 through the medium of a spring 17 arranged in the hollow bore of the handle and contacting with a flange 18 on the plug 5 and with a knot 19 that is formed on the conductor 3 at the portion thereof in the handle and in contacting engagement with the plug 2. By providing the carbon electrode with a groove 9 the space thus provided between the body and the point of the said electrode offers a resistance or heat baffle for the electric current so that the heat will not too quickly spread the full length of the electrode.

The conductor 3, as disclosed in Figure 8 of the drawings is designed to be connected to one pole of a storage battery 20. A second conductor 21 is connected with the opposite pole of the battery. This conductor 21 carries at its outer end a spring clip 22 designed to be clamped on the article A to be soldered. It will be thus noted that the circuit is completed between the battery, the metal article A and the soldering iron. The current can be instantly broken by raising the copper tip 15 of the soldering iron out of contact with the metal body A. The degree of heat can be observed through the aligning openings 13 and 11 which communicate with the groove 5 in the carbon or resistance electrode. The iron will be practically instantly heated when connected with

the battery and with an article to be soldered. It is to be noted that the electric current is met with high resistance at the point of the electrode 8 and the insert 16 in the tip 14. The heat thus created will heat the tip to a soldering temperature in about 30 seconds.

Having described the invention, we claim:—

In an electrically heated soldering iron, a hollow copper tip, a carbon block therein, a metal sleeve connected to the tip, a tube of insulating material in the sleeve, a metal sleeve in the tube, a carbon stick carried by said sleeve having a pointed end designed for contact with the carbon strip in the tip, said stick having an annular groove, and said first mentioned sleeve and insulating tube having openings aligning with the groove, a hollow handle to which the first mentioned sleeve is connected and in which the last mentioned sleeve and the insulating sleeve is received, a metal block on the inner end of the last mentioned sleeve, and spring means between the handle and the plug for influencing the sleeve to force the tip of the carbon stick against the carbon block.

In testimony whereof we affix our signatures.

HOWARD J. HOCKERSMITH.
FLOYD M. ARGERBRIGHT.