(No Model.)

L. DEDERICK.

MACHINE FOR STRETCHING AND DRYING HIDES.

No. 287,009. Patented Oct. 23, 1883.

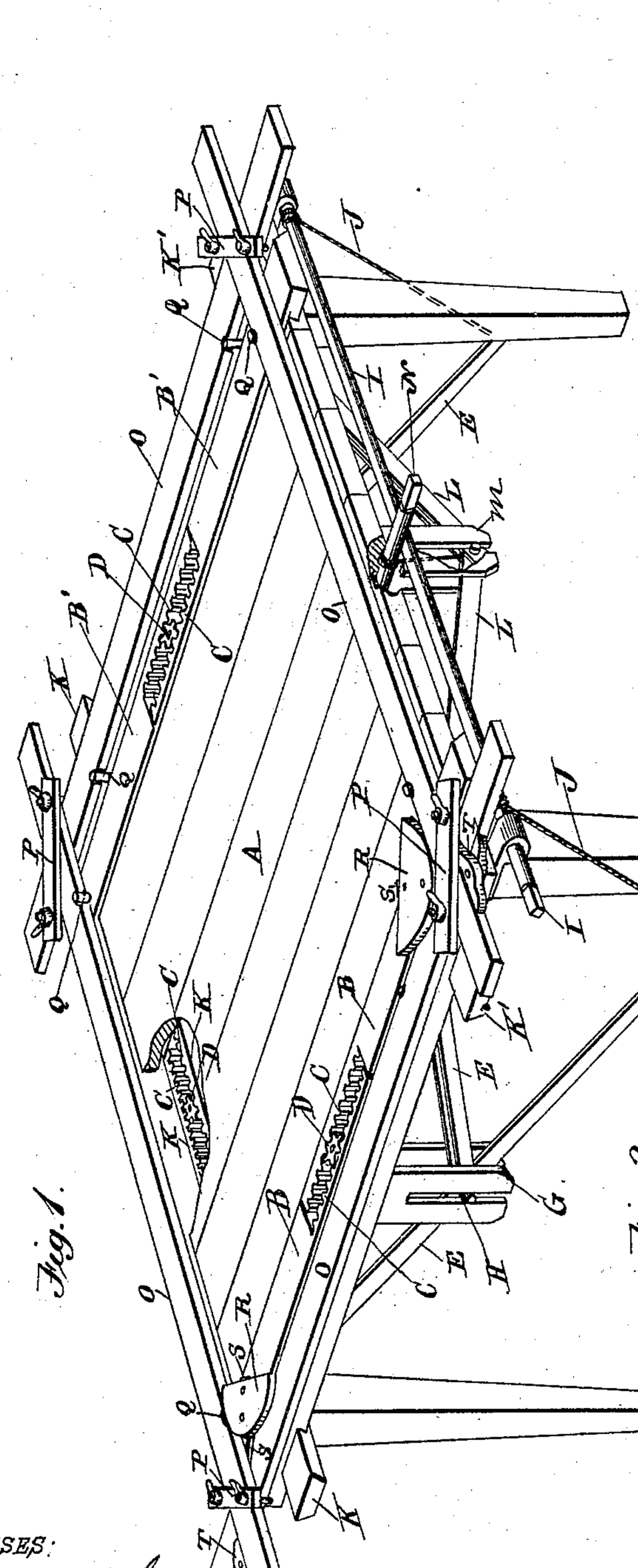

Fig. 1.

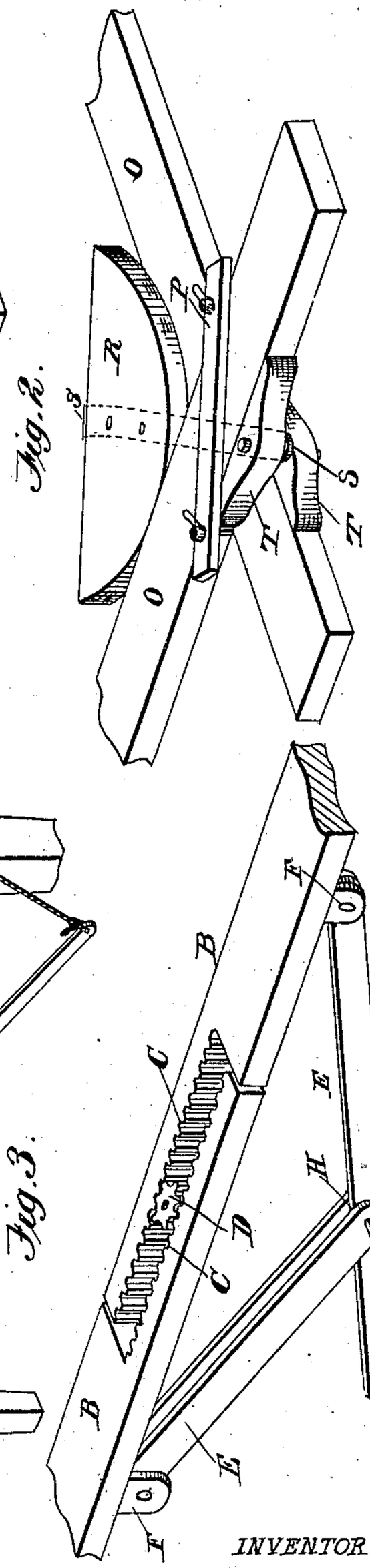

Fig. 2.

Fig. 3.

WITNESSES:

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MACHINE FOR STRETCHING AND DRYING HIDES.

SPECIFICATION forming part of Letters Patent No. 287,009, dated October 23, 1883.

Application filed August 14, 1882. (No model.)

To all whom it may concern:

Be it known that I, LEVI DEDERICK, of Albany, in the county of Albany and State of New York, have invented a certain new and Improved Machine for Stretching and Drying Hides; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective view of a machine constructed in accordance with my invention. Fig. 2 is a detail view, showing the construction of the expansible frame. Fig. 3 is a detail view of a pair of the slides and the means for operating them.

Similar letters of reference in the several figures denote the same parts.

This invention relates to a machine for stretching hides prior to drying them; and its special novelty consists in certain improved details of construction, which I will first describe and then point out particularly in the claims at the end of this specification.

Referring to the drawings, A represents a table consisting, preferably, of a top of boards mounted upon suitable supporting-legs, as shown.

B B and B′ B′ are two pairs of slides moving in suitable grooves or guides in the top of the table, at opposite sides thereof. The inner ends of the slides of each pair are formed to lap past each other, as shown in Fig. 3, and the proximate faces of the lapped portions are provided with short racks C C, which mesh with a pinion, D, mounted upon a stud secured to a cross-piece of the table. This arrangement of racks and pinion is for the purpose of securing uniform movement of both slides of a pair simultaneously.

Connected to each pair of slides at F F are a pair of levers, E E, which are journaled or fulcrumed at H, and together constitute a toggle for operating the slides. The pin or bolt which constitutes the fulcrum or joint of the levers preferably moves in a vertical slot in a guide, G, and further serves to secure evenness and uniformity in the movement of the slides. One of the levers E of each pair is extended beyond the fulcrum or joint H, and to its extremity is connected a cord or rope, J, which is adapted to be wound upon a shaft or windlass, I, mounted in bearings at the outside of the frame, as shown.

Under the top of the table, and at right angles to the pairs of slides B B and B′ B′, are two other pairs of slides, K K and K′ K′, constructed similar to those just described, and having also similar racks and pinions and the toggle-levers L L. These toggle-levers L L may or may not have the extended arms for the attachment of the cords, and if not, the cords are connected at or near the fulcrums, and the latter are guided in suitable guides, *m*, the cords being adapted to be wound upon a windlass, N. The windlass may be turned by means of a crank, a lever and pawl applied to a ratchet, or by any other suitable appliances or arrangements of gearing.

By the employment of a toggle for each pair of slides the two opposite pairs of slides are adapted to be operated by the turning of a single windlass, and by the arrangement of the windlasses at right angles to each other both windlasses can be operated by the same person. If the toggles of all the pairs of slides are provided with extended arms, both windlasses can be arranged at one corner of the frame, and both can be operated together.

O O O O represent the four sides of an expansible drying-frame, the same consisting, preferably, of plain boards crossed at the corners and secured by suitable clamps, P P P P, as shown in Figs. 1 and 2. This frame rests upon the ends of all the several slides, as shown in Fig. 1, and each slide is provided with a pin, Q, which is adapted to press against the inner edge of the corresponding board of the frame, so as to expand it when the slides are caused to move outward. The clamps P, it will be observed, extend from edge to edge of the crossed boards at the corners, thus enabling me to use ordinary boards for the frame, without any special adaptation of them, and saving thereby considerable in the cost of the machine, since each machine requires several hundred frames to have enough dry ones to use every day. This mode of clamping the

boards of the frame also prevents the latter from becoming warped by the alternate exposure to heat and dampness to which they are subjected. Where a clamping-bolt is passed directly through the center of the boards, the latter warp and turn up at the edges, thus diminishing the bearing-surface between the boards, and requiring a greater amount of clamping-pressure to secure them in place.

Clamps applied in accordance with my invention may be of any suitable construction, so long as they operate in the manner indicated. For instance, they may consist of two metal or wooden straps—one above and one below—secured by simple bolts and nuts, or of one strap above or below, with bolts having angular or hooked ends to hook under each edge above or below, as the case may be.

In two corners of the frame I preferably insert auxiliary corner-pieces R, to extend inward for the attachment of the shorter portion of the hide at the neck and shoulders. These corner-pieces each consist of a piece of wood secured in place by means of a strap of thin metal, S, passed around it, and thence between the crossed boards of the frame, and having two blocks, T T, one above and one below said strap, secured by means of a bolt and nut, and bearing, respectively, against the edges of the upper and lower crossed boards, as shown clearly in Fig. 2. As the frame is expanded the blocks move outward and draw the pieces R with them, thus stretching, also, the shorter portion of the hide.

In the operation of the machine, the frame O O O O is placed in position upon the slides, as before indicated, and the hide is tacked onto the boards of which it is composed, and also onto the auxiliary corner-pieces R R, the clamps being loose. Then, by revolving the windlasses separately or together, the cords are wound up, thus causing the toggles to move outward the slides, and, through the medium of the pins Q, expand the frame and stretch the hide. When the hide is stretched as much as the tacking will permit, the clamps are drawn up so as to hold the frame in its expanded position, after which the frame, with the hide upon it, is set away to dry. Upon the removal of the frame the slides all resume their former positions, and another frame may be then adjusted and the operation repeated.

Having thus described my invention, I claim as new—

1. The combination, with the table, of the pairs of slides B B B′ B′, having the lapped rack-toothed ends C C and the pinions D D, the whole constructed and operating substantially as described.

2. The combination, with the table, of the pairs of slides having the lapped rack-toothed ends, the pinions engaging with said ends, the toggle-levers E E, and the guide G for the fulcrums of the toggles, substantially as described.

3. The combination, with the table, of the pairs of slides, the toggle-levers, each having its members connected to opposite sides of a pair, and the guides for the fulcrums of the toggles, whereby one pair of toggle-levers is enabled to simultaneously operate two slides, substantially as described.

4. The combination, with the table, of the pairs of slides having the overlapped rack-toothed ends, the pinions engaging with said ends, the toggle-levers, each operating a pair of slides, and the cords and windlasses, the whole arranged to operate substantially as described.

5. The expansible stretching and drying frame, consisting of the crossed boards O and clamps P, adapted to clamp the boards at both edges, substantially as described, for the purpose specified.

6. The combination, with the expansible stretching and drying frame, of the auxiliary corner-pieces R, the securing-straps S, and the sliding blocks T T, the whole arranged and operating substantially as described, for the purpose specified.

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Witnesses:
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