

(No Model.)

2 Sheets—Sheet 1.

J. EATON.

APPARATUS FOR STRETCHING HAT BODIES.

No. 292,634.

Patented Jan. 29, 1884.

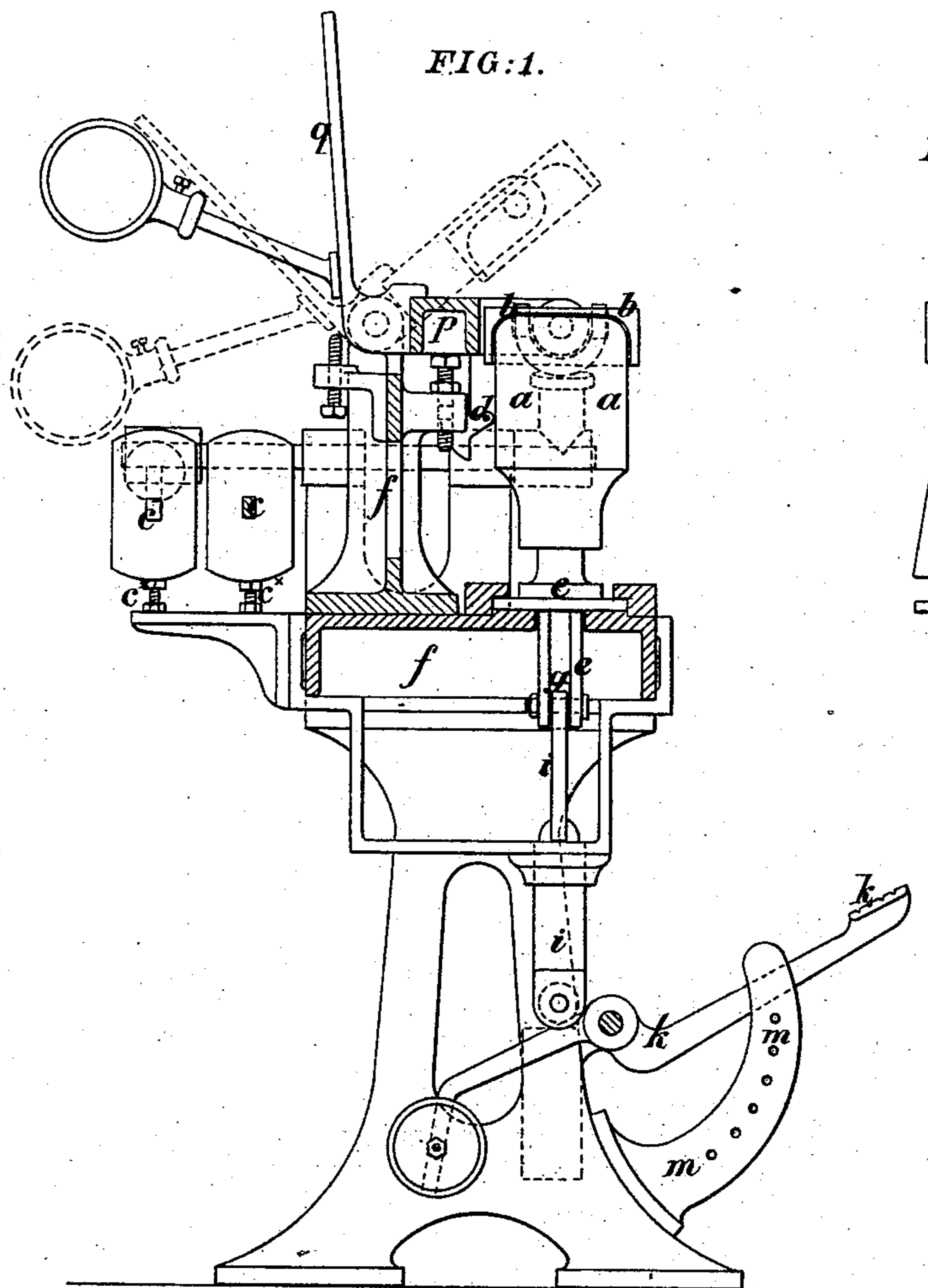


FIG:5.

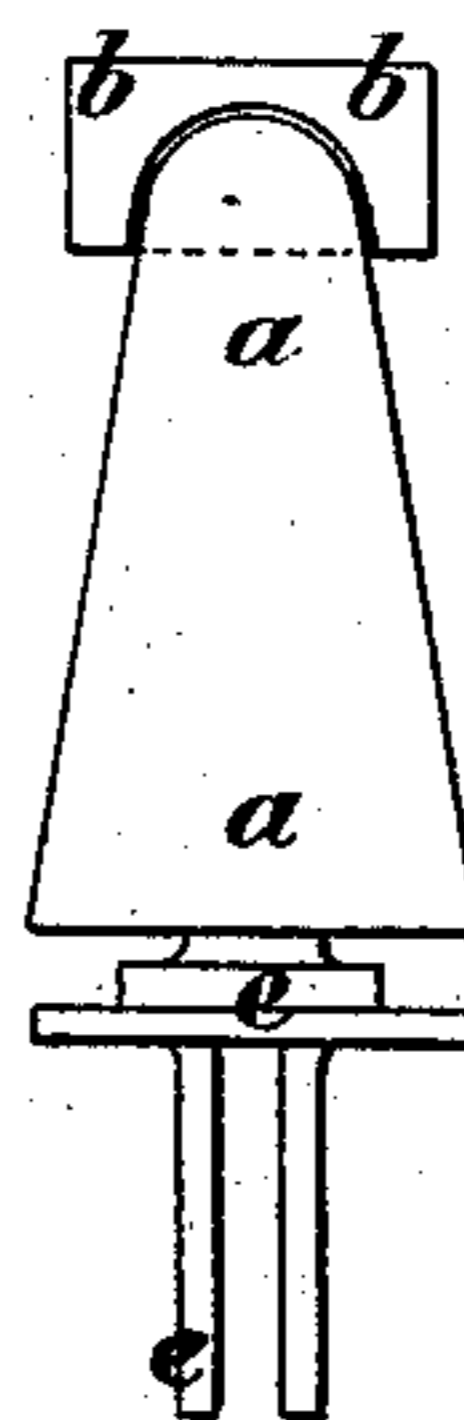
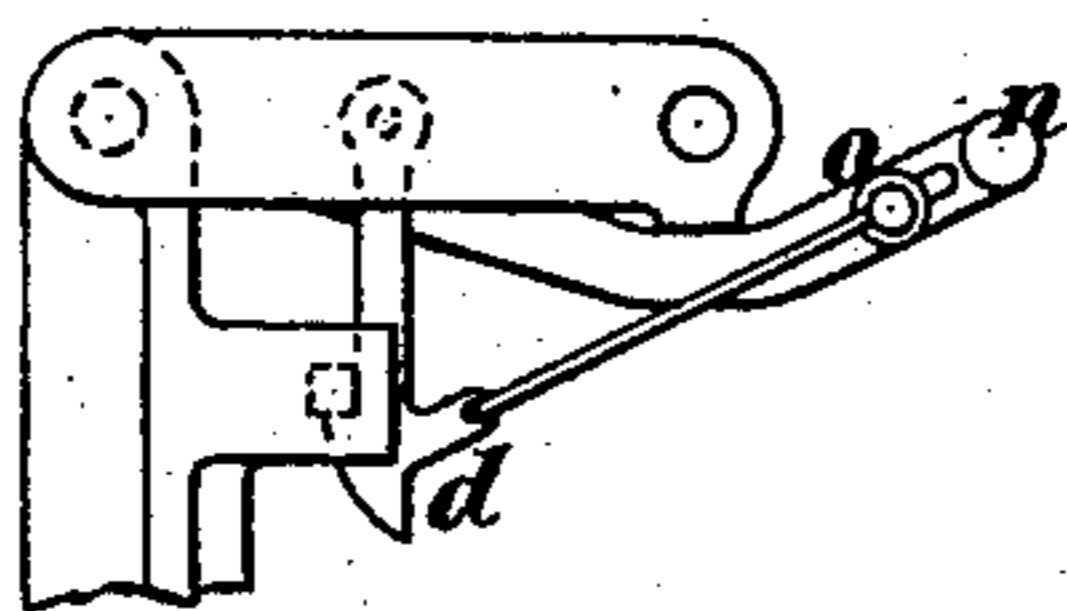


FIG:4.



Witnesses:
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Harry L. Ashenfelter

Inventor:
John Eaton
By his Attorneys
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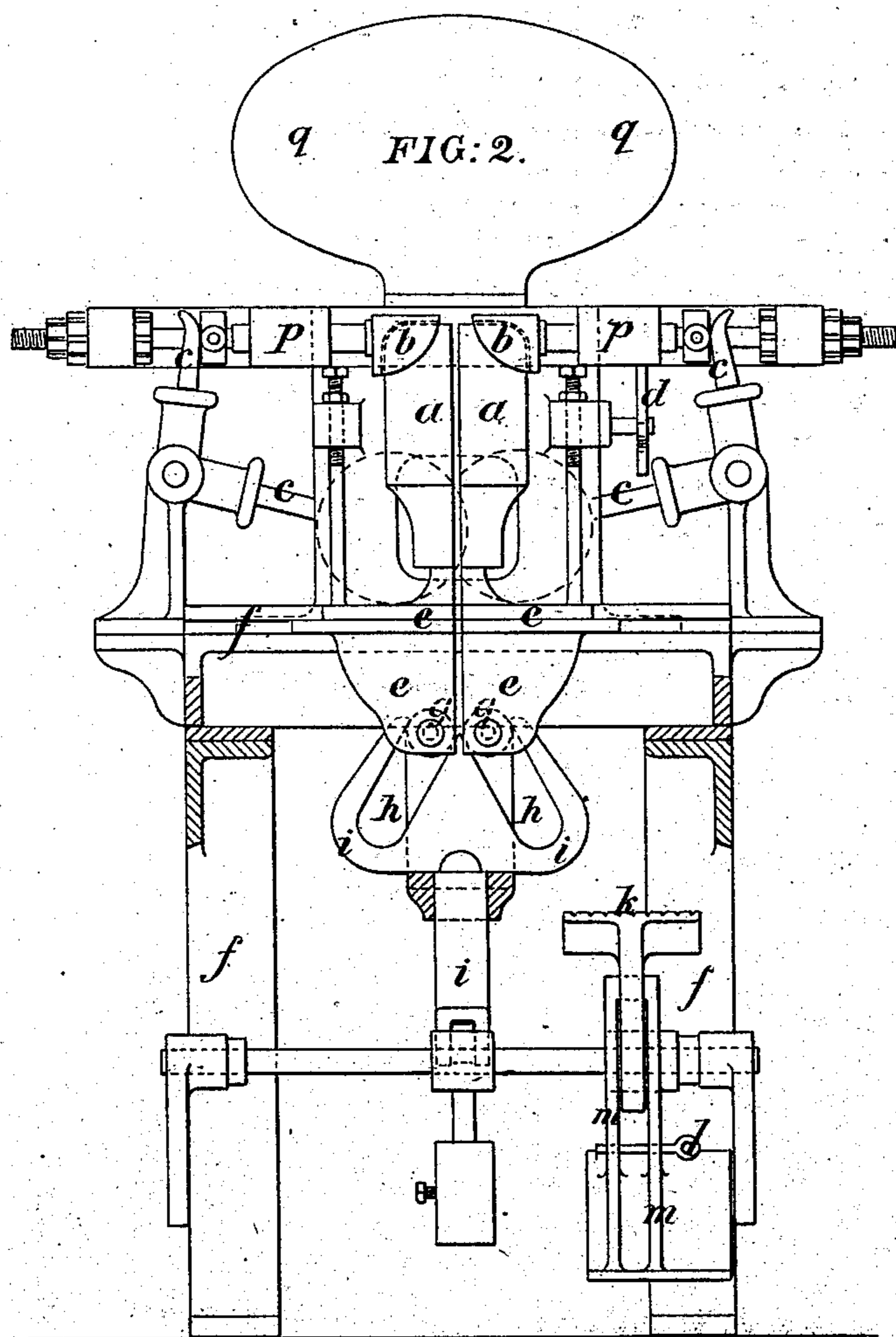
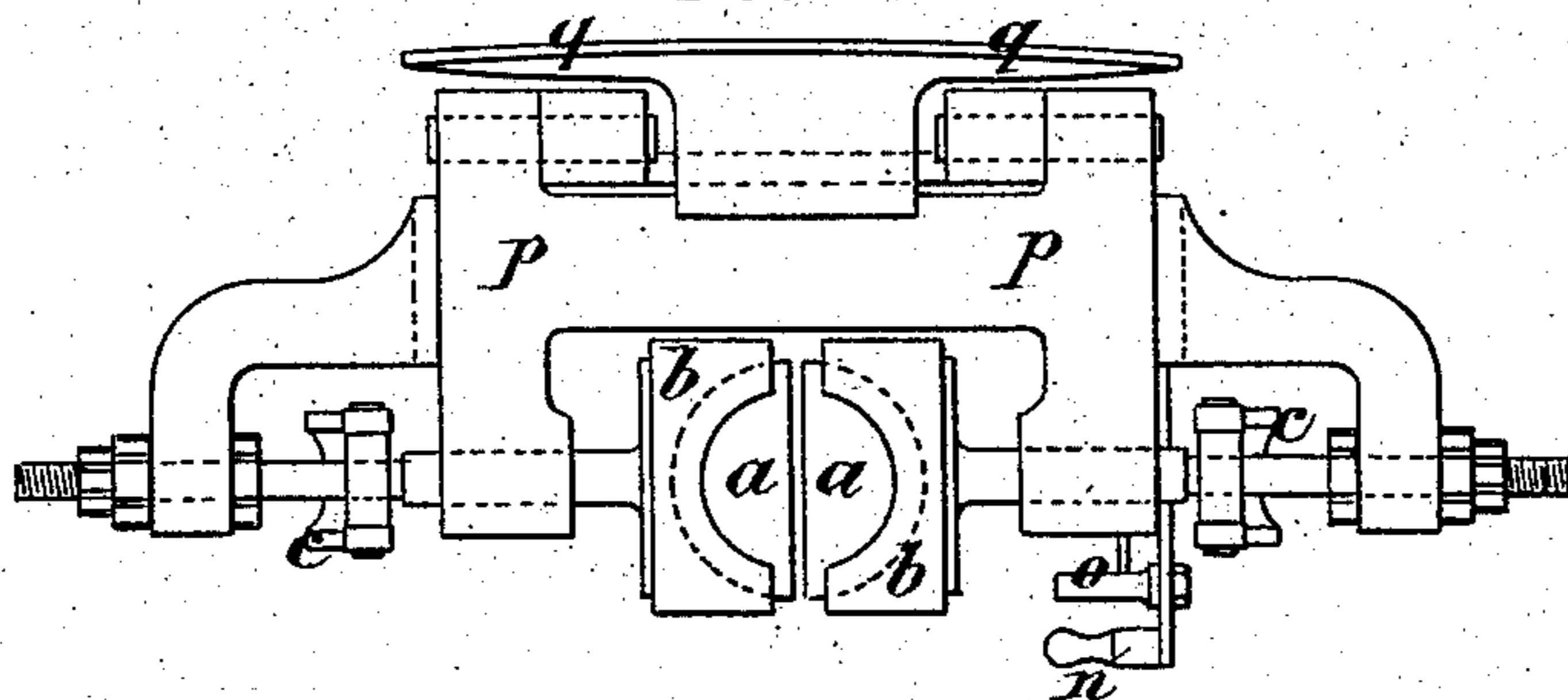


FIG. 3.



Witnesses:
David S. Williams
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Inventor:
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UNITED STATES PATENT OFFICE.

JOHN EATON, OF STOCKPORT, COUNTY OF CHESTER, ENGLAND.

APPARATUS FOR STRETCHING HAT-BODIES.

SPECIFICATION forming part of Letters Patent No. 292,634, dated January 29, 1884.

Application filed August 6, 1883. (No model.) Patented in England April 19, 1883, No. 1,976; in France August 1, 1883, No. 156,830, and in Italy August 11, 1883, No. 15,778.

To all whom it may concern:

Be it known that I, JOHN EATON, a subject of the Queen of Great Britain and Ireland, and residing at Stockport, in the county of Chester, England, have invented an Improvement in Apparatus for Stretching Hat-Bodies, of which the following is a specification.

This invention relates to the construction of apparatus to be employed for the purpose of stretching hat-bodies in the process of manufacture.

Figure 1 in the annexed drawings represents a vertical section, Fig. 2 a front elevation, (shown also partly in section,) and Fig. 3 a plan view, of my improved apparatus as arranged for stretching the tips of hat-bodies. Fig. 4 is a detached view, showing the catch for retaining the frame carrying the cups, and Fig. 5 is a view of a modified form of block.

The apparatus consists, principally, of two half-blocks, *a a*, of a cylindrical or conical form, with a rounded apex, and two corresponding half-cups, *b b*, fitting thereon, and firmly pressed inward against the rounded apex of the half-blocks *a a* by means of the weighted bell-crank levers *c c*, (or by springs,) so that, a felt hat-body being placed over the half-blocks *a a* while the half-cups *b b* are raised, as shown in dotted lines in Fig. 1, and the half-cups *b b* being then brought down and held by the catch *d d*, (see also detached view, Fig. 4,) the tip is held firmly between the two, and the two half-blocks *a a* being caused to recede from each other, as hereinafter described, the hat-tip will be stretched in one direction, the grip between the half-block *a* and its corresponding half-cup *b* being kept firm by the action of the weighted levers *c c* (or by springs) as the half-blocks *a a* open out. The half-blocks *a a* are carried on standards *e e*, sliding in horizontal grooves in the frame *f f*, the lower ends of the said standards being provided with rollers *g g*, running in diagonal slots *h h*, formed in a plunger, *i i*, actuated by a treadle, *k k*. As the treadle is pressed down by the foot, the plunger *i i* is raised, and the two half-blocks *a a* are thrust asunder, so as to stretch the tip of the hat-body, raising the weighted levers *c c*, and as the pressure of the foot is removed from the treadle the action of

the said weighted levers *c c* will draw the half-blocks together again. As the blocks approach one another, the weighted lever *c c*, coming into contact with the set-screws *c^x c^x*, Fig. 1, will relieve the pressure of the half-cups *b b*, and the attendant can then turn the hat-body partially round on the half-blocks *a* before pressing down the treadle again, so as to stretch the tip in a fresh direction at each tread. The downward action of the treadle *k k*, and consequently the amount of stretch given to the tip, may be limited by placing the pin *l* (see Fig. 2) in any one of the holes in the curved bracket *m m*. (See Fig. 1.)

The small handle *n n* (see Figs. 3 and 4) is for the purpose of raising the half-cups *b b* into position shown in dotted lines in Fig. 1, so as to afford facility for removing and replacing the hat-bodies. Near to this handle *n n* is a small stud, *o o*, and by grasping this at the same time the operative releases the catch *d d*, so as to allow of the frame *p p* (which carries the half-cups *b b*) being raised up. *q q* is a name-plate for exhibiting the name and address of the inventor or patentee and the maker of the machine.

Fig. 5 shows the form of half-blocks and half-cups which I employ for high narrow-crowned hats, and for stretching the brims of the hat-bodies I employ half-blocks of somewhat similar form, but larger at the base in proportion, so that the body is only stretched at the brim, and not at the tip. In place of the half-cups, I then employ two or three pairs of half-rings beveled inside to suit the angle of the cone, and in some cases I prefer to divide the blocks or cones and the cups or rings into a larger number of sections than two, and when six or more sections are used I give the stretching motion to each alternate section only, the intermediate sections being fixed, and serving to hold the body while the others stretch it. In other respects the machine is the same as that for stretching the tips.

I claim as my invention—

1. The combination, in a hat-machine, of a hat-block made in two or more parts, and corresponding cups adapted to be held to the said separate parts to retain the hat thereon, and devices, substantially as set forth, for moving

the parts of the block away from each other, as set forth.

2. The combination of the frame of a hat-machine, a hat-block made in two or more parts, and standards adapted to guides in said frame, and carrying the parts of the block, with corresponding cups adapted to be held to the said parts to retain the hat thereon, and devices, substantially as described, for moving said standards to separate the parts of the block.

3. The combination of the frame of a hat-machine, and a hat-block made in two or more parts, with a movable frame carrying yielding cups corresponding with the parts of the said block and applied thereto, with devices, substantially as set forth, for separating the parts of the block with their corresponding cups.

4. The combination of the main frame of a hat-machine, a hat-block made in two or more parts, and devices for withdrawing said parts from each other, with a pivoted frame, *p*, carrying cups *b b*, and yielding devices pressing

the cups into contact with the parts of the block, substantially as specified.

5. The combination of the main frame of a hat-machine, a hat-block made in two or more parts, and devices for withdrawing said parts from each other, with a movable pivoted frame, *p*, carrying yielding cups adapted to bear on the parts of the block, and a catch, *d*, substantially as set forth.

6. The combination of the frame of a hat-machine, a hat-block made in two or more parts, and yielding cups held to said parts, with sliding standards *e*, carrying the latter, and a plunger, *i*, under the control of the operator to separate said standards, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN EATON.

Witnesses:

GEORGE DAVIES,
CHARLES A. DAVIES.