(No Model.)

M. BROCK.

TACK DRIVING IMPLEMENT.

No. 306,671. Patented Oct. 14, 1884.

Fig. 5.

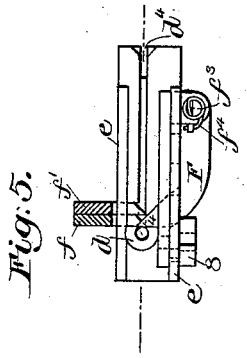


Fig. 6.

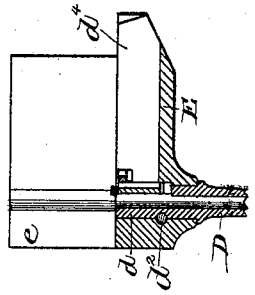


Fig. 4.

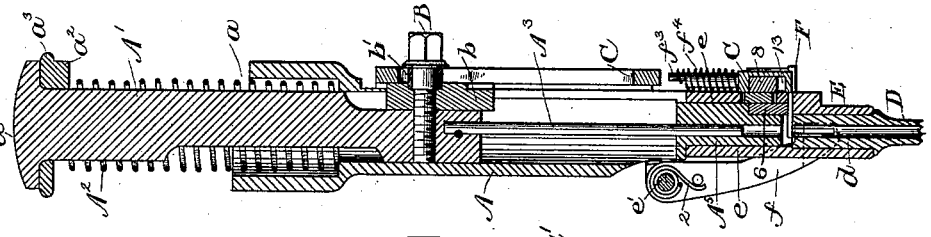


Fig. 3.

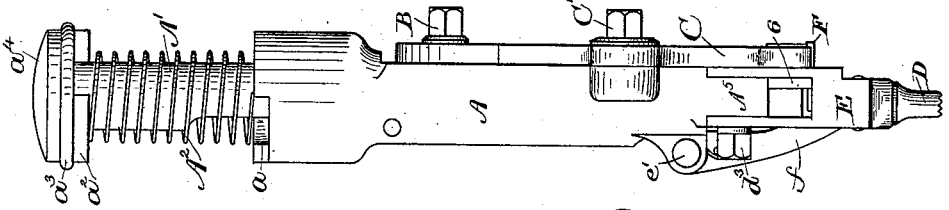


Fig. 2.

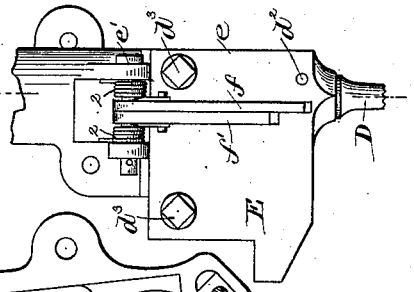
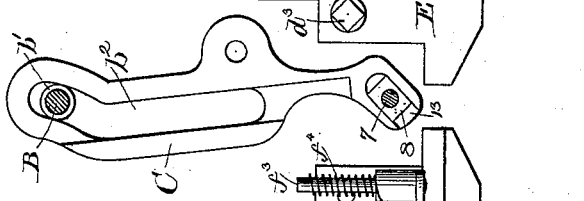
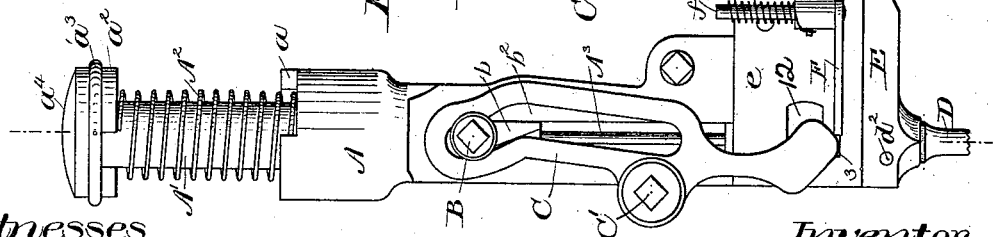


Fig. 7.





Witnesses
A. O. Orne
W. A. Seymour.

Fig. 1.

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by Crosby & Gregory
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UNITED STATES PATENT OFFICE.

MATTHIAS BROCK, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE McKAY & COPELAND LASTING MACHINE COMPANY, OF PORTLAND, MAINE.

TACK-DRIVING IMPLEMENT.

SPECIFICATION forming part of Letters Patent No. 306,671, dated October 14, 1884.

Application filed August 4, 1884. (No model.)

To all whom it may concern:

Be it known that I, MATTHIAS BROCK, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Tack-Driving Apparatus, 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 the production of a simple and efficient tack-driving apparatus especially applicable for lasting boots and shoes, the apparatus being adapted to receive and drive headed tacks connected together by means of a paper or other strip.

The particular features in which my invention consists will be hereinafter fully described, and pointed out in the claims at the end of this specification.

Figure 1 is a front elevation of a tack-driving apparatus embodying my invention, the usual hand-piece, which is grasped by the operator so that his hand will not be caught by the moving parts, being removed. Fig. 2 is a partial rear elevation of Fig. 1. Fig. 3 is a left-hand side elevation of Fig. 1. Fig. 4 is a vertical central section of Fig. 1. Fig. 5 is a top view of the nipple-holder and feeding device, the said figure showing the die-closer and tack-detainer in section. Fig. 6 is a vertical central section of the nipple-holder, and Fig. 7 is a detail of the feed-lever.

The tubular case A, the driver-carrying plunger A′, the spring A^2, and the driver A^3 are substantially as usual, excepting that the case has at its upper end a recess, *a*, which, when desired, is made to receive a projection, a^2, on a ring or collar, a^3, surrounding the driver-carrying plunger A^2 below its head a^4.

In driving nails into the uppers of boots and shoes while the latter are being lasted or connected with the inner soles, it becomes necessary, especially in that class of work to be hand-sewed, that the lasting-tacks be withdrawn as the welt is being sewed to the upper and inner sole. To accommodate for this the tacks must not be fully driven, thus leaving their heads projecting sufficiently above the work to be readily seized and withdrawn. In other classes of work it is desirable to drive the tacks fully and clinch their points.

To enable one and the same machine to drive tacks in both these ways at will, instead of requiring two machines, as heretofore, I have provided the driver-plunger with the said ring or collar. When the projection a^2 is in line with and so as to enter the recess *a* as the driver-plunger is forced downward, the tacks will be fully driven; but by turning the collar a^3 so that the projection a^2 will strike the top of the case at one side of the said recess *a* the extent of the descent of the driver-plunger will be shortened and the tack will not be fully driven, the extent to which the heads of the tacks will project above the upper depending upon the depth of the projection a^2. The collar provided with the projection, in connection with the recess at the upper end of the case, forms a device or means for fully or partially driving the tacks. The driver-plunger within the case is provided with a bolt or stud, B, which projects out through a slot in the side of the case, the said bolt being provided with a guide-block, *b*, and a roller-stud, *b′*, the former moving in the slot of the case, and the latter traveling in the cam-slot b^2 of the feed-lever C, pivoted at C′ on the case A. The nipple D, through which the tack is driven into the upper or stock being operated upon, has one end extended upward (see Figs. 4 and 6) to form a die, *d*, into the side of which the tacks are fed one at a time, and down through which and the nipple the tacks are driven by the driver A^3, the head of the tack and the paper or other strip or web holding the tacks at such time resting upon the top of the die. The combined nipple and die, composed of steel and integral, is connected with the nipple-holder E by means of a cross-pin, d^2. The nipple-holder has side walls or pieces, *e e*, which are made to embrace the thickened lower end, A^5, of the case, the connection being made by bolts d^3 d^3. The nipple-holder is slotted or grooved longitudinally, as at d^4, for the reception of the shanks of the connected tacks. The die is cut through at one side to coincide with the slot d^4. Pivoted upon the case by a pin, *e′*, are two levers, one of which (marked *f*) is denominated as the "die-closer," while the other one, *f′*, I denominate as the "tack-detainer." Each of these levers is acted upon by

a spiral or other suitable spring, 2, which normally keeps the inwardly-projecting lower ends of the said levers pressed into the central space of the nipple-holder. The nipple-holder E has at its front side a slot, 3, into which projects the end 4 of the feeding device F, (shown best in Fig. 5,) pivoted at f^3 on a slide, 6, and normally acted upon by a spring, f^4, which keeps the end 4 of the feeding device in the said slot, and so as to engage the shanks of the tacks in the groove d^4, and feed the tacks positively along in the said groove and into the die d through its side opening. This slide 6, fitted into the slot 3, has at its outer side a collared stud, 7, which is made to project through an opening, 12, in the side piece, e, of the nipple-holder E, the said collared stud having applied to its reduced outer end a swivel-block, 8, which is made to enter the diagonal slot or way 13 in the lower end of the lever C, the latter, when operated by the bolt or stud B, moving the feeding device positively. The feeding device, acting against the rear side of the shank of a tack, carries the same forward, causing the front side of the shank, by its action against the beveled inwardly-turned ends of the tack-detainer and die-closer, respectively, in succession, to move backward, thus permitting the tack so acted upon to pass both of them and be placed in the die. The shank of a tack having been placed in the die, the die-closer, acted upon by one of the springs 2, closes the opening therein at the rear side of the shank of the tack as the feeding device is retracted, and at the same time the tack-holder acts against the rear side of the next tack back of the one in the die and ready to be driven, and prevents any such retrograde movement of the tack-strip during the backward movement of the feeding device, which would tend to place the tack then in the die out of central position with relation thereto, so as to prevent the driver on its next descent from striking the head of the tack squarely.

I claim—

1. The nipple-holder and nipple and slotted die, combined with the die-closer and a spring to operate it in one direction, substantially as described.

2. The nipple-holder and nipple and slotted die, combined with the die-closer and tack-detainer, to operate each substantially as described.

3. The case, the driver-plunger and its bolt or stud B, and the slotted feed-actuating lever and the nipple-holder, combined with the slide 6 and its attached pivoted feeding device or pawl F, adapted to extend through a slot in the nipple-holder, substantially as described.

4. In an apparatus to drive tacks, a case provided with a notch or recess, and a driver-plunger and attached driver, combined with a rotating collar provided with a projection, and adapted by its movement to insure the driving of the whole or part of the length of the tack into the stock, substantially as described.

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

MATTHIAS BROCK.

Witnesses:
G. W. GREGORY,
B. J. NOYES.