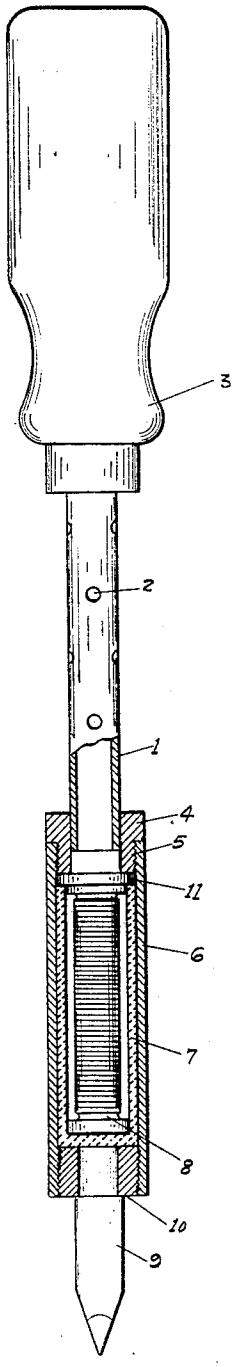
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ELECTRIC SOLDERING IRON

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ELECTRIC SOLDERING IRON.

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This invention relates to improvements in electrical soldering irons. One of the great difficulties encountered in the manufacture of electric soldering irons, is in the construction of the heating unit per se, due to the fact that the heating unit is enclosed and thereby subject to extreme changes in temperature. Another difficulty encountered in the past construction of electric soldering irons, is that of insulating the heating unit from the shell within which is is enclosed.

It is therefore, the principal object of my invention to provide a construction, in which the above difficulties are overcome.

Another object of my invention is to provide a construction which will generally improve the efficiency of the iron, and reduce its cost of manufacture. Other objects will be discerned by one skilled in this art, after reading the specifications taken in connection with the annexed drawing, in which:

Figure 1, is a view of one form of my iron, certain parts being shown in section.

In the drawing 1, is a stem, preferably of metal and having perforations 2, therein to assist in cooling the stem so that the amount of heat conveyed to the handle 3, is reduced to a minimum. One end of the stem 1, is provided with a bushing 4, to which is fastened, in any satisfactory manner, as by screw thread 5, a shell 6, of suitable metal, within the shell 6, is carried a cup-shaped insulator or protector 7, and carried within the insulator 7, is the heating unit "8" comprising an insulator on which the resistance or heating wire is adapted to be wound. The wire and its terminal connections leading out through the handle 3, are, for the purpose of clarity, not shown, it being understood that wire is wound on the insulator 8, and the lead in wires connected thereto in a well-known and satisfactory manner. Through the outer end of the shell 6, is adapted to be fastened a soldering point 9; as illustrated the point 9, is mounted in any satisfactory manner in a bushing 10, and this is screw-threaded into the ends of the shell, and abutting against the end of the cup-shaped insulator 7, forcing the upper end of the same into engagement with a flange 11, of the heating unit 8.

The material used in making the member 7, closely resembles porcelain in appearance, and has the advantage that it can be machined, before it is put through a process for hardening it. The insulator 8, which comprises the form on which the heating wire is wound is also of the same material as the cup-shaped member 7.

From what has been said, it will be understood that the insulating material used in constructing the core of heating unit 8, and the protector 7, is of a different material than ordinarily used heretofore. This material as has been stated is capable of being machined before it is hardened, and after it is hardened is extremely strong and will stand much abuse. The product is known in the trade as "Isolantite," but I believe I am the first to adapt its use to the construction of electric soldering irons, particularly as in the manner herein disclosed, and as set forth in the appended claims.

Having thus described my invention, what I claim is:

1. In an electric soldering iron having a handle and a stem carried by the handle, a heating unit comprising an insulator adapted to carry resistance wire, a cup shaped insulator carrying said heating unit, a shell attached to the stem and surrounding said cup shaped insulator and a metallic tip detachably attached to the outer end of the shell and engaging the bottom of said cup shaped insulator to hold the same in position within the shell.

2. In an electric soldering iron having a handle and a stem carried by the handle, a heating unit comprising an insulator adapted to carry resistance wire, said insulator having a flange at its stem end, a cup shaped insulator carrying said heating unit so said flange rests on the rim of the cup, a shell attached to the stem and surrounding said cup shaped insulator and a tip detachably carried by the outer end of the shell and acting to hold said cup shaped insulator against said flange of the first insulator substantially as described.

3. In an electric soldering iron having a handle and a stem carried by the handle, a heating unit comprising an insulator adapted to carry resistance wire, said stem having a bushing attached to its outer end and said insulator having a flange, the outer face of which is adapted to engage said bushing, a cup shaped insulator carrying therein said heating unit so the inner side of said

flange rests on the rim of the cup, a shell attached to said bushing on the stem and surrounding the cup shaped insulator and a tip carried by the shell so as to put some pressure on the bottom of the cup to hold said heating unit flange against its seat on said bushing and the rim of said cup insulator against the flange as described.

4. In an electric soldering iron having a handle and a stem carried by the handle, a heating unit comprising an insulator adapted to carry resistance wire, an insulator surrounding the heating unit and acting as a protector thereof, means for holding the last mentioned insulator to the stem including a shell carried by the stem and a tip having a cooperating part screw threaded through the outer end of the shell against the last mentioned insulator so contact therewith may be completed with the end of the heating unit.

In testimony whereof, I affix my signature.

LEON S. BRACH.