

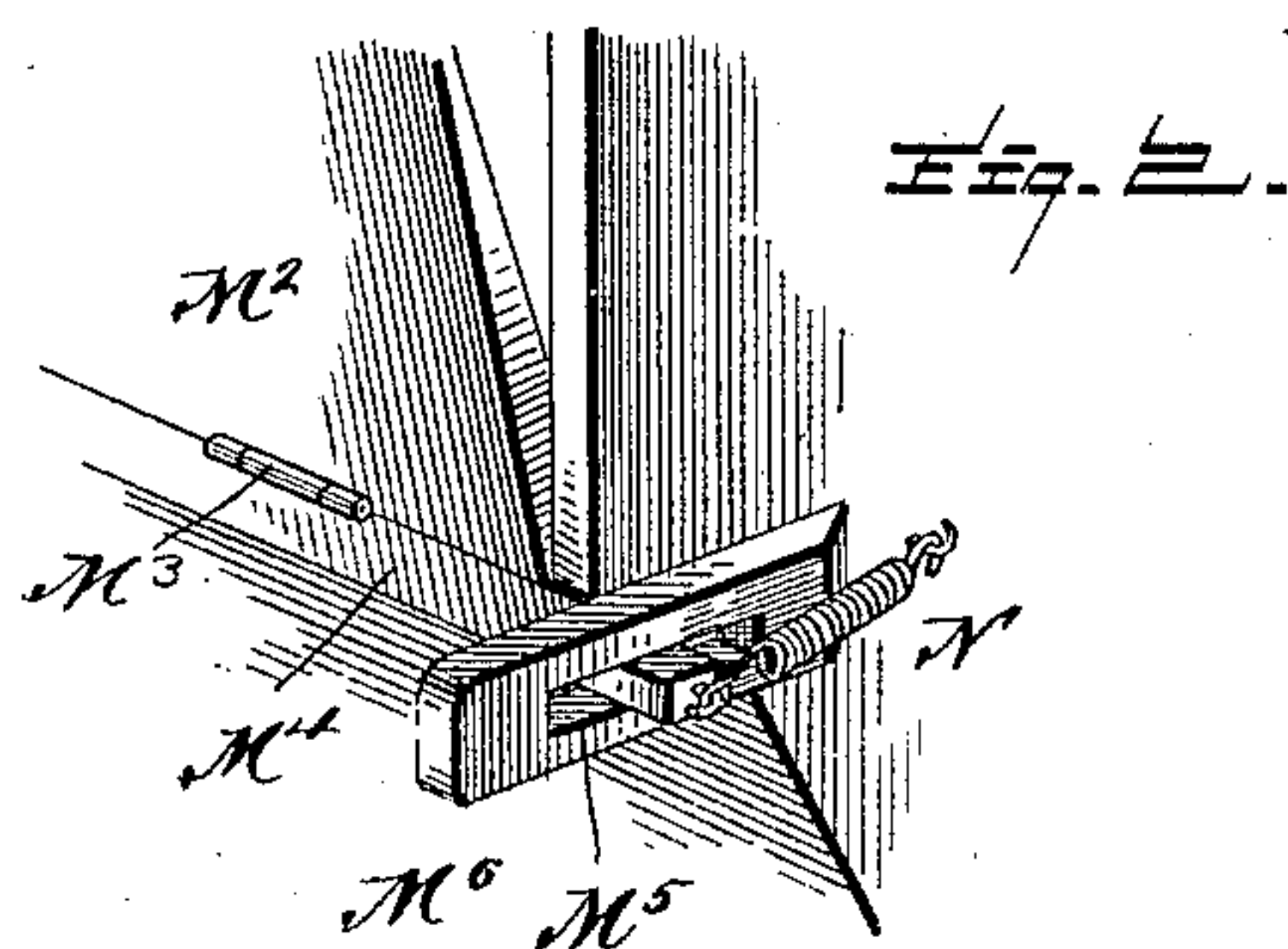
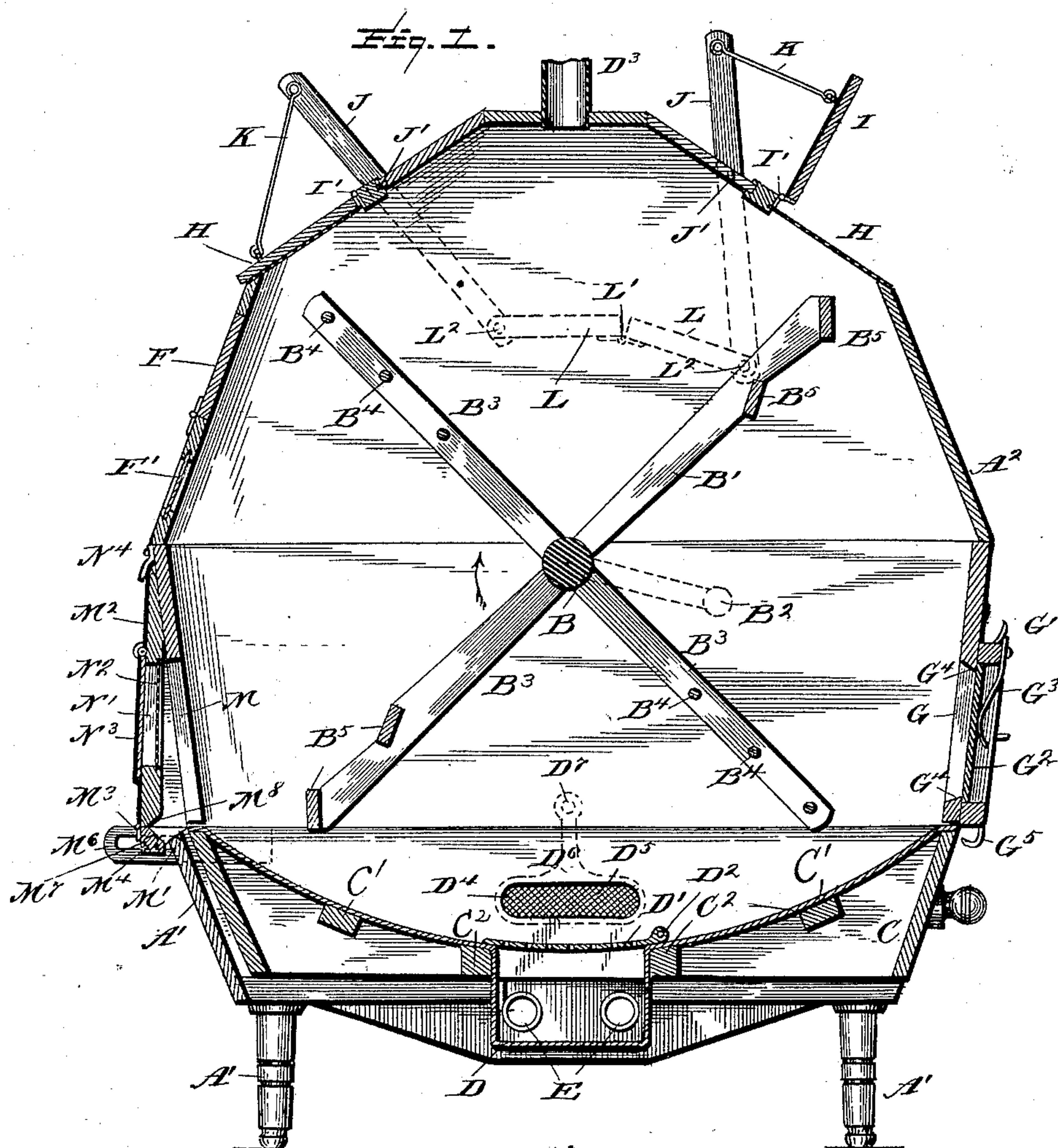
(No Model.)

J. H. BRUEN.

FEATHER RENOVATOR.

No. 435,170.

Patented Aug. 26, 1890.



Witnesses

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JOHN H. BRUEN, OF ELMIRA, NEW YORK.

FEATHER-RENOVATOR.

SPECIFICATION forming part of Letters Patent No. 435,170, dated August 26, 1890.

Application filed October 5, 1889. Serial No. 326,144. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. BRUEN, a citizen of the United States, residing at Elmira, in the county of Chemung, State of New York, have invented certain new and useful Improvements in Feather-Renovators, of which the following is a specification, reference being had thereto to the accompanying drawings.

This invention relates to certain new and useful improvements in feather-renovators, and it aims at improvements in the device in general, as well as certain details of construction, which will be hereinafter more particularly pointed out.

The invention consists in the peculiarities of construction and the novel combinations and arrangements and adaptations of parts, all as more fully hereinafter described, shown in the drawings, and then particularly pointed out in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a central longitudinal vertical section through a renovator constructed in accordance with my invention; and Fig. 2 is a perspective detail, which will be more particularly hereinafter referred to by letters of reference.

Referring now to the details of the drawings by letter, A designates a suitable box, tank, or receptacle, supported upon supports, as A', and provided with a removable top or cover, as A², supported thereon in any suitable manner, the box and cover being of any desired shape, preferably of the form shown in Fig. 1—that is, substantially polygonal.

B is a shaft supported in suitable bearings in the walls of the box or tank, and carried by this shaft is the beater B', which is designed to be revolved in any suitable manner, either by hand or other power, being shown as provided with a crank-handle B² for this purpose. This beater is formed of the cross-arms B³, two of which are preferably diametrically opposite each other, and are connected by means of the rods B⁴, the other two being connected by means of the strips B⁵, arranged as shown, the strips and

rods being arranged alternately around the periphery of the beater or agitator, so that in operation the feathers are carried around and scattered or separated more thoroughly, the flat strips serving to elevate the feathers and the rods to scatter and enliven them as they fall from their uppermost position.

C is a drawer made removable in any suitable manner, and forms the bottom of the box or receptacle A. It is formed, preferably, with a curved bottom C', supported upon suitable cross-pieces C², held in the walls of the drawer, the said bottom being preferably of sheet metal and bent downwardly at its transverse center, as clearly shown in Fig. 1, to form a steam or a hot-air chamber D, the top of which chamber is formed by the perforated metallic piece D', hinged to the bottom of the drawer, as at D².

E are inlet-pipes to the said hot-air or steam chamber for supplying steam or hot air to said chamber, from which it escapes through the perforations in the lid or piece D', and upward through the feathers, the cover A' being provided with a suitable outlet-pipe D³.

The sides of the drawer are provided with openings D⁴, covered by wire-gauze or other suitable reticulated material D⁵ for the purpose of admitting cold air to regulate the temperature of the hot air or steam, as desired, the said openings being closed from the outside by means of the hinged lids or dampers D⁶, hinged at D⁷ to the outer wall of the box or receptacle.

The top or cover is provided with a suitable hinged door F, for the purpose of introducing the feathers, and at some suitable point, preferably just beneath this door, I arrange within a suitable opening a piece of glass or other suitable transparent medium F', through which the condition of the contents of the receptacle may be readily seen.

Upon one side of the receptacle A, I provide a suitable opening, as G, and around this opening upon the outside I secure a suitable frame, as G'', within which is held a removable door G², held in place by means of a spring-catch G³, secured to said frame and against the door, being prevented from displacement inward by means of the lug G⁴.

The feathers after having been thoroughly treated are designed to be removed through this opening after the door has been removed, and when it is desired to fill a tick the latter

is placed with its mouth over said opening, suitable hooks, as G^5 , being provided for the purpose of holding the same, as shown in Fig. 1.

The drawer C, with its steam or hot-air chamber, is made removable for the purpose of cleaning, when desired.

The cover or top A^2 is provided upon opposite sides with an opening covered by wire-gauze or other suitable reticulated material, as shown at H, for the purpose of admitting fresh air to the interior for the purpose of ventilating the feathers. These openings are designed to be closed either wholly or partially by means of doors I, hinged at I' to the cover, and these doors are connected in such a manner that they may be operated simultaneously or each independent of the other, as may be desired. This connection is as follows: J are levers or arms pivoted near their center, as at J' , to the top or cover A^2 upon the exterior, and having their upper ends connected with the adjacent door I by means of the link K. The lower ends of these levers or arms J are connected by means of the toggle-lever L, consisting of two parts hinged at their adjacent ends, as at L' , and their outer ends pivotally connected with the lower ends of the arms or levers J, as shown. When the toggle is broken, either door may be operated independently of the other by the manipulation of its lever or arm J; but when the toggle-arms are straight or not broken, both of said doors may be operated simultaneously by the manipulation of either of the arms or levers J.

At the side of the case opposite the door G^2 there is an opening M, the bottom wall of which is inclined downwardly and outwardly, as shown at M' , and this opening is closed by means of a door M^2 , hinged at M^3 to a strip M^4 , the ends of which are extended beyond the end walls of the case and work in slots M^5 in horizontal strips M^6 , secured to said side walls of the case. This strip is held in close contact with the end wall of the case by means of the coiled springs N, having one end secured to the outer end of the strip M^4 and the other end to an eye or staple or some other analogous device attached to the wall of the case. The inner edge of this strip M^4 is beveled inwardly toward the interior of the case and downwardly, as shown at M^7 , and the lower inner edge of the door is inversely beveled, as shown at M^8 . The door is provided with an opening N' , covered with a strip of wire-gauze or other reticulated medium N^2 , and upon the outside with a hinged metallic door N^3 , to prevent egress of steam or hot air. The door M^2 is retained in position by means of a suitable catch, as N^4 . When it is desired to remove the dirt which accumulates at this end of the ma-

chine, this door is let down and the strip M^4 pulled outward against the tension of its springs, when the dirt will fall out through the opening between the said strip and the wall of the case.

The device is simple and complete, and in use has been found very efficient for the purpose for which it is intended.

The operation is simple and will be readily understood, and a description thereof is not deemed necessary.

What I claim is—

1. The combination, with the case, of the removable drawer and the steam or a hot-air chamber forming a part of said drawer and provided with suitable supply-pipes, substantially as specified.

2. The combination, with the case, of the removable drawer provided with a steam or a hot-air chamber provided with suitable supply-pipes and a perforated top for said chamber, substantially as specified.

3. The combination, with the case, of the removable drawer having a hot-air or a steam-chamber as a part thereof, and provided with suitable supply-pipes and a hinged perforated strip forming the top of said chamber and a portion of the bottom of the drawer, substantially as specified.

4. The combination, with the case, of the removable drawer provided with a steam or a hot-air chamber and having a perforated top and suitable supply-pipes, communication with said chamber, the case having openings D^5 in proximity to the drawer and dampers controlling said openings, substantially as specified.

5. The combination, with the case and its cover provided with openings upon opposite sides, of the reticulated medium over said openings, the hinged doors, the levers connected with the doors, and the toggle connecting said levers together, substantially as specified.

6. The combination, with the box and its cover having openings upon opposite sides and reticulated material over said openings, of the hinged doors to said openings, the levers pivoted between their ends to the cover, the links connecting one end of the levers with the doors, and the jointed arms connecting the other ends of said levers, substantially as shown and described.

7. The combination, with the case having opening M, of the hinged door of said opening and the strips to which said door is hinged and yieldingly connected with the case, substantially as specified.

8. The combination, with the case having opening M, of the hinged door to said opening, the strip to which said door is hinged, the slotted pieces upon the ends of the case through the slot of which said strip extends, and the springs connecting said strip with the case, substantially as shown and described.

9. The combination, with the case provided

with suitable opening M, the bottom wall of which is inclined outwardly and downwardly, of the strips upon the ends of the case, slotted as described, the strip having its ends
5 passed through the slots of said strips with its inner edge beveled, the door hinged to said strip, with its bottom edge reversely beveled and the springs connecting the extended

ends of the strip with the case, substantially as specified. 10

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

JOHN H. BRUEN. [L. S.]

Witnesses:

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HORACE H. HOLMES.