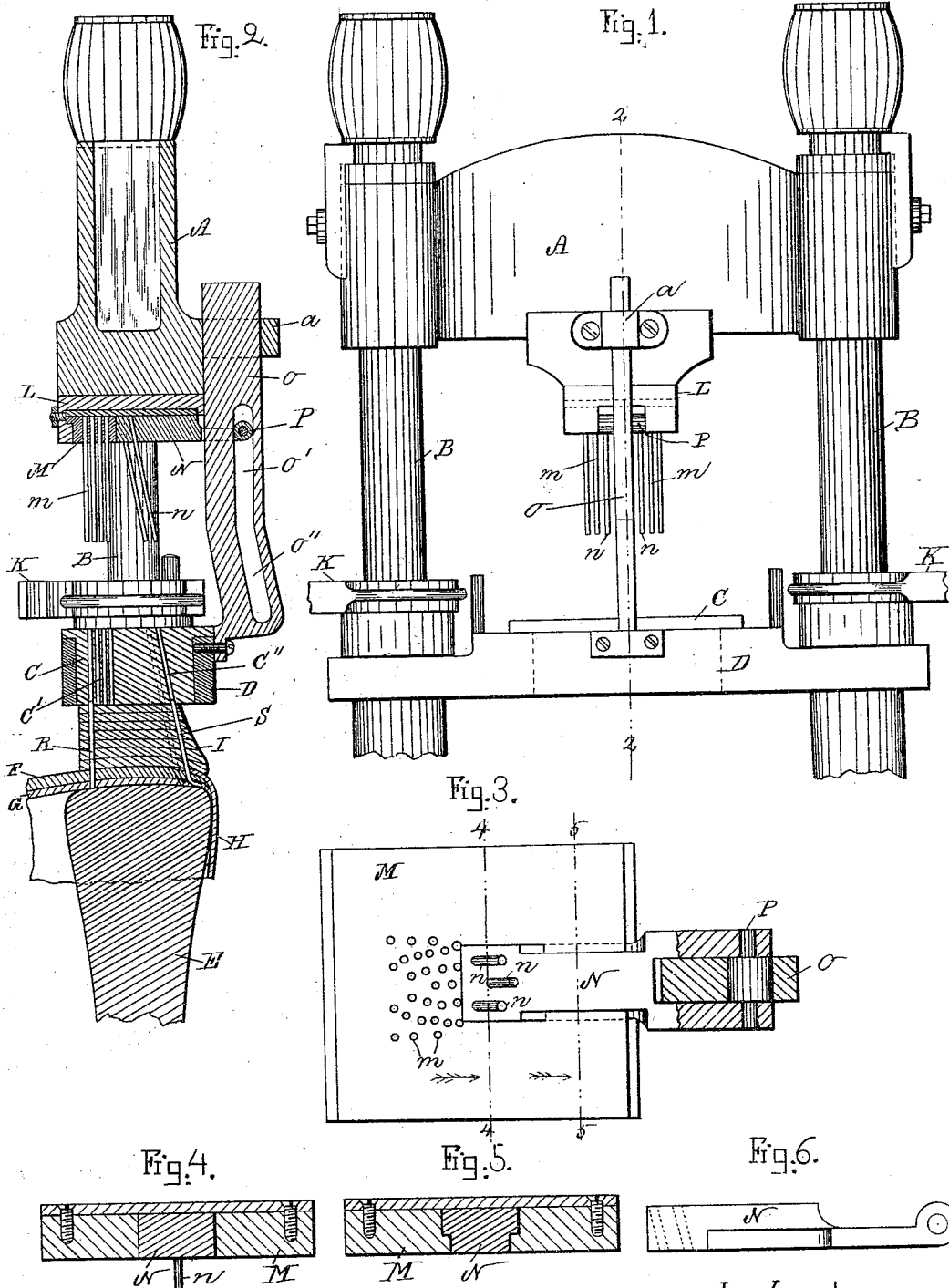


(No Model.)

J. H. POPE & H. H. WAUGH.
HEEL NAILING MACHINE ATTACHMENT.

No. 542,205.

Patented July 2, 1895.



Witnesses.

Lauritz W. Möller.
Charles A. Harris.

Inventors.

Joseph Horace Pope
and Henry H. Waugh.
by *Alban Judin their atty.*

UNITED STATES PATENT OFFICE.

JOSEPH HORACE POPE, OF BROCKTON, AND HENRY H. WAUGH, OF
WHITMAN, MASSACHUSETTS.

HEEL-NAILING-MACHINE ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 542,205, dated July 2, 1895.

Application filed January 9, 1895. Serial No. 534,350. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH HORACE POPE, a resident of Brockton, and HENRY H. WAUGH, a resident of Whitman, in the county of Plymouth and State of Massachusetts, citizens of the United States, have invented new and useful Improvements in Heel-Nailing-Machine Attachments, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to a new and useful attachment on heel-nailing machines for the purpose of more firmly securing French or extra-high heels onto boots or shoes, and for this purpose we employ automatic mechanism by means of which some of the fastening-nails are driven in an inclined direction through the rear or side portion of the above-mentioned heels, by which the points of the nails are made to penetrate the sole at places much nearer to the circumference of the base of the heels than could be accomplished if the nails were driven vertically.

French or very high heels, both on men's and women's boots or shoes, are greatly inclined or curved at the rear and side portion; and the top lift on such heels is generally very small as compared with that portion of the heel which is adjacent to the sole. If the rear or side fastening-nails were driven in a vertical direction through the rear or side portion of the heels mentioned they would penetrate the sole at a considerable distance from the edge of that portion of the heel which is in contact with the sole, by which the heel would be insecurely and imperfectly attached to the sole. This objection is overcome by driving the rear or side nails in inclined directions through the heel and sole, and for this purpose we employ the following mechanism, reference being had to the accompanying drawings, wherein—

Figure 1 represents a front elevation of the upper portion of a heel-nailing machine provided with our attachment for driving a portion of the nails in inclined directions. Fig. 2 represents a vertical section on the line 2 2, shown in Fig. 1. Fig. 3 represents a bottom plan view of the driver-blocks. Fig. 4 represents a cross-section on the line 4 4, shown in Fig. 3. Fig. 5 represents a similar

cross-section on the line 5 5, shown in Fig. 3; and Fig. 6 represents a detail side elevation of the improved driver-block.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

A in Figs. 1 and 2 represents the vertically-movable head of a heel-nailing machine attached to the up-and-down movable rods B B, as usual.

C represents the nail-die, which is preferably secured in any suitable manner to the stationary nail-die plate D.

E represents the metal last, horn, or shoe support on which the lasted boot or shoe is held during the heel-nailing operation, as usual.

In Fig. 2, F represents the outer sole; G, the inner sole; H, the upper, and I the heel of a boot or shoe that is to be nailed. The upper end of the heel is held by the upward pressure of the horn E against the under side of the nail-die C during the nailing operation, as usual.

K K are the loaders pivoted on the rods B B, as is common in machines of this kind.

To the head A is secured in a suitable manner the driver-block holder L, in which the driver-block M is adjustably secured and provided with a series of vertical drivers *m m*, as shown in Figs. 2 and 3.

N is a sliding auxiliary driver-block adapted to slide in suitable guides in the stationary driver-block *m*, and provided with a series of inclined drivers *n n*, as shown in Figs. 2 and 3.

The vertical drivers *m m* are adapted to enter vertical nail-perforations C' C' in the nail-die C, and the inclined drivers *n n* are adapted to enter correspondingly-inclined nail-perforations C'' C'' in the nail-die C during the downward motion of the head A, as shown in Fig. 2.

During the descent of the head A the auxiliary driver-block N is automatically guided in the stationary driver-block M, so as to cause the inclined drivers *n n* to enter the inclined nail-die perforations C'' C'', for the purpose of driving the rear or side nails in inclined directions through the heel by the following mechanism: To the stationary nail-

die holder D or nail-die is secured a slotted upwardly-projecting bar O, the upper end of which is suitably guided in a bearing *a*, secured to the head A, as shown in Figs. 1 and

5 2. The bar O has in its upper end a vertical slot O', communicating with an inclined slot O'', in the lower part of said bar O, as shown in Fig. 2. The inclination of the lower slot O'' corresponds to the inclination of the inclined drivers *n n*, as shown in said Fig. 2.

The sliding driver-block N is preferably forked in its front end and provided with a pin or pin and roll P, which is guided in the slot of the bar O, as shown in Figs. 2 and 3.

15 The operation is as follows: After the boot or shoe has been placed on the horn or support E, and the heel thereof has been forced against the under side of the nail-die C, and the desired perforations in the latter filled with the heel-fastening nails, the head A is caused to descend, and in so doing the vertical drivers *m*, as they pass through the vertical nail-die perforations C', cause the nails R to be driven through the heel, outer and
25 inner sole of the boot or shoe, as usual. During such downward motion of the head A, as the pin or pin and roll reaches the upper end of the inclined slot O'', it causes the auxiliary sliding driver-block N to move forward, and in so doing causing the inclined drivers
30 *n n* to move in an inclined direction through the inclined nail-die perforations C'' C'', by which the rear or side nails S are caused to be driven in inclined directions through the
35 rear or side portion of the heel, outer and in-

ner sole, as fully represented in Fig. 2, for the purpose as hereinabove set forth and described, thus attaining the desired result.

Having thus fully described the nature, construction, and operation of our invention, 40 we wish to secure by Letters Patent, and claim—

1. In a nailing machine a stationary nail die having a series of vertical and inclined perforations combined with a vertically movable head, a driver block having vertical drivers secured thereto and a horizontally sliding auxiliary driver block having inclined drivers adapted to be driven through the inclined nail die perforations, substantially as and for the purpose set forth. 45 50

2. In a nailing machine a stationary nail die having a series of vertical and inclined perforations and a movable head having secured to the same a driver block having a series of vertical drivers and a sliding auxiliary driver block having a series of inclined drivers combined with a guide device for guiding said inclined drivers through the inclined nail die perforations substantially as and for the purpose set forth. 55 60

In testimony whereof we have signed our names to this specification, in the presence of two subscribing witnesses, on this 20th day of December, A. D. 1894.

JOSEPH HORACE POPE.
HENRY H. WAUGH.

Witnesses:

FRANK E. EWELL,
HENRY G. PHIPPS.