

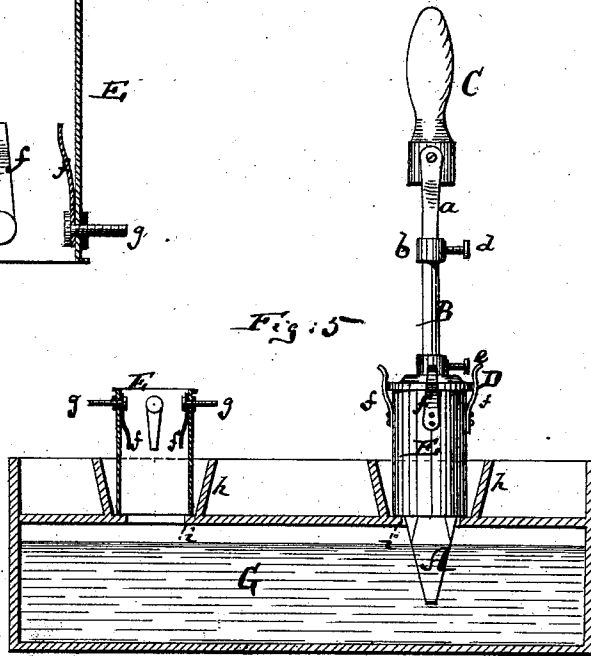
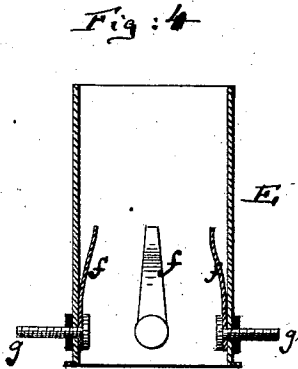
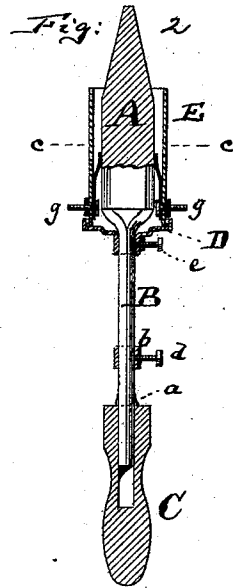
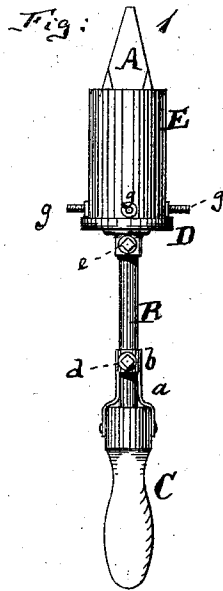
(No Model.)

C. F. SCHWARZ.

SOLDERING IRON.

No. 294,407.

Patented Mar. 4, 1884.



Witnesses:

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UNITED STATES PATENT OFFICE.

CHARLES FREDERICK SCHWARZ, OF CORONA, NEW YORK.

SOLDERING-IRON.

SPECIFICATION forming part of Letters Patent No. 294,407, dated March 4, 1884.

Application filed September 11, 1883. (No model.)

To all whom it may concern:

Be it known that I, CHARLES FREDERICK SCHWARZ, a resident of Corona, in the county of Queens and State of New York, have invented an Improved Soldering-Iron, of which the following is a full, clear, and exact description, reference being made to the accompanying drawings, in which—

Figure 1 is a side view of my improved soldering-iron. Fig. 2 is a central longitudinal section of the same. Fig. 3 is a cross-section of the same taken on the line *c c*, Fig. 2. Fig. 4 is an enlarged longitudinal central section of the sleeve that is placed around the soldering-iron. Fig. 5 is a vertical sectional view of the acid-pot, showing the soldering-iron in position to be cleaned by the acid and for receiving the sleeve.

This invention relates to improvements in the construction of soldering-irons, and to attachments by which the efficiency of said irons is enhanced.

The principal object of the invention is to prevent the formation of sparks that are thrown off ordinary soldering-irons between the tinned soldering portions thereof and the handles. Such sparks, in places where the irons are used for soldering packages that contain explosive substances, are liable to cause explosion, and have been the cause of explosions.

Another object of the invention is to prevent the heat from being rapidly absorbed by the surrounding atmosphere from the iron; also, to insure a proper attachment of the iron to the handle.

The invention consists, principally, in supplying the soldering-iron with a detachable or movable sleeve, which surrounds all that portion of the heated iron that is not actually used for the purpose of soldering.

The invention also consists in other details of improvement that are hereinafter more fully specified.

In the accompanying drawings, the letter A represents a soldering-iron of the ordinary character, or of any suitable form or construction. B is its shank, which is fastened in suitable manner to the iron A. C is the handle, which is fastened to the shank B, according to

one feature of my present invention, by means of the straps *a*, ring *b*, and screw *d*—that is to say, the straps *a*, of which there may be two or more, are fastened by suitable pins to the handle C, as is indicated in Figs. 1 and 5, and at their free ends they carry the ring *b*. The shank B is slipped through this ring and into the hollow handle, as is shown in Fig. 2, and is then fastened to the screw *d*. This screw will allow the distance between the handle C and the soldering-iron A to be regulated at pleasure, and it can also be properly set to prevent the iron and its shank from slipping out of the handle.

The shank B carries near the soldering-iron a disk-flange, D, which is fastened to the shank B by a set-screw, *e*, and which overhangs the iron A, being intended to receive and fit the end of the movable sleeve E, which can be put around the soldering-iron, so as to rest on the flange-disk D, as shown in Figs. 1 and 2. The sleeve E, which may be made of sheet metal or other appropriate material, and of suitable form in cross-section, is shown to be provided with internal springs, *f*, by means of which it is held on the iron A when slipped over it, as in Fig. 2. In this position it still allows the soldering-point of the iron A to protrude sufficiently for use in soldering, yet it incloses all that part of the soldering-iron which, not being tinned, is liable to throw off sparks, and which, by means of the sleeve, is prevented from throwing sparks into places where they can cause explosion. The sleeve also protects the iron against rapid loss of heat, because it confines an air-space around the iron, and has the further advantage that it causes careless operators, who are in the habit of holding their soldering-irons nearly at right angles with the face to be soldered, to hold the irons in the proper upright position. As the iron wears off, the disk-flange D can be adjusted on the shank, to allow the requisite portion of the iron always to project from the open end of the sleeve E. It is essential that the sleeve E should be detachable or removable from the iron A when the latter is to be heated. To this end the sleeve E may be rigidly connected to the disk-flange D, and caused to slide back

toward the handle C whenever the iron is put into the fire, in which case a suitable stop may be provided either on the shank B or within the sleeve, to cause it to slip over the iron as far as desired; but a better construction for the sleeve is shown in the drawings; and it consists in leaving the disk-flange D attached to the stem or shank B, while the sleeve E is completely removed. To facilitate this removal, the sleeve E has an outwardly-projecting pin or pins, *g*, which, for economy of construction, may also be the fasteners for the springs *f*. These pins will enable the operator to push the sleeve off the soldering-iron by means of his stick of solder, or otherwise, whenever the iron is to be placed in the fire, and to slip it on again when it is needed in soldering. One means of facilitating the rapid application of the sleeve to the iron is shown in Fig. 5. Here the letter G represents the acid-pot, into which the heated iron must be dipped, in order to be cleaned before using it for soldering, and this acid-pot is provided with funnel-like extensions *h*, having lower base-flanges, *i*.

The operator who handles the soldering-iron having the improved sleeve E thereon, will, when he desires to heat the iron, first insert it, together with the sleeve, in one of the funnels *h* of the acid-pot, so that the lower end of said sleeve will rest on the flange *i*. Then by pressing on one of the pins *g*, the attendant will hold the sleeve in that position and withdraw the soldering-iron therefrom. The sleeve will then stand in the funnel *h* of the acid-pot, as shown at the left-hand side of Fig. 5. After the soldering-iron has been heated, it is immediately inserted through said standing sleeve into the acid-pot, so as to dip into the acid in the manner indicated at the right-hand side of Fig. 5, and its point is thus cleaned, and thereupon the iron being taken up will take the sleeve E with it. It is not essential that the springs *f* should be within the sleeve E, as in Fig. 4. They may be on the outer side of said sleeve, so as to bear against

the rim of the disk-flange D, in which case the pins *g* may be dispensed with. It would also be within the scope of my invention if the sleeve E were rigidly connected to the flange D, the latter being allowed to be freely movable on the stem or shank B. The sleeve may be made with straight walls, as shown, or tapering. It prevents the throwing off of sparks and assists in keeping the iron itself hot for a longer period than it would be without such a sleeve. As the iron wears smaller, the rest for the movable sleeve on the shank of the iron, which, in the construction shown, is the disk-flange D, can be set so as always to leave the requisite length of iron protruding from the sleeve.

The invention is applicable to all shapes and kinds of soldering-iron.

I claim—

1. The combination of the hollow handle C with the straps *a*, ring *b*, screw *d*, shank B, and soldering-iron A, substantially as and for the purpose specified.

2. The combination of the soldering-iron A with the movable sleeve E, which is adapted to surround a portion of the soldering-iron, but not the soldering-point thereof, substantially as described.

3. The combination of the soldering-iron A with the movable sleeve E and movable flange D, substantially as herein shown and described.

4. The combination of the soldering-iron A with the movable sleeve E and retaining-springs *f*, substantially as described.

5. The combination of the soldering-iron A with the movable sleeve E, retaining-springs *f*, and projecting pin or pins *g*, substantially as herein shown and described.

6. The combination of the soldering-iron A and its removable sleeve E with the acid-pot G, having funnel-like projection *h* and supporting-flange *i*, substantially as specified.

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