A. J. WILBUR.

Machine to Unite Soles to Uppers.

No. 216,299. Patented June 10, 1879.

Fig: 1.

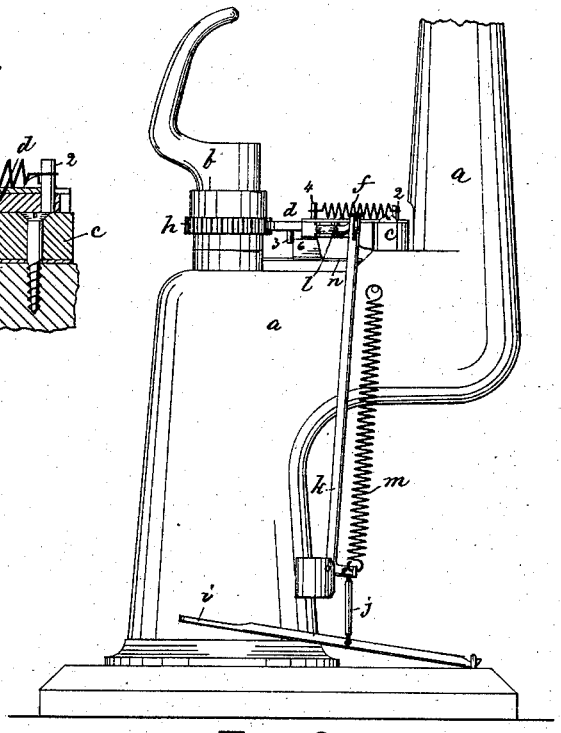


Fig: 4.

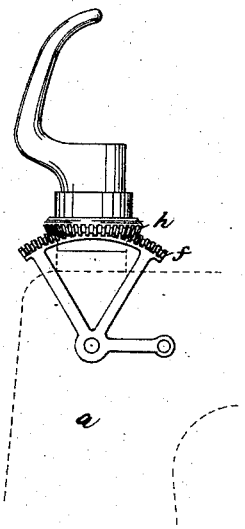


Fig: 3.

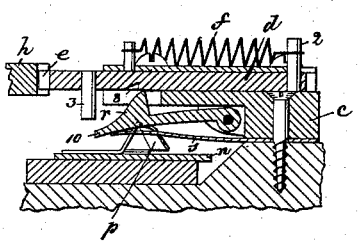
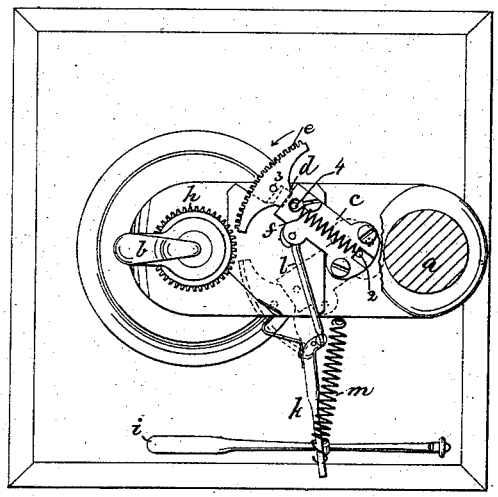


Fig: 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

ANDREW J. WILBUR, OF RAYNHAM, ASSIGNOR TO GORDON McKAY AND JAMES W. BROOKS, TRUSTEES OF McKAY METALLIC FASTENING ASSOCIATION, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN MACHINES TO UNITE SOLES TO UPPERS.

Specification forming part of Letters Patent No. **216,299**, dated June 10, 1879; application filed April 10, 1879.

To all whom it may concern:

Be it known that I, ANDREW J. WILBUR, of Raynham, county of Bristol, State of Massachusetts, have invented an Improvement in Machines to Unite Soles to Uppers, of which the following description, in connection with the accompanying drawings, is a specification.

This invention relates to an improvement in machines to unite soles to uppers in the manufacture of boots and shoes.

My invention consists in a horn to enter the boot or shoe the parts of which are to be nailed or otherwise fastened together, as now practiced on machines using a horn, when combined with mechanism to rotate the said horn automatically at the desired time, or when thrown into action by means of a suitable foot or other lever under the control of the operator, the operator, during the semi-rotation of the horn within the shoe, holding the shoe so that it cannot turn with the horn.

In a machine provided with this, my invention, the operator is entirely relieved of the duty of partially rotating or reversing the position of the horn by hand when the sole and upper are being united at the toe of the boot or shoe, and is enabled to then hold the boot or shoe with both hands, while with his foot or otherwise the horn is partially rotated within the boot or shoe, and it becomes unnecessary to stop the machine or run it slower when working about the toe.

Figure 1 represents, in side elevation, a sufficient portion of a nailing or other machine having a rotary horn to enter or support the material being operated upon; Fig. 2, a top view thereof; Fig. 3, a sectional detail, and Fig. 4, a modification.

As my invention relates solely to the horn and mechanism to rotate it, I have not considered it necessary to show the parts of the machine for inserting the fastening material for the soles and uppers. Said parts may be as in any well-known machine.

The standard *a* of the machine has pivoted or loosely mounted upon it the horn *b*, arranged to be turned about an axis substantially coincident with the axis of the driver or other device which introduces the sole-fastening being used.

In the form in which my invention is illustrated in Figs. 1 to 3 I provide a pivoted arm, *c*, in which is placed a slide-bar, *d*, having at its outer end a segment-gear, *e*. This slide-bar has two pins, 2 3. The pin 2 is connected with a spring, *f*, the opposite end of which is joined with pin 4 on the arm *c*, and the spring acts to throw the slide forward each time that it reaches the position shown in Fig. 2 in full lines, so as to place the teeth of the segment in position to engage the teeth of the pinion *h* at or near the base of and partially rotate the horn *b* when the arm and segment are moved in the direction of the arrow, Fig. 2, through the action of the treadle or lever *i* connected with the arm *c* through the elbow-lever and links *j k l*. When the lever *i* is released the spring *m* throws the arm and segment in the direction opposite the said arrow.

Below the arm *c* I have shown a plate, *n*, provided at one end with a projection, 6, and at its other end with an incline, *p*.

Pivoted to the arm *c* is a hook or latch, *r*, operated upon by spring *s*, so that when the slide *d* is pressed back within the arm *c*, as it is by the action of pin 3 upon the cam-projection 6, the slide is held retracted by the hook *r* entering the notch 8 in the slide. This permits the arm and segment to be moved from its dotted to its full line position without coming in contact with the pinion *h;* but as the arm and slide reach the full-line position in Fig. 2 the end 10 of the hook *r* will be depressed by the incline *p*, thereby disengaging the hook from the notch 8, permitting the spring *f* to throw the slide *e* outward into the position shown in Fig. 3, wherein the segment is shown as engaging the pinion *h*.

In Fig. 4 I have shown the pinion on the horn made as a bevel-pinion, and have placed in connection with it a beveled segment or gear adapted to partially rotate the horn in one and then in the opposite direction, as required, but without being disengaged, the one

from the other, as in Fig. 2. In the said figure I have omitted the foot-lever and its connections with the segment.

It will be obvious to a skilled mechanic that various forms of gear or devices may be used between the horn and the foot or other lever controlled by the operator, and moved when it is desired to partially turn the horn at the time described, and therefore I do not desire or intend to limit my invention to the exact devices shown for automatically rotating the horn.

I am aware in many machines for boot and shoe work, as in burnishing and pegging machines, that the last upon which the shoe was jacked and secured has been rotated positively by mechanism consisting of gear-wheels, &c.

I claim—

The combination, with the horn, of mechanism under control of the operator to positively engage and rotate the horn at the desired time within the shoe or boot, it being held by the operator to prevent it from being turned as the horn is turned or reversed, substantially as and for the purpose described.

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

ANDREW J. WILBUR.

Witnesses:

N. S. HOTCHKISS,

F. F. STANLEY.