

(No Model.)

G. E. DANFORTH.

MACHINE FOR STRETCHING HIDES OR SKINS.

No. 423,030.

Patented Mar. 11, 1890.

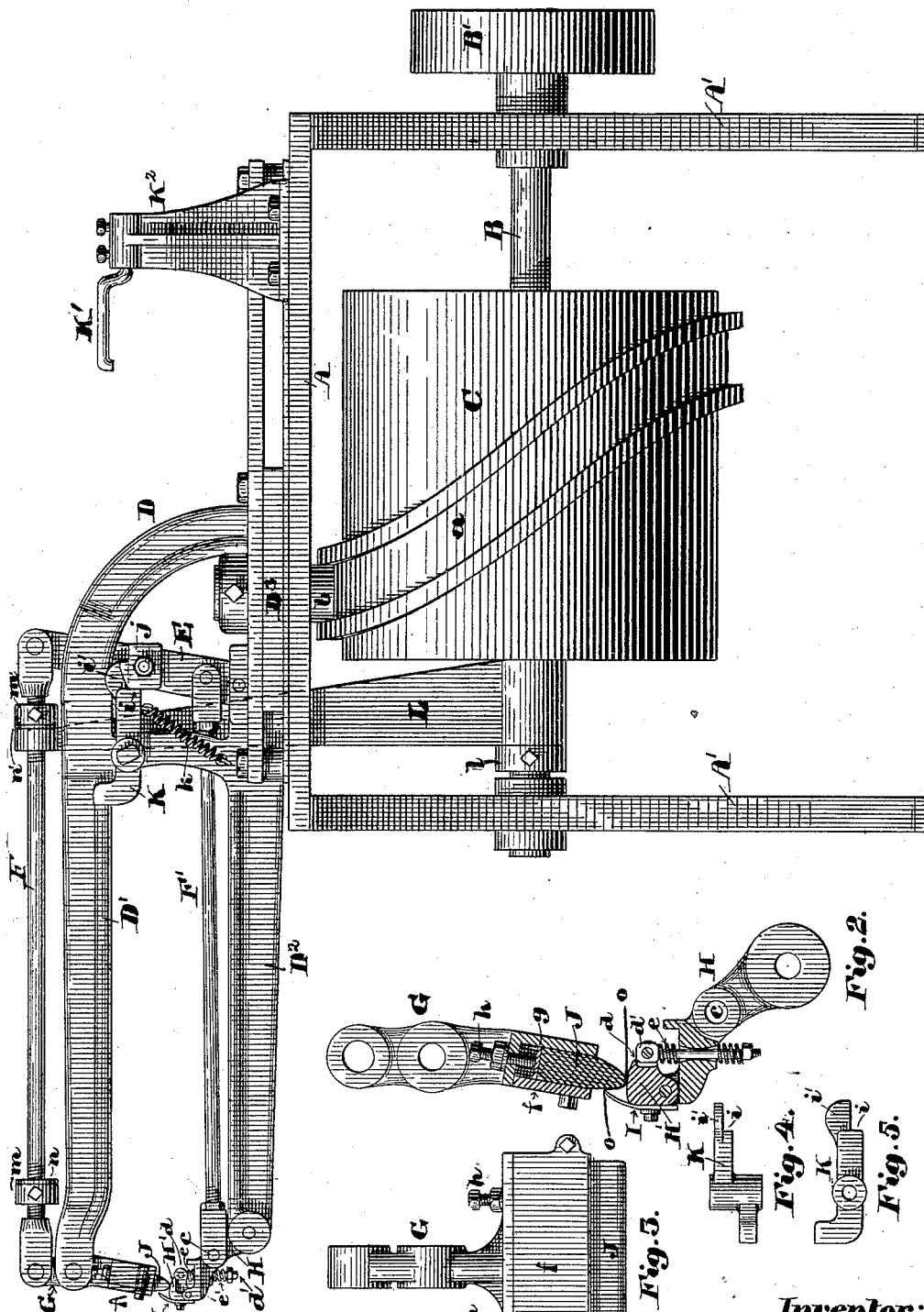


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE E. DANFORTH, OF LYNN, MASSACHUSETTS, ASSIGNOR OF ONE-HALF
TO ANTON B. HOFFMAN, OF SAME PLACE.

MACHINE FOR STRETCHING HIDES OR SKINS.

SPECIFICATION forming part of Letters Patent No. 423,030, dated March 11, 1890.

Application filed May 10, 1889. Serial No. 310,309. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. DANFORTH, of Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Machines for Stretching Hides or Skins, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to machines for stretching hides or skins, and is an improvement upon the inventions described in Letters Patent Nos. 387,402 and 396,811, granted to me August 7, 1888, and January 29, 1889, respectively; and it consists in certain novel features of construction, arrangement, and combination of parts, which will be readily understood by reference to the description of the drawings, and to the claims to be hereinafter given, and in which my present invention is clearly pointed out.

Figure 1 of the drawings is a side elevation of a machine embodying my invention. Fig. 2 is a sectional elevation of the skin-rubbing jaws and their carrying-levers. Fig. 3 is an elevation of the rubbing-jaw and its holder, and Figs. 4 and 5 are respectively a plan and an elevation of the locking-lever.

In the drawings, A is the table of the machine supported upon the two end frames A' A'.

B is the operating-shaft carrying the driving-pulley B' and the cylinder-cam C, having formed in its periphery the cam-path *a*.

D is the jaw-carrying frame, having the arms D' and D² and firmly secured to the block or plate D³ and reciprocated by the action of the path *a* upon the truck *b*, carried on a stud set in the under side of the plate D³, all constructed and operating substantially as described in said prior patent, No. 387,402, before cited.

To the plate D³ is pivoted the lever E, to the upper end of which is pivoted the rod F, the opposite end of which is pivoted to the upper end of the upper-jaw lever G, pivoted to the end of the arm D', and the lever E also has pivoted thereto a short distance above its fulcrum one end of the rod F', the opposite end of which is pivoted at *c* to the lower-jaw lever H, which in turn is pivoted to the

end of the arm D² and has pivoted to its free end the knife-block H', having secured to its outer or front end the knife I, and provided with the rearwardly-projecting arm *d*, to the end of which is pivoted the rod *d'*, which projects through an opening in the lever H, and has applied thereto the two springs *e* and *e'*, all substantially as described in said prior patent, No. 396,811, before cited.

I will now proceed to describe my improvements.

I make the arm *d* somewhat shorter than in the machine described in said last-mentioned prior patent, and make the upper surface of the knife-block convex, as shown in Fig. 2. Instead of setting the rubber-block J in a separate casting from the upper-jaw lever and pivoting it thereto, as in said last-mentioned patent, I form in the lower end of the upper-jaw lever G a rectangular socket or box having a removable cover or side *f*, and instead of making the working end of the rubber-block rectangular, as in said patent, I make the outer end of said rubber-block oval or rounded and place against its inner end a metal plate *g*, against which the set-screws *h h* act to adjust said rubber-block to increase the pressure of the operating-jaws. I also change the position of the rubber-block relative to the edge of the knife, so that the knife bears against the side of the rubber-block, while the end of said rubber-block bears directly upon the rounded upper surface of the knife-block or upon the hide or skin resting thereon with any desired pressure, according as to how the rubber-block is adjusted.

K is a locking-lever pivoted to the frame D, the rear end of which is provided with a shoulder *i*, which engages with the block or projection *j*, secured to or formed upon the lever E, and said lever is also provided with the projecting ear *i'*, the lower edge of which rests upon the block *j* when said shoulder *i* is in engagement with the front side of the block *j*, as shown, the rear end of said lever K being drawn downward by the spring *k*. The front end of the locking-lever K is bent upward into a position to be struck by the stop-bar K', set in the stand K², so as to be adjustable therein, when the frame D is approaching the end of

its rearward movement to trip the locking-lever and allow the jaws to be separated and release the hide or skin preparatory to a forward movement of said jaws to take a new hold upon the skin.

L is an arm mounted loosely upon the shaft B, between the hub of the cam C and the collar *l* in such a manner that said shaft is free to revolve within its hub; but said arm cannot be moved in the direction of the length of said shaft. The upper end of the arm L has formed therein an eye through which the rod F passes freely, and upon said rod F are adjustably secured by set-screws the two stop-collars *m* and *m'*, between which and the upper end of the arm L are also fitted upon said rod the two washers *n* and *n'*, of leather, rubber, or other suitable material, to serve as a cushion to deaden the sound of the blow of said collars when they strike said arm to open or close the jaws. When the frame D is in its most forward position, as shown in the drawings, the washer *n* and collar *m* have been arrested in their forward movement by the arm L, and as a consequence the lever F has been moved about its axis of motion and the rubber-jaw J and the knife-block H' are firmly pressed upon the hide or skin placed between them, as shown in Fig. 2, in which the hide or skin is represented by the heavy line *o o*, and the locking-lever K has engaged with the block or projection *j* and locked said jaws together, with the edge of the knife I pressing the skin hard against the front of the rubber in a direction nearly at right angles to the line of pressure between the rounded upper surface of the knife-block H and the end of the rubber jaw or block, the skin being drawn downward over the edge of the knife and around the lower front corner or rounded surface of said rubber-jaw, as shown in Fig. 2. When the frame D is moved toward the rear, the jaws stretch and smooth out the skin, the operator holding the skin from moving with said jaws. Just before the frame D reaches the end of its rearward movement the upturned end of the locking-lever K strikes the end of the stop-bar K', and is thereby moved about its fulcrum and its shoulder *i* is disengaged from the block or projection *j*, when the collar *m'* or its washer *n'* comes in contact with the arm L, and the knife and knife-block are moved away from the rubber-jaw and the pressure upon the skin is removed, the position of the skin is changed by the operator, and the frame D is again moved forward with the jaws separated till the arm L is again engaged by the stop-collar *m*, when the jaws are again closed upon the skin and the operation is repeated. By this construction and arrangement of the knife, knife-block, and rubber-jaw a very much

more effective action is produced upon the skin than has heretofore been practical, and the devices used for opening and closing the jaws are very effective, being positive in their action and much less noisy than the devices used in the machines described in my before-cited prior patents.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a machine for stretching hides and skins, the combination of the upper-jaw-carrying lever provided with a socket in its lower end, the rubber-block or friction-jaw fitted to said socket, a metal plate resting upon the inner end of said rubber-block, set-screws for adjusting said block, and the removable clamping-plate for securing said rubber-block in its adjusted position.

2. In a machine for stretching hides and skins, the combination of the reciprocating frame D D' D², the cam C, the jaw-carrying levers G and H, the pivoted knife-holding block H', having a convex upper surface, the knife I, secured to the side of said knife-holder, the springs *e* and *e'* and rod *d'*, the rubber-block J, carried by the lever G and having its operating end rounded and arranged to bear at its end upon or press the hide or skin into contact with the rounded upper surface of the knife-holder H', and to bear at its front side against the edge of the knife I, the pivoted lever E, the rods F and F', the collars *m* and *m'*, the fixed arm L, the locking lever K, pivoted to the frame D, the block *j*, secured to the lever E, and the lever-tripping arm K', all constructed, arranged, and operating substantially as and for the purposes described.

3. In a machine for stretching hides and skins and provided with a reciprocating frame, two operating frictional jaws carried thereby, rods connecting said jaws with a third lever pivoted to said frame, means for reciprocating said frame, and means for closing said jaws at one end of its reciprocation and opening them at the other end of its reciprocation, and in combination therewith the block or projection on said third lever, the locking-lever K, provided with the shoulder *i* and projecting ear *i'* at one end, and having its other end turned upward pivoted to said sliding frame, the spring *k*, and the adjustable stop-bar K'.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 8th day of May, A. D. 1889.

GEORGE E. DANFORTH.

Witnesses:

WALTER E. LOMBARD,
N. C. LOMBARD.