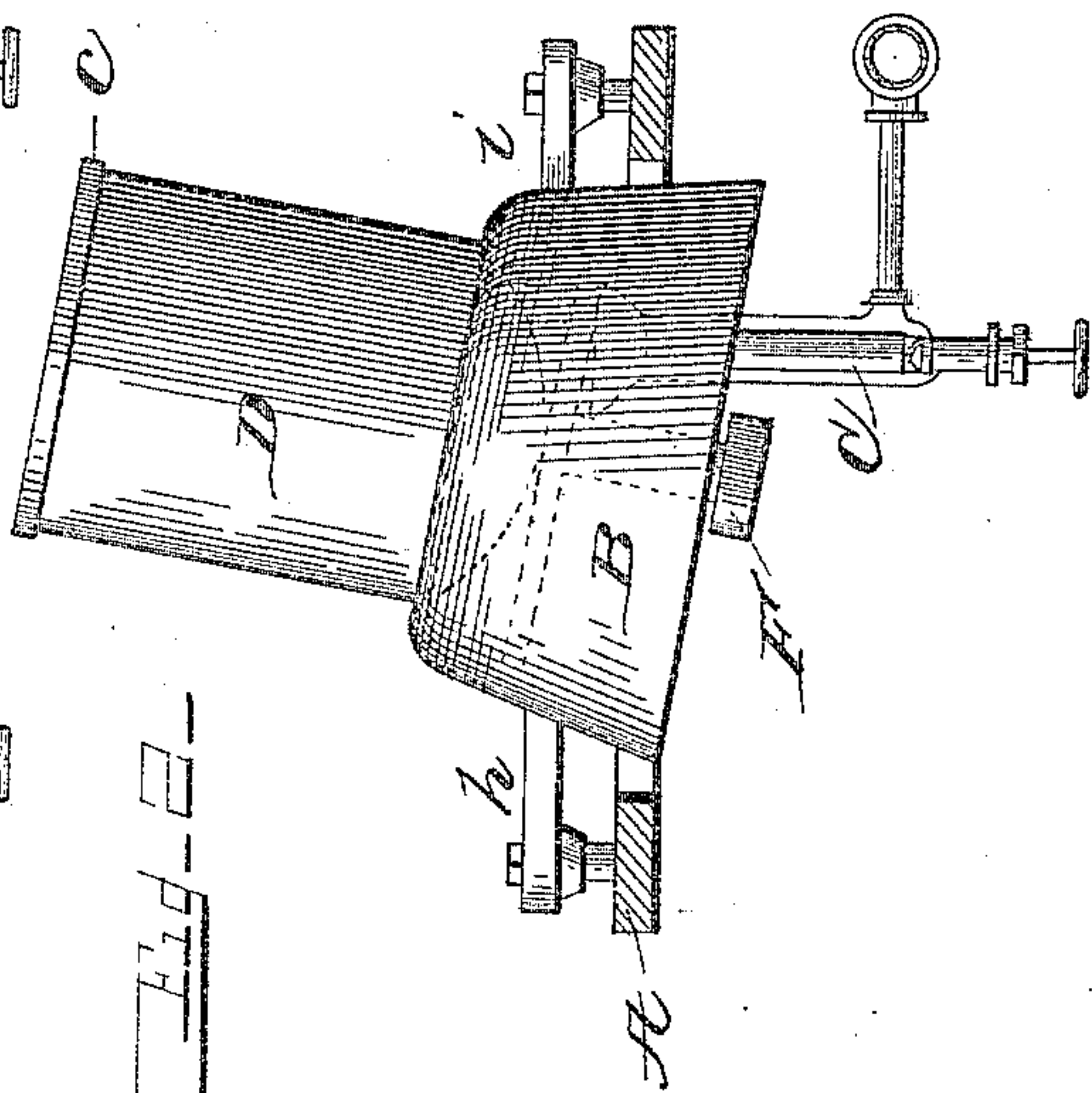
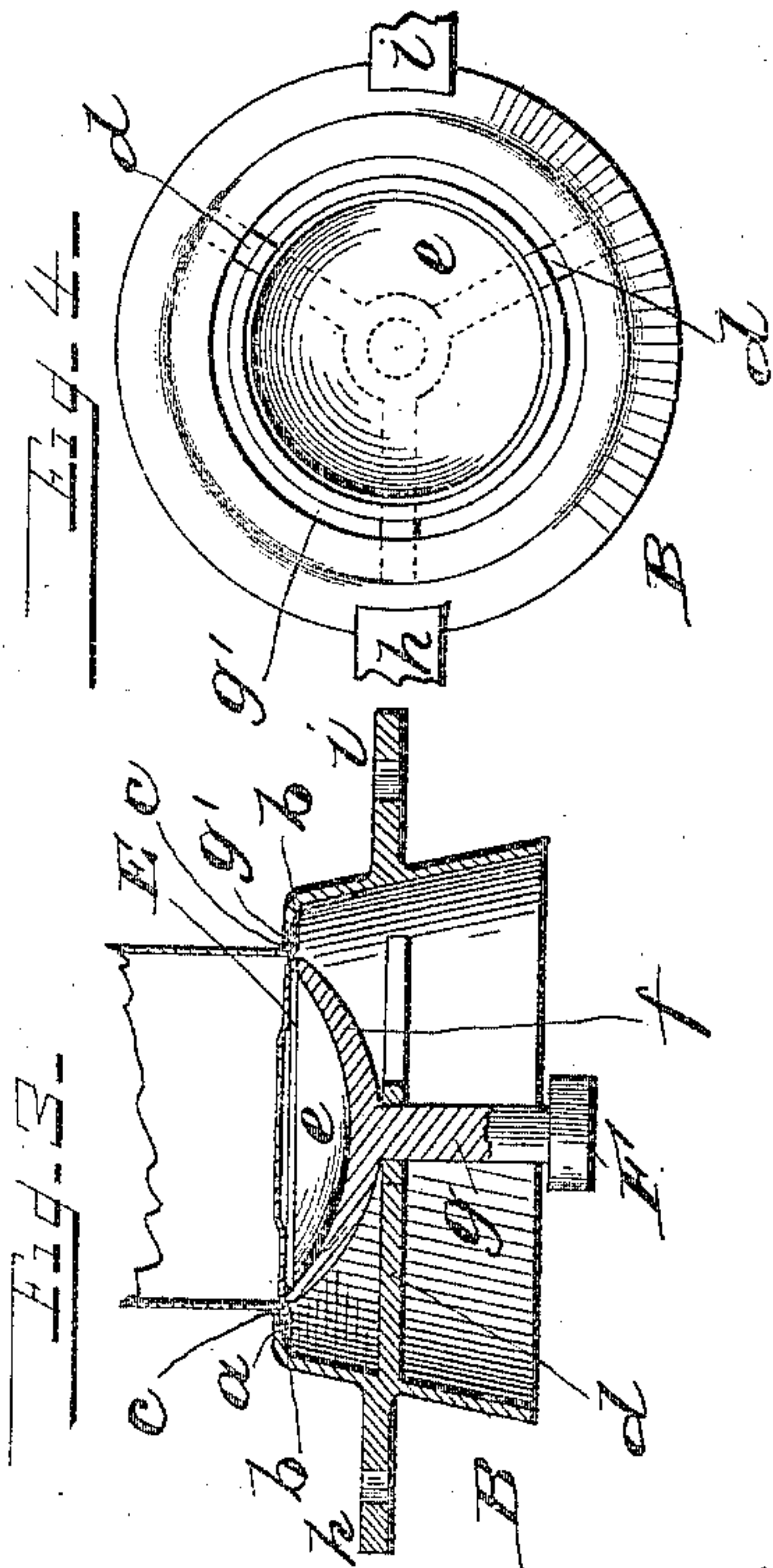
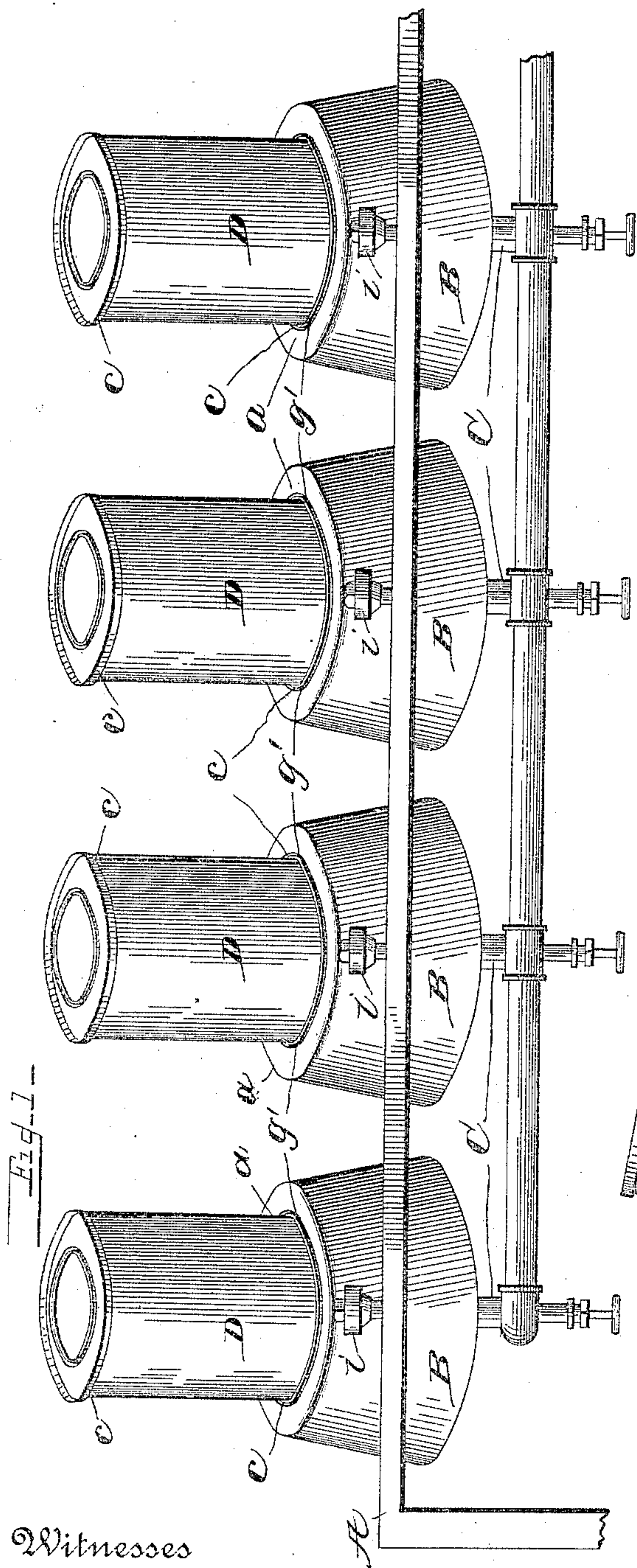


(No Model.)

T. A. HAND.  
CAN SOLDERING MACHINE.

No. 444,831.

Patented Jan. 20, 1891.



Witnesses

*J. A. Tauberschmidt.*  
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By his Attorneys

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# UNITED STATES PATENT OFFICE.

THOMAS A. HAND, OF BALTIMORE, MARYLAND.

## CAN-SOLDERING MACHINE.

SPECIFICATION forming part of Letters Patent No. 444,831, dated January 20, 1891.

Application filed November 14, 1890. Serial No. 371,454. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS A. HAND, 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 hereby 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.

My invention relates to can-soldering machines, and has for its object certain improvements in construction, which will be hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, which form part of this specification, Figure 1 represents a front elevation; Fig. 2, an end view; Fig. 3, a vertical section of one base and disk, and Fig. 4 a plan of the same.

Reference being had to the drawings, and the letters thereon, A indicates a table, bench, or other suitable support upon which a number, preferably four, five, or six, of my improved machines may be mounted in line to afford ready access to them and facilitate placing and removing cans by one operator, or a number of sets may be arranged in line to be driven from a main driving-shaft. Each operator can easily work upon a set of from four to six machines.

The machine is composed of a hollow conical base or hood B, open at both ends and having a horizontal flange or inwardly-projecting lip *a* at its upper end, which is inclined inward on its lower surface toward the center of the base, as shown at *b*, for the purpose of directing the flame of any suitable burner, as C, around a can D and cause it to impinge against the outer surface of the flange *c* of the top or bottom of a can to be soldered throughout the circumference of the can.

Within the base B is a spider *d*, upon which rests a disk E, the upper surface *e* of which is concave and the lower surface *f* convex for purposes which will hereinafter appear. From the lower surface of the disk E projects a spindle *g*, which passes through the spider *d*, revolving freely therein, and is provided at its lower end with a wheel F, through the medium of which the disk E is revolved from

any suitable power-shaft. (Not shown.) The upper surface of the disk E at its periphery, it will be observed, is dropped below the flange *a* to such an extent as to bring the upper edge of the flange *c* of the top or bottom of a can in a plane coincident with the upper surface of the flange *a* and confine or direct the flame passing through the annular passage *g'*, between the disk E and the annular wall of the flange, against the flange *c* to sweat the solder into the joint between the body and the top or bottom of the can. The heating of the flange *c* on the can is expedited by the heat radiated from the flange *a* of the base, as in practice the flange *a* becomes highly heated by the flame deflected against its lower surface by the convex surface of the disk E and the wall of the base. The lower or convex surface of the disk E spreads the flame outward and upward and causes it to pass to its periphery, impinge upon the wall of the base against the flange *a*, and up through the annular passage *g'*, while the concave upper surface prevents the center portion of the top or bottom of the can being scorched by coming in contact with the highly-heated metal. The base B may be supported upon lugs *h i*, and is preferably, though not necessarily, set at an angle to cause the solder to flow to the front and lowest point of the can while it is being revolved by the disk E. The solder is thrown into the can, and is consequently applied from the inside to the joint or seam between the body and the top or bottom of the can.

In the operation of the machine a can-body having the bottom placed therein is put upon the disk E and a piece of solder dropped into the can. The disk and the upper part of the base being highly heated and the flame passing through the annular passage *g'* around the flange *c* of the top or bottom to be soldered will quickly heat the solder, cause it to melt and flow to the front of the can, which can being rapidly revolved by the disk E will cause the solder to flow around the seam and unite the parts. The can is then removed and another put in position on the disk.

Having thus fully described my invention, what I claim is—

1. In a can-soldering machine, the combination of a base having an inwardly-project-



ing flange at its upper end, a revoluble can-supporting disk having an outward and upward flame-spreading lower surface whereby the flame is deflected against the wall of the base, the upper surface of said disk being supported at a distance below the upper surface of the flange of the base approximating the depth of the flange on a can, a burner below the disk, and an annular flame-passage between the disk and the flange on the base.

2. In a can-soldering machine, the combination of a base having an inwardly-projecting flange provided with an upward-inclined flame-deflecting inner surface, a revoluble can-supporting disk, a burner below said disk, and an annular flame-passage between the disk and said flange.

3. In a can-soldering machine, the combination of a base having an inwardly-projecting flange at its upper end, a revoluble can-supporting disk, the upper surface of which is concave, and its bearing-surface for a can held at a distance below the upper surface of the flange of the base approximating the depth

of the flange on a can and said disk provided with a convex flame-spreading lower surface, whereby flame is deflected against the wall of the base, a burner below the disk, and an annular flame-passage between the disk and the flange of the base.

4. In a can-soldering machine, the combination of a conical base open at both ends and having an inwardly-projecting flange at its contracted end, a revoluble can-supporting disk resting upon a spider, with its upper surface at a distance below the upper surface of the flange of the base approximating the depth of the flange on a can and having an outward and upward flame-deflecting lower surface, a burner under the disk within the base, and an annular flame-passage between the said disk and the flange on the base.

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

THOMAS A. HAND.

Witnesses:

J. S. HULL,  
JNO. T. MADDOX.