

(No Model.)

R. EICKEMEYER.
HAT BRIM HEATING MACHINE.

No. 338,497.

Patented Mar. 23, 1886.

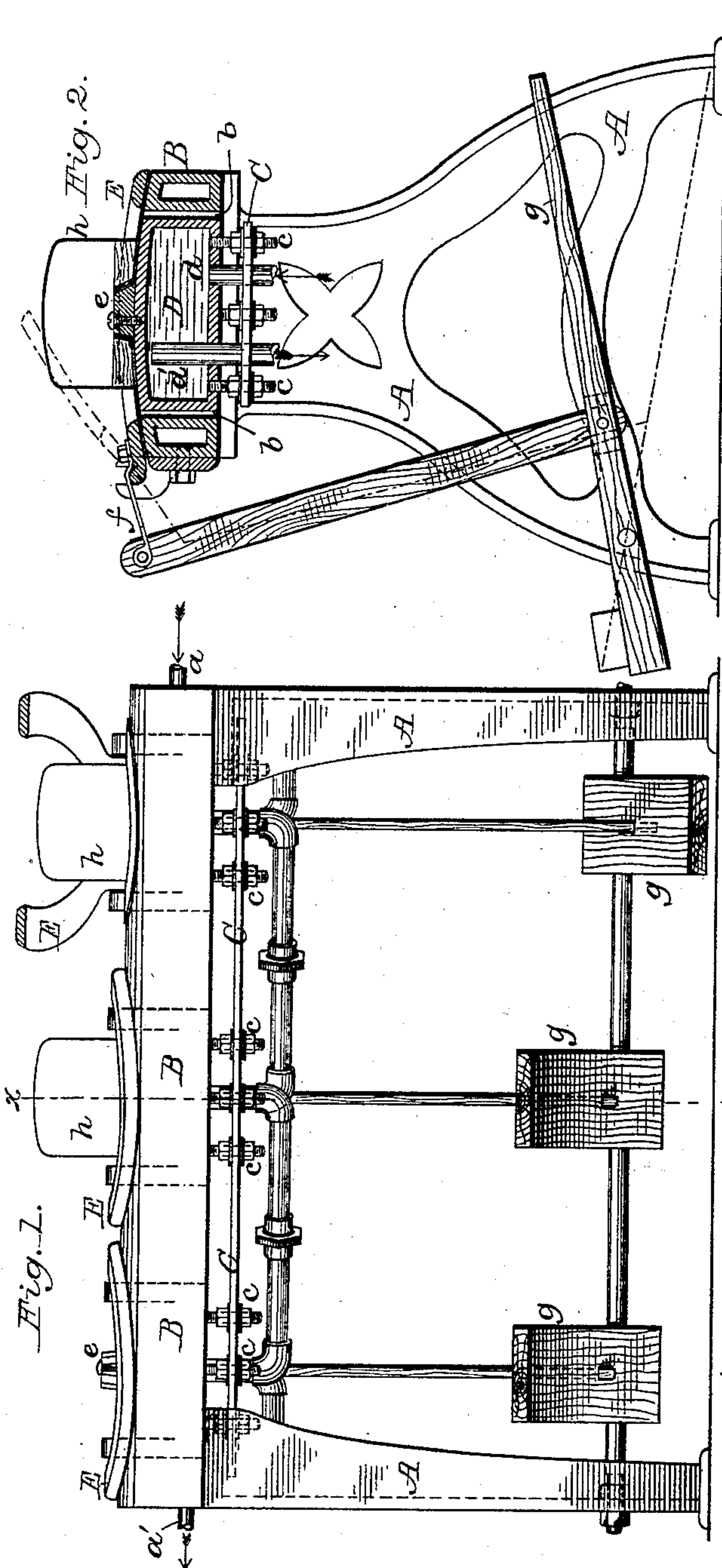


Fig. 1.

Attest:
Philip F. Larner.
Howell Battle.

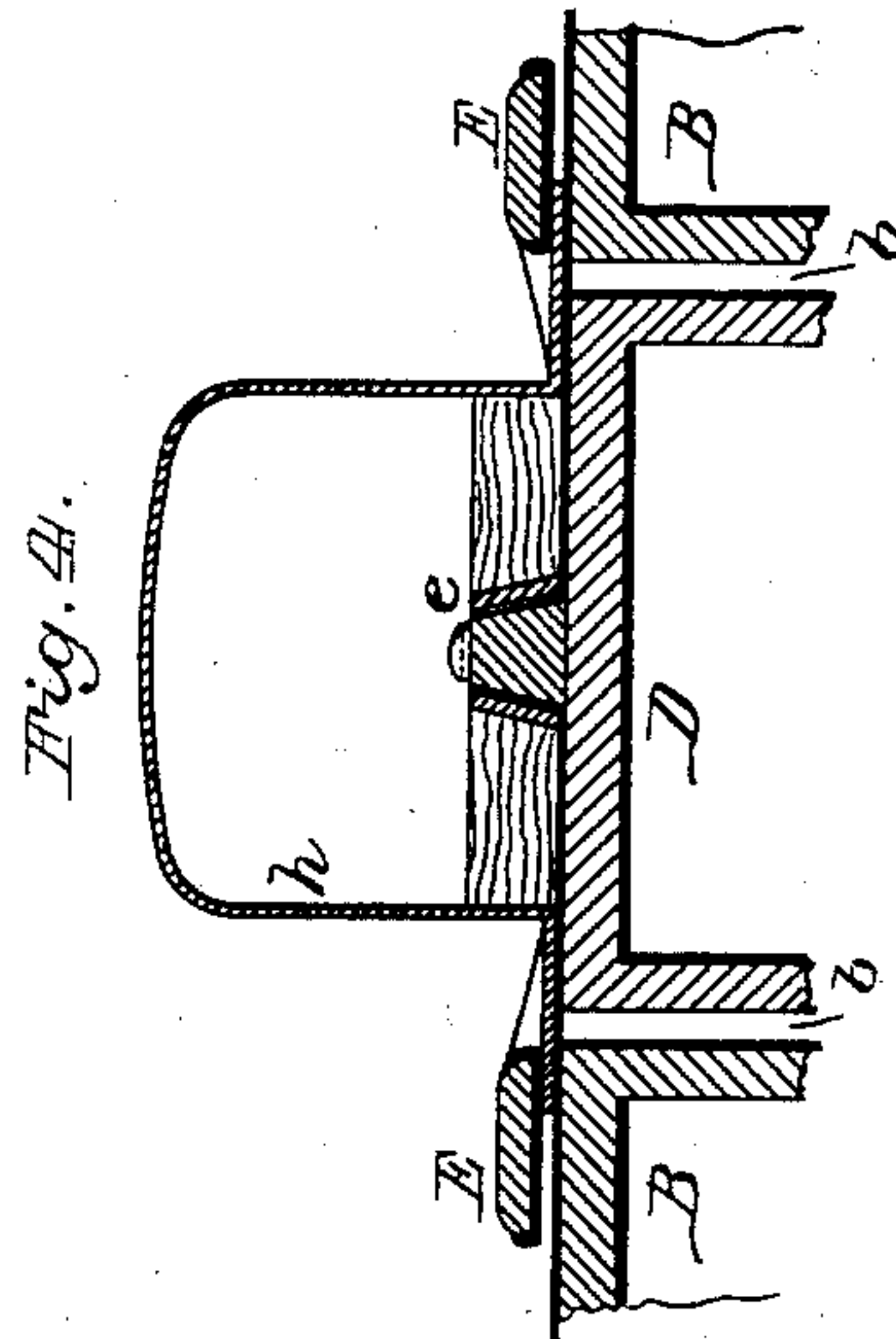


Fig. 2.

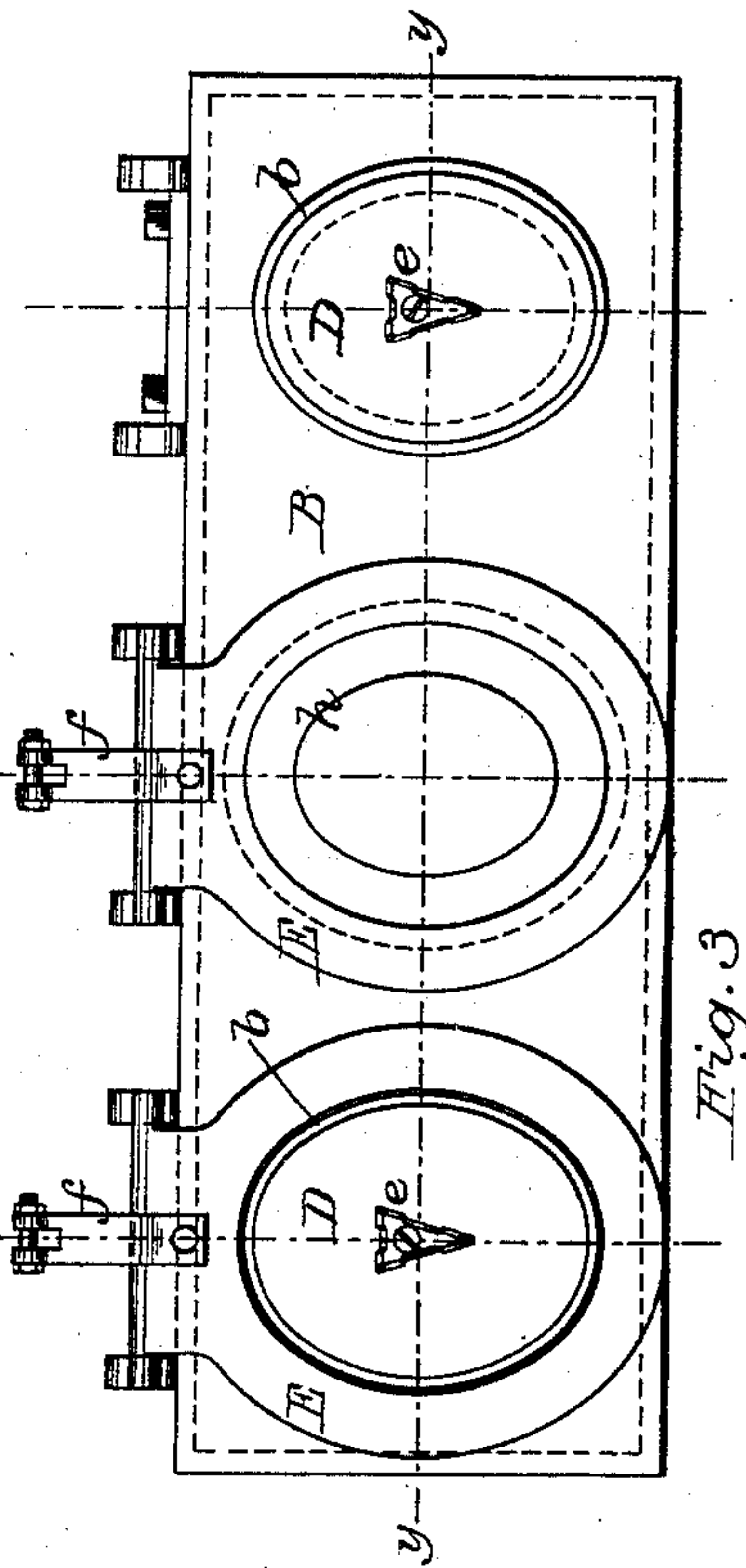


Fig. 3.

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RUDOLF EICKEMEYER, OF YONKERS, NEW YORK.

HAT-BRIM-HEATING MACHINE.

SPECIFICATION forming part of Letters Patent No. 338,497, dated March 23, 1886.

Application filed October 23, 1885. Serial No. 180,701. (No model.)

To all whom it may concern:

Be it known that I, RUDOLF EICKEMEYER, of Yonkers, in the county of Westchester and State of New York, have invented a certain
5 new and useful Hat-Brim-Heating Machine; and I do hereby declare that the following specification, taken in connection with the drawings furnished and forming a part of the same, is a clear, true, and complete description
10 of my invention.

It is to be understood that my machine can be profitably used in any branch of hat-manufacturing wherein it could possibly be desirable to soften by means of heat a portion of
15 a hat-brim; but I have devised it with special reference to its use in connection with certain brim-curling machines heretofore patented by me.

In curling brims by any means known to me it is important that the outer portion of the brim be well heated without heating either the inner portion of the brim or the crown of the hat, and with my machine this can be done so
20 perfectly that even if a hat be already lined with "sweats" so delicate as to be readily injured by heat the latter can be left intact, while the outer portion of the brim is exposed to sufficiently high temperatures for all practical
25 purposes.

While my machines can be arranged so as to operate upon but one hat at a time, they are in their best form adapted to operate upon two or more hats, according to the rapidity with which the curling machinery is operated; and
30 I find that if my present machine is arranged to operate on three hats, and the latter are applied thereto and removed sequentially, a maximum economy in time will be afforded. I have also so constructed my present machines
35 that the outer portions of brims will be properly and conveniently clamped while being heated, and the heat fairly well distributed at both sides of the brim.

After fully describing the machine illustrated in the drawings, the features deemed novel
45 will be specified in the several clauses of claims hereunto annexed.

Referring to the drawings, Figure 1 illustrates one of my machines in front elevation,
50 but with one of the brim-clamps elevated and shown in section, and wherein one hat is shown in position for heating and another as if just inserted or ready for removal. Fig. 2 is a cen-

tral vertical cross-section of the same on line *x*, Fig. 1. Fig. 3 is a plan or top view of the
55 same with one of the brim-clamps detached. Fig. 4 is a longitudinal section of the central portion of the machine on line *y*, Fig. 3, and shows a hat in position for heating.

The frame A of the machine may be vari-
60 ably constructed as to form and materials; but, as shown, it consists, mainly, of two cast-iron end pieces, which afford independent support to the hollow brim-heating table B and a bed-plate, C. This heating-table in its best form
65 is convex from side to side, as clearly indicated, and it may be composed of heavy sheet metal tightly riveted, but is preferably of such cast metal as will best resist the destructive influences of expansion and contraction and
70 be capable of holding steam at ordinary pressures, and it is provided with steam-heating connections, the induction and eduction steam-pipes being shown at *a* and *a'*. According to the
75 size of said table, it has one or more circular or oval apertures, *b*, somewhat larger than the largest hat-blocks, and these apertures extend downward through the brim-table, but, having perfect side walls, they do not impair the steam-tight capacity of the table, and the convex sur-
80 face of the table immediately adjacent to these apertures constitutes the brim-heating beds. By having a series of brim-beds heated by steam within a chamber common to all of the
85 beds much better results will accrue than if each bed had its own steam-space, because of the uniformity with which all the brim-beds can be heated and because of the lessened liability of condensation. As here shown,
90 there are three of these apertures, and in each there is centrally located a crown-bed, D, sufficiently smaller than the aperture to afford a free annular space between said bed and the
95 table. These crown-beds, thus practically insulated from the brim-beds, are mounted upon the thin frame bed-plate C, which is supported at its ends by the main frame, and each bed is
100 set upon four vertical bolts, *c*, which are vertically adjustable, which enable the bed to be accurately adjusted with relation to the convex portions of the surface of the heating-table,
105 which serve as brim-beds. In the best form each crown-bed is hollow and water-tight, and has an induction-pipe, *d*, entering at its bottom, and an eduction-pipe, *d'*, projecting to near the interior surface of its top, so that cool

water may be continuously circulated therein in a manner most conducive to maintaining the top of the crown-bed at a low temperature, and enabling it to operate effectively as a cooling-bed for such portions of the hat as should not be heated. If the crown-bed be made of solid metal, or of some good non-conducting material, fair results will accrue; but for reliable service it should be specially cooled, as described.

Each crown-bed is provided at its upper surface with a block-centering chuck, *e*, heretofore patented by me May 5, 1885, Patent No. 317,104. This chuck is of such form that it not only enables a hat-block with a hat thereon to be accurately mounted centrally, but also mounted with reference to the front and rear ends of the hat, thus enabling a hat to be always so mounted that no more than the exactly proper portion of a brim can possibly be exposed to the brim-heating bed. Other forms of chuck can be employed without departure from certain portions of my invention, and so may some of the latter be employed to advantage if no chuck be used.

With each brim-heating bed and a crown-bed an annular or oval brim-clamp, *E*, is employed, which is composed of metal, and has a convex under face corresponding exactly with the convex surface of the brim-bed, and said clamps are vertically movable by being hinged at their rear ends to the hollow table, and each is provided with a tail-piece, *f*, which is coupled to a treadle, *g*, so that on depressing the latter the clamp will be swung upward and rearward from its normal position, for enabling a hat to be readily applied or removed. It will be observed that the clamp always bears upon the brim-bed, except when the treadle is depressed, thus providing for heating the clamp preparatory to inserting a hat, *h*. For obviating all possibility of injuring the brims of a hat by undue heating, I clothe the brim-bed and the face of the clamp with felt or other woolen fabric.

The clamps may, if desired, be chambered and supplied with steam through hollow trunnions at their hinge-joints; but I find that they can be sufficiently well heated by resting upon the heated brim-bed. It will be obvious that the brim-clamp, normally supported by the brim-bed and lifted by a treadle, will be of more or less service, even when no crown-bed is employed, because in this case the hat will be held by its brim, and its crown kept fairly cool by the upward currents of air through the apertures *b*, although better results will accrue if the crown be specially supported. In some cases it is desirable that the entire surface of the heating-table be smooth or unbroken, and if so it may be covered with very thin sheet metal, and this in turn may be covered with woolen cloth or felt.

With a machine thus constructed (it being assumed that proper circulation of steam and of water is provided for) I find it advantageous to proceed as follows, whether the brims be

first trimmed or untrimmed: In brim-curling with my machines as aforesaid a hat is first mounted upon a brim-block, and is retained thereon throughout the several operations. The brim-clamps having been in their normal position for a sufficient length of time to properly heat them, the treadles are then successively depressed and three hats successively placed in the position indicated in the drawings. By the time the last of the three hats is placed in position the first one will be usually at a proper heat for the folding-machine, whereupon the operator depresses the proper treadle, removes the hat, and permits the clamp to assume its normal position on the brim-bed to properly heat it for the next hat. The folding-machine is then operated on the first hat, and is then allowed to rest, for permitting the hat to properly cool, and during this rest another hat is placed in this machine, and then after removing the first hat from the folding-machine the second hat is removed from this machine, and so on in regular order, enabling these operations to be performed with substantial economy in the matter of time.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a brim-heating machine, the combination, substantially as hereinbefore described, of a hollow annular or oval brim-bed provided with steam-heating connections, and a central crown-bed practically insulated from said brim-bed.

2. In a brim-heating machine, the combination, with the annular brim-heating bed, of the central insulated hollow crown-bed provided with means for interior water-circulation, substantially as described.

3. In a brim-heating machine, the combination of the brim-heating bed, a central crown-bed, and a vertically-movable brim-clamp, substantially as described.

4. In a brim-heating machine, the combination of a brim-heating bed and a central crown-bed provided with a block-centering chuck, substantially as described.

5. In a brim-heating machine, the combination of the brim-heating bed, the annular brim-clamp normally in contact with said bed, and a treadle for lifting and lowering it, substantially as described.

6. In a brim-heating machine, the combination of the brim-heating bed, the central insulated crown-bed, a block-chuck on said crown-bed, and a brim-clamp, substantially as described.

7. In a brim-heating machine, the combination of the brim-heating bed, the central aperture, and the brim-clamp, substantially as described.

8. In a brim-heating machine, a hollow steam-table provided with a series of annular or oval brim-beds which are heated by steam within the table, substantially as described.

Witnesses:

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