

No. 645,777.

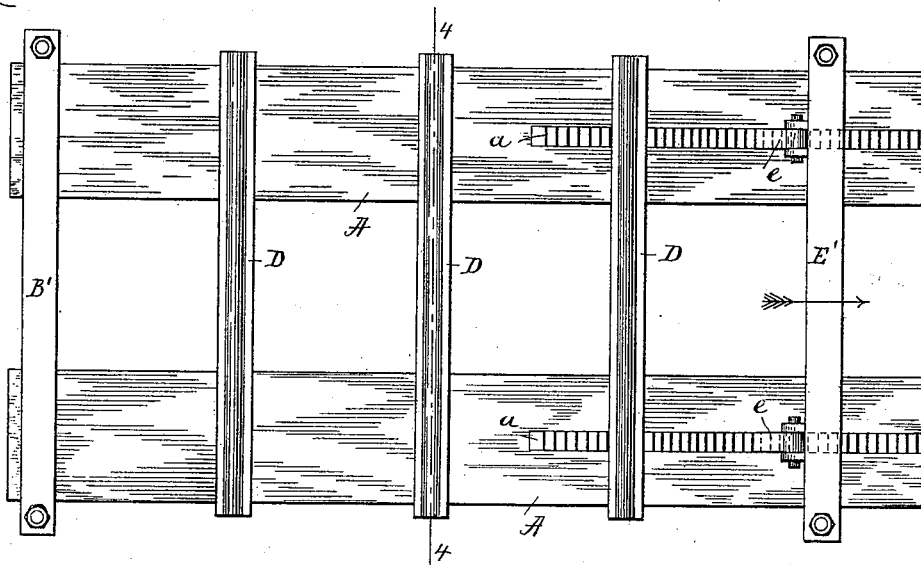
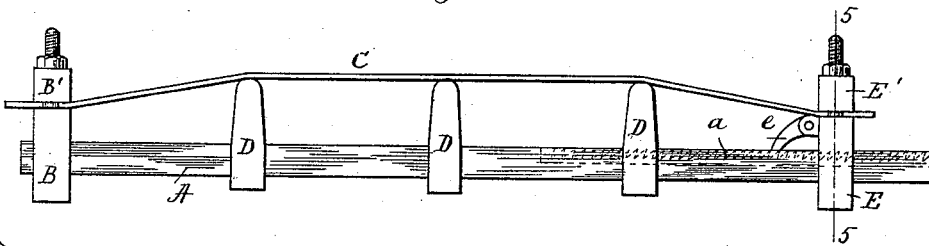
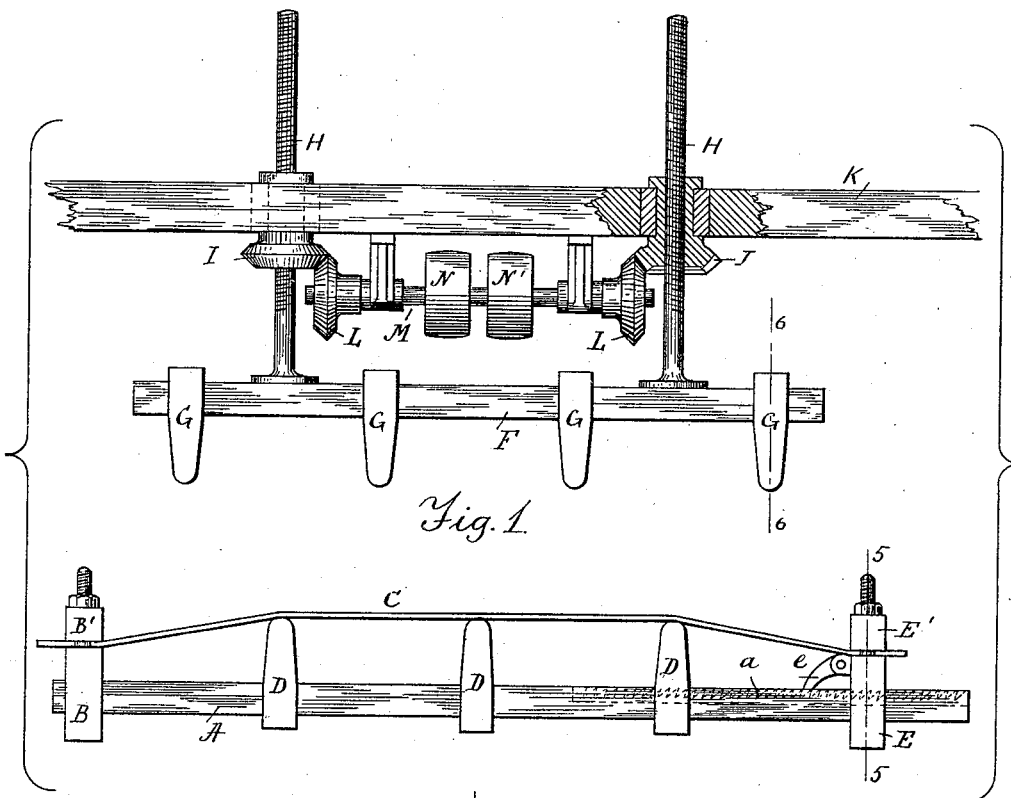
Patented Mar. 20, 1900.

F. H. ADAMS.
LEATHER STRETCHING MACHINE.

(Application filed Nov. 26, 1897.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses.
Harl A. Andren.
Charles A. Harris

Fig. 2.

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Fred H. Adams.
by Harl A. Andren, his atty.

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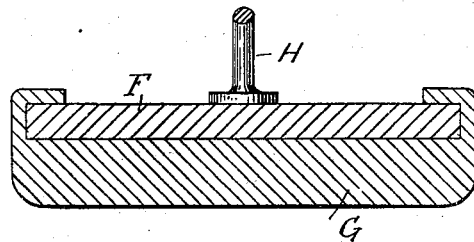
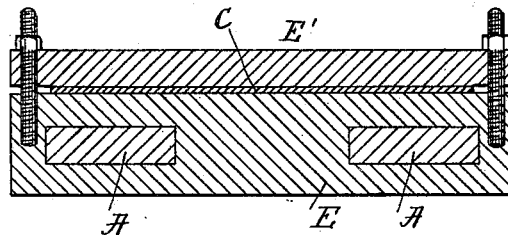
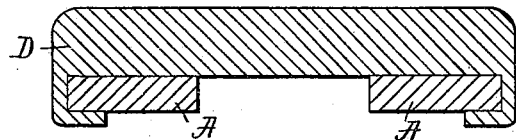
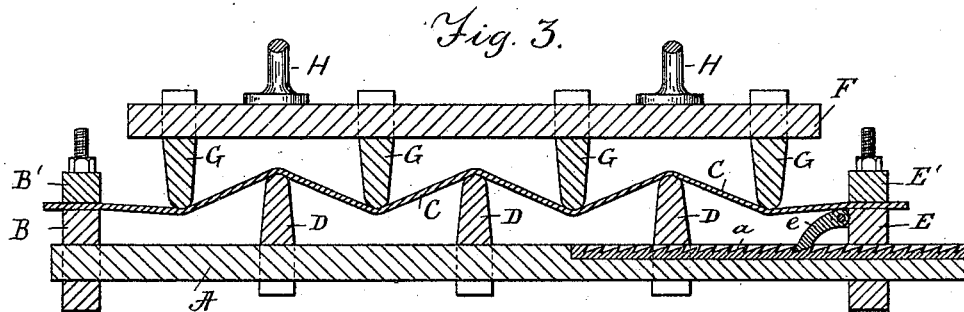
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2 Sheets—Sheet 2



Witnesses.
Karl A. Andrien.
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UNITED STATES PATENT OFFICE.

FRED H. ADAMS, OF BEVERLY, MASSACHUSETTS, ASSIGNOR OF ONE-HALF
TO EDWIN E. STEVENS, OF MEDFORD, MASSACHUSETTS.

LEATHER-STRETCHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 645,777, dated March 20, 1900.

Application filed November 26, 1897. Serial No. 659,780. (No model.)

To all whom it may concern:

Be it known that I, FRED H. ADAMS, a citizen of the United States, and a resident of Beverly, in the county of Essex and State of Massachusetts, have invented new and useful Improvements in Leather-Stretching Machines, of which the following, taken in connection with the accompanying drawings, is a specification.

10 This invention relates to improvements in leather-stretching machines; and it has for its object to evenly stretch and soften hides, leather, rawhide, skins, &c., so as to produce an even and homogeneous stretch of the material, as will hereinafter be more fully shown and described, reference being had to the accompanying drawings, wherein—

15 Figure 1 represents a side elevation of the improved stretching-machine, showing the vertically-adjustable pressure-head raised above the leather-holding bed-plate previous to the stretching operation. Fig. 2 represents a top plan view of the leather-holding bed-plate. Fig. 3 represents a longitudinal section showing the head moved downward during the stretching operation. Fig. 4 represents a cross-section on the line 4 4 shown in Fig. 2. Fig. 5 represents a cross-section on the line 5 5 shown in Fig. 1, and Fig. 6 represents a cross-section on the line 6 6 shown in Fig. 1.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

35 The invention consists of a bed-plate or base A A of suitable length and width, according to the size of the hides, skins, &c., that are to be stretched. To one end of such bed or base plate is secured a clamping-block B, above which is arranged a vertically-adjustable clamping-bar B', between which and the block B one end of the hide, skin, or leather C is firmly secured previous to the stretching operation.

45 On the bed or base A are longitudinally adjustable a series of transverse cleats D D, preferably made of metal. At the opposite end of the bed or base plate A is arranged a longitudinally-adjustable clamping-block E, above which is arranged a vertically-adjustable clamping-bar E', between which and the

block E is secured the other end of the hide, skin, or leather C, as shown in Figs. 1 and 3. To the adjustable clamp-block E are pivoted pawls e e, adapted to engage with toothed racks a a, secured to the base A A, as shown.

Above the base A is arranged a vertically-adjustable head F, provided with a series of longitudinally-adjustable downwardly-projecting cleats G G, similar to the cleats D D on the base A. The cleats G G are arranged in position on the head F so as to be opposite to the spaces between the cleats D D on the base A, as shown in Figs. 1 and 3.

The adjustability of the cleats D and G in connection with the adjustability of the clamping devices E and E' is important and valuable to permit the proper stretching of leather of different dimensions.

Any suitable mechanism may be employed for raising and lowering the cleat-carrying head F, and I have for this purpose shown in Fig. 1 vertical screw-shafts H H, secured to the upper side of the head F. On each such screw-shaft is arranged an internally-screw-threaded gear I, journaled in a suitable bearing in a stationary overhead beam or frame K. The gears I mesh in similar gears L L, secured to a shaft M, journaled in bearings attached to the stationary beam or frame K, as shown in Fig. 1.

N N are pulleys secured to the shaft M, which by means of belts may be set in a rotary motion, first in one direction and then in an opposite direction, for the purpose of intermittently raising and lowering said head F and its pressure-cleats.

As before stated, any suitable mechanism may be employed for the purpose of raising and lowering the head F, and I wish to state that I do not confine myself to the exact mechanism as shown and described, as other or equivalent ones may be used without departing from the spirit of my invention. I also wish to state that I do not desire to confine myself to the exact construction of the clamping devices B B' E E', as shown, nor to the mechanism for longitudinally adjusting and securing one of the clamps, as this may be done in the manner shown or by means of other suitable or equivalent mechanical devices operated by hand or power, as may be

desired, without departing from the essence of my invention.

The operation of the machine is as follows: The head F is raised above the bed or base A, as shown in Fig. 1. The hide, skin, or leather C to be stretched is placed, preferably in a moist condition, upon the cleats D D, and the ends of such material C are firmly secured by means of the clamping devices B B' and E E', after which the clamping device E E' is moved in the direction of the arrow shown in Fig. 2 sufficiently to hold the skin or hide taut and supported at intervals upon the cleats D D, as shown in Fig. 1. The head F, with its cleats G G, is then lowered to about the position shown in Fig. 3, causing the leather or material C to be uniformly stretched from end to end without being contracted or narrowed about midway between its ends, which is a common objection to ordinary leather-stretching machines, and in this manner a saving in leather is obtained. I produce an even and uniform stretch on the material in a very quick manner and prevent in a great degree the objectionable contraction of the material after being removed from the stretching-machine. After the leather has been stretched between the alternately-arranged cleats D D G G it may be additionally stretched one or more times in succession simply by raising the head F and its cleats G G to the position shown in Fig. 1, after which the slack on the hide or leather is taken up by moving the clamping device E E' in the direction of the arrow shown in Fig. 2, so as to hold the material in a taut condition between the clamping devices, and it will so be retained by the pawls *e e* and ratchet bars or

racks *a a*, as shown in Fig. 1. The head F is then lowered, as before, to the position shown in Fig. 3, by which the material is additionally stretched, and this may be repeated from time to time as may be needed for the purpose of stretching the material thoroughly and evenly throughout its entire length and width. I have shown one of the clamps as adjustable and the other one stationary, and although this is the most practical arrangement, still, if so desired, both clamps may be longitudinally adjustable and provided with suitable means for securing them in position to the base or bed plate A A after they have been adjusted for holding the skin or leather taut previous to the operation of stretching the same.

What I wish to secure by Letters Patent and claim is—

In a leather-stretching machine, the combination with a bed or base, of a series of cleats arranged on and adjustable longitudinally thereof, a pair of clamping devices one or both of which are longitudinally adjustable on said base, a frame or head, cleats arranged on and adjustable longitudinally thereof and alternately located relative to the cleats on the base, and means for moving said frame or head and its cleats to and from the base and its cleats, substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 16th day of November, A. D. 1897.

FRED H. ADAMS.

Witnesses:

ALBAN ANDRÉN,
ANNA TORREY.