

(No Model.)

J. G. McCARTER.
LEATHER CUTTING MACHINE.

No. 417,268.

Patented Dec. 17, 1889.

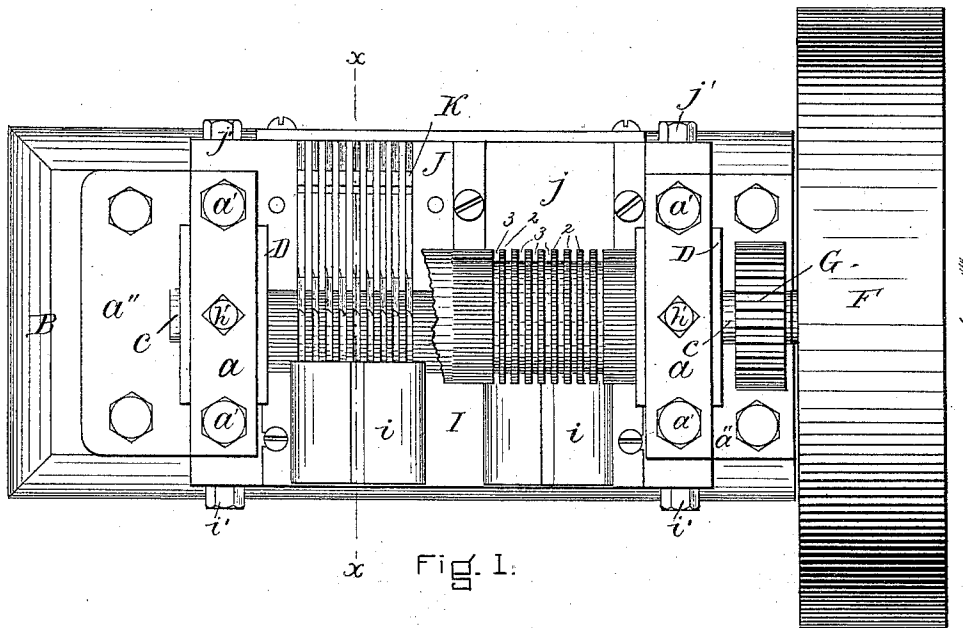


Fig. 1.



Fig. 6.

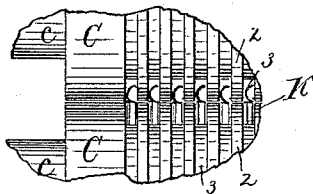


Fig. 3.

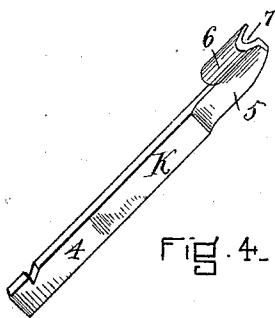


Fig. 4.

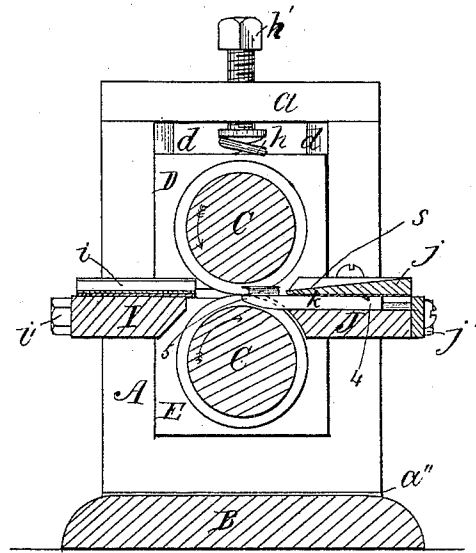


Fig. 2.

WITNESSES.
A. D. Hanson.
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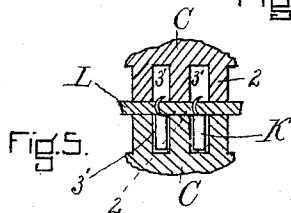


Fig. 5.

INVENTOR.
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UNITED STATES PATENT OFFICE.

JOHN G. McCARTER, OF BOSTON, MASSACHUSETTS.

LEATHER-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 417,268, dated December 17, 1889.

Application filed March 1, 1889. Serial No. 301,643. (No model.)

To all whom it may concern:

Be it known that I, JOHN G. McCARTER, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Machines for Cutting Leather, &c., into Strips, of which the following is a specification.

This invention has for its object to provide a simple and effective machine for cutting a piece of leather into strips, each having one edge convex. Said strips are used as welts, and are placed between the two quarters or other parts of a shoe-upper and stitched to said parts, their convex edges being on the outer surface of the upper and imparting a finish to the seam formed by the union of said parts. Welts for this purpose have heretofore been rounded or convexed on their exposed edges by other means after they were cut out from the piece; but my invention enables the cutting operation to also give the convex edge.

The invention consists in the combination, with a pair of grooved feed-rolls, of a series of concavo-convex knives located between said rolls, adapted to cut the material into strips, each having one edge convex and the other concave, as I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a top view of the machine, portions being removed to show the knives in position. Fig. 2 represents a section on line *x x* of Fig. 1. Fig. 3 represents a portion of the rolls, looking toward the knives. Fig. 4 represents a perspective view of a knife. Fig. 5 represents a vertical section through a small portion of the rolls, the same being separated by the material which the knives are shown as cutting. Fig. 6 shows a cross-section of a strip of the manufactured material.

The same letters of reference indicate the same parts in all the drawings.

In the drawings, A A are frames screwed to the base B by flanged bases *a''*, said frames being normally closed above by the cross-pieces *a*, which are screwed to the uprights at *a'*.

C C are a pair of grooved feed-rolls, which are reduced at their ends to form shafts *c*, working in bearings D E, vertically movable on guides *d* of the frame A. On one end

shaft *c* of the upper roll is a driving-pulley F, also a gear-wheel G, meshing with a similar gear-wheel on the lower roll and causing the lower roll to rotate simultaneously with but in an opposite direction to the upper roll, as shown by arrows in Fig. 2. The periphery of each roll is divided into sections 2 by grooves 3, the sections and grooves of the upper roll being respectively over the sections and grooves of the lower roll. The bearings E E of the lower roll are suitably secured to the frames A; but the upper roll is raised by the material fed between the said rolls, the required pressure of the upper roll being secured by means of spiral springs *h*, interposed between the movable box D and the adjusting-screw *h'*, which passes through the cross-bar *a*.

A bed I is secured to the frames A by screws *i'* on the feed side of the rolls and slightly below the meeting-line of the same. Upon this bed and opposite the grooved sections of the rolls are secured sheet-metal feeding-guides *i*.

On the opposite side of the feed-rolls a bed J is secured to the frames by screws *j'*, its surface being somewhat below the level of the meeting line of the rolls. Its upper surface is grooved to receive the shanks 4 of the knives K. The ends 5 of said knives extend into the grooves of the rolls and have concavo-convex knife-blades above the periphery of the lower roll. The knives are so adjusted that their beveled cutting-edges 7 extend substantially to the meeting line of the rolls. To adjust the knives and firmly hold them to their work, I provide the plate or clamp *j*, which is placed upon them and screwed to the bed I and holds the knives by friction. Said clamping-plate *j* is provided with grooves *s*, to allow the strips cut by the knives to pass freely from the rolls. I may use any other suitable means for adjusting and clamping the knives without departing from the spirit of my invention.

In action sheets or pieces of leather or other material are fed into the guides *i*, and, coming in contact with the oppositely-rotating feed-rolls, are drawn between them, the upper roll yielding to admit the material between the rolls. The knife-blades 6, being now between the rolls C C, are in position to meet

the material passing between the rolls and slit it into strips with edges convex and concave, corresponding to the edges of the knives. The manufactured material passes
5 out in the grooves *s* of the clamping-plates *j* and is removed in any suitable way. The sections 2 2 of the rolls, being opposite and close to each other, hold the material firmly on either side of each knife, as shown in
10 Fig. 6.

The blades 6 of the knives may be of any desired curvature and deep enough to sever any thickness of leather desired. Knives with blades of different sizes may be provided
15 for the different thicknesses of leather, or the knives may be adjustable vertically, so that the center of curvature may be arranged to meet the median line of a sheet of leather of any thickness.

20 I claim—

In a machine for cutting leather or other material into strips, the combination of a series of concavo-convex knives *K* and a pair of feed-rolls *C C*, each having a series of grooves 3, dividing its periphery into a series
25 of sections 2, adapted to grasp and feed the material to be cut at points close to and at each side of said knives, the knives being arranged to project into said grooves between the meeting portions of the sections 2, as set
30 forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 27th day of February, A. D. 1889.

JOHN G. McCARTER.

Witnesses:

C. F. BROWN,

A. D. HARRISON.