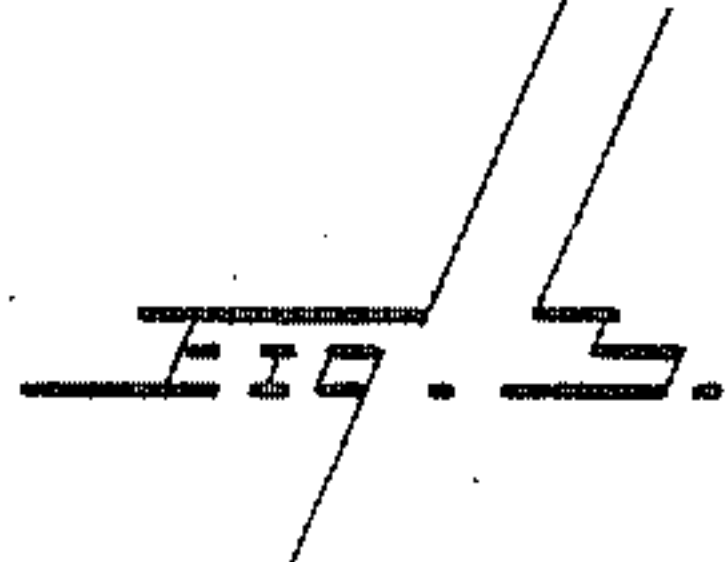
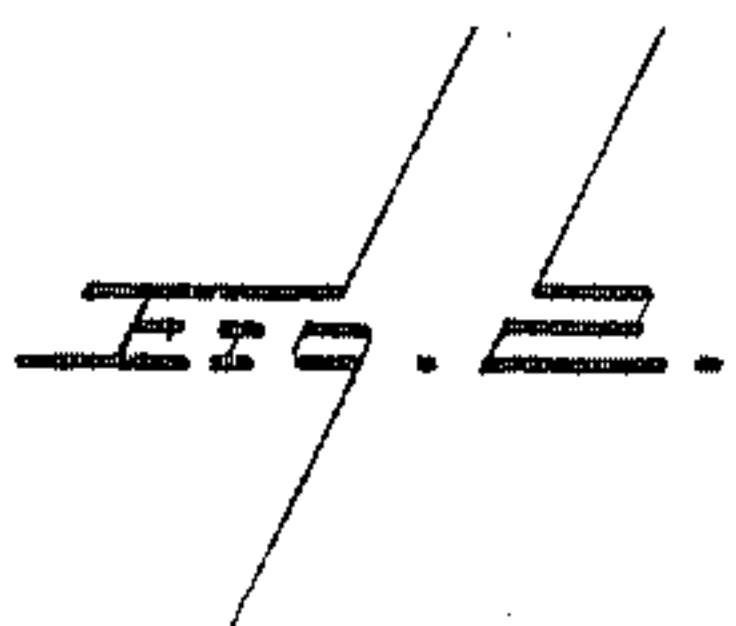
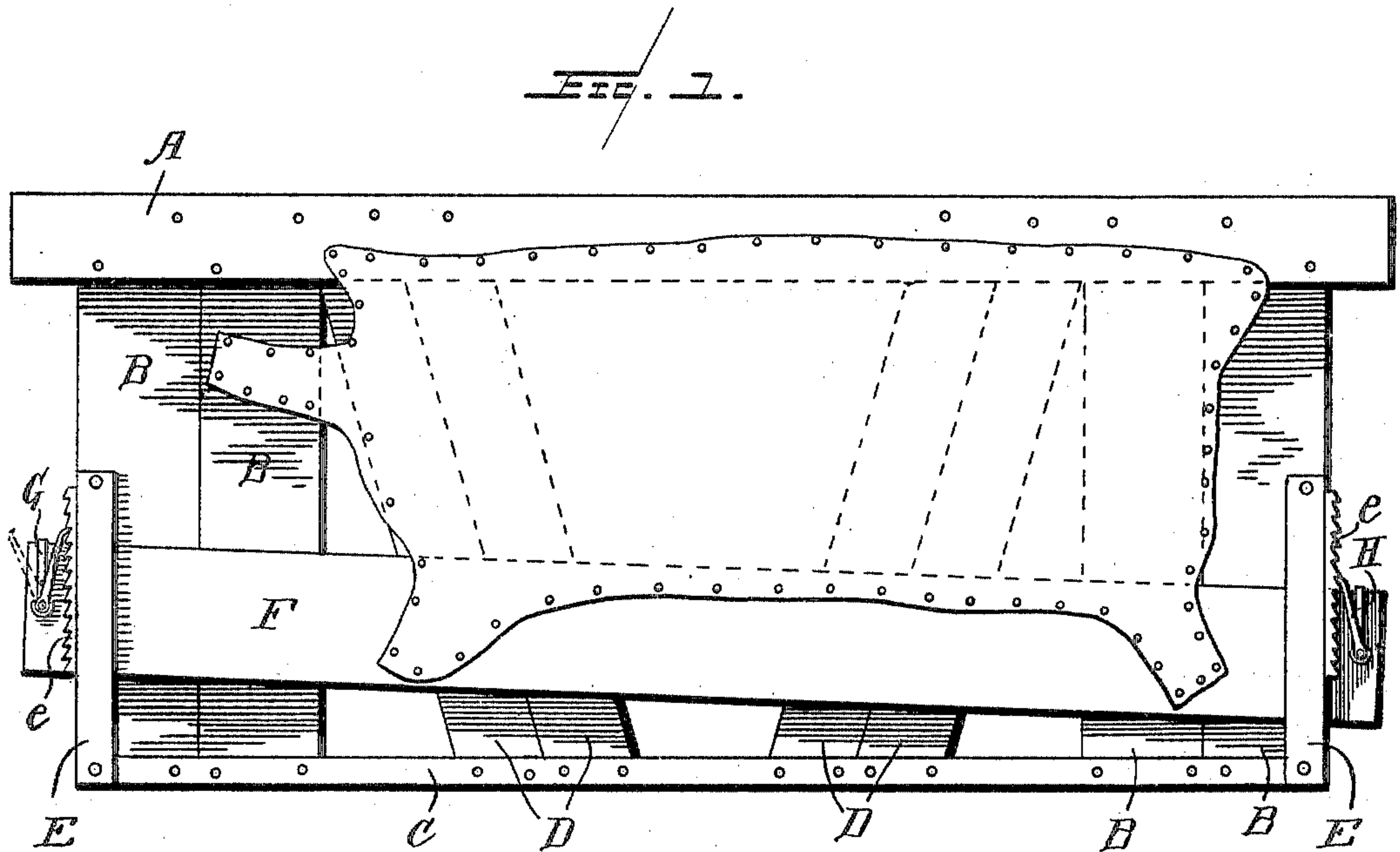


No. 811,904.

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J. A. CONNELLY.
LOCKING MECHANISM FOR STRETCHING FRAMES.
APPLICATION FILED SEPT. 1, 1905.



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UNITED STATES PATENT OFFICE.

JAMES A. CONNELLY, OF LUDLOW, PENNSYLVANIA.

LOCKING MECHANISM FOR STRETCHING-FRAMES.

No. 811,904.

Specification of Letters Patent.

Patented Feb. 6, 1906.

Application filed September 1, 1905. Serial No. 276,769.

To all whom it may concern:

Be it known that I, JAMES A. CONNELLY, a citizen of the United States, residing at Ludlow, in the county of McKean and State of Pennsylvania, have invented certain new and useful Improvements in Locking Mechanism for Stretching-Frames; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to stretching-frames for stretching whole hides, sides, and skins, tanned and untanned, and other material; and it consists of an improved locking device adapted to be attached to the movable stretching-board of the frame for locking it in any position to which it may be moved in stretching the material operated upon.

My invention is fully disclosed in the following description and claims, and one form in which I have contemplated embodying the invention is illustrated in the accompanying drawings.

Referring to said drawings, Figure 1 represents a side elevation of a stretching-frame adapted for stretching whole hides, sides, and skins, tanned and untanned and embodying my invention. Fig. 2 is an end view of the frame illustrated in Fig. 1. Fig. 3 is an enlarged detail view of my improved lock or pawl and the means for attaching it to the movable stretcher-board. Fig. 4 is a vertical sectional view of a portion of the device shown in Fig. 3.

In Figs. 1 and 2 I have shown a frame such as is used for stretching whole hides, sides, and skins, tanned and untanned. These frames are ordinarily made double, as illustrated, so that a whole hide or skin or side can be stretched upon each side of the frame. In the present instance the frame comprises a pair of horizontally-disposed stationary top boards A, which are connected, by means of vertically-disposed boards B B, with a suitable base or support C, the parts being bolted or secured together in any other desired manner. Ordinarily inclined brace-boards D D are inserted between the top board A and the base C and oppositely inclined, as shown in Fig. 1, for the purpose of strengthening the structure. At each end of the frame and on each side of the end vertical board B are vertically-disposed standards E, which are spaced the width of a board from the boards B, in this instance, by means of the base-

pieces C at the lower end of said standards and by suitable blocks *c* at the upper ends of the standards. (See Fig. 2.) Each of the vertical standards E is provided with a stationary rack *e*, as shown.

F F represent movable stretcher-boards extending the full length of the frame and arranged in the spaces between the standards E and vertical boards B. Each of these movable stretcher-boards F is provided at each end with one of my improved locking constructions, one of which is illustrated in detail in Figs. 3 and 4. Each of these locking devices comprises a metal strap G, preferably of malleable cast-iron, having at its upper end a rectangular hook-shaped portion *g*, adapted to fit snugly over the top edge of the movable stretcher-board F. At its lower end the strap G is provided with a projecting flange *g'*, extending on the side of the strap opposite that on which the hook-shaped portion *g* projects and having its upper or inner face of curved or segmental shape to form a seat.

H represents the locking-pawl, which comprises a flat bar, which may also be of malleable cast-iron, provided at its lower end with a curved or substantially semicircular portion *h* of the same radius as the seat formed in the flange *g'* of the strap. At its upper end the pawl H is provided with a sharpened portion *h'* for the purpose of engaging the rack *e*, said sharpened portion being flared laterally on both sides to form a broad edge to engage the ratchet-teeth, and this pawl H is made slightly longer than the strap G in order that the broadened portion may pass over the top of the strap in swinging the pawl from its operative position into its inoperative position, as hereinafter described.

The lower end of the pawl H is pivotally connected to the lower end of the strap G by means of a rivet *g*² or other suitable device; but this pivotal connection is preferably so made that it merely confines the lower end of the pawl H in the segmental seat of the flange *g'* and permits the longitudinal strain upon the pawl H when in use to be exerted directly upon the said segmental seat, thus relieving the rivet or pivotal connection from strain and wear. I prefer to accomplish this result by providing a slight looseness or play in the pivotal connection, for example, by making the hole in the pawl H through which the rivet passes slightly larger than the rivet, as indicated in Fig. 4, and by this means an op-

erative construction will be produced without the necessity of machining the segmental seat of the flange g' or the curved seat-engaging portions of the pawl, and the parts may be
 5 simply cast, smoothed up on an emery-wheel, and assembled, thus cheapening the cost of manufacture.

g^3 represents a small bolt having a countersunk head extending through a countersunk
 10 hole in the strap G and provided with a nut g^4 . This bolt g^3 extends through the movable stretching-board F and holds the strap G against accidental displacement.

It will be observed by an examination of
 15 the drawings, Figs. 1 and 2, that it is necessary to make this improved locking device both right hand and left hand for the opposite ends of the movable stretcher-board F, and it will be seen that in assembling the
 20 strap G and the pawl H the devices can be made rights or lefts by simply reversing the position of the pawl H with respect to the strap G before riveting or securing the parts together. It will also be seen that the upper
 25 edges g^5 g^5 , Fig. 3, of the flange g' at the lower end of the strap G form horizontally-disposed shoulders which act as stops, and by engaging the straight portions or edges of the pawl H these stops limit the movement of
 30 the pawl in both directions.

In using these stretching-frames the hide, skin, or other article to be stretched is tacked or otherwise secured to the top board A and the movable stretcher-board F. The pawls
 35 H at the opposite ends of the movable board F are thrown into engagement with the rack e on the standards E and the movable board F is drawn downward by any suitable mechanism—as, for instance, a lever and chain—
 40 thus stretching the hide or other article to the desired extent, and the pawls H will pass from tooth to tooth of the racks e , being held in engagement therewith by gravity, and will hold the movable stretcher-board in the
 45 position to which it is moved. To release the movable board, it is only necessary to draw it down slightly and throw the pawl H over past the strap G into inoperative position, as shown in dotted lines at the left in
 50 Fig. 1, when the pawl will be arrested by one of the shoulders g^5 and will remain in inoperative position until again moved into position for use.

While I have shown my improved locking
 55 device as applied to a stretching-frame for stretching whole hides, it is obvious that it may be used for stretching other materials and in frames of different style, size, and form, the locking device being made of a size,
 60 material, and shape to accommodate it to such use.

It is to be noted that when this improved locking device is in use the tension of the article which is being stretched and which is ap-
 65 plied to the movable stretching-board is di-

rected against the rectangular hook portion g of the strap G, which is engaged by the edge of the movable board, so that there is no tendency to split the board, as might be the case if the pawl were bolted directly to the board. 70
 The strain upon the strap G is transmitted from the segmental seat of the integral flange g' directly to the end of the pawl and thence longitudinally through the pawl to the opposite end which engages the rack-tooth, thus 75
 relieving the pivotal connection g^2 from strain and making an extremely strong and durable device.

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

1. A locking device for the movable member of a stretching-frame, comprising a strap having at one end a laterally-extending portion for engaging the edge of said member, and a pawl pivotally connected to the op- 85
 posite end of said strap, substantially as described.

2. A locking device for the movable member of a stretching-frame, comprising a strap having at one end a laterally-extending hook- 90
 shaped portion, for engaging the edge of said member, and at the opposite end a laterally-projecting curved seat, projecting on the opposite side of said strap from said hook-shaped portion, a pawl having a curved por- 95
 tion engaging said seat, and a loose pivotal connection between said pawl and said strap, whereby the strain on said pawl is transmitted to said seat, substantially as described.

3. A locking device for the movable mem- 100
 ber of a stretching-frame comprising a strap having at one end a laterally-extending hook-shaped portion, and at the other end a laterally-extending flange provided with a curved seat, and a shoulder at each side of said seat, 105
 a pawl having one end constructed to engage said seat, and adapted to engage said shoulders to limit its movements, a pivotal device connecting said pawl and strap but permitting the engagement of the pawl with said 110
 seat, and means for attaching said strap to the said movable member to prevent accidental displacement, substantially as described.

4. A locking device for the movable member of a stretching-frame comprising a strap 115
 having a laterally-extending portion for engaging an edge of said movable member and provided with a laterally-projecting curved seat, of a reversible pawl having a curved end portion for engaging said seat, and means for 120
 pivotally connecting said pawl to said strap without interfering with its engagement with said seat, whereby said locking devices may be made right and left without alteration of parts, substantially as described. 125

5. The combination with a stretching-frame having stationary and movable stretching members, and provided with a toothed rack, of a locking device for the movable member, comprising a strap having a hook-shaped 130

portion at one end to engage an edge of the
movable member, and provided at its other
end with a laterally-extending lug having a
curved seat and shoulder at each side of said
5 seat, a pawl having a curved portion at one
end to engage said seat, and being loosely
pivoted to said strap, and provided with a
sharpened edge at its other end to engage
said rack and means for attaching said strap

to said movable member to prevent acciden- 10
tal displacement, substantially as described.

In testimony whereof I affix my signature
in the presence of two witnesses.

JAMES A. CONNELLY.

Witnesses:

D. I. BALL,
MAUDE R. ITTEL.