

No. 748,535.

PATENTED DEC. 29, 1903.

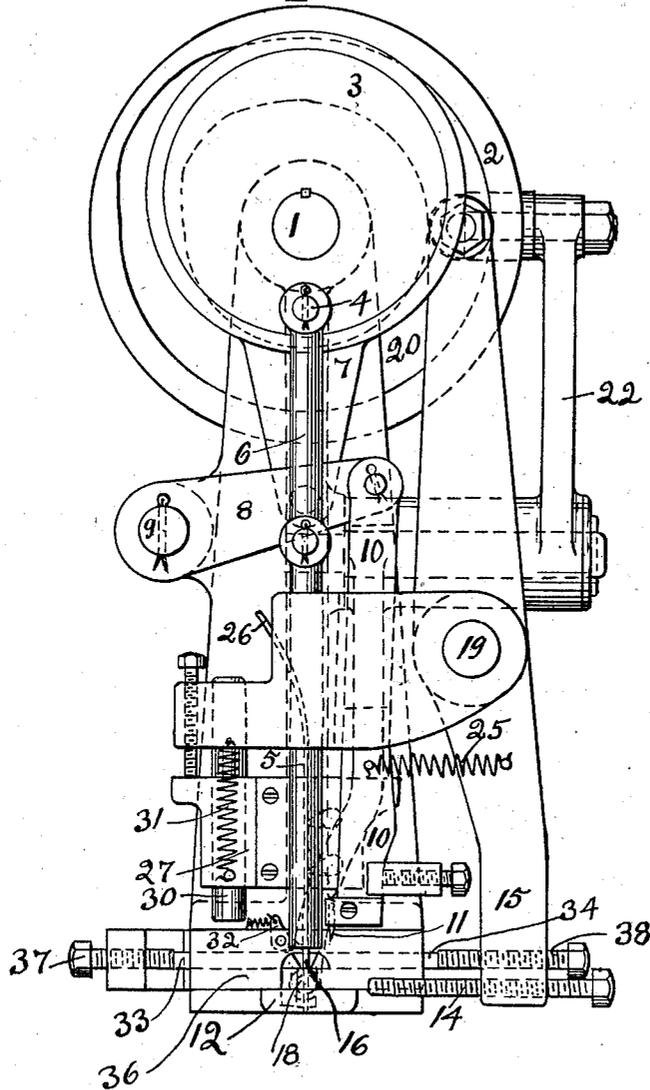
V. SANDAHL.
NAILING MACHINE.

APPLICATION FILED JAN. 15, 1902.

NO MODEL.

3 SHEETS—SHEET 1.

Fig. 1.



WITNESSES

Thomas F. Farrell
Marie Steinebrin

INVENTOR

Victor Sandahl

No. 748,535.

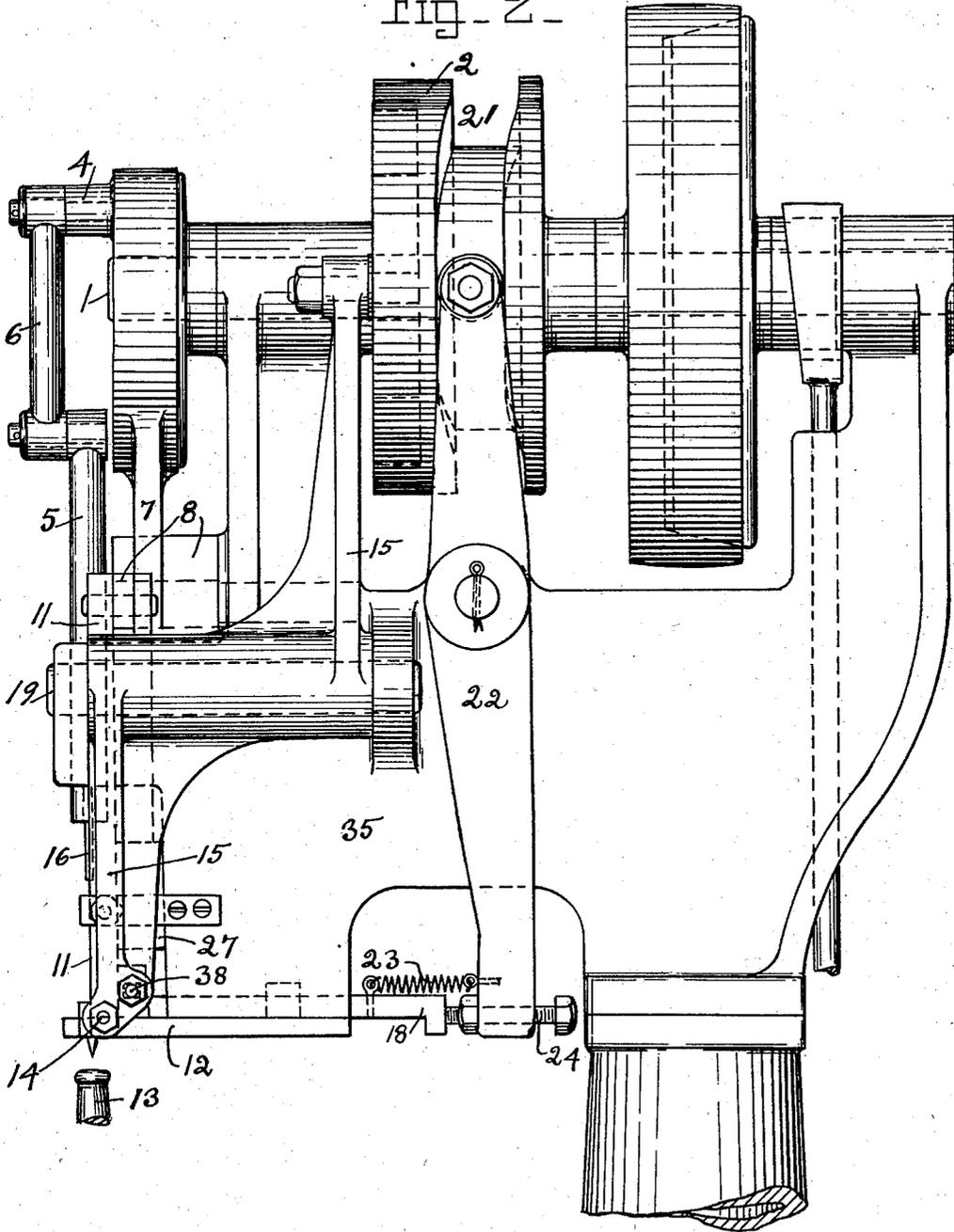
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3 SHEETS—SHEET 2.

Fig. 2



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3 SHEETS—SHEET 3.

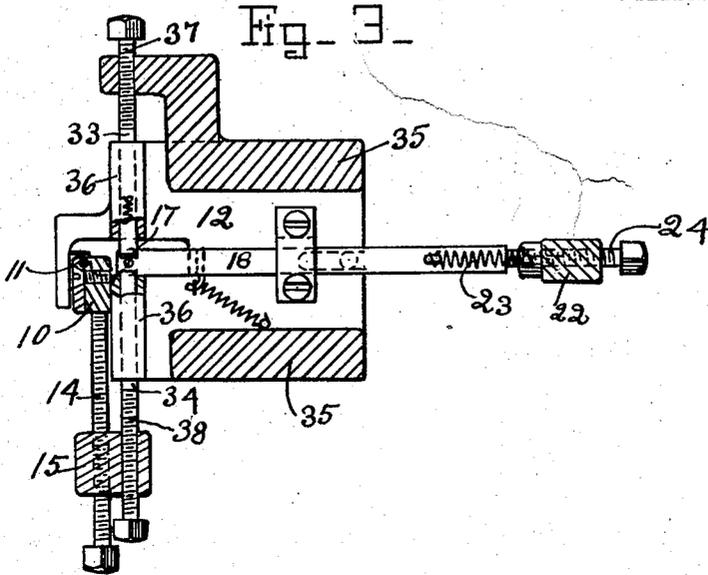


Fig. 4

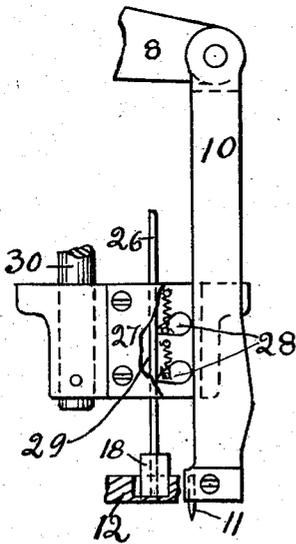
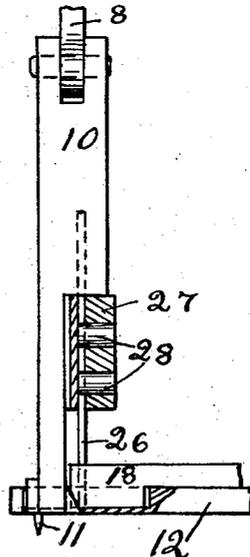


Fig. 5



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UNITED STATES PATENT OFFICE.

VICTOR SANDAHL, OF BOSTON, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE EXCELSIOR SLUGGER & TACKER MACHINE COMPANY, A CORPORATION OF DELAWARE.

NAILING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 748,535, dated December 29, 1903.

Application filed January 15, 1902. Serial No. 89,858. (No model.)

To all whom it may concern:

Be it known that I, VICTOR SANDAHL, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Nailing-Machines, of which the following is a specification.

My invention relates more especially to nailing-machines for boots and shoes; and it consists of combination of parts which will be fully described hereinafter and claimed.

In the accompanying drawings, Figure 1 represents a front view of a machine embodying my invention. Fig. 2 is a side view thereof. Fig. 3 is a top view showing more especially part of the wire-cutting mechanism. Figs. 4 and 5 are views of the wire-feeding mechanism and of parts connected therewith.

Like figures of reference refer to like parts throughout the several views.

Power can be transmitted to the driving-shaft 1 by any well-known mechanism, a friction-clutch and pulley being shown in Fig. 2 of the accompanying drawings. A cam-disk 2 and a cam or eccentric 3 are mounted on the shaft 1. A crank-pin 4 extends from the side of the eccentric 3, which pin, through the connection 6, gives a reciprocating motion to the driving-bar 5. A strap 7 surrounds the eccentric 3 and is attached to a lever 8, which is loosely hung on a stud 9 and at its free end carries the awl-bar 10, the awl-bar being given a reciprocating movement by its said connections to the eccentric 3 and at its lower end carries the awl 11. In its downward movement the awl penetrates the stock, which is held against the work-plate 12 by the stock-support 13. When the awl has come to about the extreme lower part of its downward movement, an adjusting-screw 14, extending from a lever 15, engages the lower part of the awl-bar and moves it toward the driver 16, thereby causing the awl to move the stock in the same direction. When the awl has come in line with the driver 16, the movement above mentioned of the lever 15 ceases and the awl is withdrawn from the stock, leaving the puncture in the stock directly under the driver. In its downward movement the driver 16 enters a nail-throat

17, which extends through a sliding nail-carrier 18, and the nail that is therein will be driven into the puncture made in the stock by the awl. The lever 15 is loosely hung on a shaft 19 and has its movements imparted from a groove 20. The cam-disk 2 has the cam-groove 20 and also a cam-groove 21, by which a lever 22 is operated. A spring 23 holds the rear end of the nail-carrier 18 in contact with an adjusting-screw 24, which is carried by the lower end of the lever 22. After the awl is withdrawn from the stock and moved out of the way of the driver 16 by a spring 25, which spring connects the awl-bar 10 to the lever 15 with a yielding connection, the nail-carrier 18 is moved forward by the lever 22 until the nail-throat 17 has come into line with the driver, where the nail-carrier remains until the driver has driven the nail, as previously described.

The wire 26, from which nails are to be severed, is fed into the nail-throat 17 by means of a sliding block 27 and spring-pressed pawls 28. The wire passes between the pawls 28 and a shoulder 29 of the block 27. The pawls are carried by the block and are so arranged that they will bind the wire against the shoulder 29 when the block 27 is moved downward, but release their hold upon the wire when the block is moved in the opposite direction. This block 27 is supported between the awl-bar 10 and the frame 35 of the machine, and it is also held in a proper side-wise position by means of a stud 30, on which it slides. A shoulder on the the awl-bar 10 reaches the block 27 at a proper time in its downward movement and depresses it, the upward movement of the block being accomplished by means of a spring 31. After the nail-carrier is moved from the driver and has come to a rest the nail-throat 17 lines up with the wire 26, and the wire will be fed into the throat 17 by the downward movement of the block. A pawl 32 is placed in such position below the block 27 as to clamp the wire to a stationary part of the machine, and thus prevent any liability of a return or upward movement being imparted to the wire.

The wire that is fed into the throat 17 is cut off by knives 33 and 34, they being placed on

opposite sides of the wire and immediately above the nail-carrier 18 and are supported in a block 36, in which they are capable of being moved toward and from the wire. There is no movement imparted to the knife 33 with the exception of the adjustment by the screw 37. The lever 15 carries an adjusting-screw 38, which when the lever forces the stock to be moved comes against the end of the knife 34 in the latter part of the movement and forces the knife toward and against the other one. Thereby the wire that is between them will be cut off. After the wire is cut that part which is in the throat is carried under the driver and forced into the stock, as previously described.

Having thus described my invention, what I claim is—

1. In a nailing-machine, an awl, a bar carrying the awl, a stock-support, means to operate the awl-carrying bar whereby the awl will be moved to puncture the stock supported by the stock-support, a nail-throat, a wire-clamping device supported within the path of the movement of the awl-bar but independent of said awl-bar, engaged by the awl-bar and moved thereby to feed wire into the nail-throat.

2. In a nailing-machine, a rotating cam or eccentric, a lever, a connection between the cam or eccentric and the lever whereby the lever is given a vibrating movement, an awl-bar carried by the lever, and a wire-clamping device engaged by and carried with the awl-bar to feed wire.

3. In a nailing-machine, a block, a shoulder on the block, pawls carried by the block and arranged to clamp wire against the shoulder when the block is moved in one direction, an awl, a bar carrying the awl, a stock-support, means to reciprocate the awl-bar to cause the awl to puncture the stock, said block and its attached wire-clamping pawls moved by the awl-bar in one direction, and means to give a return movement to the block and its attached pawls.

4. In a nailing-machine, an awl-bar having an attached awl, a lever, means to move the lever against the awl-bar to move said awl-

bar laterally to feed the stock, a nail-throat, a vertically-reciprocating block having wire-clamping pawls thereon adapted to engage wire and to feed it into the nail-throat said block moved downward by said awl-bar, and means operated by said lever to sever the wire to form a nail.

5. In a nailing-machine, an awl-bar and means to impart a vertical movement to said awl-bar, a lever and means to operate said lever to impart a lateral movement to said awl-bar, a vertically-movable block engaged and moved downward by said vertically-movable awl-bar, pawls upon said block to engage and feed wire intermittingly, and means operated by said lever to cut off the wire fed and thereby form a nail.

6. In a nailing-machine, a stock-support, an awl-bar with attached awl moved vertically to puncture the stock supported upon the stock-support, a wire-clamping device engaged by and carried downward with the awl-bar to feed wire, a laterally-sliding wire-cutter, and a lever to move said awl-bar laterally to feed the stock and at the same time to move said cutter laterally to cut the wire to form a nail.

7. In a nailing-machine, a rotating cam or eccentric, a lever, a connection between the cam or eccentric and the lever, whereby the lever is given a reciprocating movement, a bar carried by said lever, a nail-throat, means operated by the bar to feed wire into the nail-throat, an awl carried by the bar, a stock-support, the awl in a part of its downward reciprocating movement acting to puncture the stock which is supported by the stock-support, a lever to move the bar laterally while the awl is within the stock, and means operated by the second lever to sever the wire to form a nail.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 14th day of January, A. D. 1902.

VICTOR SANDAHL.

Witnesses:

THOMAS F. FARRELL,
FRED. G. HEGENSTUBER.