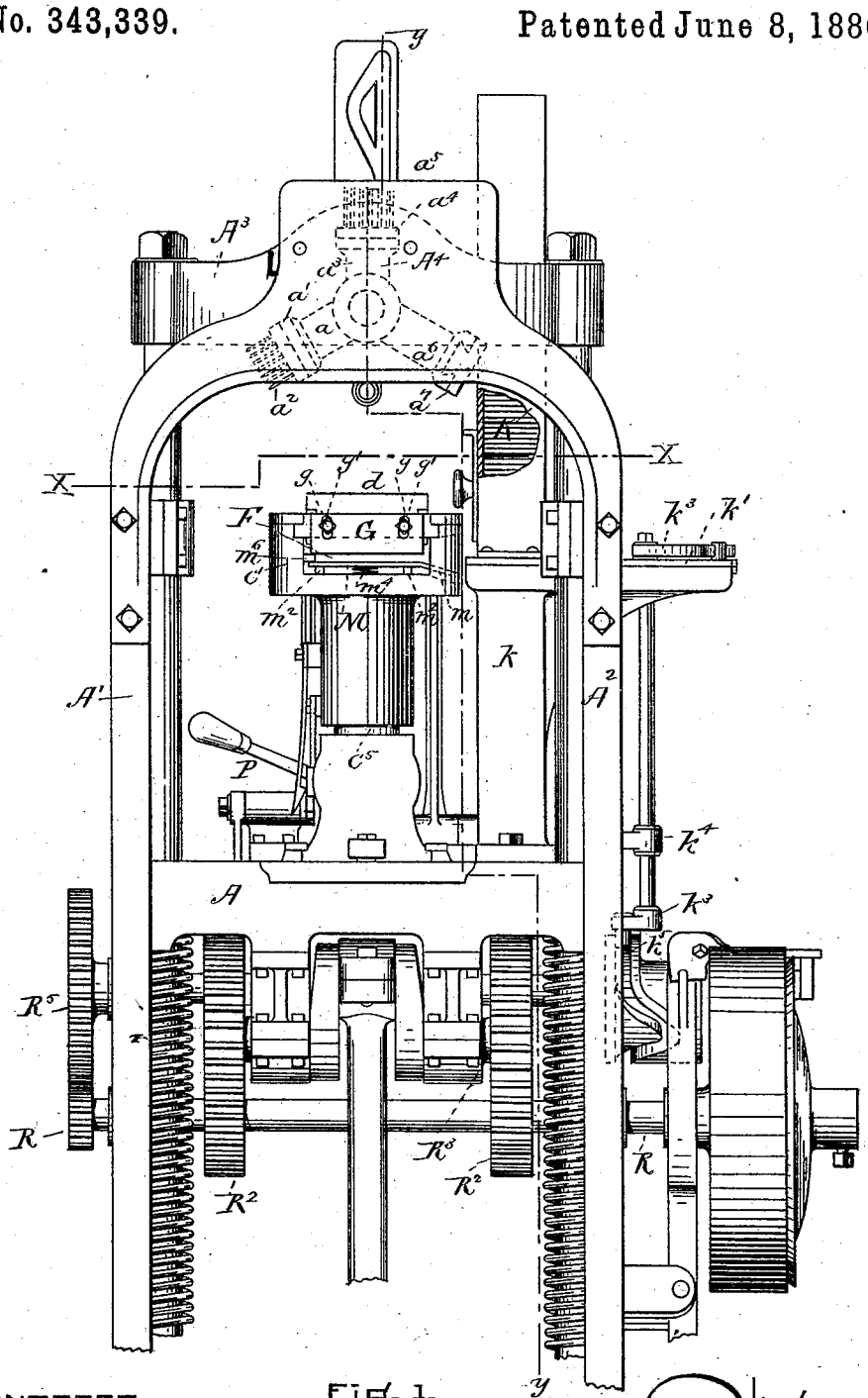
(No Model.) 8 Sheets—Sheet 1.

F. F. RAYMOND, 2d.

HEEL NAILING MACHINE.

No. 343,339. Patented June 8, 1886.



WITNESSES

J. M. Dolan.

Fred. B. Dolan.

Fig. 1.

INVENTOR

F. F. Raymond 2d

(No Model.) 8 Sheets—Sheet 2.

F. F. RAYMOND, 2d.

HEEL NAILING MACHINE.

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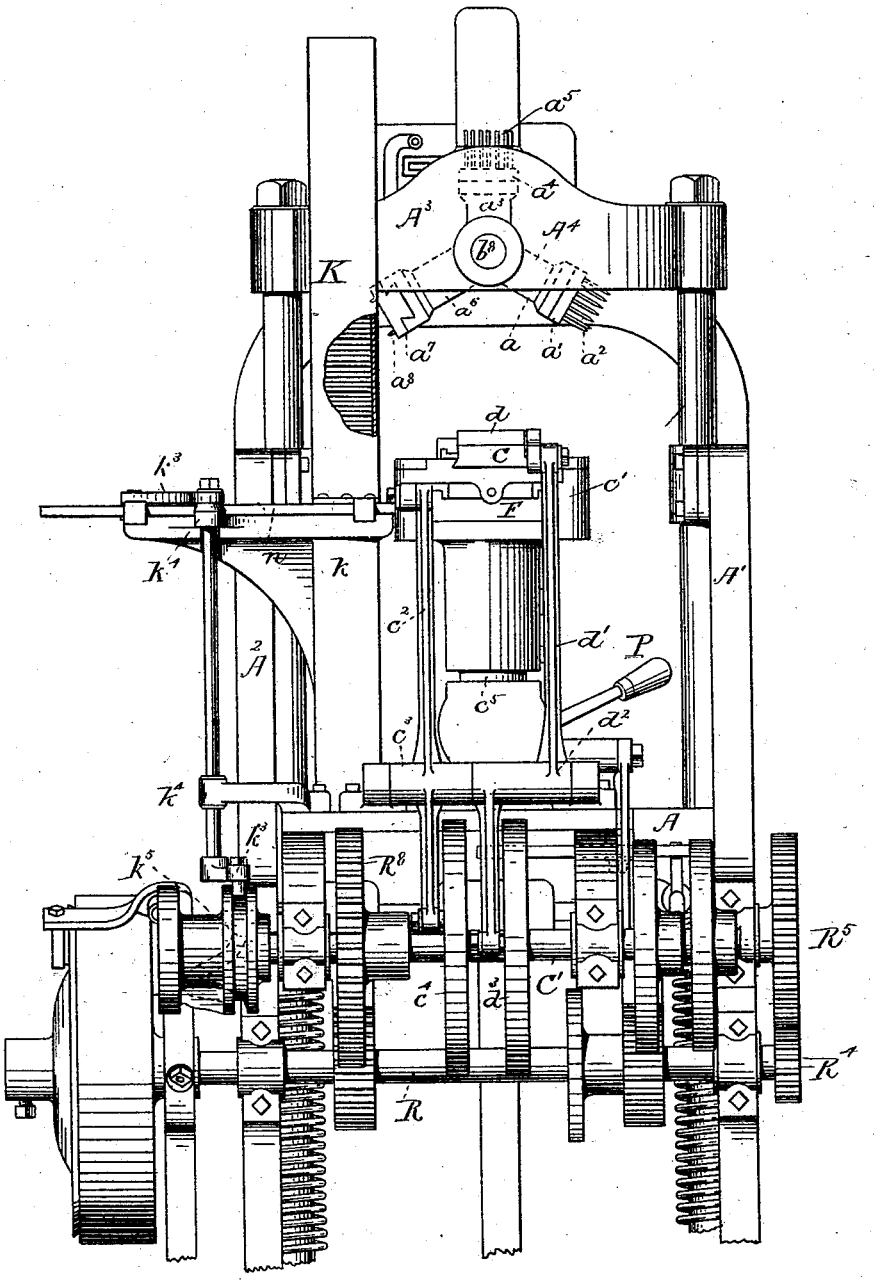

Fig. 2.

WITNESSES
J. M. Dolan.
Fred. B. Dolan.

INVENTOR
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(No Model.) 8 Sheets—Sheet 3.

F. F. RAYMOND, 2d.

HEEL NAILING MACHINE.

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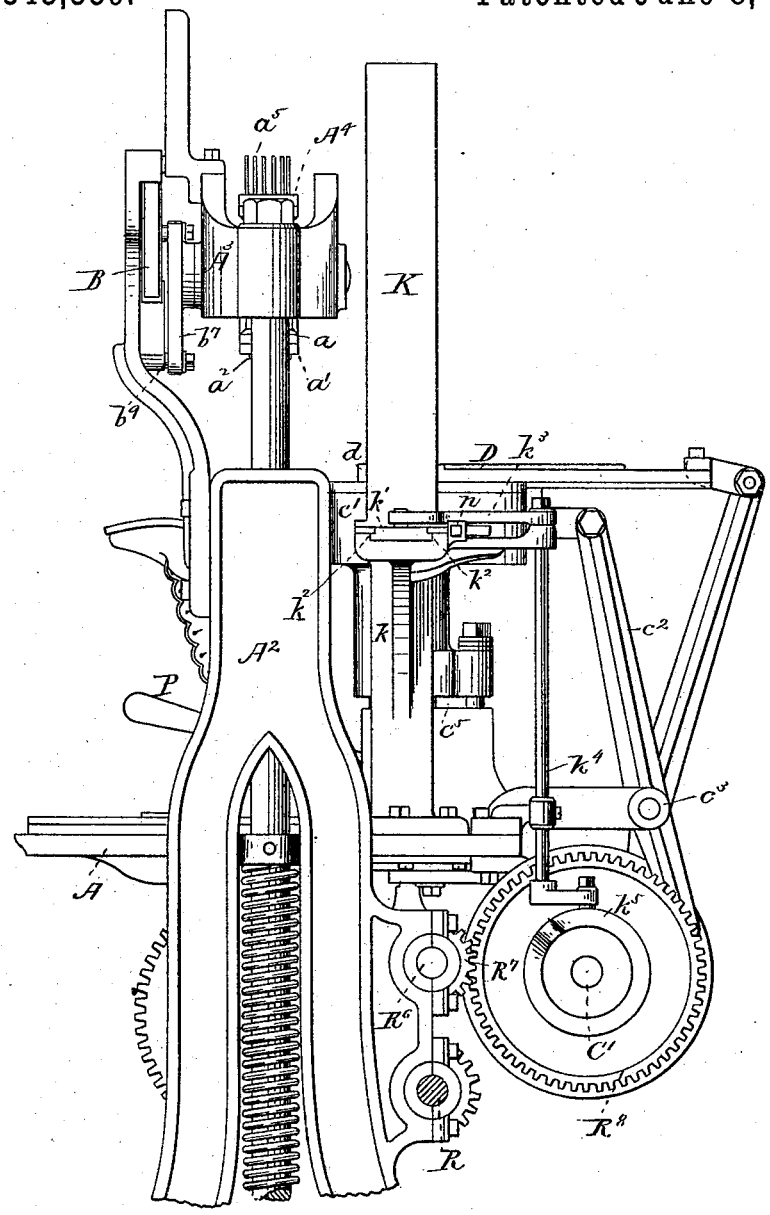

Fig 3.

WITNESSES.
J. M. Dolan.
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INVENTOR
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(No Model.) 8 Sheets—Sheet 4.

F. F. RAYMOND, 2d.

HEEL NAILING MACHINE.

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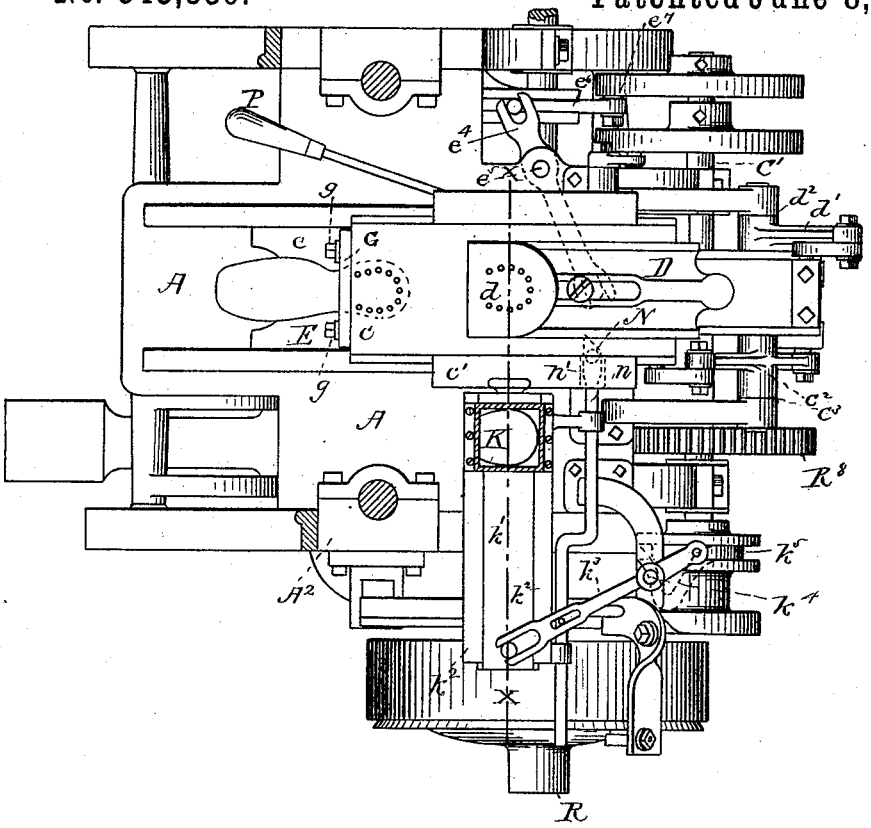

Fig. 4.

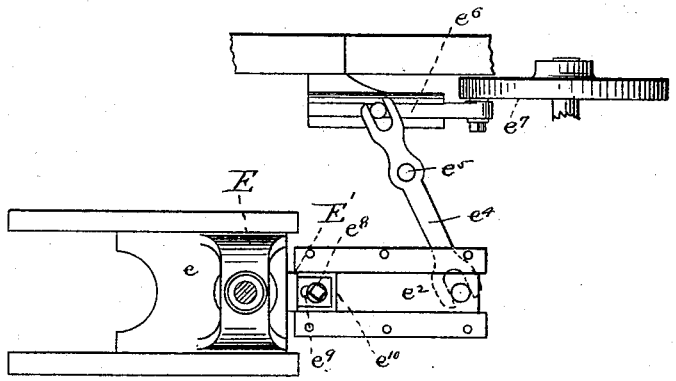

Fig. 5.

WITNESSES.

J. M. Dolan

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F. F. Raymond 2d

(No Model.) 8 Sheets—Sheet 5.

F. F. RAYMOND, 2d.

HEEL NAILING MACHINE.

No. 343,339. Patented June 8, 1886.

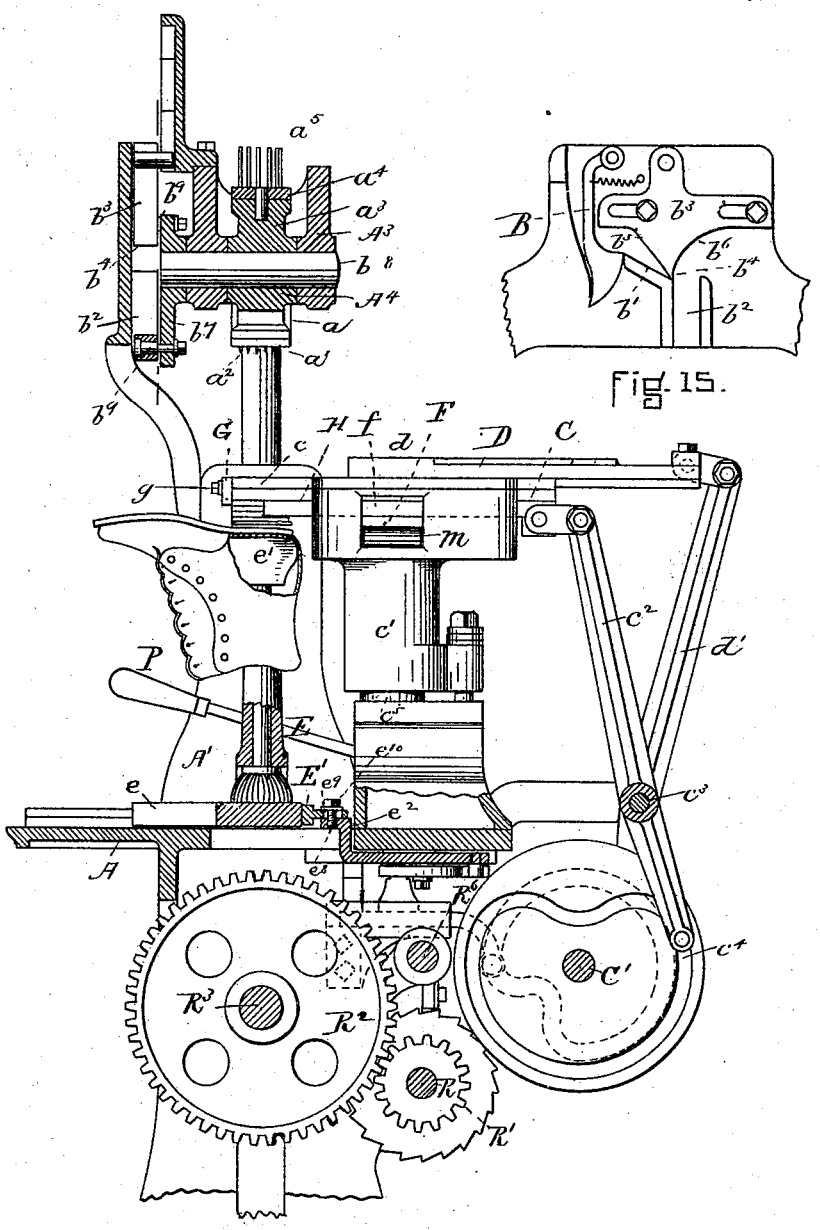

Fig. 6.

Fig. 15.

WITNESSES

J. M. Dolan

Fred. B. Dolan.

INVENTOR

F. F. Raymond.

(No Model.) 8 Sheets—Sheet 6.

F. F. RAYMOND, 2d.

HEEL NAILING MACHINE.

No. 343,339. Patented June 8, 1886.

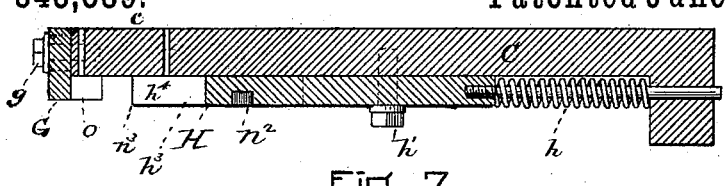

Fig. 7.

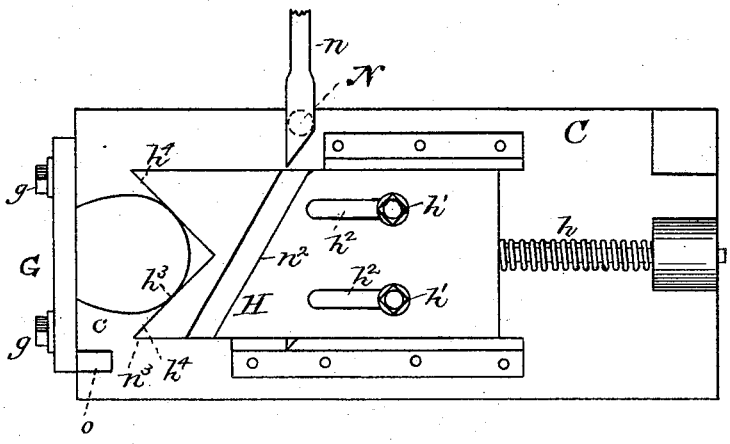

Fig. 8.

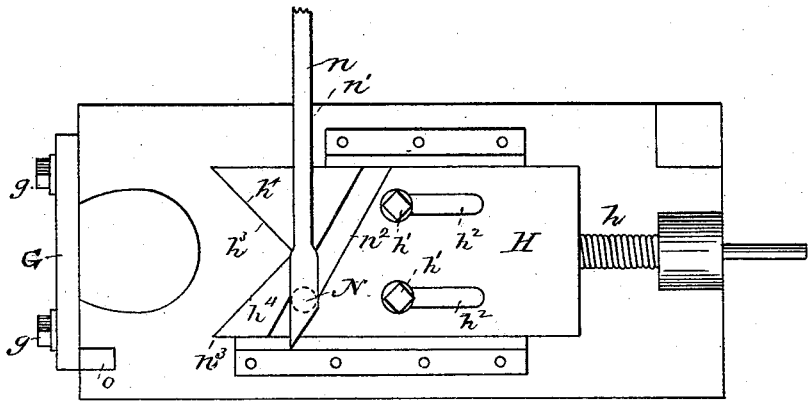

Fig. 9.

WITNESSES.

L. McDolan.

Fred. B. Dolan.

INVENTOR.

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(No Model.) 8 Sheets—Sheet 7.

F. F. RAYMOND, 2d.

HEEL NAILING MACHINE.

No. 343,339. Patented June 8, 1886.

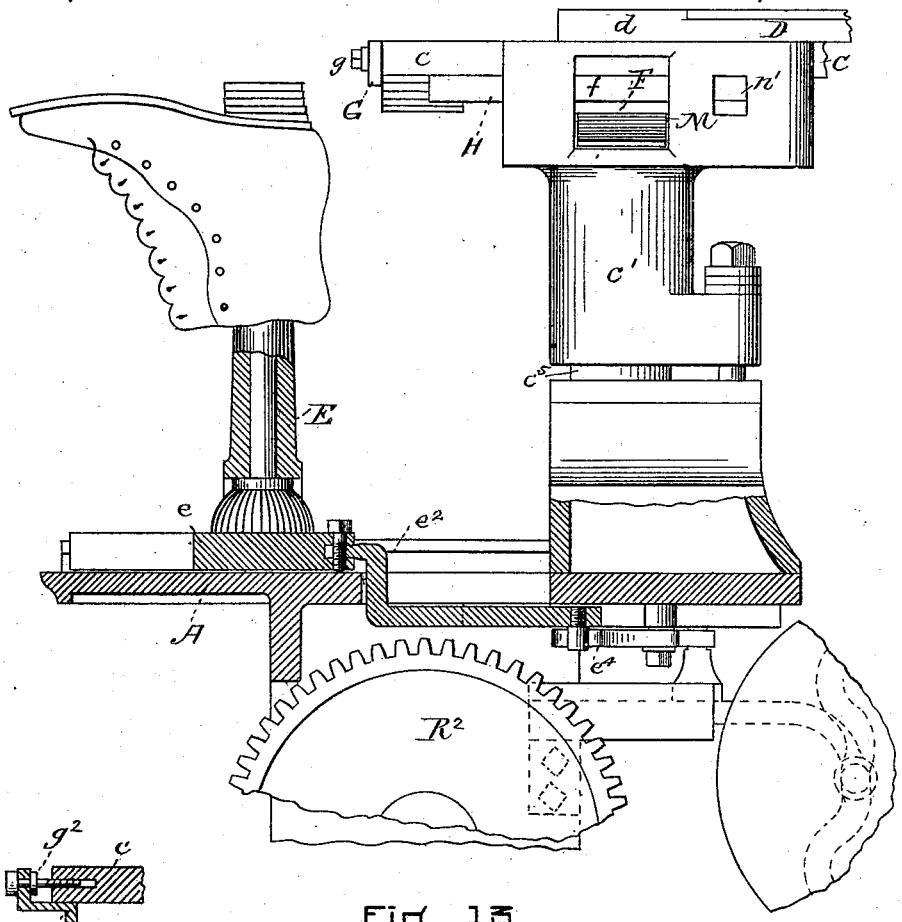

Fig. 13.

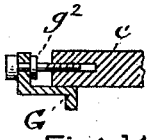

Fig. 14.

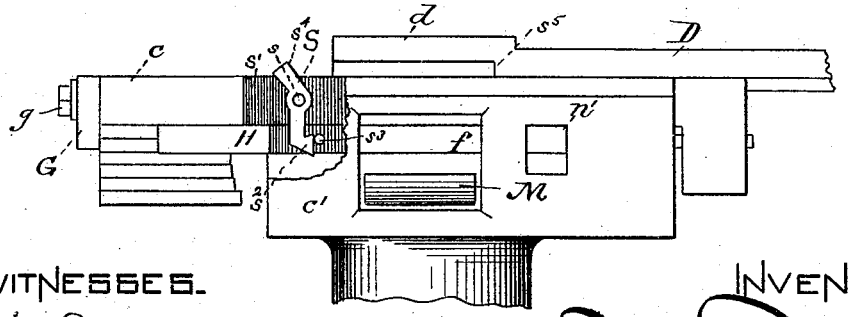

Fig. 10.

WITNESSES.

J. M. Dolan.

Frank C. Dolan

INVENTOR.

F. F. Raymond 2d

(No Model.) 8 Sheets—Sheet 8.

F. F. RAYMOND, 2d.

HEEL NAILING MACHINE.

No. 343,339. Patented June 8, 1886.

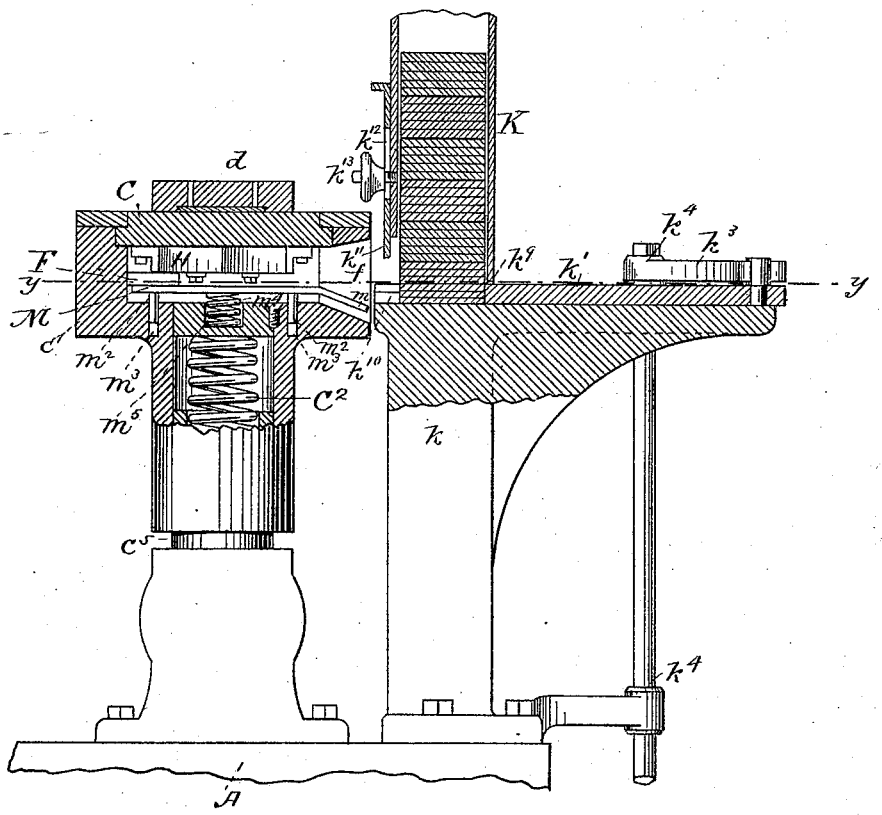

Fig. 11.

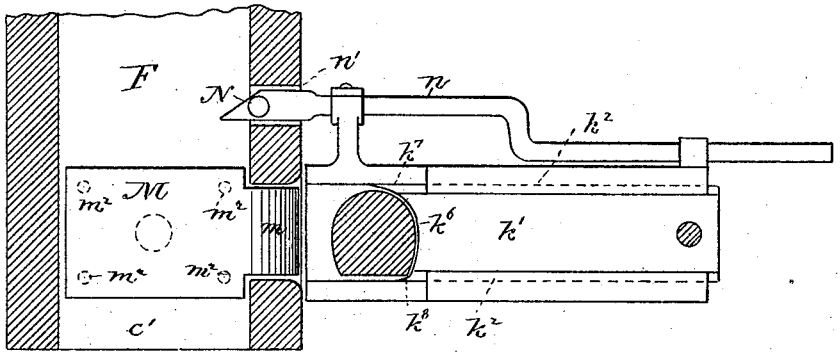

Fig. 12.

WITNESSES

J. M. Dolan

Fred. B. Dolan

INVENTOR

F. F. Raymond, 2d.

UNITED STATES PATENT OFFICE.

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

HEEL-NAILING MACHINE.

SPECIFICATION forming part of Letters Patent No. 343,339, dated June 8, 1886.

Application filed May 6, 1885. Serial No. 164,552. (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 drawings, forming a part of this specification in explaining its nature.

The invention relates especially to a heel-blank-feeding device for transferring heel-blanks from a given position to a position for attachment by the nail-driving devices to the boot or shoe; also to a jack moved automatically into and out of operative position, whereby the jack is moved out of operative position and a heel-blank fed into operative position for nailing, preferably after the attachment of a heel and before the machine comes to rest upon its last movement, and whereby the jack is moved rapidly and without loss of time to a position from whence the boot or shoe can readily be removed. It further relates to various details of construction.

The invention is represented in the drawings as applied to the heel-nailing machine having many of the features of the "National."

In the drawings, Figure 1 is a view in front elevation of the central upper parts of a heel-attaching machine containing the features of my invention. Fig. 2 is a rear elevation thereof. Fig. 3 is a right-side elevation thereof. Fig. 4 is a section and plan upon and below the line *x x* of Fig. 1. Fig. 5 is a plan view of the mechanism for automatically moving the jack. Fig. 6 is a view in vertical section upon the line *y y* of Fig. 1, showing portions beyond said line in side elevation. Figs. 7, 8, 9, and 10 are views illustrating the various details of construction, to which reference will hereinafter be made. Fig. 11 is a vertical section of the bed of the machine upon the dotted line *x x* of Fig. 4. Fig. 12 is a horizontal section upon the line *y y* of Fig. 11, and a plan of the parts in said figure below this line. Fig. 13 is a view, part in side elevation and part in vertical section, illustrating the operation of the machine, and to which reference will hereinafter be made. Fig. 14 is a view in vertical section illustrating the details hereinafter mentioned.

A is the bed of the machine; A′ A^2, the side frames thereof; A^3, the cross-head, which supports the revolving head A^4. The revolving head has an arm, *a*, supporting a block, *a′*, carrying a gang or group of awls, a^2; the arm a^3, supporting the block a^4, carrying the group of drivers a^5; the arm a^6, carrying the spanker-block a^7, which may have the top-lift holding device a^8 attached. The cross-head is reciprocated, as described in the Henderson Patent No. 259,687, dated June 20, 1882, or by any equivalent means, and the revolving head preferably is automatically revolved; and I have shown for so doing the mechanism or device described in the Henderson and Raymond application executed March 16, 1885, allowed April 18, 1885, although I do not confine myself to this means of revolving the head, as I may use the device described in my Patent No. 287,472, or in my application filed April 25, 1884, Serial No. 129,212, or any equivalent therefor.

The mechanism herein described for turning and revolving the head and for locking it in position, to cause the devices it carries to register with the parts hereinafter specified, (shown in Fig. 15,) consists, essentially, of the automatic pawl or latch B, the guide *b′*, the passage b^2, and the automatic switch-block b^3, having point b^4 and surfaces b^5 b^6, and plate b^7 on the revolving head-shaft b^8, which supports the cam-pins b^9. As the operation of this device is fully described in the application of the said Henderson and Raymond, further description is rendered unnecessary.

C is the templet-plate, and *c* is the templet. It is reciprocated at given intervals in the carriage or table *c′* by the lever c^2, pivoted at c^3, and the cam c^4 on the cam-shaft C′. The table *c′* is vertically movable on the post c^5 against the pressure of the spring C^2.

D is the nail-carrier plate, which supports the nail-carrier *d*. It is reciprocated at given intervals by the lever *d′*, which is pivoted at d^2, and the cam d^3 on the cam-shaft c^2. The attaching-nails may be placed in the holes of the nail-carrier by hand, or they may be fed thereto by an automatic nail-feeding machine,

such as described in various of my applications for Letters Patent.

E is the jack, which has the flat bearing-plate *e*, arranged to slide in suitable ways in the bed A.

e' is the heel support or last. The table *e'* has formed in it, beneath the templet-plate C, a straight cavity or hole, F, from front to back, which has a lateral opening, *f*, through the side of the table. The templet-plate has the gage-plate G, secured to its front end by bolts *g*, passing through slots *g'* in the gage-plate, whereby it is vertically adjustable upon the templet. This gage-plate extends below the under surface of the templet, and acts as an abutment against which the breast of the heel-blank is brought to bear and held, as hereinafter specified.

Fastened to the templet-plate, back of the abutment, is the movable heel-holder or clamp-plate H. This plate H is moved automatically toward the gage-plate G by the spring *h*, and the extent of its movements is controlled by the stops *h'*, projecting downward from the templet-plate into the recess or slots h^2 in the plate H. The front portion or edge, h^3, of this clamping-plate preferably is V-shaped, and is adapted to close on the rear or back end of the heel-blank fed thereto, as hereinafter described, and serves to center the same and to press it or hold it clamped against the surface of the gage-plate, as represented in Fig. 8. The pressure of the spring *h* forces the plate, when released, as hereinafter described, against the back end of the heel-blank, and the inclined surfaces h^4, in connection with the flat surface of the gage-plate, automatically center or locate the blank.

The heel-blanks are held one above the other in the box K, which is supported by the bracket or post *k*, extending upward from the bed of the machine, and the heel-blank-feeding plate *k'* is arranged upon the upper surface of the post or bracket *k*, to be moved in the ways k^2 across the lower end of the heel-blank-holding box and into the hole *f* in the side of the carriage or table *e'*. This heel-blank feeding or carrier plate is reciprocated by means of the lever k^3, pivoted at k^4, and the cam k^5 on the cam-shaft C'. The front edge, k^6, of the plate preferably is shaped substantially as shown in plan in Fig. 12, and has the rounded back portion, k^7, and the outwardly-extending front portion, k^8. The plate is not as thick as the thinnest heel-blank which it is intended to feed, and the hole k^9 in the box is of a height sufficient to permit the movement of the plate.

The outlet-hole k^{10} of the box, or the hole through which the heel-blank is moved from the box by the heel-blank-feeding plate, is adjustable in size by means of the plate or gate k^{11}, which is movable vertically on the box K by means of the slot k^{12} in the plate and the locking-nut k^{13}, so as to adjust the size of the opening. This opening of course must be of sufficient size to permit the passage of but one heel at a time. The heel-blanks are fed from the box to a vertically yielding or movable plate, M, which is supported beneath the templet by the carriage or table *e'*, and has the inclined extension *m* into the passage *f*. It has the pins or studs m^2, which extend from its under surface into holes m^3 in the table, to serve as guides in controlling its vertical movements, and the spring m^4, which is contained in the hole m^5 in the table and bears against the under surface of the plate, serves to press it upward and hold it in contact with the stop m^6. The object of this pressure-plate is twofold—first, to enable heel-blanks of varying sizes to be received in the recess F, and, second, to cause the heel-blank to be held pressed against the under surface of the templet immediately before and while the clamping and centering plate H is being moved forward to center the heel-blank and clamp it against the gage-plate. The heel-clamping plate is moved automatically backward, so as to permit the entrance of the heel-blank to the cavity or recess F, by the block or pin N, carried at the end of the rod *n*, operated by the lever k^3, which rod is arranged to be moved in a hole, *n'*, in the side of the table or carriage *e'*, and as the block or pin N is arranged in advance of the heel-blank which the carrier-plate is to move, and so as to be immediately brought in contact with the incline n^2 upon the under surface of the clamping-plate H, so that upon the inward movement of the heel-blank carrier-plate to move the heel-blank into position, the wedge or roll N also is moved forward to push the heel-clamping plate backward sufficient to allow the heel-blank to pass the front end, n^3, of the clamping-plate; and upon the reverse movement of the heel-blank carrier-plate the wedge-block is of course withdrawn and the heel-blank carrier-plate is caused by the spring *h* to be moved against the back end of the heel-blank.

In order that the heel-blank may not be moved by the heel-blank-carrier plate too far, I have arranged on the gage-plate the stop *o*, which extends backward therefrom to prevent the heel-blank from being moved laterally beyond the end of the heel-blank centering and clamping plate. The jack E is movable in and out of operative position by the arm, block, or link e^2, which is connected with or pivoted at e^3 to the back end of the jack-plate, as shown in Fig. 13, the lever e^4, which is pivoted to the bed A at e^5, and the arm or link e^6, which connects the end of the lever with the cam e^7 upon the cam-shaft C'; and this cam is so shaped that the jack is moved from an inoperative position before the awls enter the templet to an operative position, and held locked in such position, and upon the completion of the work moved to its inoperative position or to a position to receive the boot or shoe.

While the jack may be moved automatically both into and out of operative position, I prefer, for some reasons, to move it automatically

only from operative position upon the completion of the work; and when this construction is employed the end of the arm e^2 is not connected with the jack-plate, but carries the back stop, E', (see Figs. 5 and 6,) which is made adjustable thereon by means of the pin e^8 projecting from the arm e^2, which enters the slot e^9, and the nut e^{10}, which screws upon the pin and clamps the stop to the end of the arm; and when this construction is used, the time of the cam e^7 is slightly changed, so that the back stop is caused to move outward at the proper time and then immediately withdrawn, while in the other case the jack is pushed outward and held there until the next starting of the machine, when it is automatically drawn back into operative position.

In order that the heel-blank may be automatically fed into operative position, it is necessary that the jack be moved out of operative position immediately before the templet is moved into operative position upon the last upward movement of the cross-head before the machine is stopped. For instance, if the spanking of the top-lift is the last operation of the machine, then immediately upon the lifting of the spanker-block from the heel the templet is moved forward into operative position for the next heel to be attached, and it is desirable that the next heel-blank to be attached should be moved into position at the same time, and for this reason I have caused it to be carried by the templet-plate; but in order that the heel-blank may be moved into position it is necessary that the work which is completed should be moved out of position to make room for the new blank, and therefore the jack is automatically moved immediately after the top lift has been spanked and while the templet-plate and the heel-blank carried thereby are being moved into operative position. This movement of the jack of course is of advantage in another respect, in that it moves the work to a position where it can be more readily removed by the operator, and does not require that he move it, so that a saving in his time is accomplished.

In operation the heel-receiving box is filled with heel-blanks of the proper size. The boot or shoe is placed upon the heel support or last, and is either moved by hand into operative position beneath the templet-plate and heel until its back edge shall come in contact with the back stop, or, upon the starting of the machine, it is moved automatically into place. If it is moved by hand into place before the operation of the machine, the templet-plate may be moved downward by the lever P, to clamp the heel-blank upon the sole of the boot or shoe before the machine is set in operation. Upon the operation of the machine the awls are moved vertically downward through the holes in the templet-plate, and the awl-block comes in contact with the templet-plate and moves it downward, thereby compressing the heel-blank. The awls are withdrawn and the nail-carrier moved into operative position to deliver its nails to the templet. The nail-driving devices are brought into place and the nails are driven thereby upon the next reciprocation of the cross-head. Upon the removal of the drivers from the holes of the nail-carrier plate it and the templet are simultaneously withdrawn, and this brings the heel-holding devices of the templet opposite the hole f in the table. The heel-blank carrying or transferring plate is then immediately operated by the cam k^5, the clamping-plate H being moved backward and the heel-blank being carried by the carrying-plate from beneath the pile of heel-blanks in the box to a position below the templet and between the gage-plate G and the clamping-plate H. The blank-carrying plate is immediately retracted, the heel-blanks in the box fall so that another takes the place of the one which has been fed, and the clamping-plate H is automatically shut upon the heel-blank, which is at the same time pressed upward by the pressure-plate M, so that it is secured or held to the under surface of the templet in proper position to be attached. Meanwhile the cross-head has commenced another reciprocation for the purpose of spanking on the top lift; and we will suppose that this is the final operation of the machine upon the heel, although there may be another reciprocation for the purpose of breasting the heel, when a breasting-knife is carried or supported by the revolving head. However this may be, upon the beginning of the upward movement of the last reciprocation of the machine the jack is moved forward automatically by the cam e^7, and the templet-plate, with the heel-blank secured thereto, is moved forward into operative position for the attachment of the heel-blank to the next boot or shoe. As above stated the downward movement of the awl-holding block forces the templet downward and clamps the heel-blank upon the heel-seat of the boot or shoe. The heel-holding devices are consequently moved down with the templet, and after the nails are driven the table is unlatched to permit the templet to move upward from the jack and to allow the heel-clamping devices to clear the top of the attached heel. In some instances it will be desirable to automatically release the heel-blank-clamping plate while the heel is held compressed and before the templet has lifted, and this is accomplished by the dog S, which is pivoted at s in a vertical slot or hole, s', in the templet-plate, so that its lower end, s^2, comes in line with the pin s^3, projecting outward from the edge of the clamp-plate H, which will move it upon its outward movement to clamp a heel-blank and elevate its upper end, s^4, above the top of the templet-plate into a position to be thrown down or back by the projection s^5 of the nail-carrier plate as it is moved forward, and this backward movement of the dog moves the clamping-plate backward sufficiently to clear it from the heel-blank, and it is held in

this position while the nails are being driven and the templet lifted and until the nail-carrier plate is withdrawn.

While for the purposes of this construction of machine I have shown the templet as a heel-blank carrier, I do not intend to limit the invention thereto, as any movable or reciprocating plate bearing the heel-blank-holding devices may be used in lieu thereof; neither do I confine myself to the specific devices herein shown and described, for effecting the automatic feeding of the blank, but may use any mechanical equivalent therefor. It will be seen that the heel-blank is moved from the stack of heels by one movement to a position under the templet. It will be seen that power is communicated by the pulley-shaft R and by the pinions R' to the gears R^2 on the crank-shaft R^3 and to the pulley-shaft C' by the pinion R^4, (see Fig. 2,) gear R^5 upon the intermediate shaft, R^6, pinion R^7, thereon, and the gear R^8 on the shaft C'.

The mechanism for starting and stopping the machine is like that described in my pending application filed April 25, 1885, Serial No. 163,440, as is also the mechanism for locking the table c' in its lowest position and for automatically unlocking it. It is of course necessary that the heel-blank, after it has been attached, and its feeding-plate have a relative vertical movement from each other, in order that the gage-plate G may clear the top of the heel-blank as the jack is moved outward; also that the same conditions prevail when the heel is blind-nailed.

I would not be understood as confining myself to the special form of blank holding or clamping device herein specified; but I may use any equivalent mechanism for holding the blank to its carrying-plate and for centering it thereon.

The gage-plate G, I have shown in Fig. 14 as provided with a horizontal adjustment upon the end of the templet-plate, and when so adjustable, I prefer to shape it as represented in said figure, and adjust it horizontally by means of a screw having a collar, g^2. When the jack is automatically moved in both directions, I prefer to make the connection between the reciprocating arm, bar, or block operating it and the jack-plate substantially in the same way as that between the back stop E' and its operating block, bar, or plate; or, in other words, so as to provide for a horizontal adjustment of the jack in relation to said operating arm, bar, or plate.

It will be noticed that the entire operation of supplying the heel-blank to the heel-nailing machine is automatic, and the blanks are not only automatically fed to position for attachment, but that they are automatically located and clamped before said feeding and automatically centered; also, that the clamping mechanism is automatically released before the blank carrier and plate is moved from the attached heel or the heel from it. It will also be noticed that in a machine in which the templet-plate is not moved horizontally the devices for feeding the heel-blanks automatically thereto herein described can be used exactly as herein specified.

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

1. In a heel-nailing machine, the combination of the bed of the machine, a work-support or jack movable thereon for presenting the work to the nailing devices, the main shaft of the machine, and a cam operated thereby and connected by mechanism, substantially as described, with the work-support or jack, and adapted to automatically move the work-support or jack out of operative position upon the completion of the work upon the attached heel, substantially as described.

2. The combination, in a heel-nailing machine, of a templet and movable work-support or jack, the main shaft of the machine, a cam operated thereby, and devices, substantially as described, for connecting the cam with the work-support or last, and the main shaft with the templet, whereby the work-support or last is automatically moved out of operative position and the templet moved into operative position upon the completion of the operation of the machine, all substantially as and for the purposes described.

3. In a heel-nailing machine, the combination, with the nailing devices, of heel-blank-transferring devices, the main shaft of the machine, and connecting devices or mechanism, substantially as specified, for automatically operating the heel-blank transferring devices, all substantially as described.

4. The combination, in a heel-nailing machine, of a heel-support or last, the heel-attaching devices, a heel-blank transferrer, receiver and holder, a cam and connecting mechanism, substantially as specified, for operating the heel-blank transferrer to move a heel-blank to a position under the templet, substantially as described.

5. The combination of the plate C with the gage G and a heel-blank clamp attached thereto, all substantially as and for the purposes described.

6. The combination, in a heel-nailing machine, of the templet-plate having devices for holding a heel-blank by its side edges with a heel-blank-carrying plate and a cam and connecting devices, substantially as described, for moving the said plate from a heel-blank receptacle to the heel-blank-holding devices of the templet, substantially as described.

7. The combination of a plate having heel-blank-grasping devices secured thereto and a cam for moving the plate at stated intervals, a receptacle for holding heel-blanks in stack, a heel-blank transferrer, and a cam for moving said transferrer at stated intervals from the heel-blank receptacle to the heel-blank-

grasping devices of said plate, substantially as and for the purposes described.

8. The combination of the movable plate *c*, the gage-plate G, and the clamping-plate H, and the pressure-plate M, all substantially as and for the purposes described.

9. The combination of the movable plate *c*, the gage G, and the clamping-plate H, adapted to be moved backward automatically from the gage to permit the feeding of the heel-blank and then to close automatically thereon, all substantially as and for the purposes described.

10. The combination of the movable plate *c*, the pressure-plate M, the heel-holding devices carried by the movable plate, and the heel-blank-feeding plate k', all substantially as and for the purposes described.

11. The combination of the plate *c* with the pressure-plate M, all substantially as and for the purposes described.

12. In a heel-nailing machine, the combination, with the nailing devices, of a table, c', having the entrance or hole F, provided with guiding-surfaces, substantially as specified, a receptacle for heel-blanks having its outlet k^{10}, opposite said entrance or hole *f*, a heel-blank carrier, k', and a sliding templet-plate, C, substantially as described.

13. In a heeling-machine, a box or receptacle for holding heel-blanks, having the movable gate or plate k^{11}, for varying the size of the outlet k^{10}, all substantially as and for the purposes described.

14. In a heeling-machine, the combination of a box or receptacle for holding heel-blanks, the feeding-plate k', the lever k^2, and the cam k^5, all substantially as and for the purposes described.

15. In a heeling-machine, the combination of the blank-carrier plate k', with the stop *o*, all substantially as and for the purposes described.

16. The combination of a jack carrying a last or heel-support, the nail-driving devices, the templet movable horizontally, as specified, and carrying devices, substantially as specified, for supporting a heel-blank, with an automatic heel-blank-feeding device for automatically feeding heel-blanks to the templet-plate, and a cam for moving the last or last-support into and out of operative position, as described, all substantially as and for the purposes set forth.

17. The combination, in a heel-nailing machine, of a movable last or work-support, the heel-nailing devices, and heel-blank-feeding devices, the main shaft of the machine, and mechanism, substantially as specified, for connecting it with the jack and with the heel-blank-feeding devices, whereby the jack is moved out of operative position simultaneosly with the operation of the heel-blank-feeding devices, moving heel-blank into position for subsequent attachment to a shoe upon the next operation of the machine, substantially as described.

18. The combination, in a heel-nailing machine, of the bed of the machine, a movable jack supported thereby, the main shaft of the machine, a cam, e^7, constructed to move the jack into and out of operative position, and mechanism connecting the cam with the jack, comprising the slide or arm e^2, lever e^4, and slide e^6, the slide e^2 being connected with the jack or work-support, all substantially as described.

19. The combination of a box for holding heel-blanks, having an outlet, k^4, the heel-blank carrier k^3, adapted to be reciprocated to move a heel-blank from the box to a position under the templet-plate, and the said templet-plate, all substantially as and for the purposes described.

20. The combination of the heel-blank holding or grasping devices, and the plate C, supporting the same, with a pressure-plate for pressing or holding the blank thereto, adapted to move the blank into horizontal position against the said plate C before being grasped thereby, all substantially as and for the purposes described.

21. A pressure-plate, M, having the inclined guiding-surface *m*, all substantially as and for the purposes described.

22. The combination of the plate M, having the guiding-pins m^2, and the carriage c', having the holes m^3 for the guiding-pins, and the spring m^4, all substantially as and for the purposes described.

23. The combination of the plate M, the spring m^4, and the stop m^6, all substantially as and for the purposes described.

24. The combination of the heel-blank transferring or carrying plate, the vertically-movable plate M, having the inclined guiding-surface *m*, and the heel-blank-feeding device constructed and arranged so that the plate M yields to accommodate heel-blanks of varying heights, all substantially as and for the purposes described.

25. The combination of the heel-carrying plate with the horizontally-adjustable heel-blank gage G, substantially as described.

26. The combination, in a heel-nailing machine, of the heel-blank grasping or holding devices carried by the plate C, with a tripping device operated, substantially as specified, for automatically releasing the said holding or grasping devices before the said plate C is moved from the heel, substantially as and for the purposes described.

27. The combination of the templet-plate C, carrying the dog or tripping device S, the clamping-plate H, having the pin s^3, and the movable nail-carrier plate D, having the projection s^5, for moving the dog upon the pin, all substantially as and for the purposes described.

28. The combination of the templet-plate

C, carrying the heel grasping or holding devices and movable horizontally, as specified, the nail-carrrier plate D, moved horizontally, as specified, and a device for releasing the heel-blank-clamping device, operated by the carrier-plate upon its forward movement to feed nails to the templet and held locked by said plate during the simultaneous backward movement of the said templet and nail-holder plates, all substantially as and for the purposes described.

FREEBORN F. RAYMOND, 2D.

In presence of—
THOS. WM. CLARKE,
FRED. B. DOLAN.