

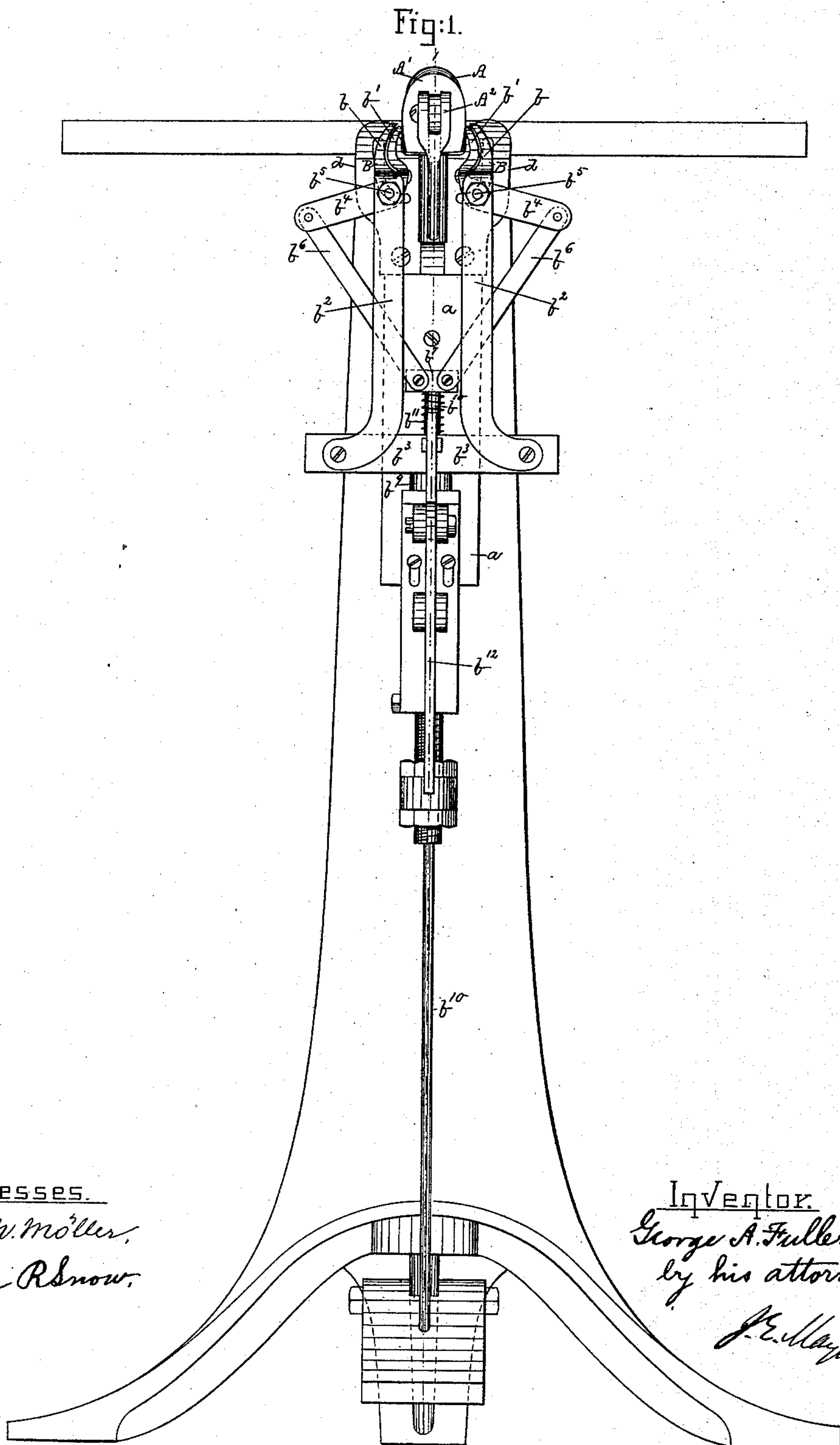
(No Model.)

4 Sheets—Sheet 1.

G. A. FULLERTON.  
HEEL STIFFENER MACHINE.

No. 384,753.

Patented June 19, 1888.



(No Model.)

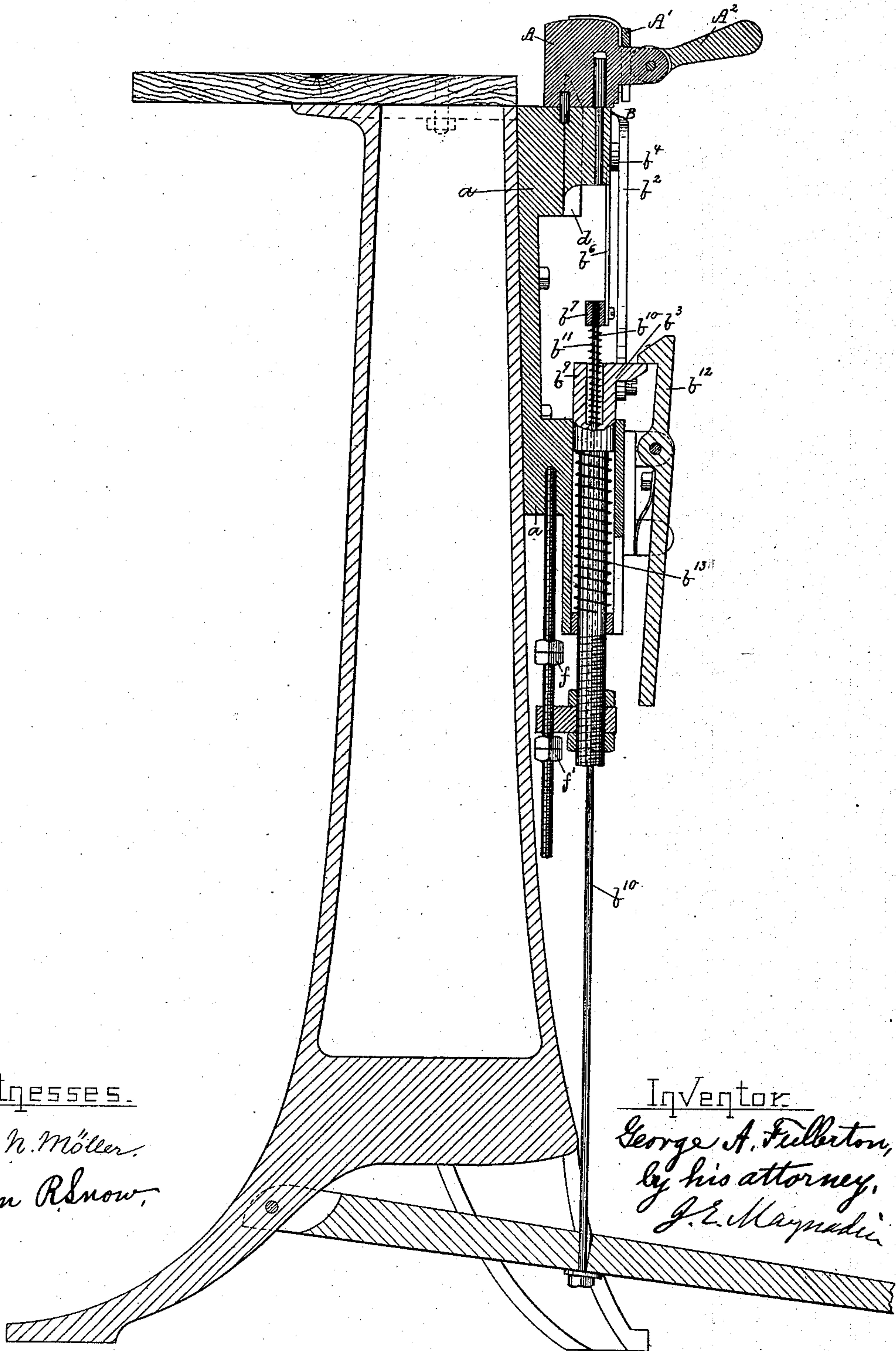
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Fig. 2.



Witnesses.

L. N. Möller.  
John R. Snow.

Inventor

George A. Fullerton,  
by his attorney,  
J. E. Maynard.

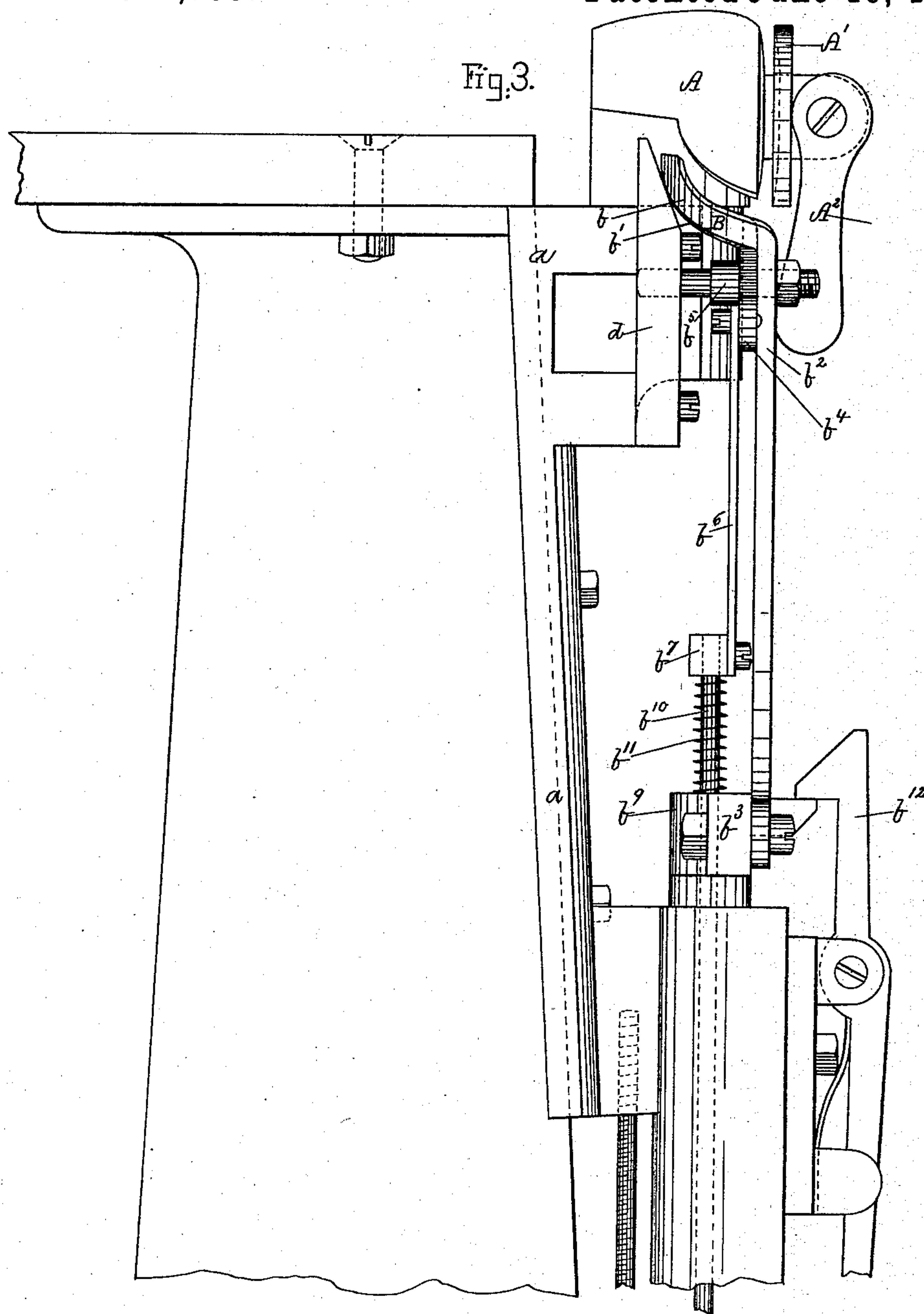
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Witnesses.

*L. N. Moller.*  
*John R. Snow.*

Inventor.

*George A. Fullerton,*  
*by his attorney,*  
*J. E. Maynard.*



(No Model.)

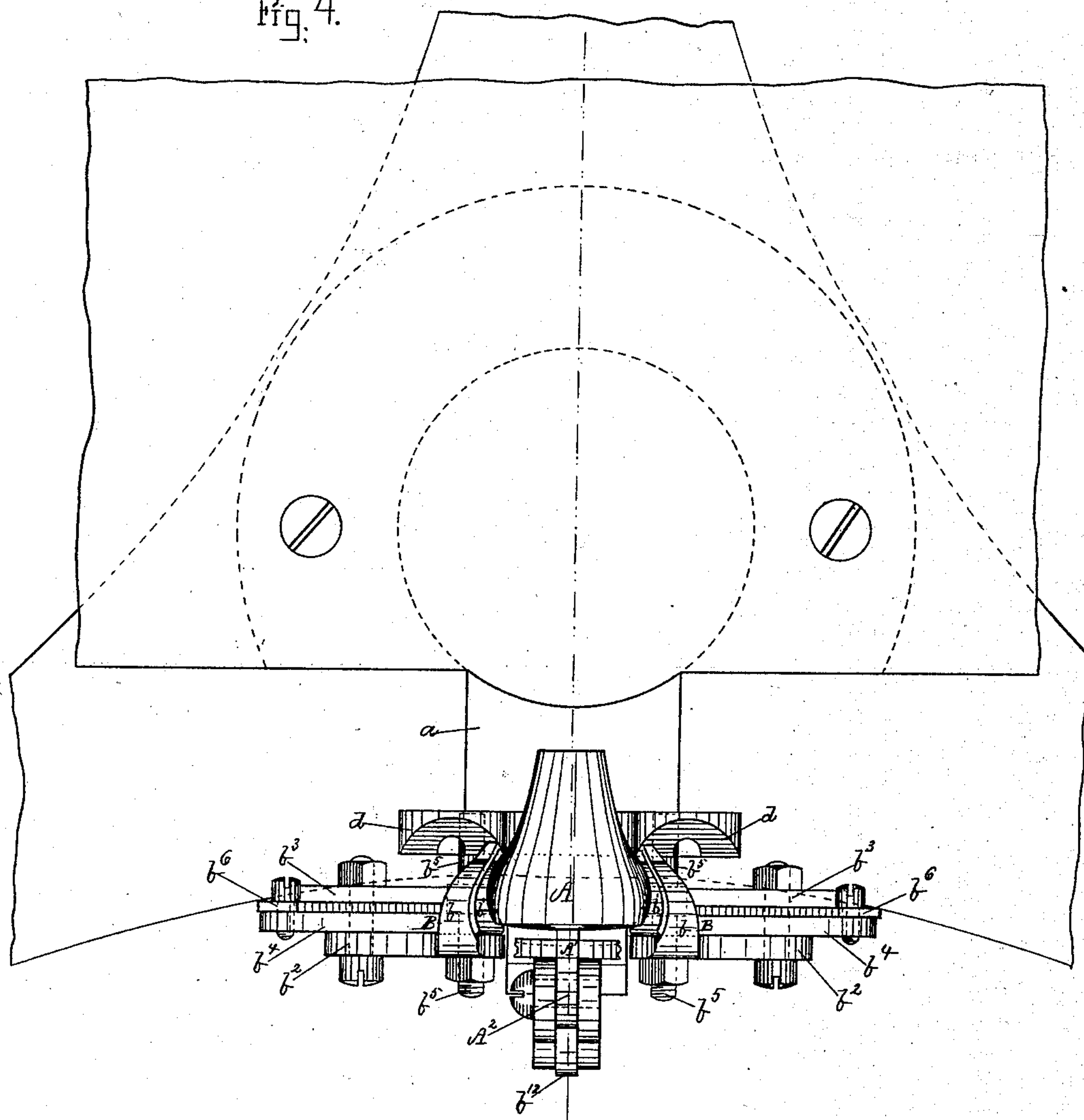
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HEEL STIFFENER MACHINE.

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Fig. 4.



Witnesses

L. N. Möller.  
John R. Snow.

Inventor

George A. Fullerton,  
by his attorney,  
J. E. Maynard.



# UNITED STATES PATENT OFFICE.

GEORGE A. FULLERTON, OF BOSTON, MASSACHUSETTS.

## HEEL-STIFFENER MACHINE.

SPECIFICATION forming part of Letters Patent No. 384,753, dated June 19, 1888.

Application filed July 23, 1886. Serial No. 208,838. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE ARTHUR FULLERTON, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Molding-Machine for Making Heel-Stiffeners and Like Articles, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a front elevation, and Fig. 2 a vertical section on lines 2 2 of Figs. 1 and 4, of my machine. Fig. 3 is a side view of my machine broken off, and Fig. 4 is a plan of my machine.

My invention consists of a former between two nippers so organized that a blank to be molded can be laid across the former and have its ends held by the nippers and then be drawn over the former and shaped by being strained about the former.

In the drawings, A is the former. (Shown as rigidly mounted upon the frame *a* of the machine.) The nippers B are each composed of two jaws, *b b'*, the jaw *b* being formed on the end of lever *b<sup>2</sup>*, which is pinned to the cross-head *b<sup>3</sup>*. The other jaw, *b'*, is on the end of lever *b<sup>4</sup>*, which is pinned to lever *b<sup>2</sup>* by the fulcrum-pin *b<sup>5</sup>* and connected by link *b<sup>6</sup>* to cross-head *b<sup>7</sup>*. The cross-head *b<sup>3</sup>* is fast to sleeve *b<sup>9</sup>*, and cross head *b<sup>7</sup>* is fast to treadle-rod *b<sup>10</sup>*, which passes down through sleeve *b<sup>9</sup>* and is connected to a treadle-lever.

The blank is laid across the former A and its ends inserted between the jaws *b b'*. The cross-head *b<sup>7</sup>* is then drawn away from former A by treadle-rod *b<sup>10</sup>* and its treadle in this form of my machine, the first motion of cross head *b<sup>7</sup>* acting to move the levers *b<sup>4</sup>*, and thereby nip the ends of the blank between the jaws *b b'*. The continued movement of the cross-head *b<sup>7</sup>* carries with it cross-head *b<sup>3</sup>* and its connections, as will be plain without detailed description, and this movement of the nippers B past the former A strains and stretches the blank until it is forced to closely fit the former A. In making counters or heel-stiffeners of leather the operator will then shape the heel-seat by hammering that portion of the blank which forms the heel-seat close down upon the sole of the former A while the blank is held strained. The heel-plate A' is then applied and clamped in place by the

cam-lever A<sup>2</sup>. The cross-head *b<sup>7</sup>* is then released, when it is thrown up by its spring *b<sup>11</sup>* far enough to cause jaws *b'* to move away from jaws *b* and release the blank, when former A, with the blank securely held upon it by the heel-plate A' and cam-lever A<sup>2</sup>, may be removed and set aside until the blank has become set. The operator then puts in place another former and repeats the operation above described on another blank, first releasing cross-head *b<sup>3</sup>* from the catch *b<sup>12</sup>*, and thereby allowing the cross-head *b<sup>3</sup>* and the parts carried by it to move under the stress of the spring *b<sup>13</sup>*. It will be found of considerable advantage to elongate the pins *b<sup>5</sup>* and guide their ends by the slots in plate *d*, as that not only keeps the jaws *b b'* wide open, but also carries the nippers away from the former and makes it easier to insert the ends of the blank between the jaws, and also prevents the nippers rubbing against the former.

While it will be clear to all skilled in the art of counter-making that the heel-plate A' is not desirable in the manufacture of some kinds of counters, yet its combination with the former A and the nippers B constitutes a minor feature of my invention of much practical importance in making a large class of counters.

The mechanism shown for closing the jaws *b b'* and moving the nippers B in relation to the former A may obviously be largely modified, or the former A may be moved between the nippers, all these matters being mere matters of construction. The adjustable stops *f f'* regulate the extent of motion of the treadle-rod *b<sup>10</sup>*.

The male mold or former A is shown as a casting mounted on a stem, but may be an ordinary last suitably clamped.

What I claim as my invention is—

1. In a molding-machine, the combination of the male mold or former A with the nippers B, arranged and operating substantially as described.

2. In combination, the male mold or former A, the nippers B, and the plate A', and means, substantially such as are described, for clamping the plate against the male mold, arranged and operating substantially as described.

3. The former A, in combination with the jaws *b b'*, levers *b<sup>2</sup> b<sup>4</sup>*, and cross-heads *b<sup>3</sup> b<sup>7</sup>*, ar-

ranged and operating substantially as described, so that the power applied through cross-head  $b^7$  acts first to close the jaws  $b\ b'$  and then is transmitted through the levers  $b^2$   
5  $b^4$  to cross-head  $b^3$ .

4. The male mold A and the grippers B, in combination with slotted plate  $d$  and the pins  $b^5$ , substantially as described.

5. The cross-head  $b^3$ , carrying the levers  $b^2$   $b^4$  and their jaws  $b\ b'$ , in combination with the links  $b^6$ , cross-head  $b^7$ , and catch  $b^{12}$ , all substantially as described.

GEO. A. FULLERTON.

Witnesses:

EDWARD S. BEACH,  
JOHN R. SNOW.