

No. 677,425.

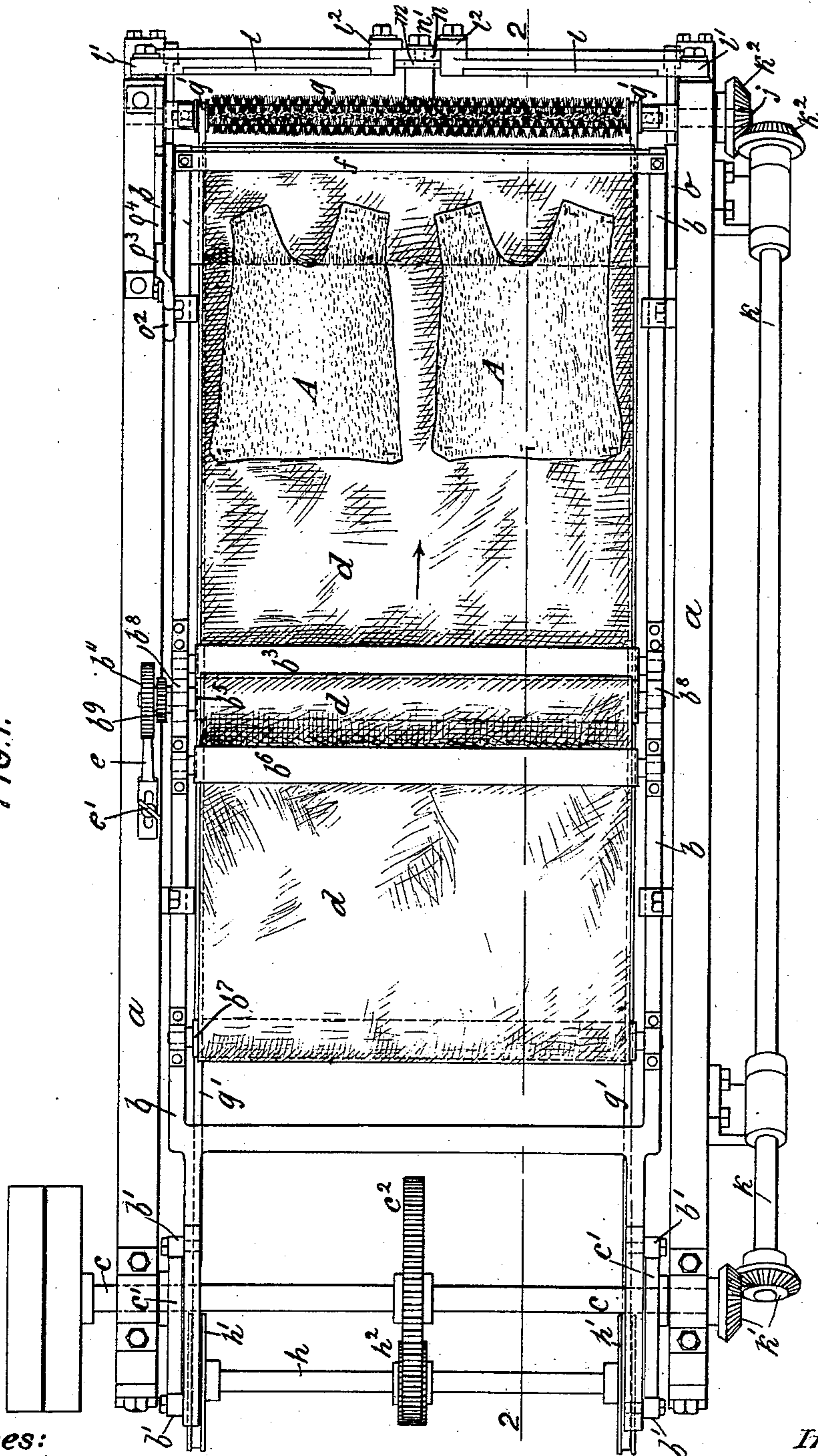
Patented July 2, 1901.

J. C. ROTHE.  
UNHAIRING MACHINE.  
(Application filed Oct. 22, 1900.)

(No Model.)

3 Sheets—Sheet 1.

FIG. 1.



Witnesses:

John Decker.

William Schulz.

Inventor:

John C. Rothe  
by his attorneys  
Roeder & Friend





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3 Sheets—Sheet 3.

FIG. 4.

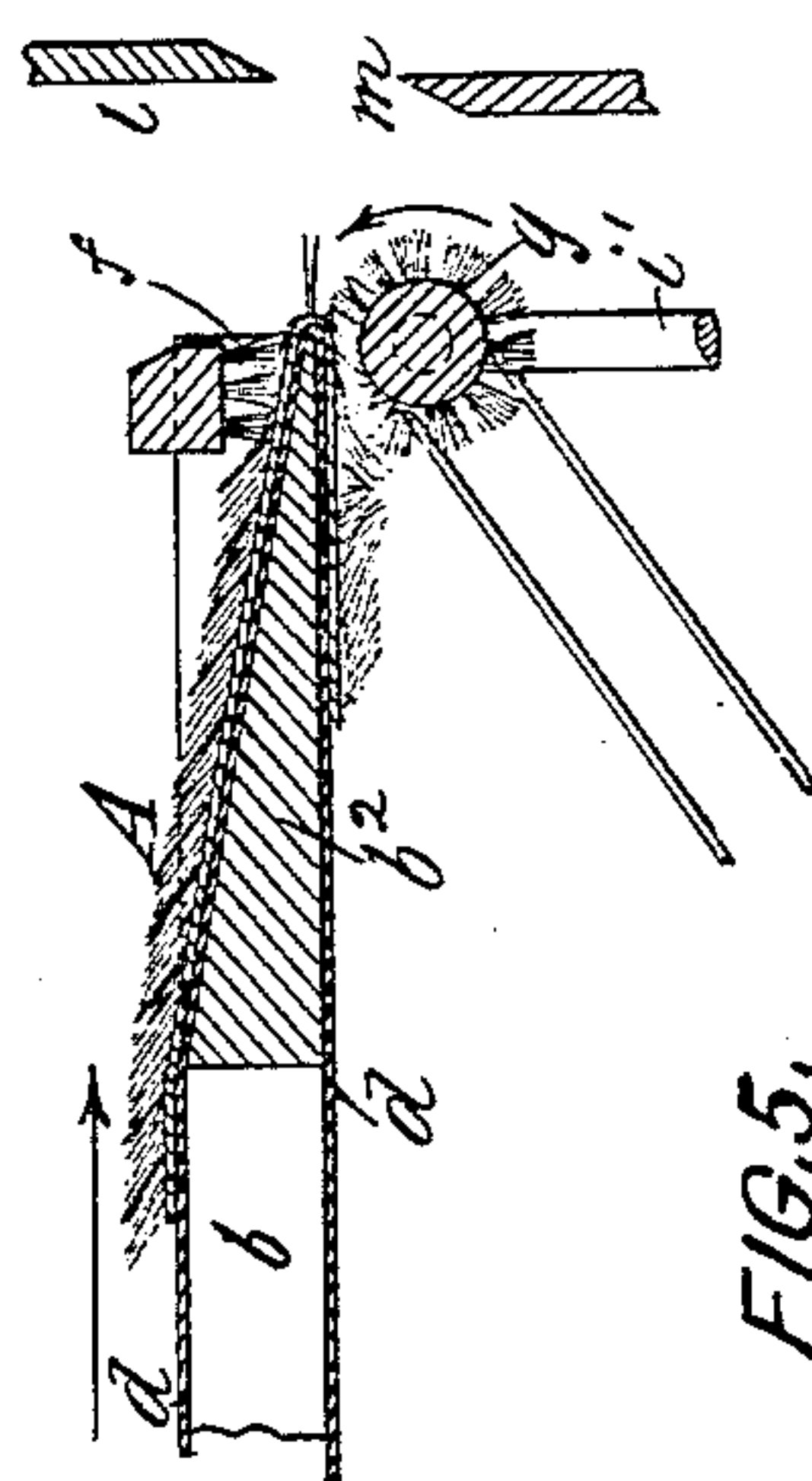


FIG. 5.

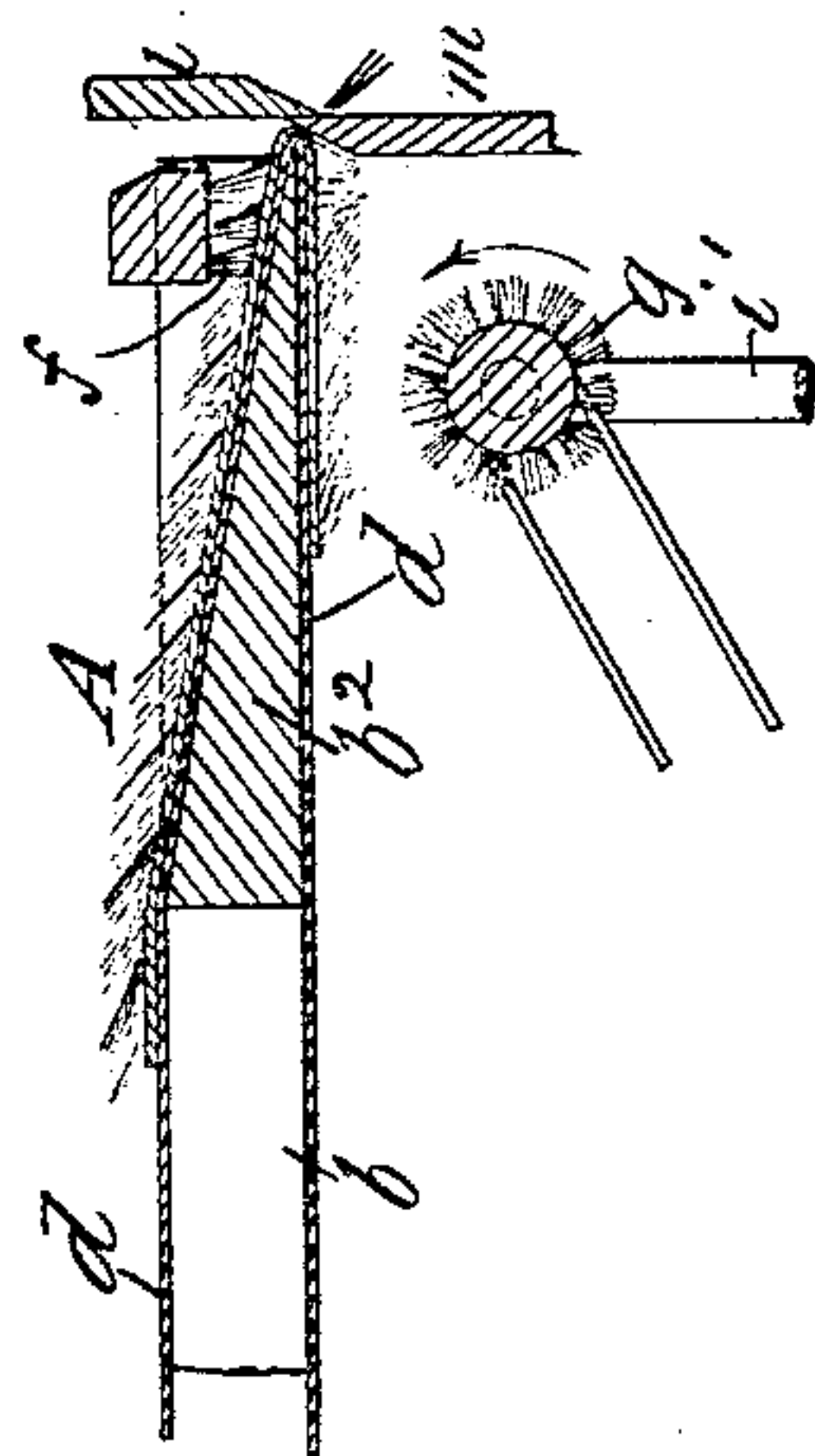


FIG. 7.

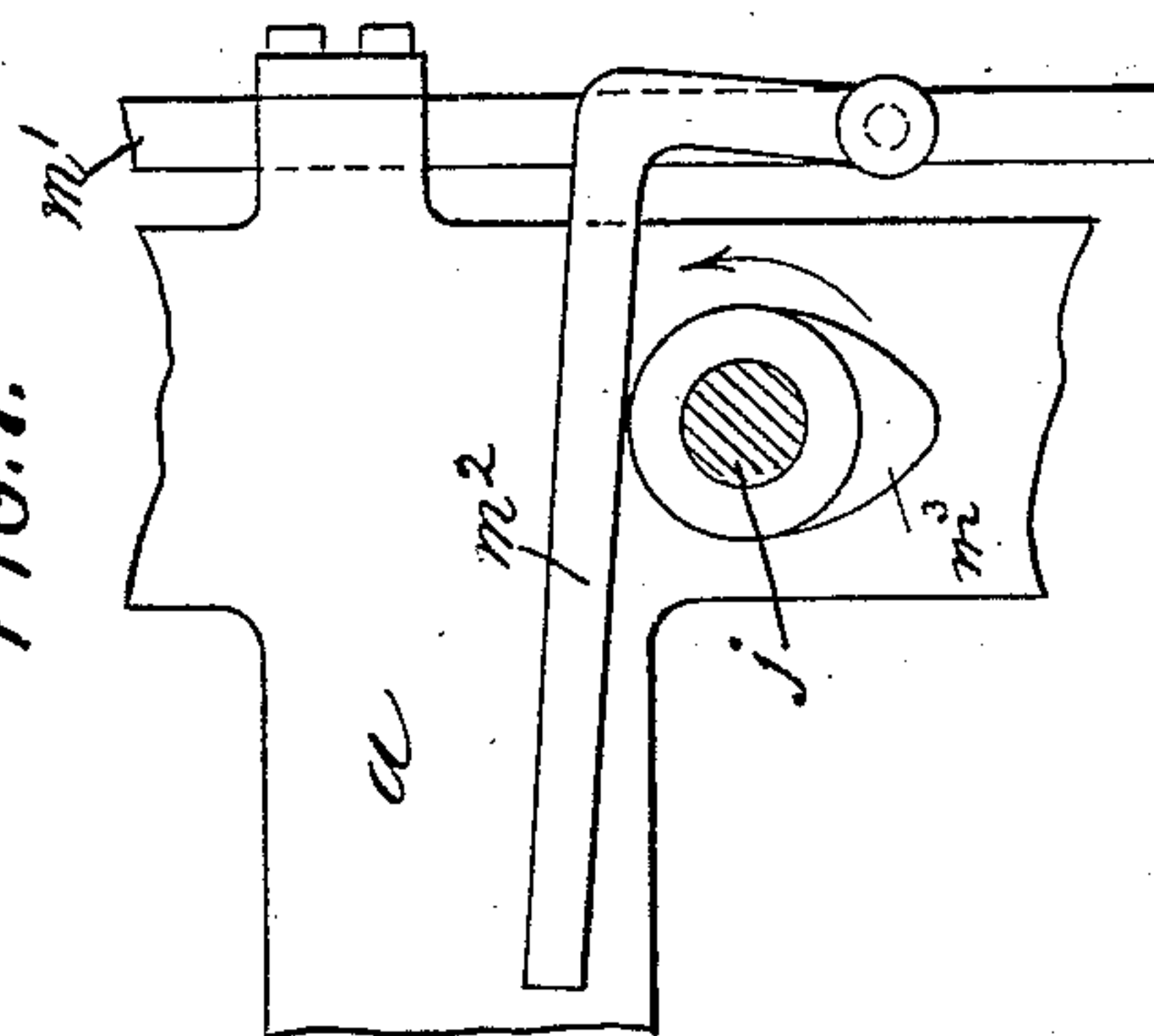


FIG. 6.

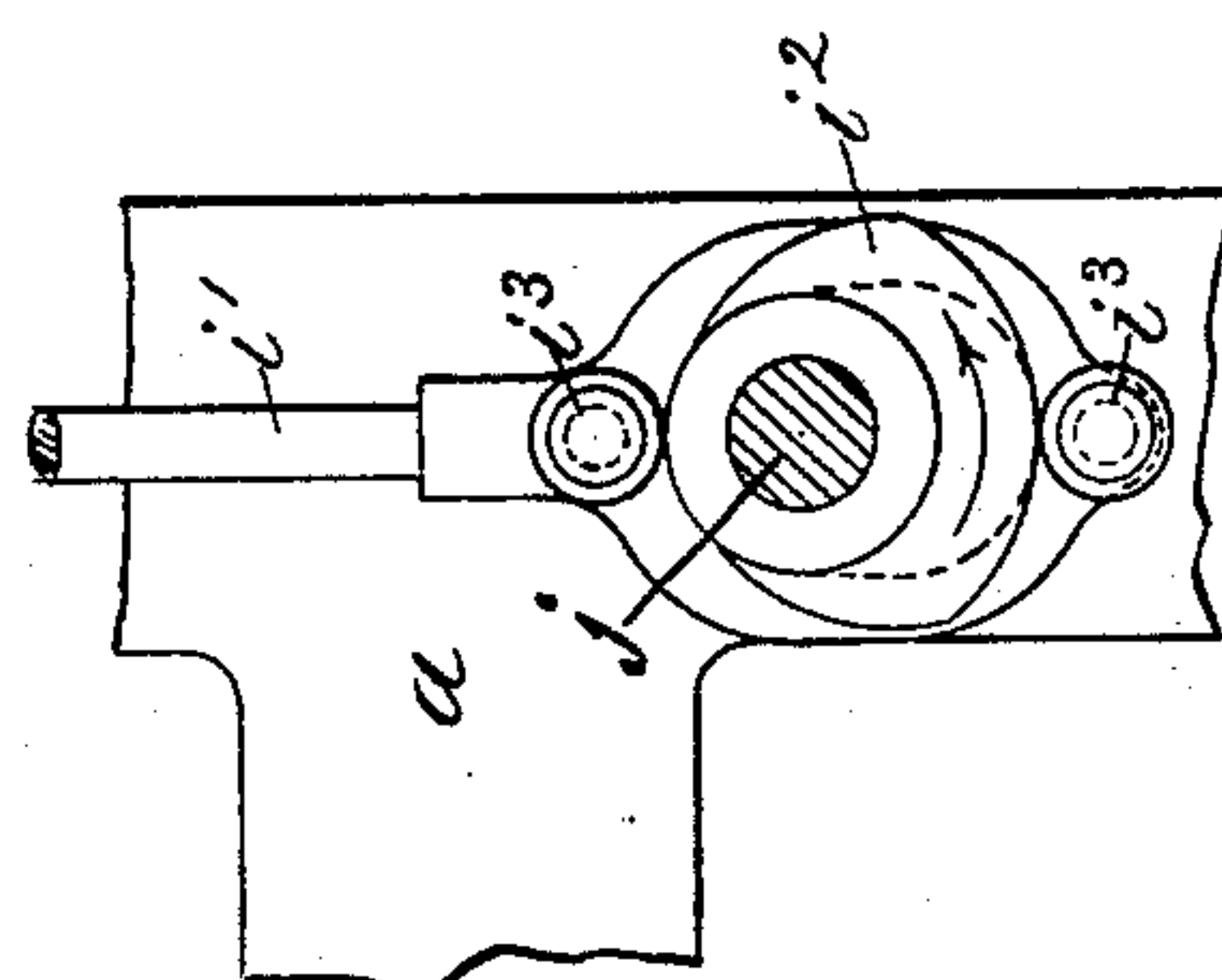
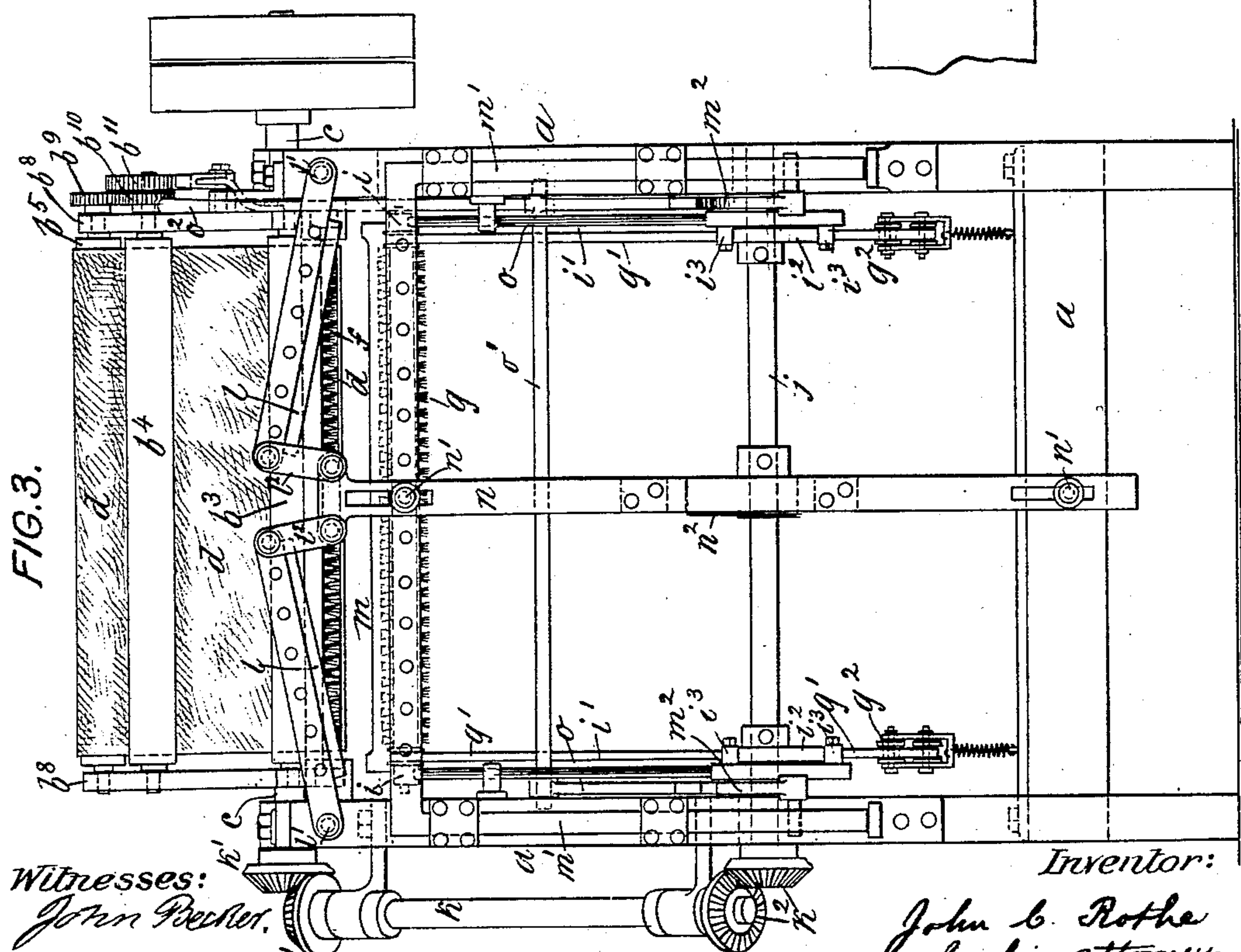


FIG. 3.



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Inventor:  
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# UNITED STATES PATENT OFFICE.

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## UNHAIRING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 677,425, dated July 2, 1901.

Application filed October 22, 1900. Serial No. 33,857. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN C. ROTHE, a citizen of the United States, and a resident of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Unhairing-Machines, of which the following is a specification.

This invention relates to an improved unhairing-machine designed to cut the water-hair near its root out of the wool in a quick and effective manner.

The machine is more particularly designed for unhairing rabbit-skins, but may of course be also used upon other pelts.

In the accompanying drawings, Figure 1 is a plan of my improved unhairing-machine. Fig. 2 is a vertical longitudinal section on line 2-2, Fig. 1; Fig. 3, a front elevation of the machine. Figs. 4 and 5 are sections through the front end of the machine, showing the parts in different positions. Fig. 6 is a detail of the brush-actuating cam, and Fig. 7 a detail of the mechanism for operating the lower shearing-blade.

The letter *a* represents the frame of the machine, upon which is free to reciprocate a slide *b*, to which motion is imparted from power-shaft *c* by cams *c'*, engaging the rollers *b'* of the slide. The slide *b* carries an endless apron *d*, to which the pelts *A* to be unhaired are secured and which is advanced slightly for each complete reciprocating movement of the slide. The apron *d* passes around the forward pointed end *b<sup>2</sup>* of the slide, under guide-roller *b<sup>3</sup>*, Fig. 2, over feed-roller *b<sup>4</sup>*, around feed-roller *b<sup>5</sup>*, under guide-roller *b<sup>6</sup>*, and over guide-roller *b<sup>7</sup>*. The rollers *b<sup>4</sup>* *b<sup>5</sup>* are mounted in uprights *b<sup>8</sup>* of the slide *b* and are inter-gearred by wheels *b<sup>9</sup>* *b<sup>10</sup>*, Fig. 3. The shaft of the roller *b<sup>4</sup>* carries a ratchet-wheel *b<sup>11</sup>*, which when the frame *b* passes through the last portion of its backward movement is engaged by a pawl *e*, mounted upon the frame *a*. In this way the rollers *b<sup>4</sup>* *b<sup>5</sup>* are slightly turned at each complete reciprocating movement of the slide to correspondingly advance the pelts *A*. The degree of forward movement may be regulated by connecting the pawl *e* adjustably to frame *a* by means of clamp-screw *e'*, Fig. 1. Above the inclined edge *b<sup>2</sup>* there is secured to the slide *b*

a brush *f*, which is movable with the slide, so as to constantly engage the pelt. Below the edge *b<sup>2</sup>* is arranged a vertically-movable and rotatable brush *g*, which is adapted to alternately engage and clear the pelt. The brush *g* is rotated from power-shaft *c* by belts *g'*, provided with tension devices *g<sup>2</sup>* and passing over pulleys *h'* on a counter-shaft *h*, inter-gearred with shaft *c* by wheels *h<sup>2</sup>* *c<sup>2</sup>*.

The shaft of the brush *g* is hung in bearings *i*, secured to a pair of rods *i'*, to which vertically-reciprocating movement is imparted by cams *i<sup>2</sup>*, engaging the rollers *i<sup>3</sup>* and mounted upon a shaft *j*, Fig. 3. This shaft *j* is driven from shaft *c* by counter-shaft *k*, inter-gearred with shafts *c* *j* by bevel-gear *k'* *k<sup>2</sup>*.

The brushes *f* *g* serve to brush the wool of the pelts backward, so that the stiff water-hair will project forward from the tapering end *b<sup>2</sup>* of the slide *b*, Fig. 4. This water-hair is engaged and severed by a pair of short upper shear-blades *l*, coacting with one common longer shear-blade *m*. The upper blades *l* are pivoted at their outer ends to the frame *a* at *l'* and are at their inner ends connected by pivoted links *l<sup>2</sup>* to a vertically-movable slide *n*. This slide is guided by pins *n'* and is reciprocated from shaft *j* by a cam *n<sup>2</sup>*, Fig. 2, which in this way oscillates the blades *l* upon their fulcrums *l'*. The lower blade *m* is reciprocated vertically by being connected to rods *m'*, provided with pivoted tappets *m<sup>2</sup>*, engaged by cams *m<sup>3</sup>* of shaft *j*, Fig. 7. The tappets *m<sup>2</sup>* are also adapted to be engaged at their upper side by stops or abutments *o*, connected with each other by a shaft *o'*. One of the abutments *o* is provided with a hand-lever *o<sup>2</sup>*, Fig. 2, which has a catch *o<sup>3</sup>*, adapted to engage any one of the notches of a fixed segment *o<sup>4</sup>*. By adjusting the position of this hand-lever the abutments *o* are raised or lowered, and thus the throw of the tappets *m<sup>2</sup>*, and consequently the play of the blade *m*, may be readily adjusted. If the abutments *o* are raised to clear the tappets *m<sup>2</sup>*, the motion of the lower blade *m* will be arrested.

The operation is as follows: The pelts *A* are pinned or otherwise fastened to the apron *d*, and as the latter is reciprocated the pelts are intermittently advanced toward the brushes and shears. The upper brush *f* will turn the



hair and wool backward at the top of the apron, while the lower brush will rise when the apron is in its retracted position, Fig. 4, to turn the wool backward at the bottom of the apron. The stiff water-hair will project forward between the brushes at the pointed edge of the slide *b*, and while the brush *g* descends, Fig. 5, the apron and pelt will be rapidly fed forward, so as to cause the exposed water-hair to be severed by the shears. The slide then retracts and the apron, together with the pelt, is advanced a short distance by the pawl *e*, so as to expose a new row of water-hairs to the action of the shears at the next forward movement of the slide.

What I claim is—

1. In an unhairing-machine, the combination of a reciprocating slide, with an endless apron supported thereby, means for intermittently feeding said apron, a pair of brushes, a pair of pivoted upper shear-blades, and a vertically-movable lower shear-blade, substantially as specified.

2. In an unhairing-machine, the combination of a pair of pivoted upper shear-blades, with a vertically-movable slide, pivoted links for connecting the inner ends of the blades

to the slide, and with a vertically-movable lower shear-blade adapted to coact with the upper shear-blades, substantially as specified. 30

3. In an unhairing-machine, the combination of a pair of pivoted upper shear-blades, with a lower shear-blade, rods that support the lower blade, tappets pivoted to the rods, cams engaging the tappets, and adjustable stops above the tappets, substantially as specified. 35

4. In an unhairing-machine, the combination of the following elements: a reciprocating slide, a series of rollers carried thereby, an endless apron engaging the rollers, a pawl and ratchet for intermittently advancing the apron, an upper brush carried by the slide, a vertically-movable rotatable brush below the slide, a pair of pivoted upper shear-blades, and a coacting vertically-movable lower shear-blade, substantially as specified. 40 45

Signed by me at New York city, county and State of New York, this 20th day of October, 1900.

JOHN C. ROTHE.

Witnesses:

F. V. BRIESEN,  
JOHN HICKMAN.