O. LITTLEFIELD.

Machine for Cutting Shoe-Shank Stiffeners.

No. 216,044. Patented June 3, 1879.

Fig. 1

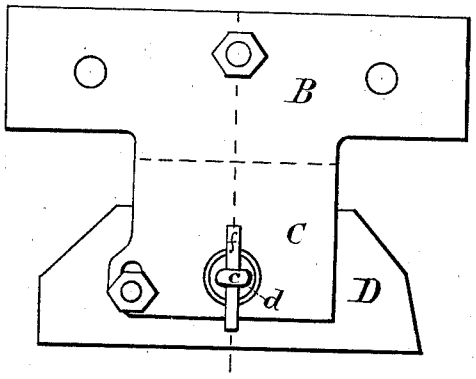


Fig. 3

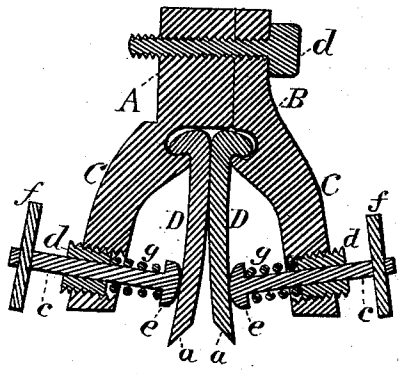


Fig. 2

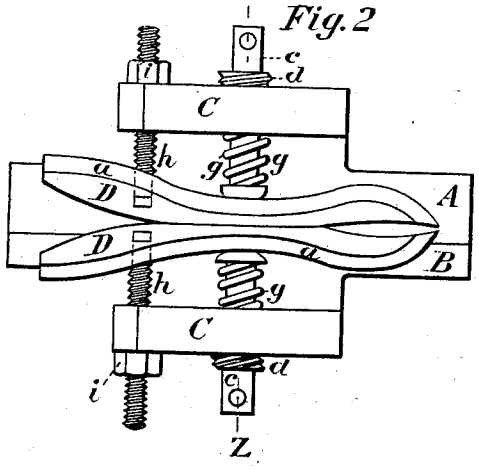


Fig. 4

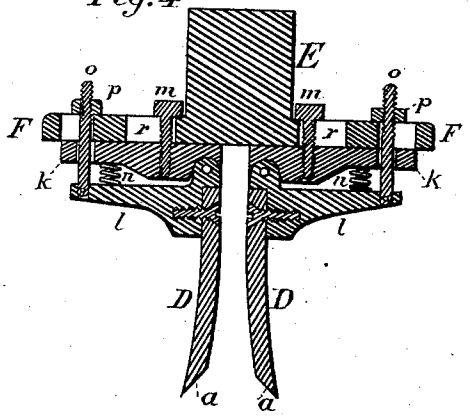


Fig. 5

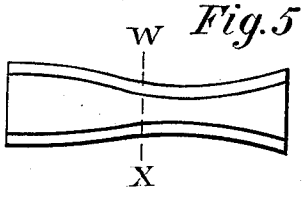


Fig. 6



Witnesses.

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UNITED STATES PATENT OFFICE.

ORLANDO LITTLEFIELD, OF SACCARAPPA, MAINE.

IMPROVEMENT IN MACHINES FOR CUTTING SHOE-SHANK STIFFENERS.

Specification forming part of Letters Patent No. **216,044**, dated June 3, 1879; application filed January 21, 1879.

To all whom it may concern:

Be it known that I, ORLANDO LITTLEFIELD, of Saccarappa, State of Maine, have invented a Shoe-Shank-Cutting Machine, of which the following is a specification.

This invention relates to machines which are employed to cut shank-stiffeners for boots and shoes from leather, leather-board, or other materials, with edges oblique to the plane of the stiffener, and with such configuration of outline as the form of the boot or shoe may require; and the invention consists in a cutter or cutters formed with the requisite curve or outline, and with an edge formed by a bevel upon one side of such cutter or cutters, said cutter or cutters being hinged and arranged to cut by a reciprocating motion, and by the lateral motion imparted by such bevel of the edge in the act of cutting, and by the free motion of the hinge the edge of the stiffener has imparted to it a bevel or obliquity relatively to the plane of the sheet from which it is cut, corresponding to the obliquity of such bevel of the cutter or cutters to the plane of the same, such cutter or cutters being arranged and combined with stops and springs, whereby the cutter or cutters, when the stiffener is cut, discharge the same and return to their first position in readiness for another cut, devices being provided for varying the distance apart of such cutter or cutters, all as will be hereinafter fully described.

Figure 1 is a side elevation of the cutters, and the stock or holder by which they are held and by which they are attached to the reciprocating slide of the cutting-press. Fig. 2 is an under-side view of Fig. 1. Fig. 3 is a vertical section taken on line Y Z, Figs. 1 and 2. Fig. 4 is a section taken like Fig. 3, but showing a modification of the stock or holder, and the devices by which the cutters are thereto attached, and by which they are adjusted relatively to their distance from each other, or relatively to the center of the stock to which they are secured, and of the devices pertaining to the swinging motion of such cutters. Fig. 5 is an under-side view of a shank-stiffener as cut by my machine; and Fig. 6 is a transverse section as taken on line W X, Fig. 5.

In these figures, A B are the halves or parts of the holder, such halves being formed horizontally elongated, and with suitable holes for attachment by screws or bolts to the slide of the cutting-press, and with the respective depending members C, in which are secured the spring-holders, to be described.

The cutters D D are, respectively, pivoted in the halves A B of the holder, and so that their lower ends (the cutting-edges) may have a free swinging motion toward or from each other.

In each of members C is threaded a screw-plug, *d*, through which passes freely the plunger *e*, having such configuration of cross-section that it cannot rotate in the hole through plug *d*, but will rotate said plug when so actuated by its lever *f*. Coiled springs *g* are arranged on these plungers between the head *e* and plugs *d*, whereby the plungers are constantly pressed inward against the cutters.

The stop-rods *h*, Fig. 2, are loosely attached to cutters D, and play freely in holes in members C, and are provided with the stop-nuts *i*, which are so adjusted that neither cutter can be forced inward by spring *g* beyond its proper position.

The cutter holder or stock may be constructed in a great variety of ways, as may best adapt it to any given press or other conditions.

In Fig. 4 the holder is shown formed with a stem, E, to be secured in a socket in the press-slide. F F are arms extending from stem E. *k k* are adjusting-blocks, secured to arms F by screws *m m*, which pass through slots *r*. *l l* are the cutter-holders, which, at their inner ends, are pivoted to blocks *k*, as shown, and are adjusted by rods *o o*, which perform the same office as do rods *h* when arranged as in Figs. 2 and 3. The springs *w* serve to return the cutters D to their first and normal position after the cutting of a stiffener.

The cutting-knives may be so formed that when in position for cutting all portions thereof shall be vertical, instead of having slight lateral curves or flaring, as shown; and they may be arranged to be brought close together, as shown in Figs. 2 and 3; or they may, by slacking screw *d* and inserting chocks between the halves A B of the holder, be set apart to any desired distance.

The modified holder shown in Fig. 4 is especially adapted to adjusting the cutters at

any required distance apart. In use, when the cutters enter the material to be cut the oblique faces *a* constantly force the cutters laterally and apart, so as to cut obliquely through the sheet, and producing edges to the stiffener, as shown in Figs. 5 and 6.

By substituting a blank shortened at the lower end for one of the cutters, when using a holder, as shown in Figs. 1, 2, 3, or by removing one of the cutters when using a holder like that shown in Fig. 4, a single cutter may be used as readily as if in connection with an opposite cutter, as each swings independent of the other, and is provided with a separate stop to hold it in proper position when it enters the cut; and, moreover, either of the cutters is independently operative when the material to be cut is only brought in contact with one cutter, and not with both.

I claim as my invention—

1. In a cutting-machine, a cutter or cutters, D, formed with suitable outline of edge, pivoted to a holding-stock formed to be attached to the reciprocating slide of a cutting-press, and arranged to vibrate on such pivots when reciprocated, whereby the edge of the cutter or cutters will move and cut in a line oblique to the line of reciprocation and oblique to the plane of the material to be cut, substantially as specified.

2. The combination of the two cutters, formed with suitable outline of edge, beveled upon their inner faces, pivoted in the holder, and provided with yielding adjusters, substantially as specified.

3. The combination of the hinged cutters and a stock or holder constructed and arranged to be laterally adjusted, whereby the cutters may be held at any desired distance apart at their pivoted ends, substantially as specified.

ORLANDO LITTLEFIELD.

Witnesses:

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