N. HARWOOD.

Machine for Notching and Flanging Counter-Blanks for Boots and Shoes.

No. 168,329. Patented Oct. 5, 1875.

Fig. 1.

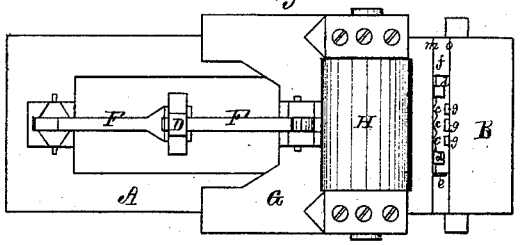


Fig. 2.

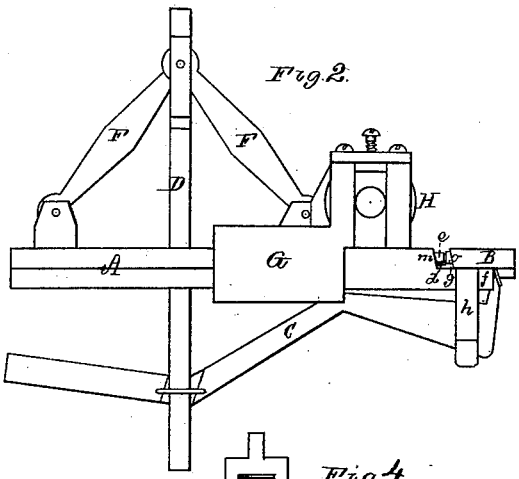


Fig. 3.

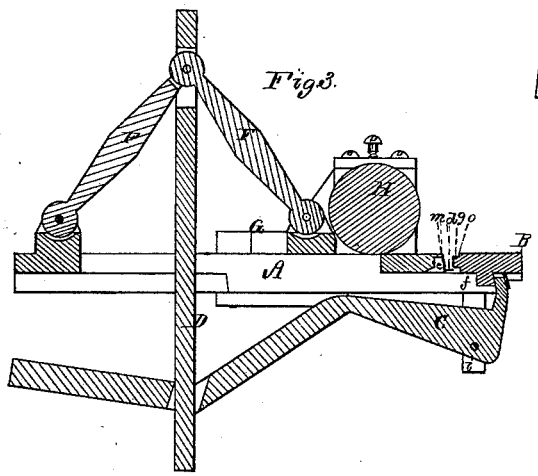


Fig. 4.

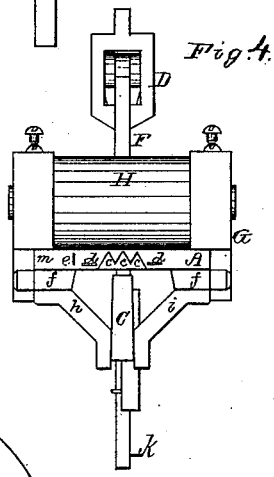


Fig. 5.

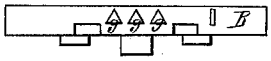


Fig. 6.

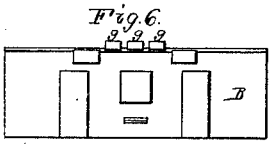


Fig. 9.

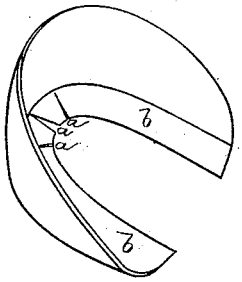


Fig. 8.

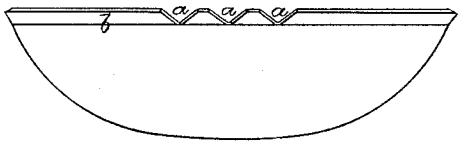
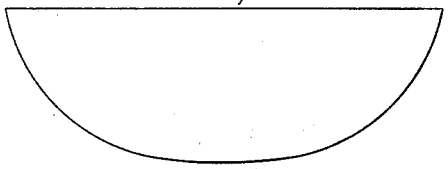


Fig. 7.



Witnesses.

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UNITED STATES PATENT OFFICE.

NAHUM HARWOOD, OF LEOMINSTER, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR NOTCHING AND FLANGING COUNTER-BLANKS FOR BOOTS AND SHOES.

Specification forming part of Letters Patent No. **168,329**, dated October 5, 1875; application filed August 10, 1875.

To all whom it may concern:

Be it known that I, NAHUM HARWOOD, of Leominster, of the county of Worcester and State of Massachusetts, have invented a new and useful Machine for Notching and Flanging the Blanks for Counters for Boots or Shoes; and I do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 denotes a top view, Fig. 2 a side elevation, and Fig. 3 a longitudinal section, of the said machine. Fig. 4 is a front-end view of it without its notching-die carrier. Fig. 5 is an inner-edge view, and Fig. 6 a bottom view, of the said die-carrier. Fig. 7 is a view of a counter-blank, preparatory to being notched and flanged by the machine. Fig. 8 is a perspective view of such blank as it appears after having been subjected to the action of the machine, such blank being subsequently, by another machine, bent or molded into shape, as exhibited in perspective view in Fig. 9.

In the operation of the machine, hereinafter described, the counter-blank, after having been duly introduced into it, has a series of notches made in it at the middle of its chord, such being as shown at *a a a* in Fig. 8, after which the blank is bent at, or about at, a right angle, so as to form it with a flange or bottoming, as shown at *b* in said figure.

The nature of my invention, therefore, consists mainly in the combination of mechanism for notching and holding the blank, with mechanism for bending it down or flanging it parallel to its chord, such blank being semi-elliptical, or approximately so, in shape, as shown in Fig. 7.

The object of notching the blank is to enable it to be readily bent around at the middle of its flange, so as to fit to the heel portion of a last.

In the drawings, A denotes the bed-plate of the machine, such plate at its front end being furnished with a series of female dies, *c c c*, and three gages, *d d e*. In front of the said gages and dies, and resting on projections *f f*, is the male-die carrier B, provided, as shown, with three male notching-dies, *g g g*. This carrier B is to slide freely on such supports, and it has projections *h i* extended down from it to receive between them the end of a long lever, C, (formed as represented,) whose larger arm rests on a stud, *k*, projecting from a pitman, D, pivoted to and arranged with two toggles, E F, at their common junction. One of these toggles is jointed to the bed-plate, and the other to a carriage, G, to slide rectilinearly on the said plate, such carriage being provided with a roller, H, arranged as represented.

On placing the counter-blank chord downward and vertically on the gages *d d*, and against that marked *e*, and forcing downward the pitman, the die-carrier with its male dies will be driven toward the female dies, and they, with the male dies, will effect the notching of the blank, which will next be held firmly between the inner edge *o* of the said carrier and the part *m* of the base-plate, (such edge and part constituting jaws, or performing the functions of jaws, to hold the blank,) while there is being effected the flanging or bending down upon the upper surface of the die-carrier of all that part of the blank that may extend above it. This next follows, and it is produced by the roller, which, soon after the notching of the blank may have taken place, will be moved forward against the blank by the toggles and will gradually bend and force it down upon the top of the die-carrier. On raising the pitman the die-carrier will retreat from the part *m*, and the roller will be retracted. There is to be suspended from the longer arm of the lever C a heavy weight or one sufficient to cause such lever to properly actuate the die-carrier, in order for the blank to be notched by the dies.

I usually make both jaws to slant or incline a little from the vertical, as shown. On the blank being removed from the machine the flange of the blank will naturally spring into a somewhat greater angle to the rest of the blank than it had when in the machine. The inclination of the jaws, therefore, is to be such as to compensate for this springing of the blank-flange.

I claim as my invention—

In a machine for notching and forming counter-stiffeners for boots and shoes, the combination of a carriage, G, and roller H with reciprocative jaws *m o*, provided with gages *d d e*, notching-dies *c g*, and die-carrier B, all attached to a suitable bed-plate, A, and operated by toggles, pitmen, and weighted lever, substantially as shown, and for the purpose described.

NAHUM HARWOOD.

Witnesses:

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