

(No Model.)

2 Sheets—Sheet 1.

F. F. RAYMOND, 2d.

HEEL NAILING MACHINE.

No. 289,857.

Patented Dec. 11, 1883.

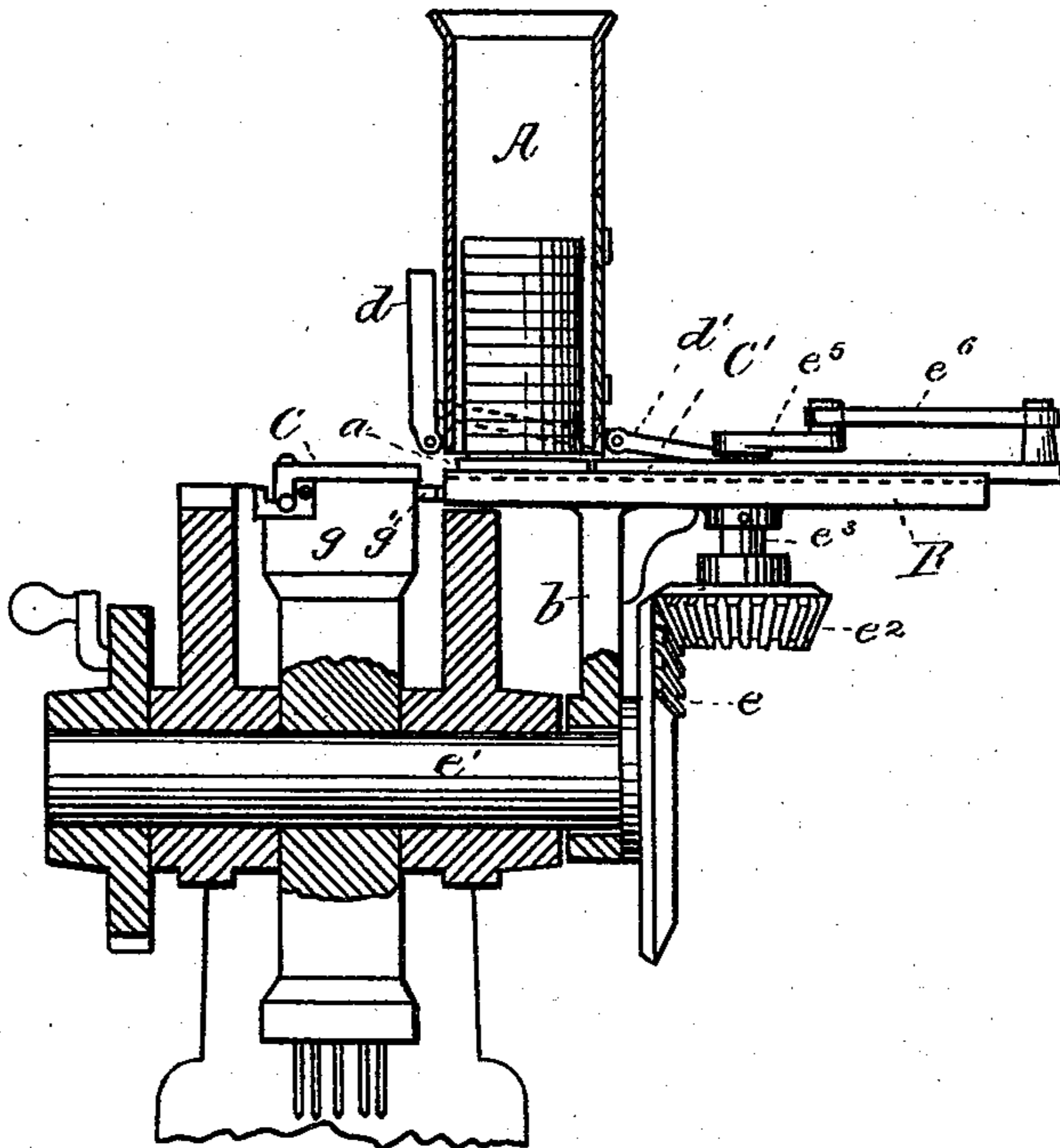


Fig. 1.

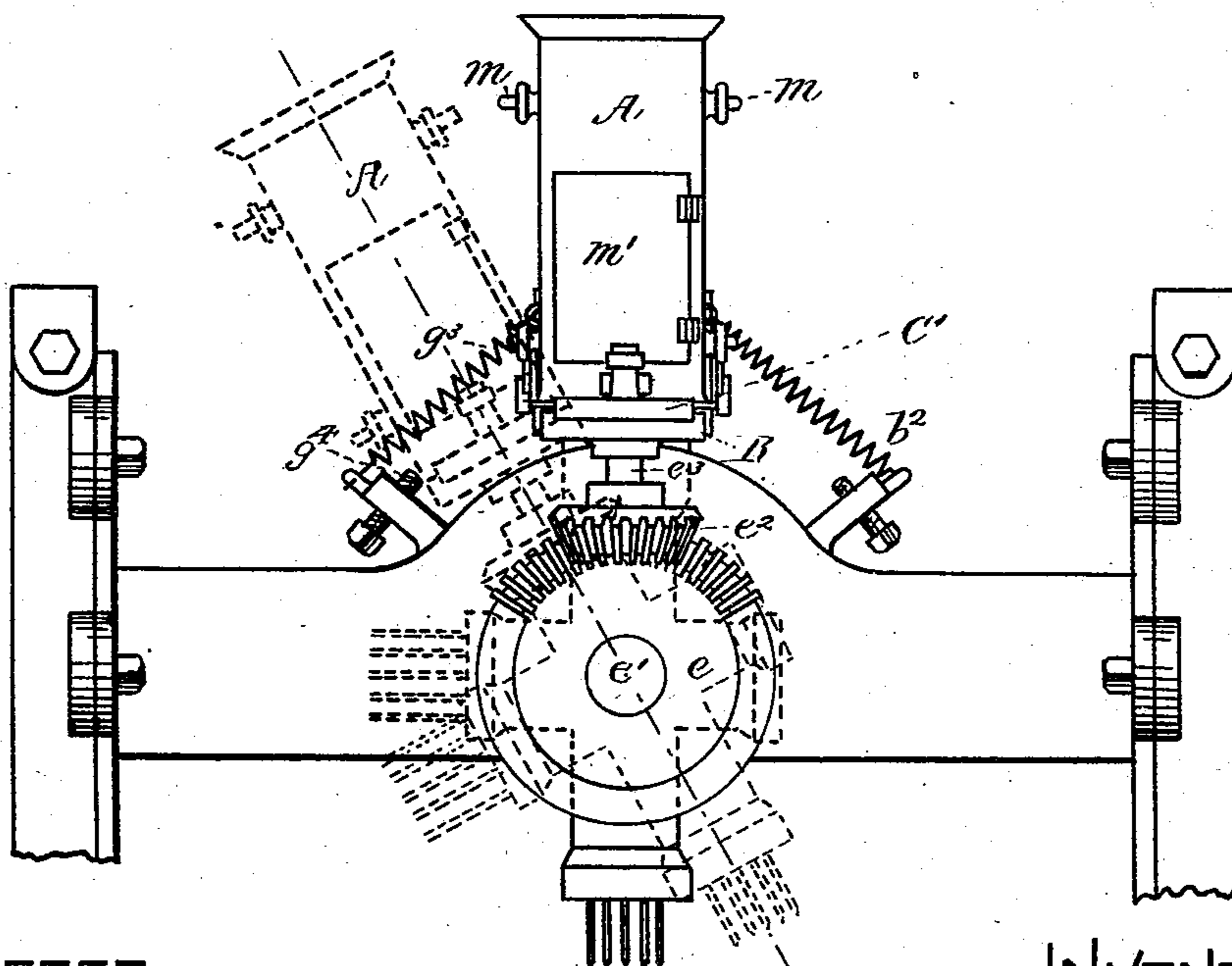


Fig. 2.

WITNESSES

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2 Sheets—Sheet 2.

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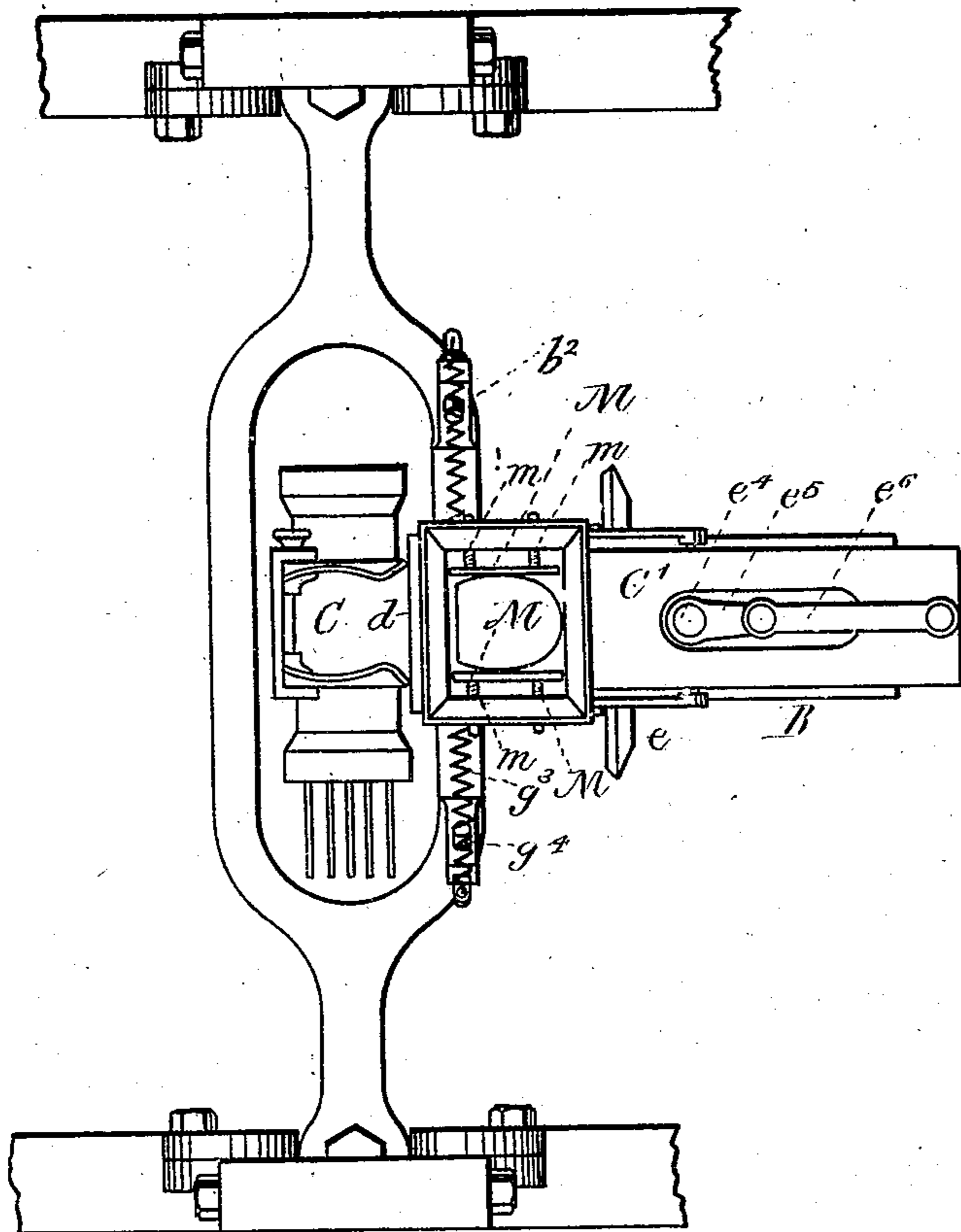


Fig. 3.

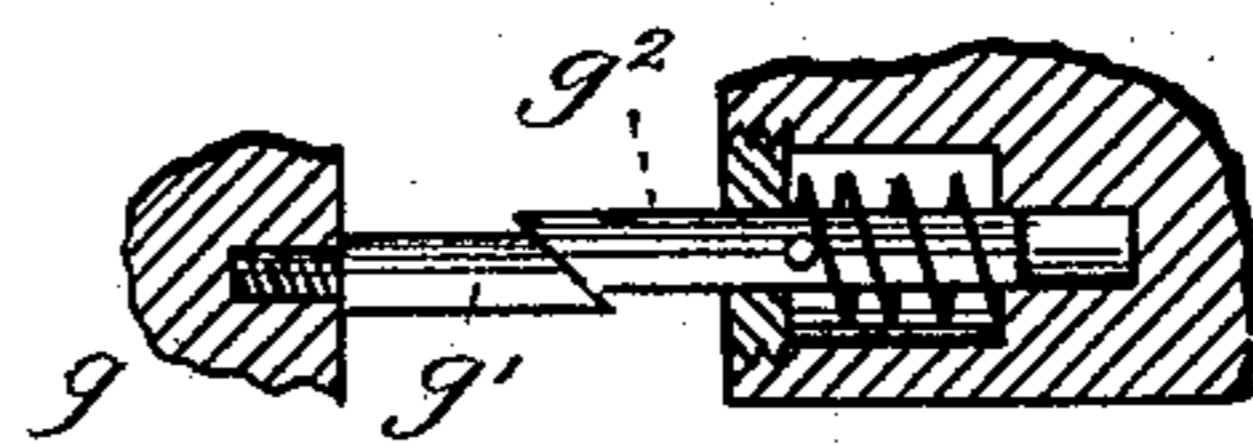


Fig. 5.

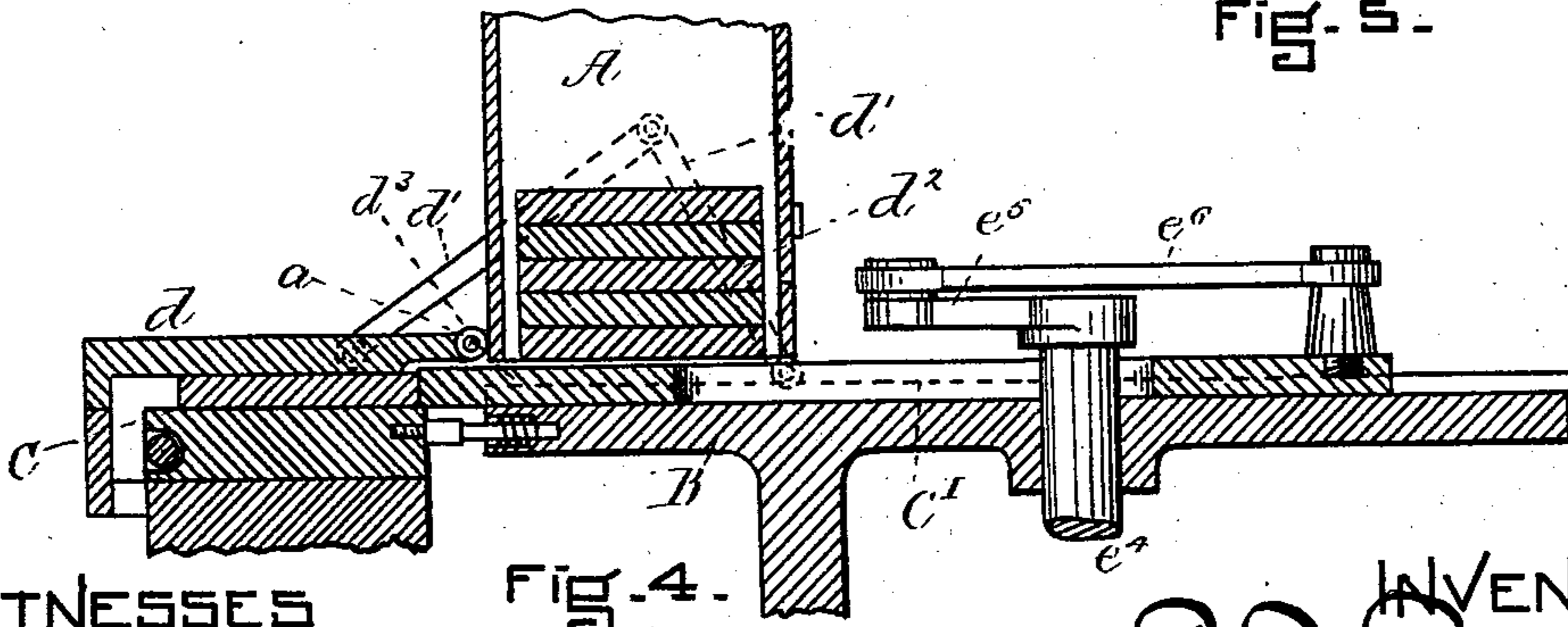


Fig. 4.

WITNESSES

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UNITED STATES PATENT OFFICE.

FREEBORN F. RAYMOND, 2D, OF NEWTON, MASSACHUSETTS.

HEEL-NAILING MACHINE.

SPECIFICATION forming part of Letters Patent No. 289,857, dated December 11, 1883.

Application filed July 26, 1883. (No model.)

To all whom it may concern:

Be it known that I, FREEBORN F. RAYMOND, 2d, of Newton, in the county of Middlesex and State of Massachusetts, a citizen of the United States, have invented a new and useful Improvement in Heel-Nailing Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming a part of this specification in explaining its nature, in which—

Figure 1 represents in vertical section the upper part of a Henderson or "National" machine provided with my invention. Fig. 2 is a rear elevation thereof. Fig. 2 is a plan view. Figs. 4 and 5 are detail views in vertical section enlarged.

This invention is an improvement upon those described in Letters Patent No. 252,205, and in the application of applicant, filed July 13, A. D. 1883; and it consists in providing a means for automatically feeding what are technically known as "top-lifts" to the top-lift holder.

In the machine above referred to the top-lift is fed to the top-lift holder by hand, and the top-lift holder is secured to the spanker, which, upon the reciprocation of the machine, spans the top-lift upon the heads of the attaching-nails, or nails which secure the heel-blank to the sole of the shoe, and which may or may not project therefrom. It is desirable, however, to feed the top-lifts automatically to the top-lift holder.

Referring to the drawings, A represents a box or receptacle for holding top-lifts one upon the other. It is supported by the frame or plate B, and it has at its bottom the space *a*, through which the top-lifts are fed into the top-lift holder C by the sliding or ejecting plate C'.

In order that the top-lift may be guided into the top-plate holder, which, preferably, is like that described in the Henderson application, filed January 10, 1883, I have arranged a plate, *d*, to cover the top-lift holder while the blank is being fed therein, and prevent it from riding over the top edge of the top-lift-holding device.

When a revolving top-lift holder such as is described in said Henderson patents is used, it will be necessary to move this guide-plate *d* upwardly after the top-lift has been fed to the top-lift holder in order that the awls and

drivers may pass it; and when this construction is necessary, I hinge the guide-plate *d* to the box A, or to the plate B, or to a bracket projecting upwardly therefrom. In the drawings it is shown as hinged to the box, and it is moved down at proper intervals of time by the sliding plate C' and the jointed connecting-rods *d'*, and they also return it to its original position after the top-lift has been fed and upon the return movement of the sliding plate. The connecting-rod *d''* is pivoted to the sliding plate and to the connecting-rod *d'''*, which in turn is pivoted to the guide-plate *d*. The sliding plate C' is reciprocated in any desirable way, and when the revolving top-lift holder like the one described is used, I prefer to operate the plate by means of the segment bevel-gear *e* on the revolving head-shaft *e'*, the bevel-gear *e''*, its shaft *e'''*, which is supported by the plate B, the bevel-gear shaft *e''''*, the crank *e'''''*, and the link *e''''''*, which connects the crank with the sliding plate C'.

It will be observed that upon the revolution of the shaft *e'* the segment-gear *e* meshes with the gear *e''* and causes the plate C' to be operated when the top-lift holder is in line with the top-lift box A.

When a revolving head which is automatic in its movements is used, it will be necessary to provide the plate B with a movement which shall correspond, to some extent, to the revolving movement of the top-lift holder during the time when the top-lift is being fed.

In the drawings I have represented the plate or support B as provided with this movement by means of the arm *b*, which is pivoted on the cross-head shaft *e*, so that the plate and the box may be swung a certain limited movement and conform to the movement of the revolving head.

To move the plate B, I extend outwardly from the arm *g* (see Fig. 5) of the revolving head supporting the top-lift holder a projection, *g'*, which is adapted to come in contact with the spring-latch *g''* upon the plate B, and it moves the plate B upon its center until it comes in contact with the stop *b''*; when the continued movement of the revolving head forces the latch *g''* back in its socket against its holding-spring, and the projection *g'* rides by it, and the spring *g'''* returns the plate B and box A to their original positions. Of course,

if the top-lift holder has a period of rest, this movement of the top-lift box and the plate upon which it is supported will not be necessary.

5 Of course, I do not confine myself to the especial location of this top-lift feeding mechanism, and it may be so arranged as to feed the top-lift automatically directly upon the heel-blank.

10 In operation, the top-lifts are placed in the box or receptacle A, and when the top-lift holder comes in line therewith the sliding plate C' is operated to move the bottom one between the arms of the top-lift holder, and upon the return movement of the sliding plate
15 to its original position the top-lifts in the box fall by gravity, and another one is brought into position to be fed upon the next movement of the sliding plate C'.

I prefer that the box A have plates M, adjustable by screws *m* in relation to the sides of the box to adapt the box to receive and center top-lifts varying in size, and it may also have an opening in the side, through which the lifts may be placed, and which may be closed
25 by a door, *m'*, if desired.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States—

30 1. In an organized heel-nailing machine, in combination with the top-lift holder, a box or receptacle for holding top-lift blanks, and a reciprocating plate, C', for feeding blanks therefrom into the top-lift holder, all substantially as and for the purposes described.

35 2. In an organized heel-nailing machine, the combination of a top-lift holder, the guide-plate *d*, the box or receptacle for holding top-

lift blanks, having the opening *a*, and the sliding plate C', all substantially as and for the purposes described. 40

3. In an organized heel-nailing machine, the combination of the top-lift holder, and the swinging plate B, supporting a device for automatically feeding top-lifts to the top-lift holder while the same is in motion, all substantially
45 as and for the purposes described.

4. In an organized heel-nailing machine, the combination of the sliding plate C', the guide-plate *d*, and the hinged rods *d'*, all substantially
50 as and for the purposes described.

5. The combination of the revolving head, the top-lift holder supported thereby, the plate B, carrying the box A, and blank-holder C', operated by the revolving head-shaft *e'*, and connecting devices, as specified, all as described. 55

6. The combination of the box or receptacle A with the adjustable plate M, substantially
as and for the purposes described.

7. The combination of the box A with the stops *g'* and *b'*, all substantially as described. 60

8. The combination of the pivoted plate B, carrying the box A, and feeding-plate C', with the cross-head supporting the top-lift holder, all substantially as and for the purposes described. 65

9. The combination of the pivoted plate B, carrying the box A, and feeding-plate C', with spring *g'*, all substantially as and for the purposes described.

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Witnesses:

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BOWDOIN S. PARKER.