C. W. GLIDDEN.

Nailing-Machine for Boots and Shoes.

No. 197,211. Patented Nov. 20, 1877.

Fig. 1

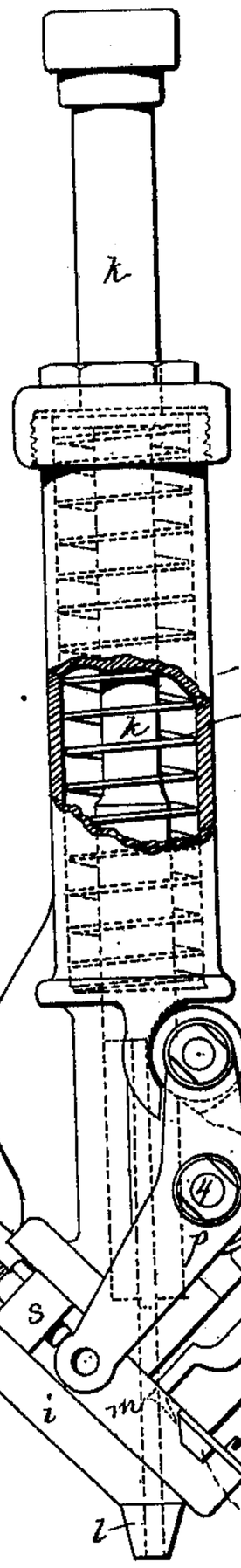


Fig. 3.

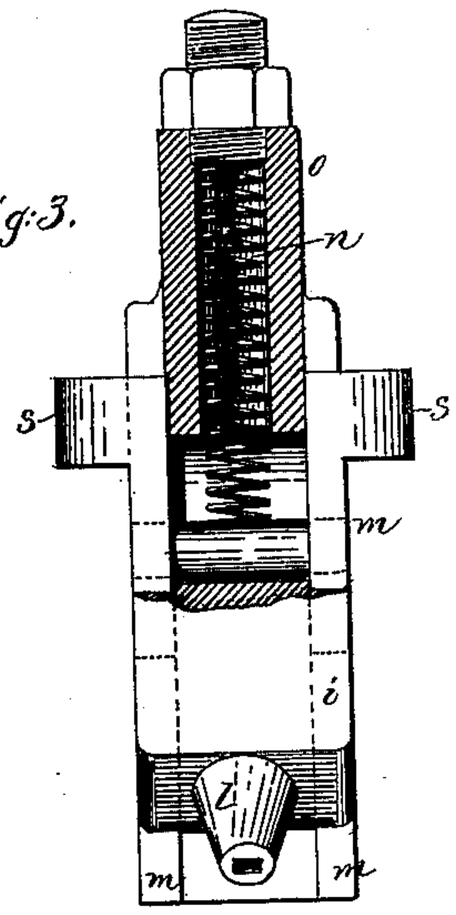


Fig. 4

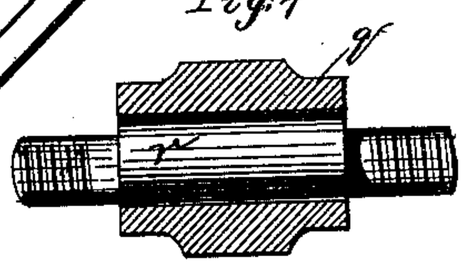


Fig. 5.

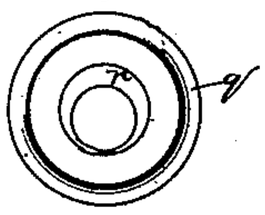
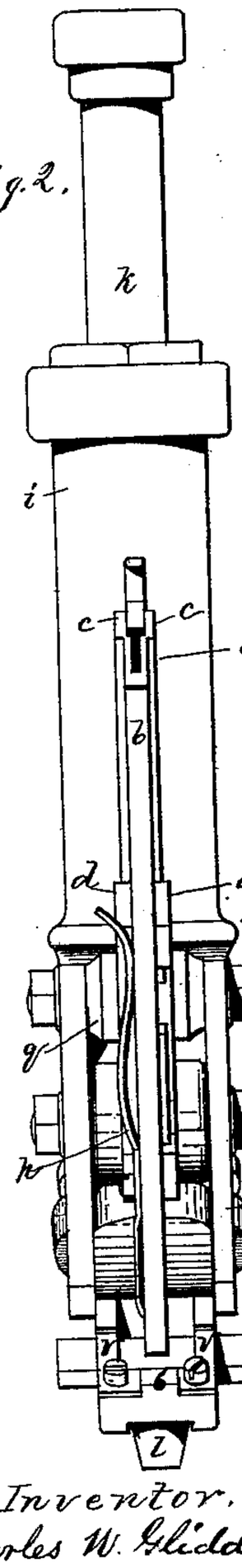


Fig. 2.



Witnesses.

W. E. Latimer

E. C. Perkins.

Inventor.

Charles W. Glidden

per Crosby & Gregory attys.

UNITED STATES PATENT OFFICE.

CHARLES W. GLIDDEN, OF LYNN, MASSACHUSETTS.

IMPROVEMENT IN NAILING-MACHINES FOR BOOTS AND SHOES.

Specification forming part of Letters Patent No. **197,211**, dated November 20, 1877; application filed April 30, 1877.

To all whom it may concern:

Be it known that I, CHARLES W. GLIDDEN, of Lynn, in the county of Essex and State of Massachusetts, have invented an Improved Nailing-Machine, of which the following is a specification:

This invention relates to improvements in hand-operated nailing-machines to drive tacks or nails in boots and shoes for lasting them. The invention has reference to means for moving the knife-carrying slide and adjusting its throw, and also in devices to hold the strip-guide in place, or permit its removal.

Figure 1 represents, in side elevation, a hand-nailer provided with the improvements herein set forth; Fig. 2, an elevation of the machine, looking at it from the right of Fig. 1; Fig. 3, a section showing the spring to return the knife-carrier to its normal position; and Figs. 4 and 5, and sections of the eccentric-roller.

The nails to be used are cut separately from the end of a comb-shaped strip of usual construction, placed in the opening *a* in the strip-guide *b*, provided with shoulders *c c*, embraced by hooks *d*, that hold the guideway against the frame *e*. A spring, *f*, connected with the frame, and with a hook, *g*, on the strip-guide, holds the latter pressed toward the driver-passage. A spring, *h*, upon the strip-guide, is so constructed and shaped at its forward end as to enter a slot in the latter and press upon the side of the nail-strip, acting as a friction device, and at its rear end the spring is turned up so as to be grasped by the fingers; and it is also provided with a holding-projection, 2, to fall behind the upper hook *d*, to prevent the strip-guide from being drawn upward entirely out from the hooks, except when the spring is lifted, when the strip-guide may be moved longitudinally until the spaces 3, cut in the shoulders *c*, come opposite the hooks, when the strip-guide may be entirely removed. The head *i*, adapted to be held in the hand, is hollow, and provided with a strong spiral spring, *j*, to elevate the nail-driver bar *k* after it is driven down, to drive a nail. At the lower end of the head is a nail tube or foot, *l*, provided with a nail-passage. The knife-carrying slide *m* is fitted to be moved in an inclined guideway (see Fig. 1) diagonally with relation to the path of the driver. A spiral spring, *n*, in a fixed part of the head or frame, depresses the knife-carrying slide after it is lifted by the slide-lifting lever *p*, pivoted at 4, and provided at top with an adjustable roll, *q*, mounted upon an eccentric-stud, *r*, the roll to lift the lever and slide being struck by a projection on the driver-bar at each descent thereof.

The ears *s* of the slide *m* are provided with adjusting-screws to permit the lever to lift the slide more or less, according to the distance it is desired to move such slide and its cutter or knife *u*, this distance depending upon the width of the cutter, which is changed from time to time as the cutter is ground. These set-screws are not absolutely necessary, for the adjustment described as accomplished by the screws may be, and preferably is, accomplished through the eccentric-stud, upon which is mounted the roller *q*, for by adjusting this stud the periphery of the roller will be more or less distant from the fulcrum of the lever, and the projection on the driver-bar will strike the roller sooner or later and lift it more or less, as required.

The knife is held by finger-plates *v v*, which permit it to be freely moved longitudinally to keep a sharp portion of the knife in operative position. The knife when lifted bends the end nail of the strip from the adjacent nail of the inclined strip, and presents it in the line of the driver-passage, ready to be severed by the driver at its next descent. The end of the driver acts as the upper member of the cutting device.

The lower end of the slide *m* is provided with a cam, 6, (see Figs. 1 and 2,) which, each time the slide is lifted, strikes the lower end of the strip-guide and moves it backward away from the driver-passage and horizontally over and along the nail-strip. At this time the cutter *u* holds the strip. After the slide descends the spring *a'*, connected with it and with the frame *e*, moves the strip-guide and nail-strip toward the driver-passage.

I claim—

1. The head *i* and driver, in combination with the diagonally-moving knife-carrying slide, and the lever and its roller actuated by

the driver-bar to move the knife into operative position to assist in severing the nail, substantially as described.

2. The combination, with the lever, of the eccentric stud and roller, substantially as described.

3. The slide and its lever and devices to adjust the movement of the slide, in combination with a knife or cutter, substantially as described.

4. The strip-guide, provided with shoulders and spaces, in combination with hooks and spring *h*, to hold the strip-guide in place, or to permit its removal, substantially as described.

5. A movable strip-guide, substantially such as described, in combination with a diagonally-movable cutter and cutter-carrier, to operate substantially as set forth.

6. A strip-guide mounted in guideways and held pressed in one direction by a spring, in combination with a cam to reciprocate the strip-guide backward from the driver and along over the nail-strip when the latter is held, substantially as described.

7. A diagonally-moving cutter and a driver, in combination with a reciprocating strip-guide and a movable cam to operate the strip-guide and move it away from the driver, substantially as described.

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

CHARLES W. GLIDDEN.

Witnesses:

G. W. GREGORY,

E. C. PERKINS.