

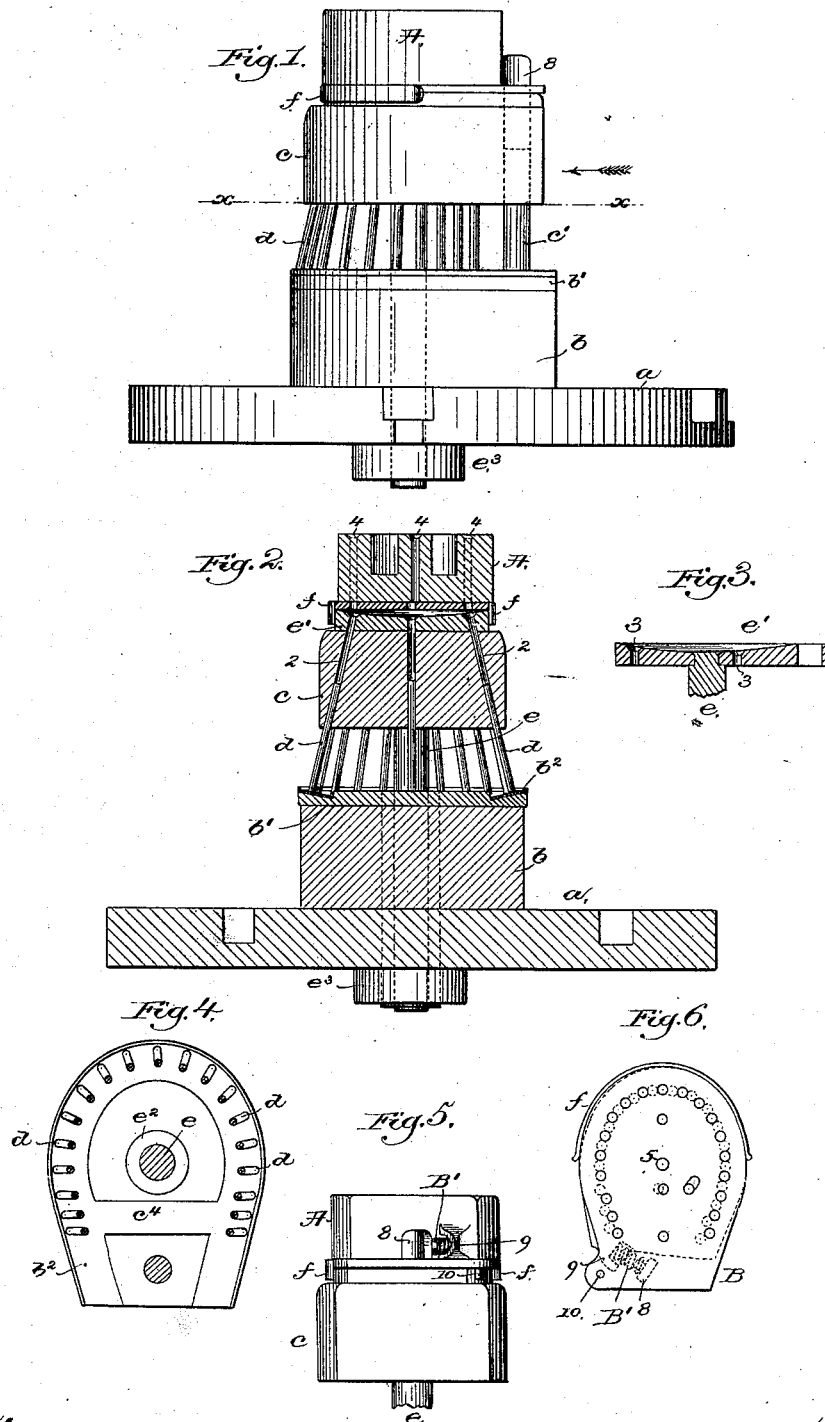
(No Model.)

2 Sheets—Sheet 1.

C. W. GLIDDEN.
HEEL NAILING MACHINE.

No. 347,482.

Patented Aug. 17, 1886.



Witnesses,
John F. C. Prinkert
Thomas Hobday

Inventor,
Charles W. Glidden
by Crosby & Gregory, attys.

(No Model.)

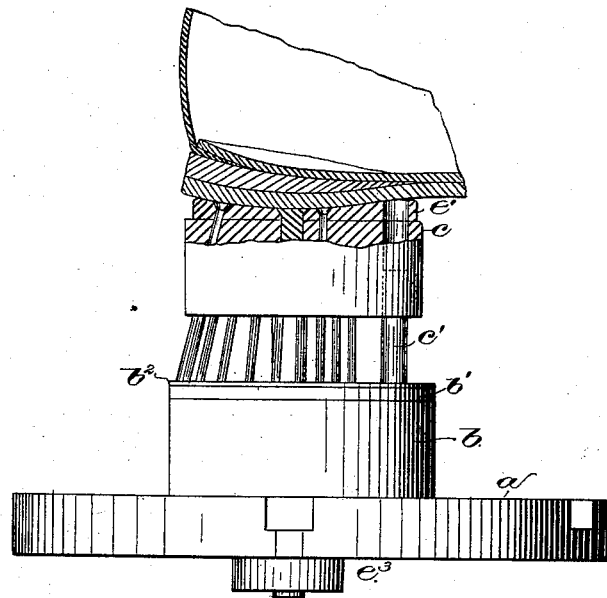
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Fig. 7.



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UNITED STATES PATENT OFFICE.

CHARLES W. GLIDDEN, OF LYNN, ASSIGNOR TO JAMES W. BROOKS, TRUSTEE,
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HEEL-NAILING MACHINE.

SPECIFICATION forming part of Letters Patent No. 347,482, dated August 17, 1886.

Application filed March 29, 1886. Serial No. 196,954. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. GLIDDEN, of Lynn, county of Essex and State of Massachusetts, have invented an Improvement in Heel-Nailing Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to provide a heel-nailing machine with mechanism whereby what is known as a "spring-heel" may be nailed, the nails being driven therein diagonally.

In accordance with my invention the top-lift plate is concaved to fit the spring or convexity of the sole at the heel. The independent drivers, arranged in diagonal holes in the nail-block, rest at their lower ends on an inclined or beveled surface, preferably a detachable plate laid on the driver-plate. The nails are supplied to the nail-box from a loader provided with a flange to embrace the nail-box for a part of its periphery, and with a swing-plate pivoted thereto and acted upon by a spring.

My invention consists, essentially, in a nail-box having diagonally-placed holes and a plate concaved at its upper side and provided with holes to coincide with the holes in the nail-box, combined with a series of diagonally-placed drivers and an inclined plate upon which the lower ends of the drivers rest and move, substantially as will be described.

Other details of my invention will be hereinafter described, and specified in the claims.

Figure 1, in side elevation, shows a sufficient portion of a heel-nailing machine to enable my present invention to be understood, the nail-loading device being shown in position upon the nail-box. Fig. 2 is a vertical cross-section of Fig. 1. Fig. 3 is a longitudinal sectional detail of the top plate and the pin or spindle to which it is attached. Fig. 4 is a section of Fig. 1 below the dotted line *xx*. Fig. 5 is a right-hand elevation of the nail-box and nail-loader thereon, looking at the same in the direction of the arrow, Fig. 1. Fig. 6 is an under side view of the loading device removed from the nail-box and plate; and Fig. 7 is a side elevation of my improved mechanism, showing part of a shoe with the heel in position to be nailed prior to trimming.

The grooved plate *a* and the block *b* thereon are common to the well-known McKay & Bigelow heeling-machine, so need not be herein further described.

Resting upon the block *b*, which is usually of cast metal, is a plate, *b'*, the latter plate, as herein shown, being recessed and inclined or beveled to receive a rim-plate, *b''*, preferably of hardened steel, made to conform in shape with the heel in which the nails are to be driven.

Above the block *b* and the plate *b'* is the nail-box *c*, which, attached in usual manner to the guide-pin *c'*, has made through it a series of diagonal holes, 2, which receive in them not only the series of steel drivers *d*, but also at times the nails which are to be driven in the heel end of the boot or shoe being made.

The nails are driven when the nail-box *c* is depressed, as usual in the McKay & Bigelow heel nailing and trimming machine, the end of the heel at such time resting on the plate *e'* at the top of the nail-box *c*, the nail-loading device *A* (shown in position in Figs. 1 and 2) being at such time removed. The nail-box *c* has attached to it by the spindle *e* a top plate, *e'*, which at its upper side is concaved, substantially as shown in Figs. 2 and 3. This top plate has in it a series of holes, which register with the holes 2 in the nail-box. The spindle *e*, extended below the nail-box, enters loosely the hollow sleeve *e''*, which is extended down through the grooved plate *a*, and has there screwed to it a nut, *e'''*, the tube fastened to the block *b* at one end and acted upon by the nut *e'''*, holding the block *b* firmly in place upon the plate *a*. As the nail-box *c* is depressed, the drivers *d* will be made to enter the diagonal holes 2 farther and farther, which it will be obvious contracts the arc in which the lower end of the drivers rest when the block *c* is lifted, as in Fig. 2, and finally the upper ends of the said drivers will enter the holes in the top plate, *e'*, and during such movement the lower free ends of the drivers will move upon the plate *b''* toward the center of the spindle *e*.

By employing a loose steel plate, *b''*, preferably connected by a cross-piece, *e''*, the wear of

the parts may be readily compensated for and a new plate may be readily substituted; but I desire it to be understood that the lower ends of the drivers may rest directly upon the inclined upper side of the plate *b'*, directly beneath the position shown in the drawings as occupied by the plate *b*.

The nails to be used will be fed by hand or otherwise into the holes 4 of the nail-loading device A, the said nail-loading device having pivoted to it at 5 (see Fig. 6) a nail-holding plate, B, it having a series of holes in number substantially equal to the number of holes in the loading device, the holes of said plate, when the latter is in one position, all registering or falling in line with the holes 4; but when the said plate B is moved by the spring B', then the holes in the said plate are out of line with relation to the holes 4, and the nails standing in the said holes are supported at their lower ends by a part of the said plate. To keep the plate B in such position normally that its holes will not coincide with the holes 2, I have provided the said plate with a lug or projection, 8, which is acted upon by the spring B', the opposite end of which rests against or in the recess of a lug, 9. The plate B is provided with a pin, 10, which, when the plate and its attach-block A are laid upon the top plate, *e'*, comes against the said top plate, substantially as shown in Figs. 5 and 6, and thereafter, by slightly turning the block A, the recesses 2 in the said block may be brought directly above the recesses 3 in the top plate, *e'*, permitting the nails placed in the said block with their ends resting on the plate B to drop freely into holes of the nail-block *c* upon the upper ends of the drivers *d*. The nails having been discharged from the nail-loader into the holes in the nail-block, and the nail-loader A removed from the nail-block, the heel of the shoe, carried by an iron last attached to a spindle, as common in the McKay & Bigelow heeling-

machines, is placed upon the plate *e'*, and the spindle and nail-block are then depressed in usual manner, so as to compel the drivers, the lower ends of which rest upon the stationary plate *b*, to further enter the holes 2 of the nail-box and force the nails therein outward through the holes in the plate *e'* and into the heel of the boot or shoe.

To aid in quickly applying the nail-loader correctly to the top plate, *e'*, the said nail-loader has been provided with a guard, *f*.

I claim—

1. The nail-box having the diagonally-placed holes and the plate *e'*, concaved at its upper side and provided with holes to coincide with the holes in the nail-box, combined with a series of diagonally-placed drivers and an inclined plate upon which the lower ends of the drivers rest and move, substantially as described.

2. The nail-box having a series of diagonal nail-receiving grooves or passages, and the attached plate *e'*, concaved at its upper side to receive a so-called "spring-heel," combined with a nail-loading device consisting, essentially, of a perforated block, a perforated plate pivoted thereto, and with a spring to operate the said plate, substantially as described.

3. The block A, provided with a series of grooves or passages to receive nails, and the plate B, pivoted to the said block and provided with a pin, 10, and a lug, 8, and the guard *f*, combined with a spring, B', and with the plate *e*, supported by the nail-box, to operate substantially as described.

In testimony whereof I have signed my name to this specification in presence of two subscribing witnesses.

CHARLES W. GLIDDEN.

Witnesses:

G. W. GREGORY,
F. CUTTER.