(No Model.) 2 Sheets—Sheet 1.

T. H. HAMILTON.

CAN SOLDERING MACHINE.

No. 359,723. Patented Mar. 22, 1887.

Fig. 1.

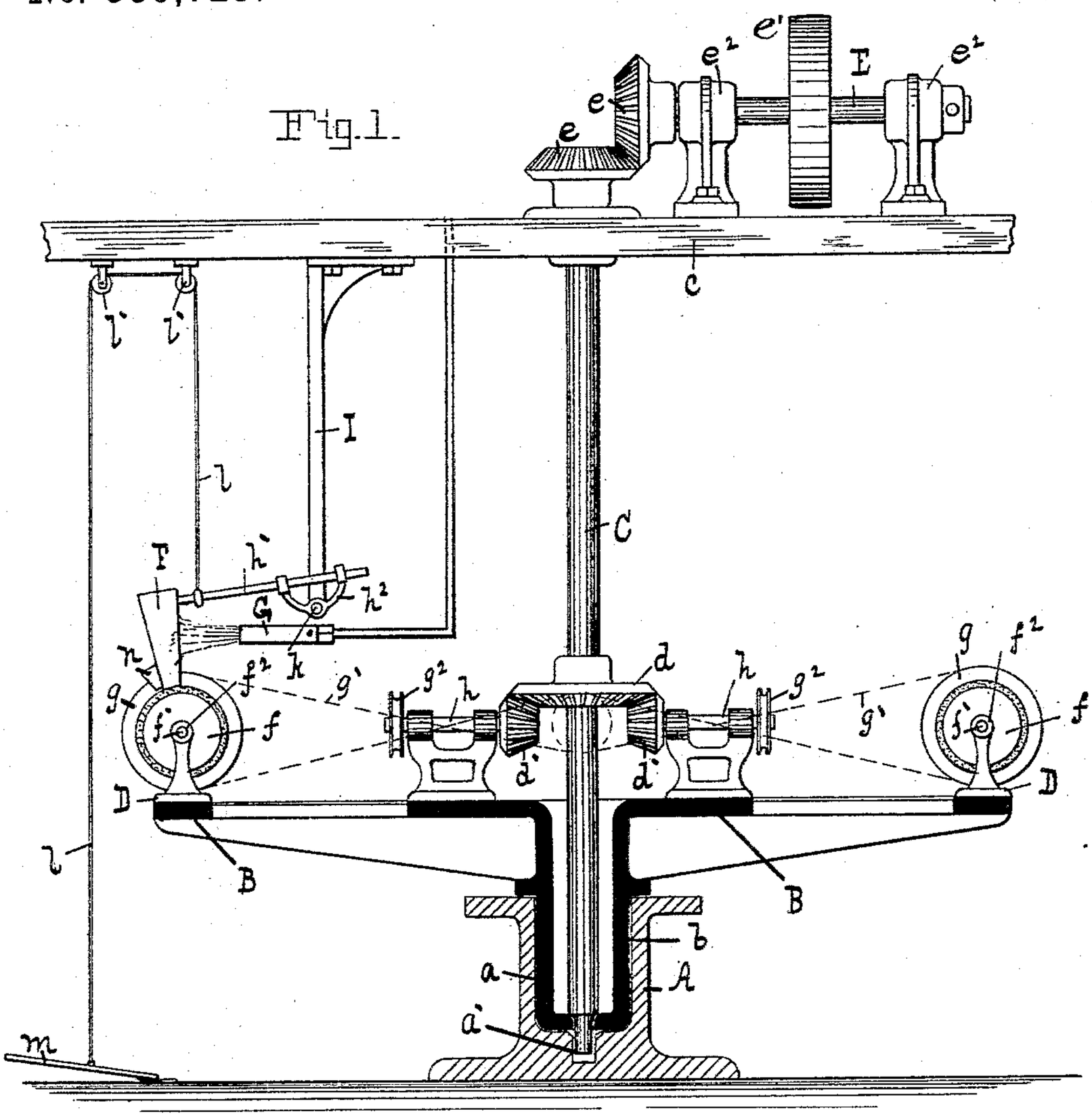


Fig. 2.

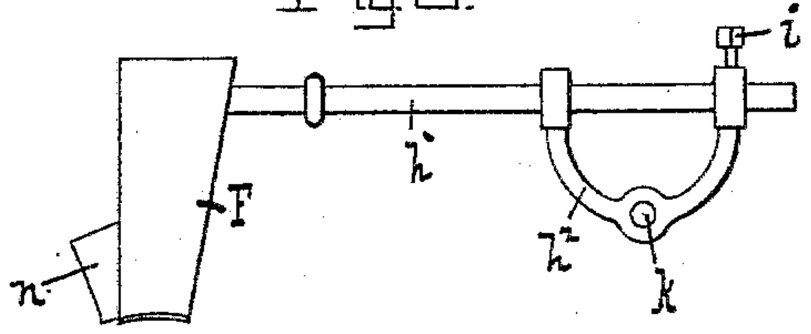
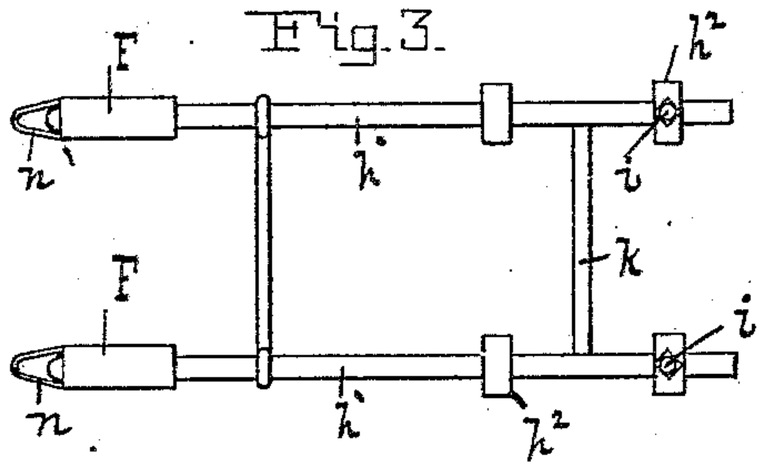


Fig. 3.



Witnesses:
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Chas. H. Smiley.

Inventor:
Thomas H. Hamilton.
By Boyden, Bailie & Mason
Attys.

(No Model.) 2 Sheets—Sheet 2.

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Fig. 4.

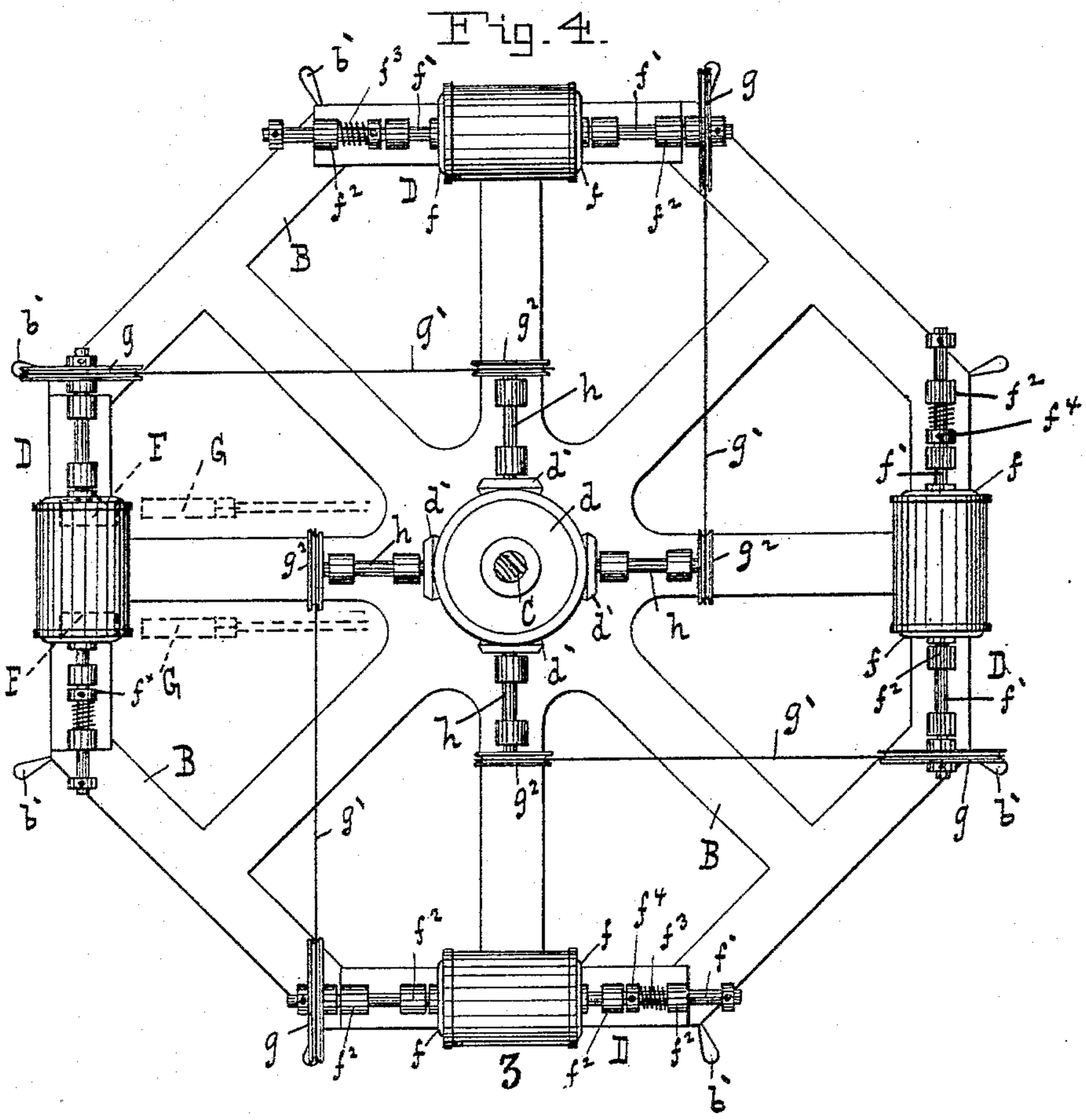
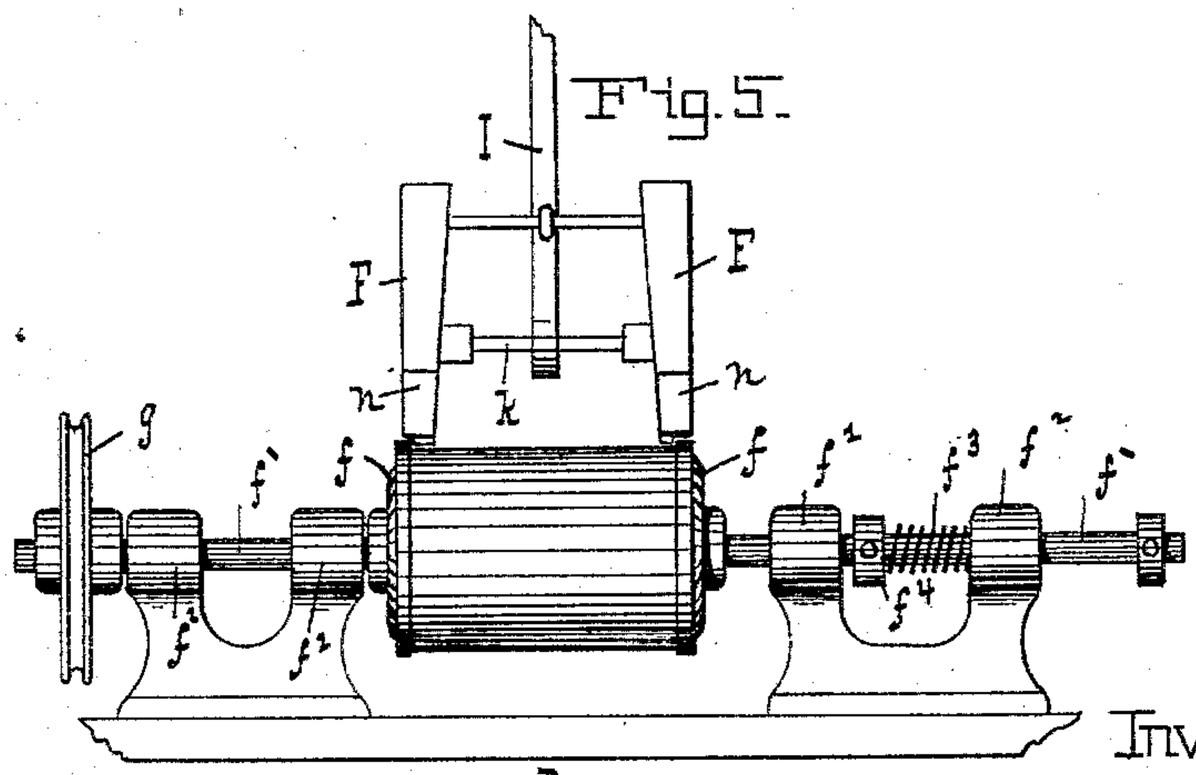


Fig. 5.



Witnesses:
Wilem Ringle
Chas. H. Smiley

Inventor:
Thomas H. Hamilton
By Boyden, Bailie & Mason
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UNITED STATES PATENT OFFICE.

THOMAS H. HAMILTON, OF BALTIMORE, MARYLAND, ASSIGNOR TO DICKEY, TANSLEY & CO.

CAN-SOLDERING MACHINE.

SPECIFICATION forming part of Letters Patent No. 359,723, dated March 22, 1887.

Application filed June 28, 1886. Serial No. 206,540. (No model.)

To all whom it may concern:

Be it known that I, THOMAS H. HAMILTON, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Can-Soldering Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in can-soldering machines, as illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the machine with the rotary carrier and its support in section. Fig. 2 is an enlarged side detail view of the soldering-copper and its supporting-frame. Fig. 3 is a top detail view of Fig. 2. Fig. 4 is a section of the rotary carrier with the soldering-coppers removed. Fig. 5 is an enlarged side detail view of the can-holder, showing the coppers in position when soldering.

Similar letters refer to similar parts throughout the several views.

The letter A designates the frame or table support, which is formed with a circular recess, *a*, in which the hub *b* of the carrier B neatly fits, and thereby forms a bearing for the same.

The shaft C has its lower bearing at *a'*, with its upper one formed in the girder *c* overhead. Between the bearings of the shaft is arranged the gear-wheel *d*, which communicates with and drives the pinions *d'*, attached to and which move with the carrier B.

The shaft C is driven from the counter-shaft E by means of the pinions *e e*, and the counter-shaft driven by the pulley *e'* placed thereon. The counter-shaft is supported on the bearings e^2, secured to the girder *c*. The carrier B rotates in a horizontal plane, and is supported on the frame A in such a manner that it can be readily rotated by the operator taking hold of the handle *b'* and moving it as desired. On the carrier is arranged the can-holding device D, which consists of two disks, *f*, attached to the spindles *f'*, which rotate freely in the bearings f^2, secured to the carrier B. One of the spindles has an endwise movement by which the cans are placed between the disk, and is held against the can by means of the spring f^3 and the collars f^4. The opposite spindle is provided with the pulley *g*, over which passes the belt *g'*, which consists of any flexible material or chain that communicates motion thereto from the pulley g^2, secured to the spindle *h*. The spindle *h* carries the pinions *d'*, which communicate with the gear-wheel *d*, thus continually rotating the cans when placed between the disks *f*, thereby keeping the cans continually rotating, that the solder may be distributed equally around the seams when it is in a molten condition, and likewise permitting it to cool before the rotation of the can is stopped by its removal from between the disks.

The soldering-coppers F are formed at their lower ends to suit the curvature of the can and the flange of the ends, and they are supported by the rods *h'*, secured to the yoke h^2 by passing through the bearings thereof. The rods are held in their proper position in relation to the can by the set-screws *i*. By this construction it is obvious that the coppers may be moved in or out, or slightly turned, which permits them to be accurately adjusted to suit the position of the can. The yokes h^2 are supported by the cross-rod *k* and the hanger I, secured to the girder *c* above. The rod *k* turns on its bearing in the hanger I, which permits the coppers F to be lifted when placing or removing a can from thereunder, by means of the cord *l*, passing up over the pulleys *l'* to the treadle M, which is depressed when the coppers are to be raised.

To the front part of the coppers F are arranged the solder-guides *n*, which are open at both ends, and which direct the solder to the proper place on the cans when placed therein.

The coppers F are heated by the flame from the burners G. The said burners may be hydrocarbon self-generating burners supplied with oil, the ordinary Bunsen burner, or any suitable kind, and they are placed to deliver their flame against the coppers, thereby continually keeping them subjected to the flame, and thus acquiring sufficient heat to continually operate the machine.

By the construction herein shown and speci-

fied the cans are placed horizontally on the carrier, and both ends of the said can are in a position to be operated on at once and brought in position in relation to the coppers by the movement of the carrier. The cans continually rotate on the carrier, properly distributing the solder around the can and prevent it from settling at one place in excess, as the cans are rotated until the solder cools, thus resulting in a superior work and facilitating the manufacture.

It is obvious that the can-holders could be set at right angles, or in other positions than that shown, and accomplish the same result, and therefore I include in my claim any such variation.

In operating the machine, the cans with their ends unsoldered are placed between the disks *f* by a "helper," at the position designated by the numeral 3, and the carrier is rotated sufficiently to place the can under the coppers, which the operator has previously raised. The coppers are then lowered and brought in contact with the ends of the rotating can, which are sufficiently heated thereby, and the solder applied, by the operator either dropping a piece in the guide *n* or feeding sufficient wire-solder therein against the hot can, which is distributed around the can by its rotation and "sweated" in between the seams by the coppers, after which the coppers are raised by depressing the treadle, and the carrier is again sufficiently moved by the operator to place another can under the coppers, and so on. The soldered can in the meantime continually rotates until cooled, for the purpose set forth, and is finally released from the disks at the position it was placed by the helper.

Having described my invention, what I claim, and wish to secure by United States Letters Patent, is—

1. In a can-soldering machine, the combination of the carrier B, rotating in a horizontal plane, the can-holders D, mounted on the carrier, with their axis of rotation always in a horizontal plane, and mechanism, substantially as described, to continually rotate the said can-holders, for the purpose specified.

2. In a can-soldering machine, the combination of the rotary carrier B, moving in a horizontal plane, the can-holding devices D, mounted on the carrier, with their axis of rotation in a plane parallel with that in which the carrier moves, and mechanism to rotate the can-holding devices while and after the cans are being soldered.

3. In a can-soldering machine, the combination of the carrier B, can-holding devices D, mounted on the carrier, the soldering-coppers F, the rod *h'*, to be adjusted in relation to the yoke h^2, the yoke h^2, and the cross-rod *k*, forming a pivot, as set forth.

4. In a can-soldering machine, the combination of the soldering-coppers F, the solder-guides *n*, the rod *h'*, to be adjusted in relation to the yoke h^2, the yoke h^2, and the cross-rod *k*, forming a pivot, as set forth.

5. In a can-soldering machine, the combination of the soldering-coppers F, the rod *h'*, to be adjusted in relation to the yoke h^2, the yoke h^2, and the cross-rod *k*, forming a pivot, as set forth.

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

THOMAS H. HAMILTON.

Witnesses:

G. A. BOYDEN,

FRANK DE S. BENZINGER.