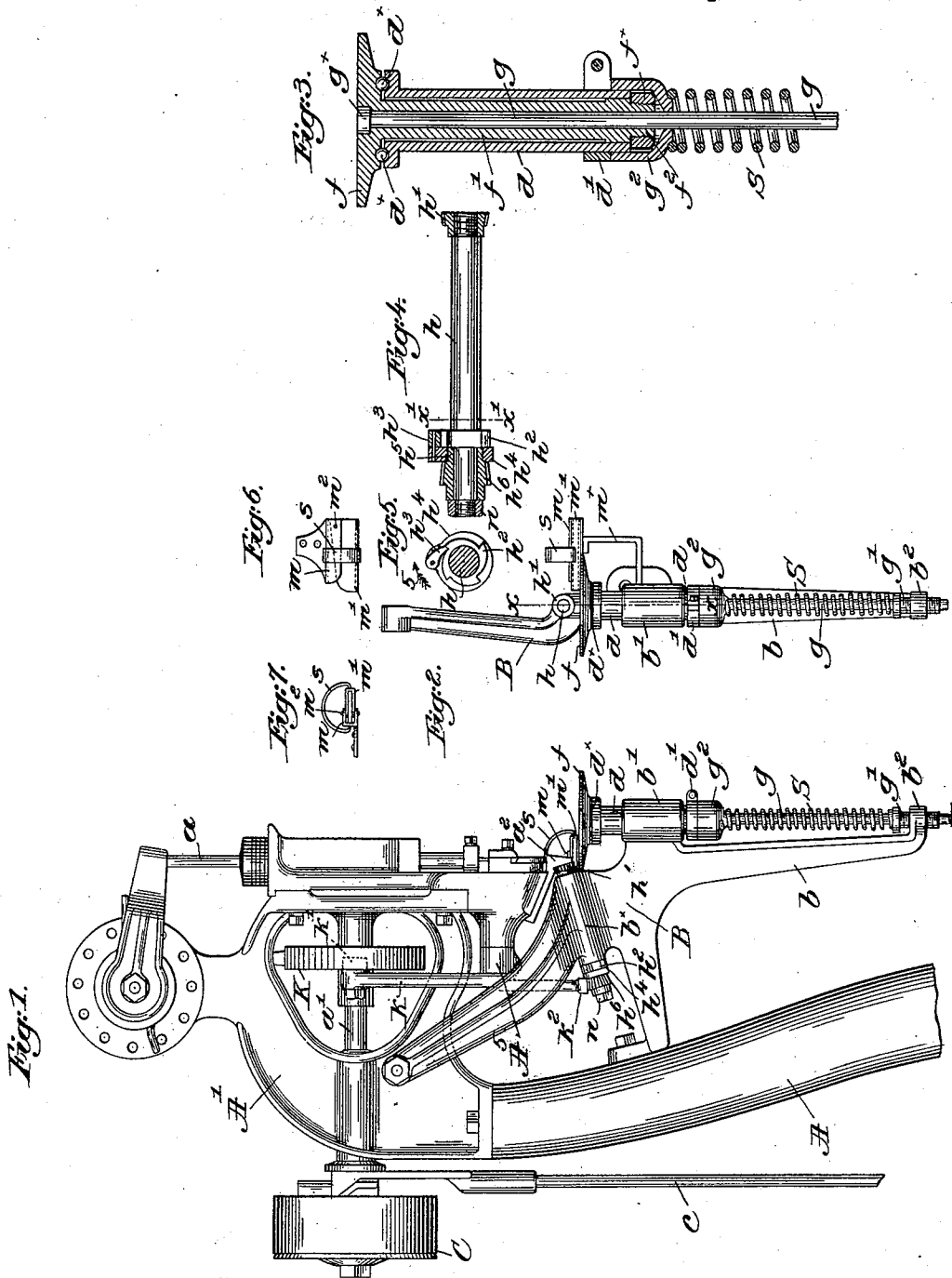


(No Model.)

L. GODDU.  
RAND OR WELT NAILING MACHINE.

No. 568,248.

Patented Sept. 22, 1896.



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# UNITED STATES PATENT OFFICE.

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## RAND OR WELT NAILING MACHINE.

SPECIFICATION forming part of Letters Patent No. 568,248, dated September 22, 1896.

Application filed December 18, 1895. Serial No. 572,574. (No model.)

*To all whom it may concern:*

Be it known that I, LOUIS GODDU, of Winchester, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Rand or Welt 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 relates to nailing-machines, and has for its object the production of a machine for nailing the rand or welt on boots or shoes in a rapid and effective manner.

In such nailing-machines it is essential that the work-support be flat and freely movable as the work passes thereover, and that a step-by-step feed mechanism be provided for feeding the work when resting on said support.

In my present invention I have mounted a circular disk-like work-support to rotate freely about its axis, reducing the resistance by an antifriction-bearing, and providing a cooperating step-by-step feed mechanism to engage the welt and feed it forward.

Other features of the invention will be hereinafter described in the specification and particularly pointed out in the claims.

Figure 1 in side elevation represents a well-known form of nailing-machine with my present invention applied thereto. Fig. 2 is a front elevation of the work-support and its sustaining-bracket. Fig. 3 is an enlarged longitudinal section taken on the line  $x x$ , Fig. 2. Fig. 4 is an enlarged view, partially in section, of the feed-shaft and a portion of its cooperating mechanism. Fig. 5 is a transverse section thereof, taken on the line  $x' x'$ , Fig. 4, looking to the left; and Figs. 6 and 7 are respectively top and front views of the welt-guide detached.

The standard A, having a head A' thereon of suitable shape to provide bearings for the operative parts of the nailing mechanism, the driver-bar  $a$ , having an attached driver, (not shown,) the main shaft  $a'$ , clutch C therefor, and clutch-controlling rod  $c$ , and the nose or throat  $a^2$ , having a delivery-passage therein for the nail or other fastening, may be and are of well-known construction.

A bracket or stand B, having a depending leg  $b$ , is branched at its upper end, as shown in Fig. 1, and bolted or otherwise secured to the standard and head of the machine, the leg  $b$  having thereon a bearing  $b'$  and a threaded boss  $b^2$ . The bearing  $b'$  receives loosely therein a longitudinally-movable sleeve  $d$ , (see Fig. 3,) having an annular groove in its upper end to receive a series of friction-rolls  $d^x$ , upon which rests a disk-like work-support  $f$ , having a flat upper surface and annularly grooved on its under side to form a partial raceway for the friction-rolls.

The work-support has a hollow shank  $f'$  extended loosely through the sleeve and threaded at its lower end at  $f^2$  to receive a retaining-nut  $f^x$ , which prevents longitudinal separation of the sleeve and work-support, the shank being slightly enlarged adjacent the nut to fit snugly in the bottom of the sleeve  $d$ .

A collar  $d'$  is clamped on the sleeve  $d$ , below the bearing  $b'$ , to limit upward movement of the work-support  $f$ , which is elevated in a yielding manner by a spring S, surrounding a depressing-rod  $g$  between an adjustable bushing  $g'$ , threaded into the boss  $b^2$ , and a cap  $g^2$ , surrounding the lower end of the sleeve  $d$  and shank  $f'$ , the spring pressing the cap against the collar  $d'$ .

The lower end of the rod  $g$  is attached to a suitable treadle, (not shown,) and the headed upper end  $g^x$  of said rod enters a counterbore in the work-support, said rod passing through the hollow shank  $f'$  of the work-support, whereby the latter may be depressed when it is desired to insert or remove the work. The work-support is thus freely rotatable about its vertical axis when the work is moved thereon by the feed mechanism.

A bearing  $b^x$  is made in the stand B, (shown in Fig. 1 as inclined upward toward the work-support,) and a shaft  $h$  is rotatably mounted therein, having secured to its upper end a preferably beveled feed-wheel  $h'$ , toothed or milled to better engage the upper face of the welt.

On the lower end of the shaft, beyond the bearing  $b^x$ , is secured a ratchet-wheel  $h^2$ , Figs. 4 and 5, to be engaged by a pawl  $h^3$  on

a pawl-carrier  $h^4$ , screwed or otherwise secured to the hub  $h^5$  of a bevel-gear  $h^6$ , loose on the feed-shaft  $h$  and held thereon by a nut  $n$ .

5 A lever  $k$  is fulcrumed at  $A^5$  on the head  $A'$ , having a roller or other suitable stud  $k'$  to be engaged by a cam-groove in the face of a cam-disk  $K$ , fast on the main shaft  $a'$ , the lower end of the lever  $k$  having thereon a segment-gear  $k^2$  in mesh with the bevel-gear  $h^6$ .  
10 As the lever  $k$  is oscillated the gear  $h^6$  will be rotated first in one direction and then in the opposite direction, rotation in the direction of the arrow  $\delta$ , Fig. 5, through the pawl  
15 and ratchet rotating the shaft  $h$  and feed-wheel  $h'$  step by step.

The welt passes the work-support  $f$  and feed-wheel  $h^3$ , and by the step-by-step rotation of the latter the work is fed along to present the same properly to the nailing mechanism, while the work-rest  $f$  freely rotates on the rolls  $d^x$ .

I have shown separately in Figs. 6 and 7 a convenient welt-guide comprising a member  
25  $m$ , rigidly secured to an arm  $m^x$  at one side of the nailing mechanism, and a yielding member  $m'$ , pivoted at  $m^2$  to the member  $m$  and held pressed toward it by a suitable spring  $s$ .

30 The members  $m$  and  $m'$  are longitudinally grooved or recessed on their inner faces to form guides for the welt and telescope one within the other, the spring  $s$  drawing the member  $m'$  inward to exert sufficient tension  
35 upon the longitudinal edges of the welt.

As shown in Fig. 2, the welt-guide is supported just above the top of the rotatable work-support, so that as the welt is drawn through the guide by the feed-wheel  $h'$  it  
40 passes beneath the nose  $a^2$  of the nailing mechanism.

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a rand or welt nailing machine, a vertically-movable sleeve, means to maintain it elevated in a yielding manner, a disk-like work-support freely rotatable about a vertical axis and having its shank extended into and sustained by said sleeve, means connected to and to positively vary the height of the work-support, and an intermittingly-rotatable feed-wheel above the work-support, to engage and feed the work thereupon, substantially as described.

2. In a rand or welt nailing machine, nail-driving mechanism, a vertically-movable sleeve, a disk-like work-support sustained thereby, antifriction-rolls interposed between the under side of the work-support and the upper end of the sleeve, means to move the sleeve vertically, to vary the height of the work-support, and an intermittingly-rotatable feed-wheel above the work-support to engage and feed the work thereupon, substantially as described.

3. In a rand or welt nailing machine, a freely-rotatable work-support having a flat top, feed mechanism to engage the work and hold it upon the work-support, means to actuate the feed mechanism intermittingly, a two-part rand or welt guide, and a controlling-spring for said guide, substantially as described.

4. In a rand or welt nailing machine, a rand or welt guide comprising a fixed and a movable member and a controlling-spring, a freely-rotatable horizontal work-support, and intermittingly-operating feed mechanism for the work, substantially as described.

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

LOUIS GODDU.

Witnesses:

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