(No Model.) 2 Sheets—Sheet 1.

G. SCHMIDT.

LEATHER TRIMMING MACHINE.

No. 384,287. Patented June 12, 1888.

Fig. 1.

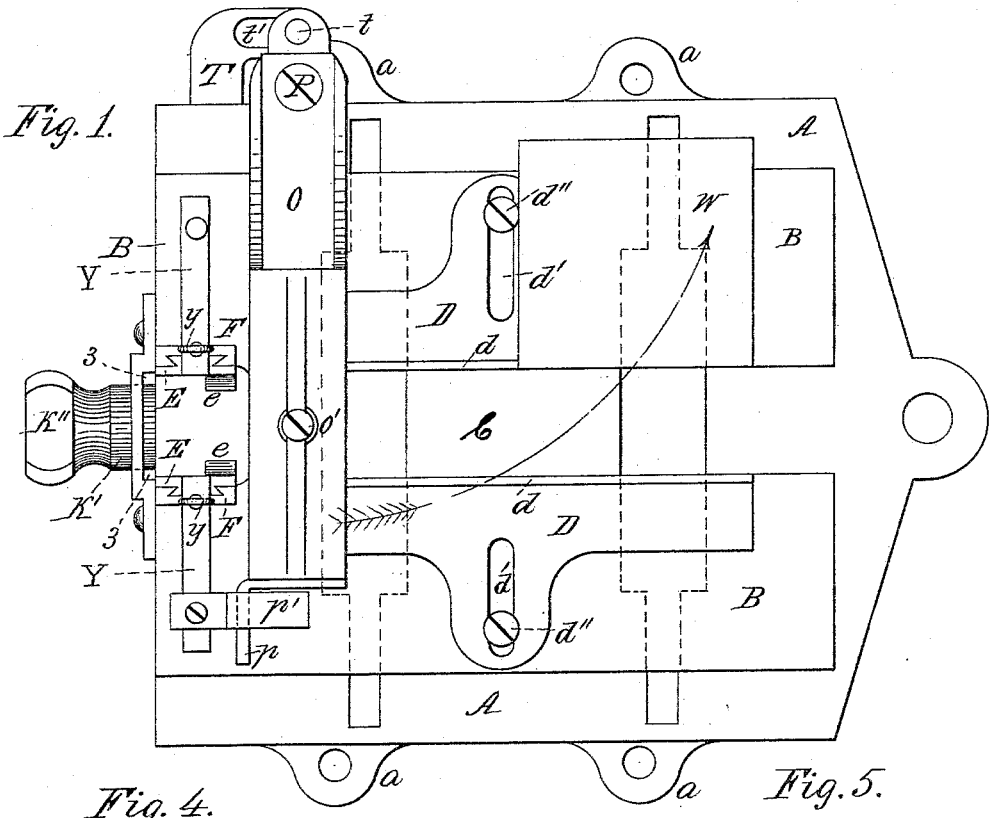


Fig. 4.

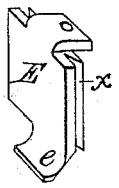


Fig. 3.

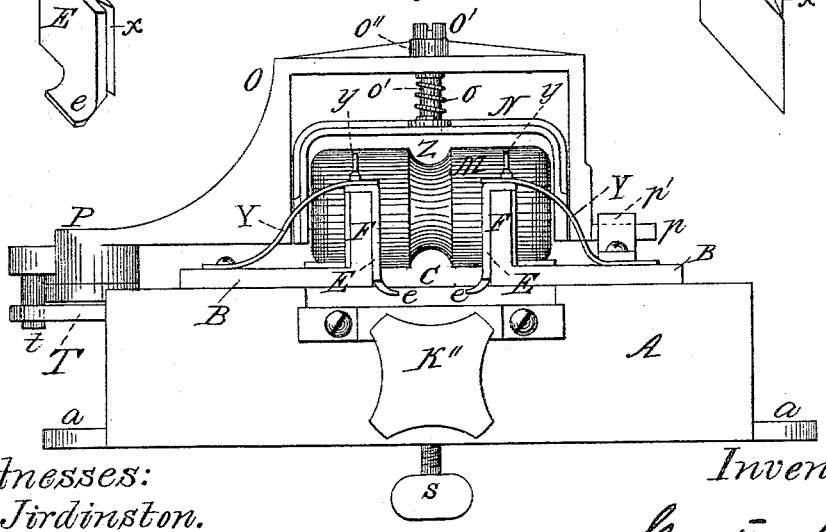
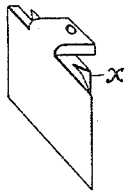


Fig. 5.



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(No Model.) 2 Sheets—Sheet 2.

G. SCHMIDT.

LEATHER TRIMMING MACHINE.

No. 384,287. Patented June 12, 1888.

Fig. 2.

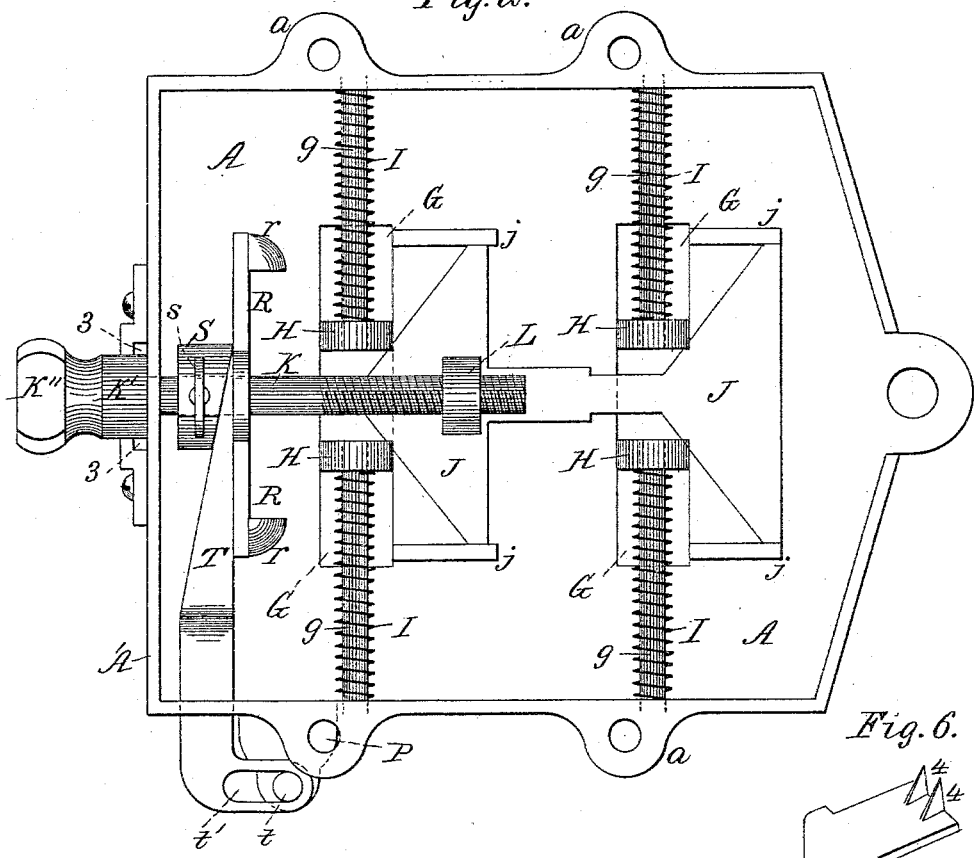
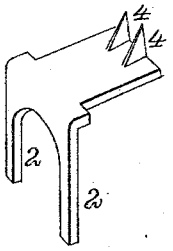


Fig. 6.



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UNITED STATES PATENT OFFICE.

GUSTAVE SCHMIDT, OF CINCINNATI, OHIO.

LEATHER-TRIMMING MACHINE.

SPECIFICATION forming part of Letters Patent No. 384,287, dated June 12, 1888.

Application filed March 1, 1888. Serial No. 265,793. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVE SCHMIDT, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Leather-Trimming Machines, of which the following is a full, clear, and exact description.

My invention relates to an improvement in leather-trimming machines for harness-making and the like.

It consists, primarily, in a pair of adjustable jaws carrying knives of any desired shape, according to the nature of the work to be done, and adjustable guides for holding the work in position; also in a pressure-roller for holding the strap down in position to be brought in proper position in relation to the knives, so arranged and connected with the guides and jaws that as the roller is moved to admit a new piece of work the jaws and guides open automatically to receive it, and close again as the roller is replaced in working position.

The nature of my invention will be more fully described in the following specification.

In the accompanying drawings, forming part of this specification, the invention is illustrated, and in the different figures like letters of reference indicate identical parts.

Figure 1 is a top plan view of my improved leather-trimming machine. Fig. 2 is a bottom plan view of the same. Fig. 3 is a front elevation showing the roller and knives. Figs. 4, 5, and 6 are perspective views showing several different forms of knives for different classes of work.

A is a metal frame, with lugs *a a*, provided with screw-holes for fastening it to a bench.

B B are two plates resting on top of the frame or base A, with their inner sides parallel, leaving a longitudinal opening or channel, C, between them. The strap or piece of leather to be trimmed resting in this channel C, the edges of these plates B B confine it and serve as guides. In Fig. 1 are shown two plates, D D, on top of these plates B B, with raised edges *d d*. The effect of these plates D D, with their raised edges *d d*, is simply to deepen the channel C and raise its sides to provide for heavy or thick work. The edges *d d* of the plates D D are immediately over and correspond with the edges of the plates B B. When, however, it is desirable to change the shape or form of the channel for some special form of work, the plates D D may be moved back or forward by the slots *d' d'* and set screws *d'' d''*. For instance, if two strips of leather are sewed together and the edges of the narrower one only are to be trimmed, the plates B B are adjusted to receive this narrower piece, while the guides D D are moved farther apart to receive and guide the upper or wider strip.

On the forward ends of the plates B B are two uprights, F F, preferably cast in one piece with the plates B B. These uprights F F carry the knives E E, whose lower or cutting edges, *e e*, extend out across the channel C in any desired position, according to the character of the cut to be made—as, for instance, in Fig. 3 the knives are shaped to cut or trim off the lower corners of the strap.

Through the bed-plate A, as seen in Fig. 2, are slots G, extending across the plate and at right angles to the channel C. Extending down through these slots are lugs H H. These lugs are made fast to the under side of the plates B B, and as they are moved in the slots G toward or from one another they of course move the plates B B toward or from one another and widen or narrow the channel or groove C on the top of the plate A, and also the uprights or jaws F F, carrying the knives.

Spiral springs I I, Fig. 2, press the lugs H H toward the center of the plate or toward one another. These springs are held in place by the pins *g*, whose ends pass freely through holes in the lugs H H. Upon the under side of the plate A are V-shaped plates or wedges J J, which slide in racks *j j*, or any convenient support, and are operated by a screw-bolt, K, whose threads engage with corresponding threads in a lug, L, attached to the wedges J J.

The bolt K passes loosely through the downward-extending flange A' of the plate A, the shoulder or enlargement K' holding it in position. As it is turned by the thumb-piece K'' the wedges J J are moved or slid along in the racks *j*, and as they are drawn toward the front of the machine by the screw-bolt K their points pass between the lugs H H and force them apart, thus forcing the plates or guides

B B and D D apart, and also the jaws F F, carrying the knives. By means of the screw-bolt the guides and knives can be adjusted at any desired point to accommodate different sizes of work.

Just back of the knives is a pressure-roller, M, for holding the strap or material to be trimmed down firmly and against the knives E. The axis of this pressure-roller M is pivoted to the arms of the sliding yoke N, which slides vertically in the arms of the carrier O. A tension-spring, *o*, presses downwardly against the top of the yoke N and against the carrier O, to hold the pressure-roller M down upon the work and at the same time make the pressure elastic or yielding to any irregularities in the work. This tension-spring is adjustable by the set-screw O′, passing through the collar O″. It is necessary or desirable, however, in order to introduce the strap to the knives, to lift or remove the pressure-roller M and at the same time open the guides and jaws. The carrier O is therefore pivoted at P, so as to swing round in the direction of the arrow until it stands at right angles to its position when at work, thus getting it entirely out of the way of the new work being introduced, when it is again swung back and locked in position by the latch or pin *p* being pressed under the catch *p′*, where it is held by the friction caused by the upward pressure of the roller against the spring *o*. If more desirable, the carrier O may be so pivoted as to swing upwardly instead of laterally.

In order that the movement of the carrier out of the way to permit the introduction of new work and the opening of the guides and jaws to receive it may be simultaneous, I provide means by which, when the carrier is moved, the guides and jaws are automatically opened or closed by the movement of the carrier. Beneath the plate A, I provide a stop, R. This may consist of simply a lug with an opening in it for the passage of the bolt K, or, as in Fig. 2, a plate braced against two lugs, *r r*, to give it greater resistance. On the screw-bolt K, between the stop R and the front of the plate A′, I provide a collar, S, which is adjustable on the bolt K by the set-screw *s*. Passing between this collar S and the stop-plate R is a wedge, T. This wedge T is attached to the carrier O by any convenient form of cam, as in Fig. 2, where a pin, *t*, on an extension of the carrier, moves in a slot, *t′*, on the outer end of the wedge T. As the carrier O is swung round, the pin *t*, moving in the slot *t′*, pushes the wedge T between the collar S and the stop-plate R. As the stop-plate is rigid, the collar, and with it the bolt K, are moved toward the front of the machine, thus forcing apart the lugs H H and plates B B with the jaws F F. As the carrier is swung back into position, the wedge T is withdrawn and the springs I I force the guides and jaws in place again, so that by the movement of the roller M the guides and knives are automatically opened and closed.

The square plate W, which is really part of plate D, is intended simply as a support for the roller M when swung out and to keep it on a level with its normal position.

The machine is adapted to be used for trimming leather in a great variety of forms by simply changing the knives and the guides.

Fig. 5 shows a knife for cutting square smooth edges on a strap.

In Fig. 3 the knives *e e* are designed to cut off or round the corners.

In Fig. 6 is shown a knife for splitting a single strip of leather into three narrower strips. This knife is applied by slipping the legs 2 2 into the opening 3 3 on the front of the plate A when the blades 4 4 extend across the channel C. The other forms of knives are fitted to the uprights or jaws F F by dovetail grooves, as shown at *x*, Figs. 4 and 5, which fit in corresponding vertical grooves in the jaws F F. These knives are held rigidly against any lateral movement, but are adjustable vertically.

Y Y are flat springs, one end of each being fastened to the plates B B and the other ends pressing down on the tops of the jaws F F, carrying the knives. In these springs are set-screws *y y*, connecting the springs with the knives, as shown in Fig. 3. By these set-screws *y y* the knives can be adjusted up or down to make a heavy or light cut.

In order to adapt the machine for trimming a round strip of leather, such as driving-lines or the like, I provide a circular groove, *z*, in the roller M. The jaws and guides are then set close together and a channel is formed, which is substantially round, except on the lower side, and by adjusting the leather it can be trimmed perfectly round.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a leather-trimming machine, the laterally-adjustable guides carrying the cutting-knives, in combination with the pressure-roller mounted in a carrier pivoted to the bed-plate and connected with the guides, whereby the latter are automatically opened and closed by the swinging movements of the roller, substantially as described, and for the purpose set forth.

2. In a leather-trimming machine, a pressure-roller pivoted to the machine and connected with the guides by a cam or eccentric, in the manner described, for opening or closing the guides automatically by the movement of the pressure-roller, substantially as and for the purpose described.

3. In a leather-trimming machine, the guide-plates B B, with depending lugs H H, in combination with the screw-bolt K and sliding wedges J J, substantially as and for the purpose specified.

4. The combination, with the adjustable guides carrying the knives, of a pressure-roller journaled in a spring-pressed vertically-sliding yoke mounted in a carrier pivoted in such

manner that the roller can be swung clear of the guides, substantially as described, and for the purposes set forth.

5. In a leather-trimming machine, the screw-bolt K and sliding wedges J J, in combination with the adjustable collar S and wedge T, substantially as and for the purpose described.

6. In a leather-trimming machine, a pressure-roller provided with a central groove, *z*, in combination with the guides and knives arranged to be adjusted to correspond with the groove *z*, for cutting round strips, substantially as and for the purpose specified.

7. The double guide-plates B B and D D, the latter adjustable upon the former to make the upper part of the channel wider than the lower part, substantially as and for the purpose described.

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