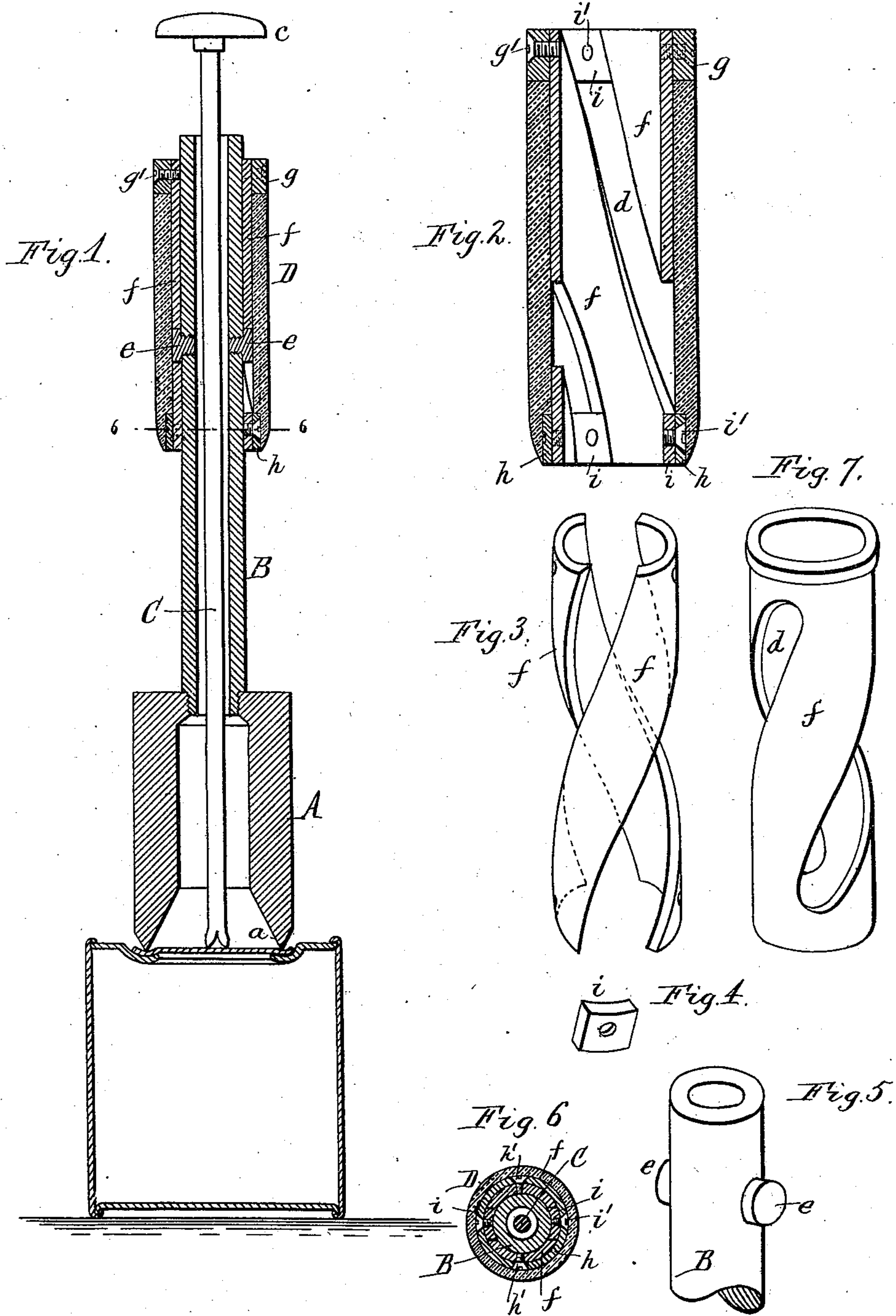


(No Model.)

J. C. McINTYRE.  
SOLDERING IRON.

No. 546,470.

Patented Sept. 17, 1895.



Witnesses:

F. Gustav Wilhelm  
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# UNITED STATES PATENT OFFICE.

JOHN C. MCINTYRE, OF FARNHAM, NEW YORK, ASSIGNOR TO THE SPRAGUE MANUFACTURING COMPANY, OF SAME PLACE.

## SOLDERING-IRON.

SPECIFICATION forming part of Letters Patent No. 546,470, dated September 17, 1895.

Application filed May 6, 1895. Serial No. 548,217. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN C. MCINTYRE, a citizen of the United States, residing at Farnham, in the county of Erie and State of New York, have invented a new and useful Improvement in Soldering-Irons, of which the following is a specification.

This invention relates to that class of soldering-tools which are employed for capping cans containing canned goods, and more especially to tools of this kind which are arranged to rotate upon a central rod or spindle, which rests upon the cap of the can during the soldering operation, so as to hold the cap in place. Heretofore the stem of the rotary soldering-block has usually been provided with a rigid handle for turning it alternately in opposite directions, this being effected by an oscillating movement of the wrist, which is not only limited in an extent, but tiresome and inconvenient. The soldering-block has also been provided with a crank for oscillating it, but that construction is undesirable because the pressure is unevenly exerted upon the tool.

My invention has for its object to provide the soldering-tool with simple means whereby an oscillating motion can be imparted to the same in a convenient manner and with comparatively little exertion.

In the accompanying drawings, Figure 1 is a sectional elevation of my improved soldering-tool applied to the cap of a can. Fig. 2 is a longitudinal section of the actuating-handle on an enlarged scale. Fig. 3 is a detached perspective view of the spiral ribs of the actuating-handle. Fig. 4 is a similar view of one of the stops of the handle. Fig. 5 is a fragmentary perspective view of the stem of the soldering-block. Fig. 6 is a horizontal section in line 6 6, Fig. 1. Fig. 7 is a perspective view of a modified construction of the handle.

Like letters of reference refer to like parts in the several figures.

A represents the hollow cylindrical soldering head or block, having the usual annular soldering-edge *a*, and B the hollow or tubular stem extending upward from the upper end of the block.

C is the central rod or spindle, which passes

loosely through the hollow soldering-block and its tubular stem, and which is provided at its projecting upper end with the usual knob or button *c*.

D is an actuating-handle mounted on the stem of the soldering-block, whereby the latter is turned. This handle consists of a loose sleeve capable of sliding up and down on the stem B and provided within its bore with one or more spiral grooves *d*, which receive pins or projections *e*, arranged on the adjacent portion of the stem, whereby a reciprocating movement of the handle on the stem produces a rotary or oscillating motion of the stem and the soldering-block secured thereto. In the construction shown in the drawings the stem is provided with two pins or projections *e*, arranged on diametrically opposite sides thereof, and the handle-bore is provided with two corresponding spiral grooves. These grooves may be formed by two spiral ribs *f*, which are separated by spaces forming the spiral grooves *d*, and which are secured at their upper ends to the inner side of a ring *g* by radial screws *g'* and at their lower ends to the inner side of a similar ring *h* by screws *h'*. The body of the handle D is preferably constructed of wood and is held against longitudinal displacement by the rings *g* and *h*, the upper end of the handle abutting against the adjacent edge of the upper ring *g*, and the lower end of the handle being preferably recessed, so as to receive and inclose the lower ring, as shown in the drawings. The ends of the spiral grooves *d* are closed by filling-pieces *i*, which are secured between the end portions of the spiral ribs *f* by radial screws *i'*, passing through openings formed in the rings *g* and *h* and the filling-pieces. These filling-pieces act as stops which arrest the reciprocating movement of the handle on the stem by the pins of the latter striking the stops.

In using my improved soldering-tool the cap of the can is held in place by the central rod in the usual manner, and after placing the solder upon the cap the soldering-block is rotated by firmly grasping the handle, so as to hold it against turning, and moving it up and down on the stem. This movement of the handle is effected with comparatively little effort and without inconvenience, and the



block is at the same time rotated or oscillated to a greater extent and with greater rapidity than by the use of a rigid handle, thus thoroughly spreading or distributing the solder.

5 As the handle moves parallel with the axis of the stem, the pressure incident to depressing the handle is exerted in the axial line of the tool, thereby evenly pressing the soldering-block against the cap of the can around its  
10 entire edge.

If desired, the spiral ribs *f* and the upper connecting-ring *g* of the handle may be cast in one piece in the form of a spirally-slotted sleeve, as shown in Fig. 7.

15 I claim as my invention—

1. The combination with a rotary soldering block having a stem provided with a pin or projection, of a reciprocating handle sliding on said stem and provided with a spiral groove  
20 engaging with said pin or projection, substantially as set forth.

2. The combination with a hollow rotary soldering block and a hollow stem secured thereto and having a pin or projection, of a central  
25 rod passing loosely through said hollow block and stem, and a reciprocating handle sliding on said stem and having a spiral groove which engages with the pin or projection of the stem, substantially as set forth.

30 3. The combination with a rotary soldering block having a stem provided with a pin or projection, of an actuating handle or sleeve

capable of reciprocating on said stem and provided in its bore with raised spiral ribs separated by a space forming a spiral groove, 35 said groove engaging with the pin or projection of said stem, substantially as set forth.

4. The combination with a rotary soldering block having a stem provided with a pin or projection, of an actuating handle or sleeve 40 capable of reciprocating on said stem and provided in its bore with raised spiral ribs separated by a space forming a spiral groove, said groove engaging with the pin or projection of said stem, and filling pieces or stops 45 arranged between the end portions of said spiral ribs, substantially as set forth.

5. The combination with a rotary soldering block having a stem provided with a pin or projection, of an actuating sleeve capable of 50 reciprocating on said stem and composed of upper and lower rings, spiral ribs secured at their ends to said rings and forming a spiral groove which engages with the pin or projection of said stem, and a handle surrounding 55 said spiral ribs and confined between said rings, substantially as set forth.

Witness my hand this 16th day of April, 1895.

JOHN C. MCINTYRE.

Witnesses:

C. M. COOK,

W. F. AVEY.