C. S. Stearns,

Cutting Leather.

No. 78696. Patented June 9, 1868.

Fig. 3.

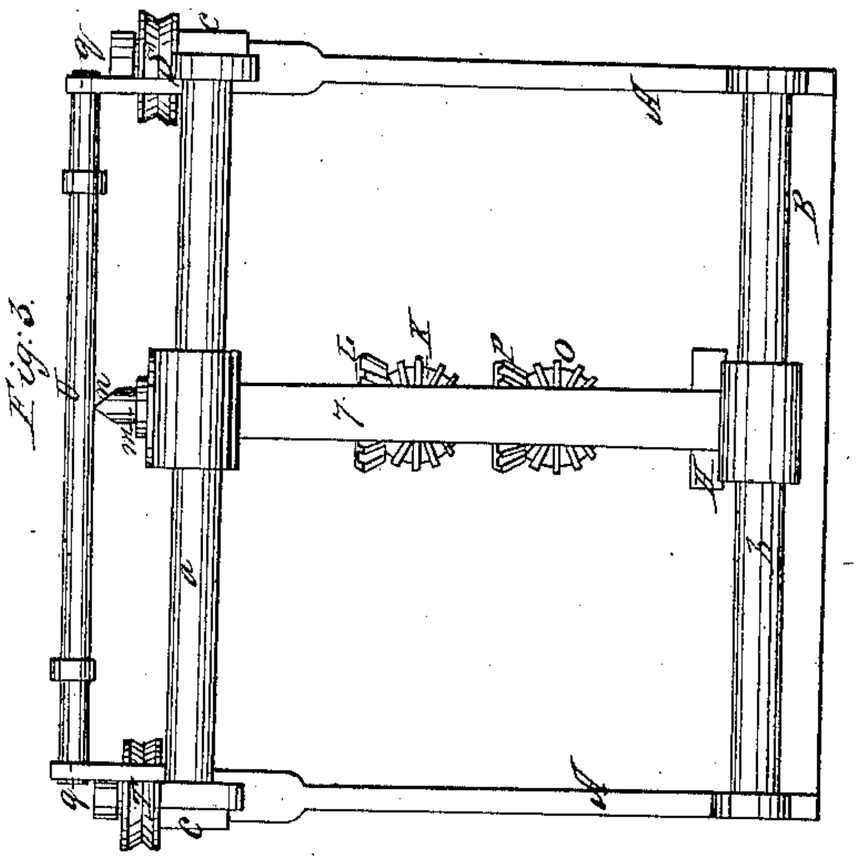


Fig. 4.

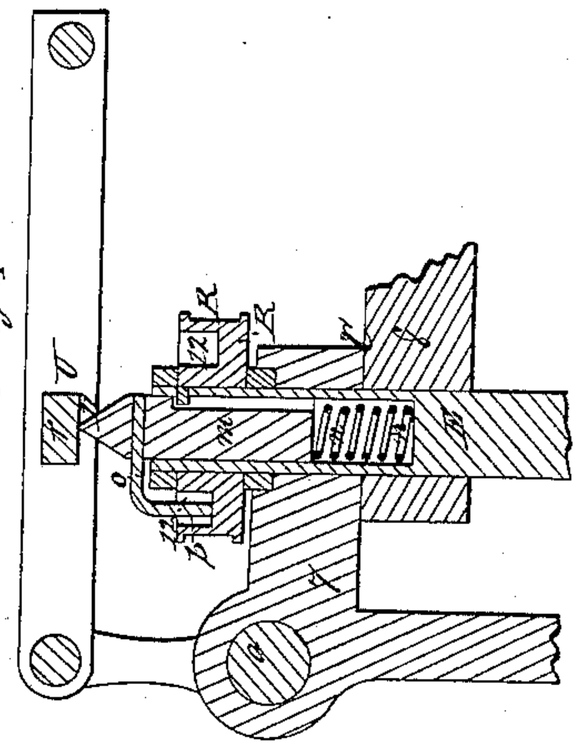


Fig. 1.

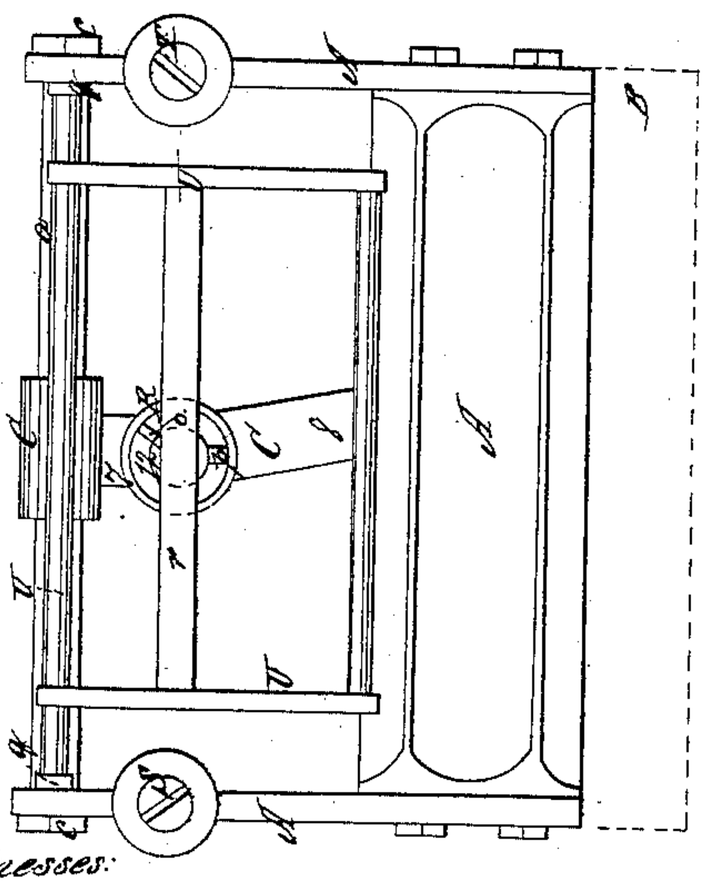
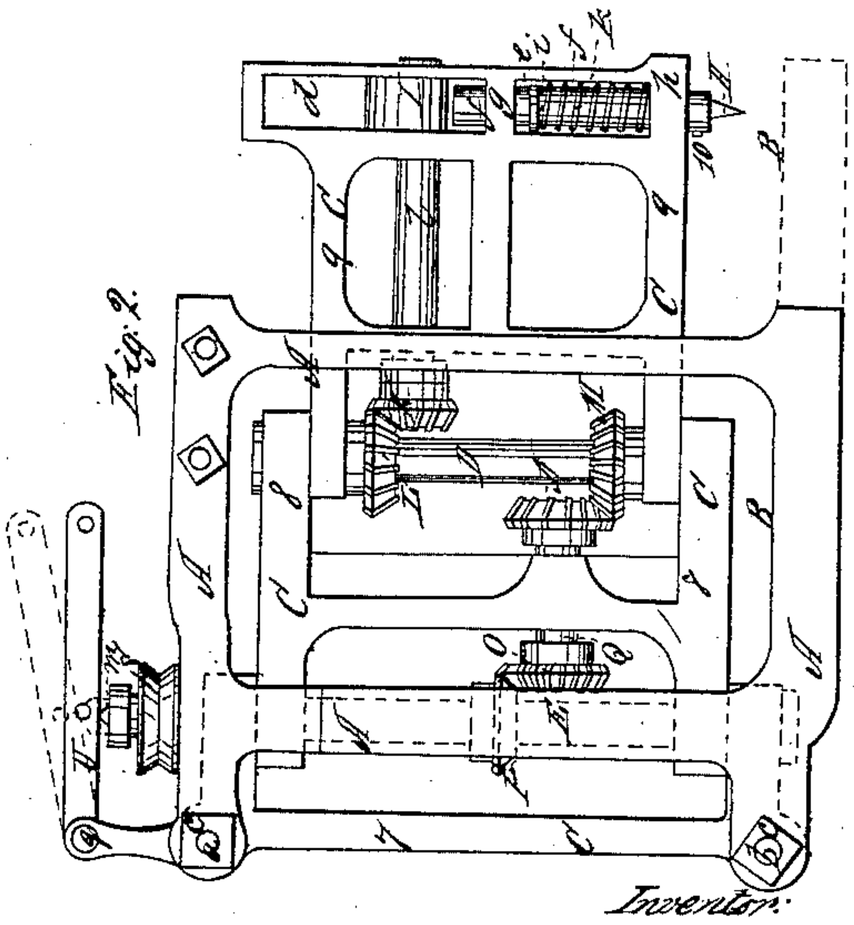


Fig. 2.



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United States Patent Office.

CALEB S. STEARNS, OF MARLBORO, MASSACHUSETTS, ASSIGNOR TO HIMSELF, CHARLES F. DAVIS, AND THOMAS COREY, OF SAME PLACE.

Letters Patent No. 78,696, *dated June* 9, 1868.

IMPROVED MACHINE FOR CUTTING LEATHER.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, CALEB S. STEARNS, of Marlboro, in the county of Middlesex, and State of Massachusetts, have invented an Improved Machine for Cutting Leather, &c., of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan of my improved machine for cutting leather, &c.

Figure 2 is a side elevation of the same.

Figure 3 is a rear elevation of the same.

Figure 4 is a sectional detail, enlarged.

My present invention relates to a machine for cutting leather, &c., for which Letters Patent of the United States were granted to me on the twenty-fifth day of September, A. D. 1866.

In the aforesaid machine the cutter or die was attached to a swinging frame, so that it could be brought over any portion of the table beneath, in order to cut the leather without unnecessary waste, and was depressed to make the cut by means of a presser-block, which was caused to descend at the required time and strike the upper end of the shaft to which the cutter was secured.

This invention has for its object to dispense with the presser-block above referred to, and consists in depressing the die or cutter by a mechanism attached directly to the frame, and moving therewith, which is thrown into action at the required time by a clutch or other suitable device.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings, A is the framework of the machine, to which is attached the bed or table B, upon which the leather to be cut is placed.

C is a swinging frame, which is made in three portions, 7, 8, and 9, of the form seen in the drawings, and is jointed together by the vertical shafts D E, the portion 7 sliding on two horizontal guide-rods, *a b*, which are secured firmly to the framework by nuts *c*.

At the outer extremity of the portion 9 of the frame C are formed two slots, *d e*, and within the lower one, *e*, is placed a shaft, *f*, which slides vertically in bearings, *g h*, and carries at its lower end the cutter H, which is secured in place by a set-screw, 10, the shaft being free to revolve in its bearings, so as to allow the cutter to be brought into the desired position.

The shaft *f* is provided with a collar, *i*, between which and the bearing *h* it is surrounded by a spiral spring, *k*, by which it is retained in the position seen in fig. 2.

Immediately over the shaft *f*, within the slot *d*, is placed an eccentric or cam I, which is keyed to a horizontal shaft, *l*, carrying at its opposite end a bevel-gear, K, which engages with another bevel-gear, L, at the upper end of the vertical shaft D, which is connected, by means of the bevel-gears M, N, O, P, and short shaft Q, with the vertical shaft E. This latter shaft carries at its upper end a pulley, R, which revolves loosely thereon, (except when connected therewith by a clutch,) and is driven by a belt (not shown) which passes around it and the pulleys S T on the framework A, and thus, as the eccentric, I, is revolved through the connections described, it strikes against the upper end of the shaft *f*, depressing it, and causing the cutter H to descend and pass through the leather on the table B.

The shaft *l*, which carries the eccentric, I, may be connected with the shaft E by means of belts and pulleys, instead of gears, if preferred.

The clutch, which connects the pulley R with the vertical shaft E, consists of a pin, *m*, which fits into the end of the shaft, and is prevented from revolving thereon by means of a spline, a spiral spring, *n*, fig. 4, serving to retain it in the position seen in red in fig. 2. From this pin *m* projects a bent pin, *o*, which, when the former

is depressed by the frame U, striking its point 11, enters a groove, 12, in the face of the pulley R, and is struck by a projection, *p*, thus causing the shaft and pulley to revolve together.

The frame U is hung in bearings, *q*, rising from the framework A, and is depressed against the resistance of the spring *n* by a suitable treadle (not shown) when it is desired to throw the mechanism into action, by which the cutter H is carried down to cut the leather on the table B.

It will be seen that the length of the frame U is such that the point of the pin *m* will be always beneath the centre bar *r*, without regard to the position of the frame C on the guide-rods *a b*.

When the eccentric, I, is revolved into the position seen in fig. 2, the spring *k* will raise the shaft *f*, and retain the cutter H above the leather on the table B, so that the operator, by taking hold of the swinging frame C, can move the cutter H at pleasure over any portion of the hide on the table, and bring it down into the exact position required to cut without unnecessary waste.

Instead of the swivelling-cutter H being attached to a swinging frame, it may be secured to a frame so arranged as to slide in different directions, to bring the die over any portion of the table required, without departing from the spirit of my invention.

A cutter of a different form to that shown, or a die for cutting out the soles of boots and shoes or other articles, may be attached to the shaft *f*, and the machine may be used for cutting cloth, or other material, if desired.

It will be seen that, with the above-described machine, the leather or other material can be cut as economically as with a hand-die, while the operation can be performed much more rapidly, thus effecting a great saving of time, stock, and labor.

Claim.

What I claim as my invention, and desire to secure by Letters Patent, is—

Attaching the cutter or die to a movable frame, so that it can be brought over any portion of the table B, in combination with a mechanism, attached directly to the frame and moving therewith, for depressing the cutter, substantially as described.

I also claim the frame U, in combination with the movable frame C and the clutch, for throwing the mechanism into action which operates the cutter, substantially as set forth.

CALEB S. STEARNS.

Witnesses:
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