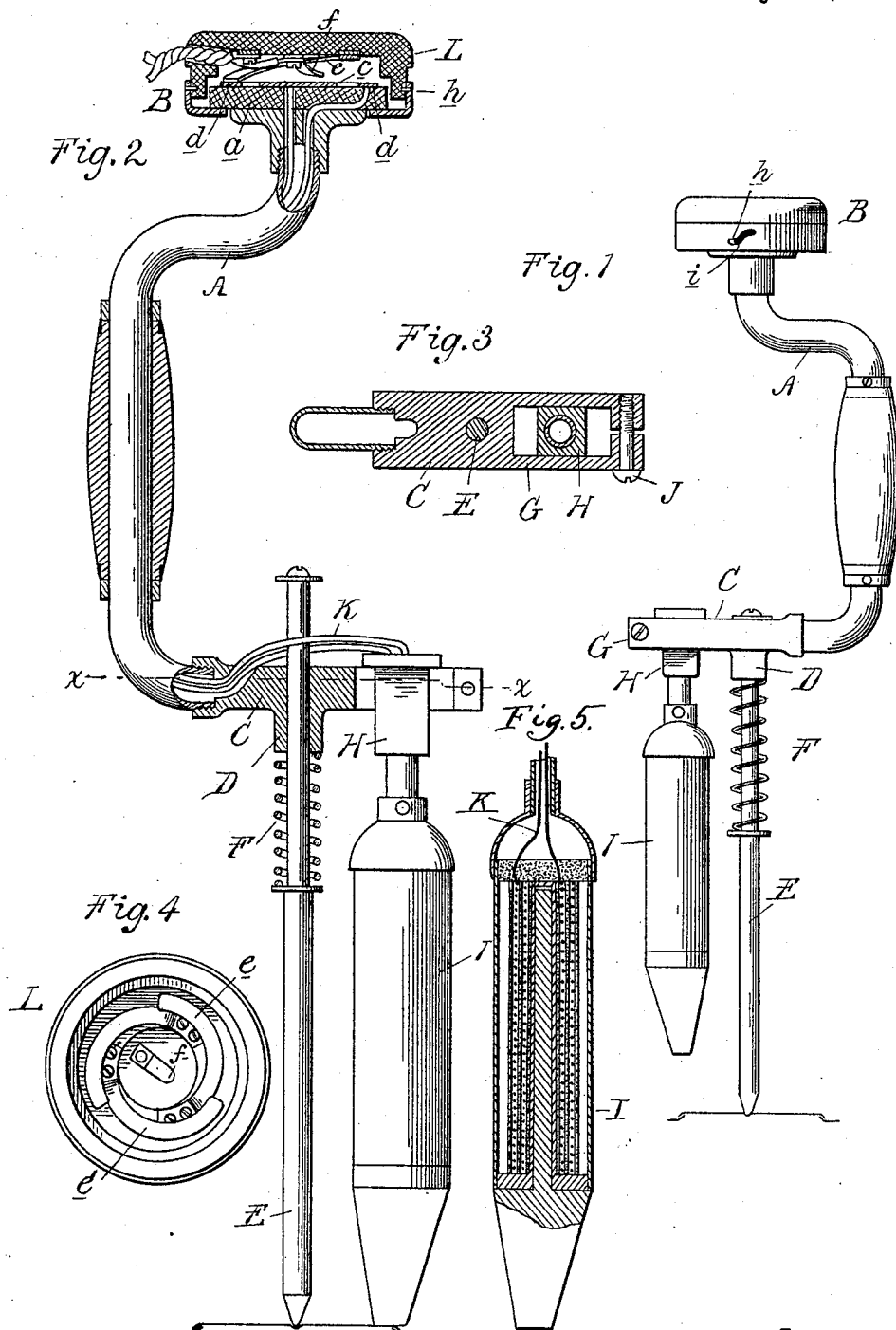


(No Model.)

F. B. RAE.
ELECTRIC SOLDERING IRON.

No. 543,654.

Patented July 30, 1895.



Witnesses:
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UNITED STATES PATENT OFFICE.

FRANK B. RAE, OF DETROIT, MICHIGAN, ASSIGNOR TO CHARLES L. COFFIN,
OF SAME PLACE.

ELECTRIC SOLDERING-IRON.

SPECIFICATION forming part of Letters Patent No. 543,654, dated July 30, 1895.

Application filed September 18, 1894. Serial No. 523,405. (No model.)

To all whom it may concern:

Be it known that I, FRANK B. RAE, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Electric Soldering-Irons, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention consists in the peculiar construction of an electric soldering-iron for cans, &c., comprising a fixed standard or rod, upon which the soldering-iron is pivoted and turns, with means for revolving it about the fixed standard in the circular path while maintaining the current to heat the soldering-iron at all times.

The invention further consists in the peculiar construction, arrangement, and combination of the various parts.

In the drawings, Figure 1 is a side elevation of my improved device. Fig. 2 is an enlarged sectional elevation showing the parts in a little different position from that shown in Fig.

1. Fig. 3 is a horizontal section on line *xx*, Fig. 2. Fig. 4 is a bottom plan of the swiveled top, showing the construction and arrangement of the contact-springs. Fig. 5 is a longitudinal sectional view of the soldering-iron, showing the interior construction thereof.

A is a brace, preferably tubular and having the usual handle. At its upper end it is provided with the top B and at its lower end with a bracket or foot C. In line with the central point of the top, and slidingly engaging in a bearing D of the bracket C, is the supporting-standard E, preferably a rod, having a shoulder or washer above or below the bracket C and a spring F sleeved over the standard between the bracket and the lower washer to normally hold the point or rod E in its lowest position, as shown in Fig. 1.

The foot or bracket C beside the point is provided with a split bearing G, in which the supporting-block H of a soldering-iron I engages. This block is preferably rectangular and is adjustable to and from the supporting-point, and may be held in its adjusted position by clamping it in its bearing through the medium of the clamping-screw J.

In the normal position of the parts the lower end of the rod or supporting-standard E is below the lower end of the soldering-iron, and to put it in operation the operator presses down on the brace to compress the spring F and thus lower the soldering-iron upon the seam.

It will be evident that by turning the brace when the parts are in this position (shown in Fig. 2) the soldering-iron will take a circular path about the support and that the size of the circle may be adjusted as desired by adjusting the soldering-iron in or out in its bearing.

The soldering-iron shown is preferably an electric soldering-iron of any desired construction; but in Fig. 5 I have illustrated the construction of a preferred form of heating means.

K are the electric conductors for conveying the current to the soldering-iron, and they are preferably passed through the tubular crank of the brace, as plainly shown in Fig. 2, and terminate on the block *a* within the head B in contact-strips *c* and *d*.

L is a swiveled cap carrying the contact-springs *e* and *f*, as shown in Figs. 2 and 4. This swiveled head is made in two parts, the lower section engaging beneath the block *a* and the two parts having telescopic or adjustable connection through the medium of the pin *h* working in the inclined or cam-shaped slots *i*.

The operation of these parts is as follows: When the two sections of the swiveled top are turned in relation to each other, the pin *h*, working in the slot *i*, will raise or lower the contact *f* from the terminal *c*, and thereby break the circuit, or the reverse movement will close the circuit and without in any way affecting the continuous contact during the operation of the device.

In the operation of the device the operator applies the necessary power upon the swiveled head, which compresses the spring F and lowers the soldering-iron upon the seam. Then turning the brace the soldering-iron will take the necessary circular path about the standard.

While I have shown the brace construction as one of the most desirable which could be used in this connection for maintaining a fixed electric connection with the soldering-

iron while causing it to take a circular path about a fixed point, I do not desire to be limited to this precise construction, as it is obvious that many other constructions may be devised for carrying out the same effect, and I believe I am the first to construct a soldering-iron in which the current could be maintained continuously to heat the soldering-iron while taking it about the fixed point to solder a circular seam.

What I claim as my invention is—

1. In an electric soldering iron, the combination with a revoluble bracket, of a supporting standard on the bracket, a soldering iron on the bracket located laterally to one side of the standard and adapted to circle about the same, electric conductors to the iron, and a swivel contact device therein, substantially as described.

2. In an electric soldering iron, the combination of an electric soldering iron, a head or bracket on which it is secured, a standard slidably engaging therethrough, a spring supporting the head on the standard, the conductors, and a swivel contact device in the conductors around the pivotal point, substantially as described.

3. In an electric soldering iron, the combination of the brace, a supporting standard therefor, an electric soldering iron adjustably secured beside the standard in the brace, and

conductors connecting with the iron at all points of adjustment, substantially as described.

4. In an electric soldering iron, the combination with the brace, having a supporting standard and an electric soldering iron at its lower end, of a swivel top for the brace, the conductors extending into the top, and a swivel contact device in the swivel top, substantially as described.

5. In an electric soldering iron, the combination with the brace, having the supporting standard and the soldering iron at the lower end thereof, of the conductors terminating at the top of the brace, the adjustable swivel cap, and contacts in the cap forming a switch, substantially as described.

6. In an electric soldering iron, the combination of the brace, the head block *a*, the cap *L* made in two sections having a limited rotation in relation to each other, the pin *h* on one part, working in the slot *i* in the other part, and the contacts and terminals constructed and arranged, as and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK B. RAE.

Witnesses:

M. B. O'DOHERTY,
L. J. WHITTEMORE.