(No Model.)

3 Sheets—Sheet 1.

F. F. RAYMOND, 2d.

HEEL NAILING MACHINE.

No. 345,449. Patented July 13, 1886.

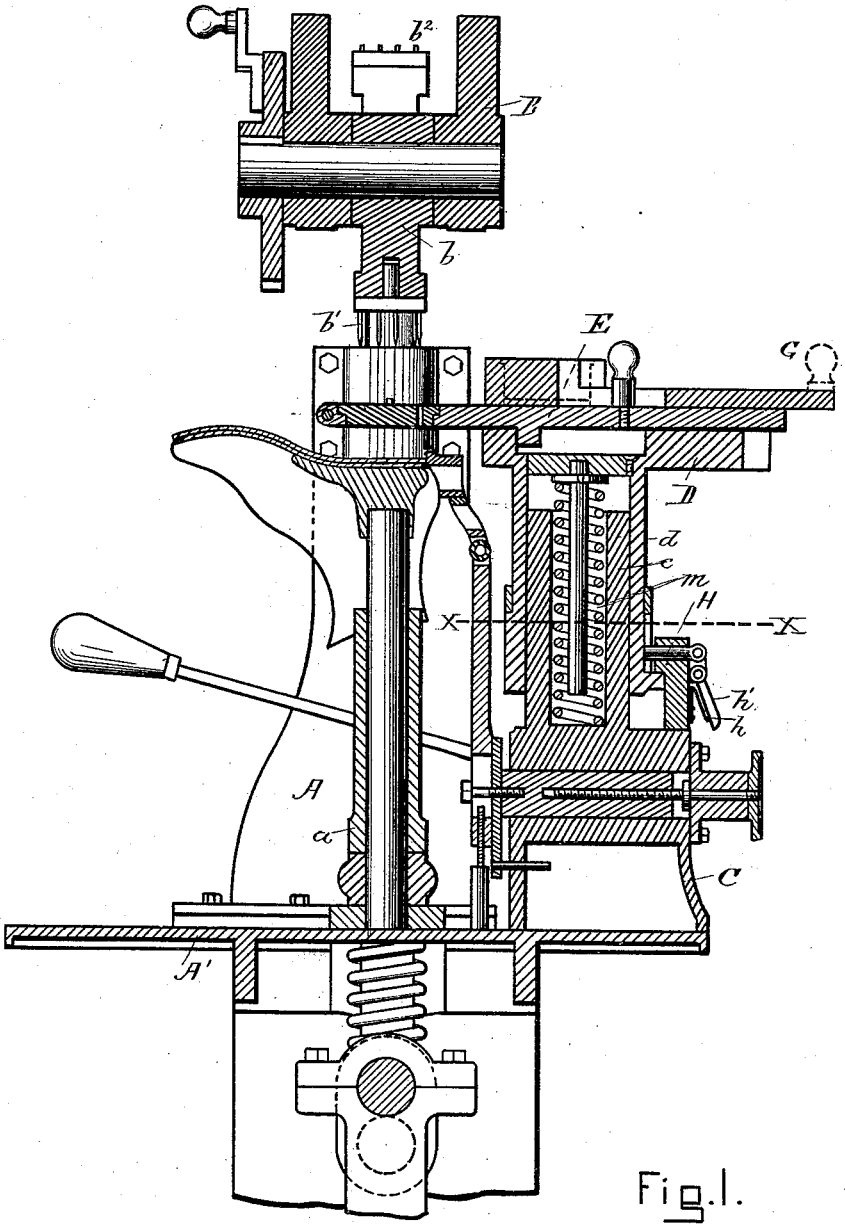

Fig. 1.

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

INVENTOR
F. F. Raymond 2d.

(No Model.) 3 Sheets—Sheet 2.

F. F. RAYMOND, 2d.

HEEL NAILING MACHINE.

No. 345,449. Patented July 13, 1886.

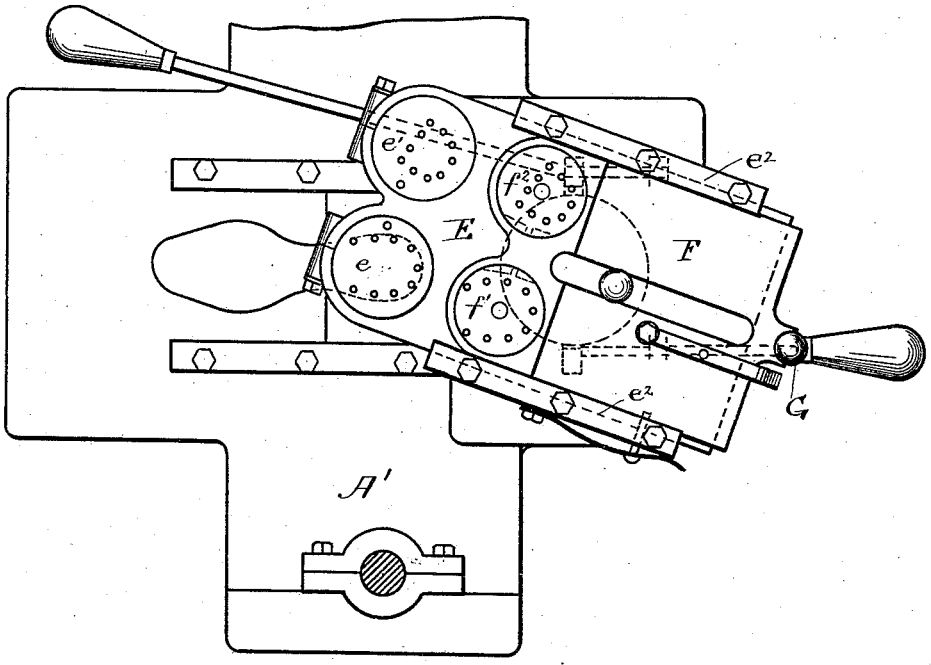

Fig. 2.

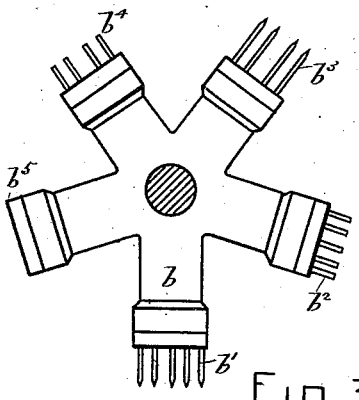

Fig. 3.

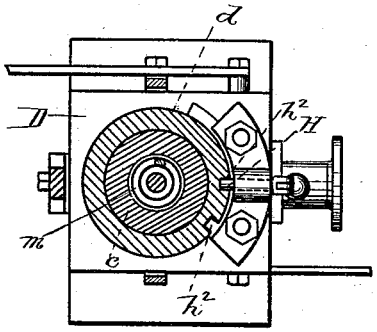

Fig. 4.

WITNESSES

J. M. Dolan

Fred. B. Dolan.

INVENTOR

F. F. Raymond

(No Model.) 3 Sheets—Sheet 3.

F. F. RAYMOND, 2d.

HEEL NAILING MACHINE.

No. 345,449. Patented July 13, 1886.

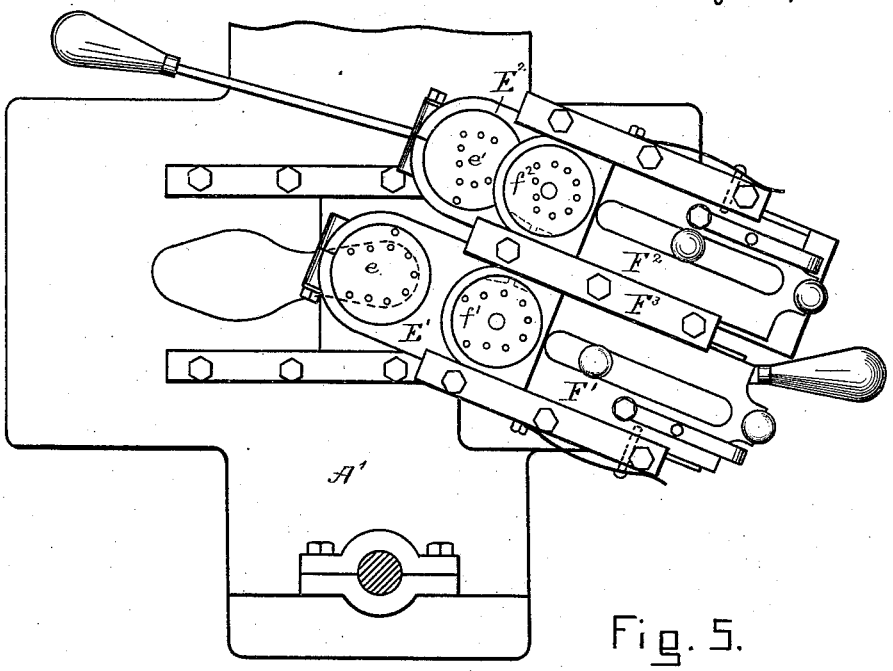

Fig. 5.

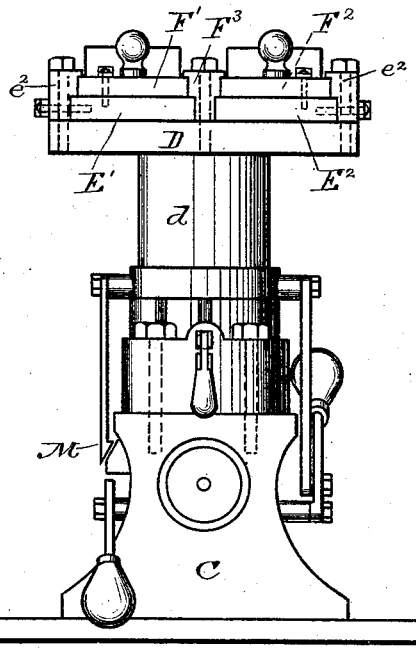

Fig. 6.

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. 345,449, dated July 13, 1886.

Application filed May 5, 1886. Serial No. 201,219. (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, and 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 machine organized for nailing, first, the heel-seat of the boot or shoe—that is, the heel end of the sole—to the upper and insole or to the upper, and subsequently nailing or securing the heel-blank to said boot or shoe, or for driving two lines or rows of nails into the heel-blank itself, for the purpose of securing it to the soles of the boot or shoe, and also for the purpose of providing an additional metallic wearing-surface, and for the purpose of ornamentation.

The invention is an improvement upon the "National Heeling-Machine," so called; and it comprises the employment or use of a plate bearing at its front end two templets supported by a table or carriage adapted to be turned or revolved sufficiently to bring the templets into operative position, and in or on which the said plate is horizontally movable.

It further relates to a nail-carrier plate supported by said table or carriage or the templet-plate carried thereby, having at its front end two nail holders or carriers, one adapted to be used in supplying nails to one templet and the other for use in supplying nails to the other templet, which plate is adapted also to be moved horizontally upon the table or templet-plate, and also to be moved therewith.

Referring to the drawings, Figure 1 is a view in vertical section of the central and upper parts of a machine having my improvements. Fig. 2 is a plan view of the nail-carriers and templets and parts below the same. Fig. 3 is an elevation of the revolving head. Fig. 4 is a cross-section on the line $x\ x$ of Fig. 1. Fig. 5 represents a plan view, and Fig. 6 in elevation a slightly modified form of the invention.

A is the frame of the machine; A′, the bed upon which is mounted a sliding jack, *a*, carrying a last or heel-support.

B is a cross-head, which carries a revolving head, *b*, having a gang or group of awls, b', and a gang or group of drivers, b^2, adapted to be used with the first of the two templets, and the gang or group of awls b^3 and gang or group of drivers b^4, adapted to be used with the second, and the spanker b^5, which may or may not have top-lift-holding device secured thereto. This cross-head is reciprocated substantially as described in the Henderson patent, No. 316,894.

C is a post supported by the bed A′, and having a cylindrical section or sleeve, *c*. This post supports or carries a table, D, which has a cylindrical sleeve, *d*, which surrounds the section *c* of the post, and it is fitted thereto so as to be movable vertically thereon, and also to be turned sufficiently to move the two templets into and out of operative position. The table supports a plate, E, which is movable horizontally thereon, and which has at its front end the templet-block *e* and the templet-block e'. The table has a recess in which this plate is movable horizontally, and the plate is held to the table by the cap-plates e^2. Over the plate E is the plate F′, which is arranged to slide horizontally thereon, is secured to the table by the cap-plates e^2, and has at its front end the nail-holders $f'\ f^2$. These nail-holders preferably are in the form of removable blocks, and they have independent hole-covering plates, adapted to be turned substantially as described in the Henderson patent, No. 316,894. The templet-plate E and the nail-holder plate F′ have stops like those described in the said Henderson patent, No. 316,894, for limiting their forward and backward movement, and latches like those described in said patent, for locking them into and out of operative position. The table is turned by means of the knob G, and it is locked to the post when it has been moved sufficiently to bring either of the templets into position from which they can be moved forward into operative position by means of the pin H, which is forced inward by the spring *h*, and moved outward by the lever or handle h'. This pin enters one of the two vertical recesses or grooves h^2 in the section *d* of the table, according as the table is moved to the right or to the left. The templet *e* has a different arrangement of holes from the templet e', and the nail-holder f' has

its holes arranged to correspond with the holes of the templet *e*, and the nail-holder f^2 has its holes arranged to correspond with the holes of the templet *e'*.

If the machine is fitted to nail the heel end of the sole, the templet used will have formed therein a cavity of a configuration, to properly shape the heel end of the sole when it has been moved down thereon. If it is to be used for driving the attaching-nails of a heel, then it will have a flat surface.

In operation the work is placed upon the last or work-support and moved into operative position, the templet *e* is moved into place and down upon the work, and the awls which are to operate therewith are also moved into position. The machine is then reciprocated, and the holes formed in the sole or in the heel, as the case may be, and the templet locked down by the latch M. The drivers for use with that templet are thereupon brought into position, and the nail-carrier plate moved forward to feed the nails to the templet. The drivers are then reciprocated and the nails driven into the sole or heel, as the case may be. The table is then unlatched and moved upward by the spring *m* to its normal position, without removing the last or work-support. The table supporting the templets is then turned about an eighth of a revolution, and the second templet thereby brought into position. The heel-blank, if not previously secured to the soles of the boot or shoe, is then placed thereon. The nail-carrier plate is moved back, the templet moved down, and the awls for use with the second templet are brought into place, and the cross-head reciprocated, and the holes formed in the heel and the templet latched down on the heel. The nail-holder plate is then moved forward and the nails for that templet discharged from their holder therein, the drivers for the templet moved into place, and the nails driven into the heel. The templet-plate is then released and moved back with the nail-carrier plate, and the top lift attached, if desired, or the heel spanked.

I have represented in Figs. 1 and 2 both the templet-plate and nail-holder plates made integral. Each of the two templets and each of the two nail-carriers, however, may be supported by an independent or separate plate, and in Figs. 5 and 6 I have represented this construction, the templet *e* being supported by a separate plate, E', movable horizontally on the table or carriage, and the templet *e'* by its plate E^2, which has a similar movement, and the same is true of the nail-holders $f' f^2$ and their respective plates F' and F^2. This enables me to make changes of templets and nail-holders, and to vary the combinations thereof more quickly than where one plate for both templets and a plate for both nail-holders is employed. When this form of construction is used, the carriage or table has the central cap-plate, F^3, for holding the plates E' E^2 and F' F^2 to the carriage or table.

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

1. The combination, in a nailing-machine, of a table or support adapted to be turned or partly revolved, two templets, *e e'*, arranged at the front thereof closely to each other, and their sliding supporting plate or plates movable horizontally in said table or support, substantially as described.

2. In a nailing-machine, the combination of a table or support adapted to be turned or partly revolved, two templets, *e e'*, arranged at the front of the table, a plate or plates supporting the templets, movable horizontally upon the table or support, the nail-carriers $f' f^2$, and their supporting plate or plates also movable horizontally on said table or other support, all substantially as described.

3. In a nailing-machine, in combination with nail-driving devices, the rotary and sliding templets *e e'* and the rotary and sliding nail-carriers $f' f^2$, arranged to operate substantially as described.

FREEBORN F. RAYMOND, 2D.

Witnesses:

J. M. DOLAN,

FRED. B. DOLAN.