

2 Sheets—Sheet 1.

No. 338,672.

Patented Mar. 23, 1886.



Witnesses:
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G. F. Boyden.

Inventor:
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By G. A. Boyden Atty.

(No Model.)

2 Sheets—Sheet 2.

D. M. MONROE.
CAN SOLDERING MACHINE.

No. 338,672.

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Fig. 4.

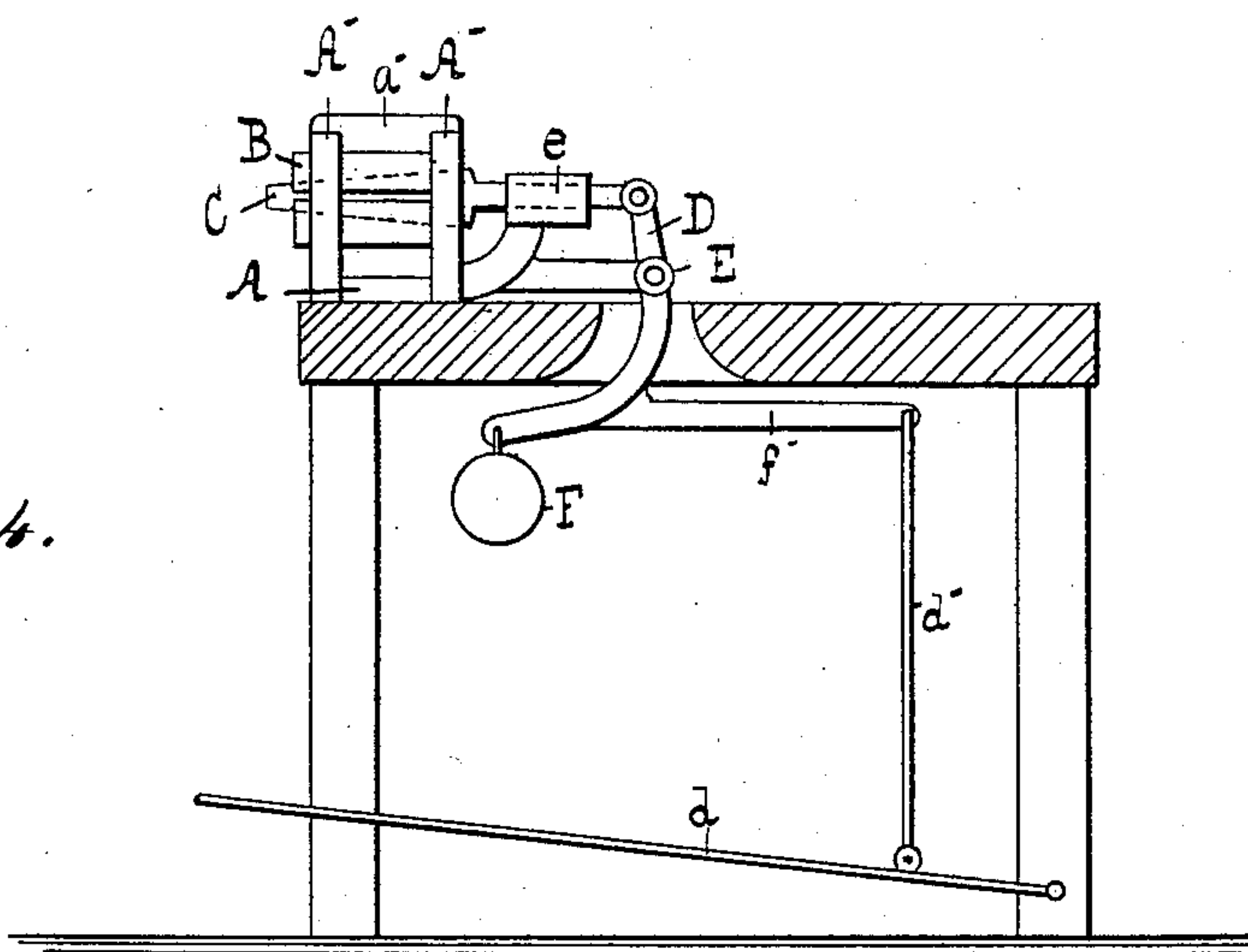


Fig. 5.

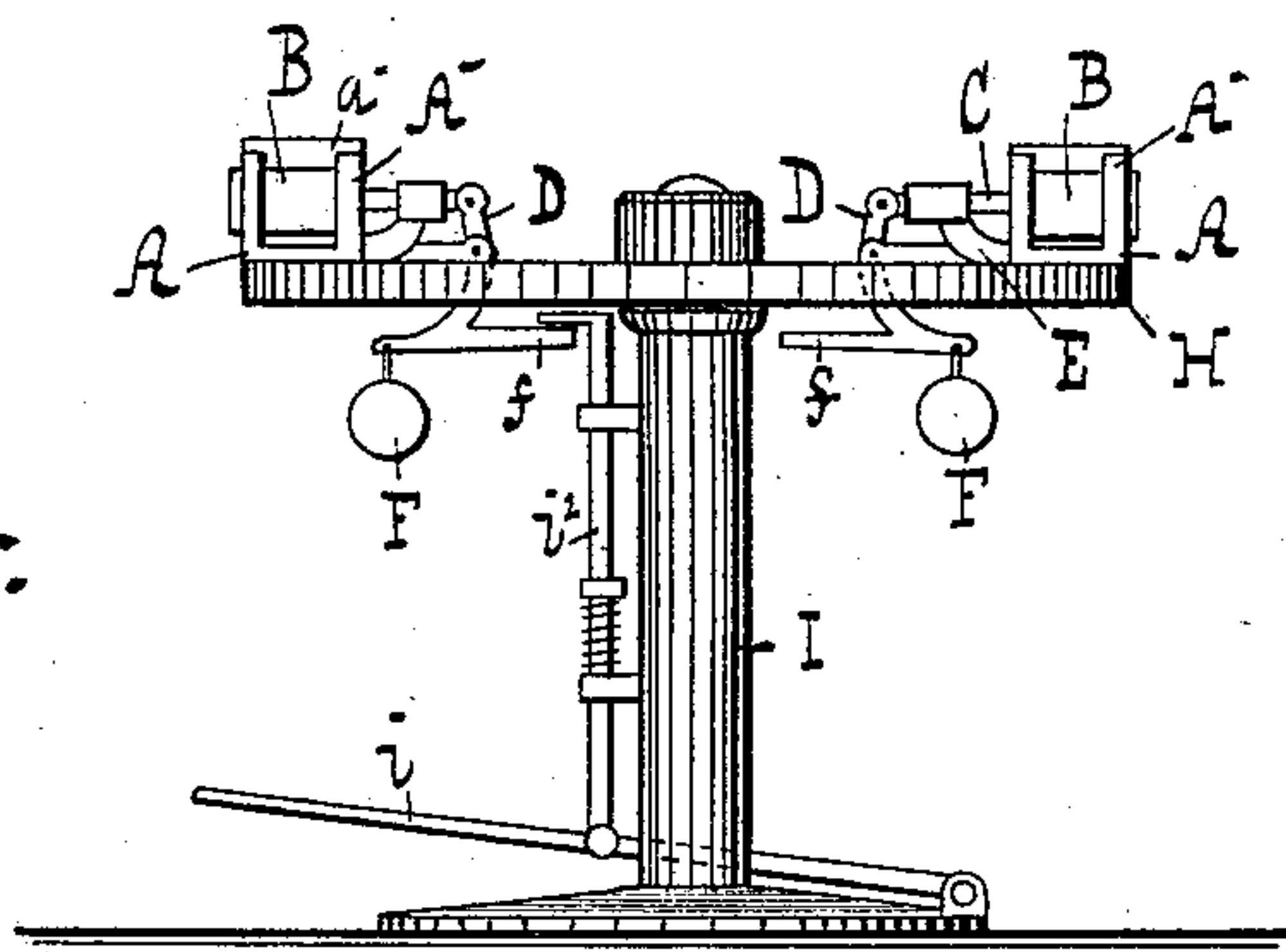
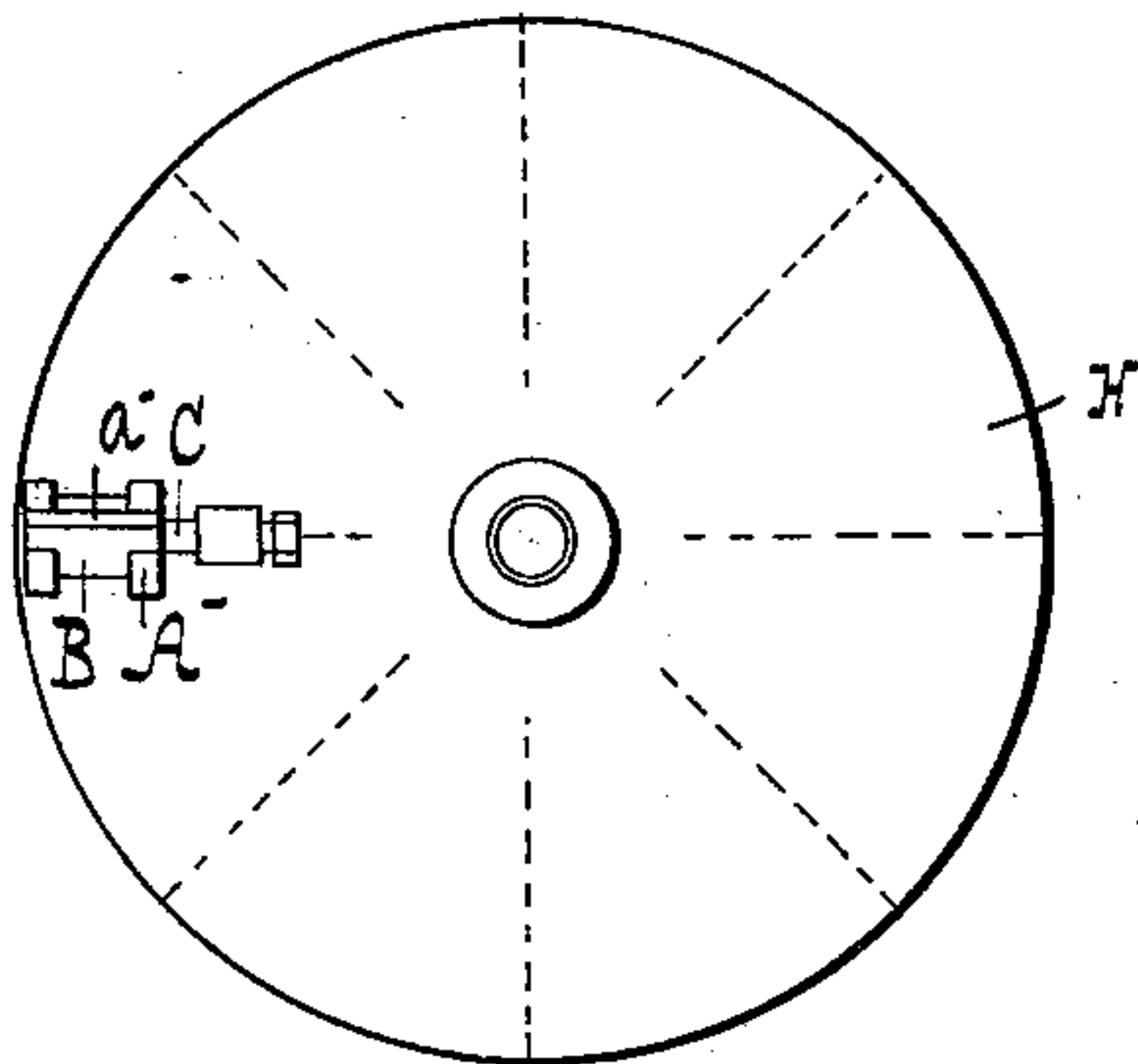


Fig. 6.



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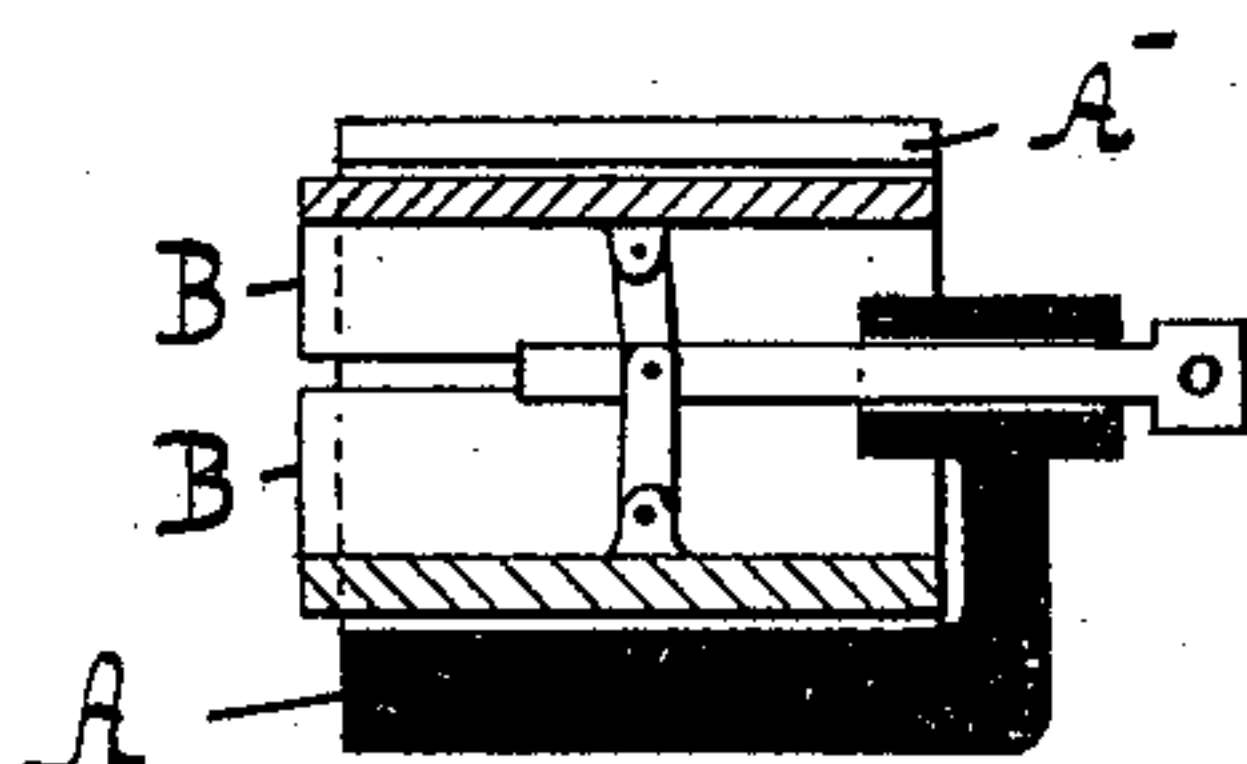


Fig. 7.

UNITED STATES PATENT OFFICE.

DAVID M. MONROE, OF BALTIMORE, MARYLAND.

CAN-SOLDERING MACHINE.

SPECIFICATION forming part of Letters Patent No. 338,672, dated March 23, 1886.

Application filed December 3, 1885. Serial No. 184,644. (No model.)

To all whom it may concern:

Be it known that I, DAVID M. MONROE, 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, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in can-soldering machines, in which the side or body seam is soldered, as illustrated in the accompanying drawings, in which—

Figure 1 is a detail view, partly in section, of the gaging device. Figs. 2 and 3 are end views of the same. Fig. 4 is a side view showing the device attached to a bench. Fig. 5 is a side elevation of a rotary-table machine provided with the gaging device. Fig. 6 is a top view of the same, with one gaging device mounted and the position of others designated by radial dotted lines. Fig. 7 is a modified view of the actuating mechanism which expands the cylinders; Fig. 8, a vertical cross-section of the clamping-guide.

Similar letters refer to similar parts throughout the several views.

The can-body-gaging device is shown in Figs. 1, 2, and 3; and it consists of a base-plate, A, provided with the standards A', which have circular openings concentric with each other, which determine the size of the can-body, they being bored out to correspond with the can heads or ends. In the said circular openings is placed the expanding-cylinder, consisting of two parts, B B, secured to the standards at one end only by means of the projecting lugs b, which extend across the standard and are secured thereto by means of the screws b', which pass through the slots b² therein, which permits the parts B B to move. The said cylinder parts B are forced outward against the standards A' by the wedge C, which, in the present instance, is operated by the lever D, which is pivoted to the bracket E and provided with a weight, F, which forces and holds the wedge between the parts B, thereby expanding the same, and which is withdrawn by treadle mechanisms secured to the short end of the lever when a can-body is to be placed or renewed. As the wedge is withdrawn, the parts B are drawn together by the spring G, secured to both the ends by

means of pins g, projecting therefrom. The bracket E extends from the standard upward and forms a bearing, e, for the extended portion of the wedge to move in, and also a stop by which the movement of the same is limited. The top portion of the standard A' is cut away to form the opening a, at which point the seam is placed, thereby permitting the soldering to be performed. To one side of the said opening a is arranged the guide a', which is provided with the slots a², by which it is secured to the standards by means of the screws c, and is thereby permitted to reciprocate vertically, the springs c' pressing it downward. When the can-body is placed on the cylinder and expanded and comes in contact with the guide, said guide being yielding adjusts itself to the surface of the body, forming a guide for the soldering-tool and also retaining the solder and flux in its position, and also holding the overlapped edges of the can-body together.

As shown in Fig. 4, the device is attached to a bench, and the treadle d attached by means of the connecting-rod d'. The device as above arranged is used by the operator in the usual manner, the soldering being accomplished by means of a hand-copper. As shown in Figs. 5 and 6, a number are secured to the rotary table H, which is supported on the frame I, and permitted to turn freely thereon. The expanding mechanism is operated at one point by means of the treadle i and the connecting-rod i', which is bent over at its top end to engage with the ends f of the lever D when said levers are placed thereunder by the table being stopped, with the two corresponding in a vertical plane. A series of gaging devices that will expand the can-body outward against cylindrical standards of a predetermined size mounted on a rotary table, which are complete in themselves, and which simultaneously gage both ends of the can-body irrespective of its central portion, are different from machines of this class heretofore used, and results in assuring an accurate fit of the bodies with the heads, since after they are gaged they are held in that position and by the same means until they are soldered and cooled.

In operating the device as applied to the rotary table, a "helper" depresses the treadle, which partly withdraws the wedge and con-

tracts the parts B, which form the cylinder. A can-body is then slipped on over the said cylinder and the treadle released, which permits the weight to act, which forces the wedge inward and expands the cylinder, thereby forcing the can-body thereon outward and against the concentric opening in the standards A', which is then held in that position by the weight F. The table is then partly rotated, which brings another device in position to receive a can-body, and while the same is being thereon placed the soldering of the body previously gaged is performed by the operator with a hand-copper in the usual manner, the operator standing at right angles to the helper in the direction in which the table rotates, which gives the solder ample time to cool, as the same travels three-fourths of the circle traveled by the table, which brings the soldered bodies to the point where they were first placed on, at which place they are removed just previous to placing another by the helper.

The gaging device may be used separately, as shown in Fig. 4, which then takes the place of the ordinary "turner-block," and operated as above set forth.

I illustrate in Fig. 7 a modification in which a toggle-joint is used to expand the cylinder, and instead of the standards A' being separate and placed at each end, it consists of one piece inclosing the central portion of the said cylinder, except on top, to permit the soldering to be performed.

Having described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The combination of the standards A', rigidly secured to a common base, the expanding-cylinder B, means to expand the cylinder, and the clamping-guide a', arranged to bear against the cylinder and yield therewith.

2. The combination of the standard A', the expanding-cylinder B, the wedge C, the guide a', secured to the standards A', and to be reciprocated vertically by the movement of the cylinder, and suitable springs arranged in conjunction to press the said guide toward the cylinder.

3. The combination of the expanding-cylinder B, mechanism to expand the cylinder, the standard A', and the guide a', to be reciprocated by the movement of the cylinder.

4. In a can-seaming machine, the combination of the rotary table H and a series of complete gaging devices mounted on and arranged to rotate with the table, which consist of the standards A', the expanding-cylinder B, means to expand the cylinder, and the guide a', arranged to yieldingly clamp the can-body when placed on the cylinder.

5. The combination of the rotary table H, the standards A', the expanding-cylinder B, mechanism to operate the cylinder, and the guide a', arranged to be reciprocated by the cylinder.

6. In a can-body-seaming machine, the combination of the rotary table H and a series of gaging devices mounted on and arranged to rotate with the table, which consist of the standards A', the expanding-cylinder B, means to expand the cylinder, and the clamping-guide a', arranged to bear against the cylinder and to yield therewith, whereby the can-bodies are first expanded outwardly and held by the same means in that position until soldered and cooled by a partial or whole rotation of the table.

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

DAVID M. MONROE.

Witnesses:

BEN. F. BOYDEN,
JNO. T. MADDOX.