W. COUPE.

Hide-Stretching Machine.

No. 213,323. Patented Mar. 18, 1879.

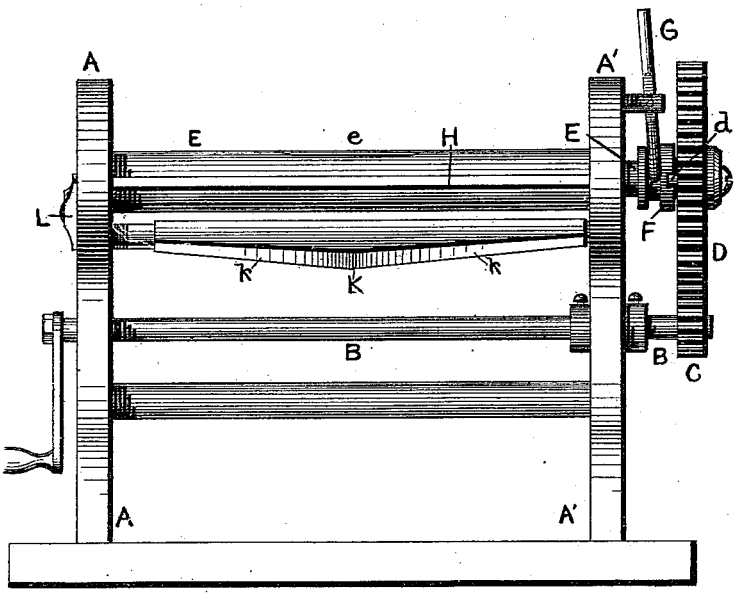

FIG. 1.

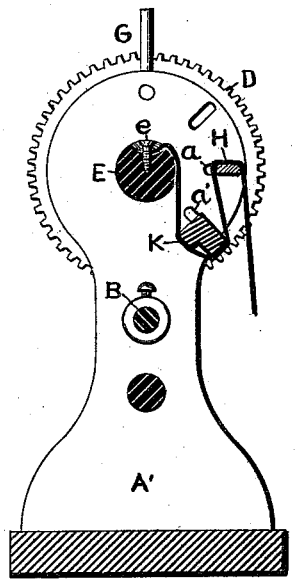

FIG. 2.

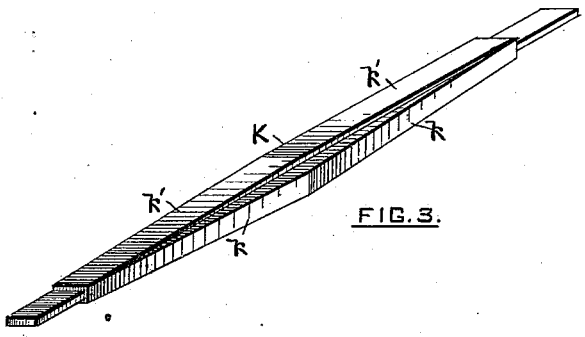

FIG. 3.

WITNESSES.

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IMPROVEMENT IN HIDE-STRETCHING MACHINES.

Specification forming part of Letters Patent No. **213,323**, dated March 18, 1879; application filed January 24, 1879.

To all whom it may concern:

Be it known that I, WILLIAM COUPE, of Attleborough, in the county of Bristol and State of Massachusetts, have invented a new and useful Improvement in Machines for Stretching Hides; and I do hereby declare that the following specification, taken in connection with the accompanying drawings, forming a part of the same, is a full, clear, and exact description thereof.

The invention hereinafter described relates generally to an improved method of stretching and reducing to a uniform thickness the hides of animals previous to said hides being manufactured into dressed leather, or what is known as "raw hide;" and it particularly relates to a combination of mechanism which, accompanied by certain hand manipulation, will accomplish the desired result of stretching and reducing the hides, as above mentioned.

As is well known, all hides vary considerably in thickness at different points, and when taken from the liquor-vats in which they have been immersed to remove the hair, &c., they are found to be soft, flabby, wrinkled, and fulled. Owing, therefore, to this condition of the hides, it is necessary, before they are dressed and finished for the market, that they be stretched throughout to remove the wrinkles and fullness, and also to reduce those parts which are thicker than other portions, so that, as far as possible, the hides shall be uniform in thickness.

My invention consists in a combination of mechanical devices which are capable of producing, in connection with hand manipulation, the desirable results of thoroughly stretching the hides, and rendering them of even thickness in all parts, the said devices comprising, in the main, a friction table or beam, over which the hides are dragged, a stretcher-bar of suitable form for stretching the hides transversely, and a slowly-revolving roller, to which the edge of each hide is secured, and around which it is wound after being drawn over the table or beam and the stretcher-bar.

Referring to the drawings, Figure 1 represents a front elevation of my improved machine. Fig. 2 shows the same in central vertical transverse section, and Fig. 3 represents the stretcher-bar in perspective.

As particularly shown in Fig. 1 of the drawings, my improved machine consists of the following devices: A pair of standards, as at A A′, in which is mounted a shaft, as at B, to which power is applied. Upon one end of this shaft is a pinion, as at C, arranged to mesh with a gear, as at D, loosely mounted on one end of a roller, as at E. The inner side of this gear D is provided with a clutch face or pin, as at *d*, for engagement with a clutch, as at F, splined to the roller E, and furnished with a shipping-handle, as at G, so arranged as to be convenient of access to the operating attendant. The remaining parts of the machine consist of a narrow table or breast-beam, as at H, which is mounted in mortises, as at *a*, in the standards A A′, and a stretcher-bar, as at K, likewise mounted in mortises, as at *a′*, and having its two working faces doubly inclined, as at *k k′*, Fig. 3. Both the breast-beam H and stretcher-bar K are so arranged as to be easily inserted in their respective mortises, where they are confined in proper longitudinal position by the standard A′ at one end, and a button, as at L, at the other end. The said beam and bar are capable also of lateral movement, to enable them to be moved backward to give room for a larger hide being wound upon the rollers, and also to facilitate their entire removal from the machine after the hide has been stretched and is to be removed to give place for another.

The methods of treating the hides and the operation of the mechanism above described are substantially as follows: A hide, as it comes from the vat, wrinkled and fulled, and with its various parts of unequal thickness, is placed over the table or breast-beam H, and one of its ends carried under the stretcher-bar K, and secured to the roller E by the clamp *e*, the other end hanging free in front of the machine, as shown in Fig. 2. The operator now connects the roller E to the continuously-revolving gear D by means of the handle G and clutch F, and the roller E slowly revolves, winding the hide around its surface, and drawing the said hide over the friction table or beam H, and around the stretching-bar K.

When any part of the hide whose thickness should be reduced, or whose wrinkled or filled-up portion is to be smoothed out, passes over the table or beam H, the operator, who stands in front of said beam, applies pressure by hand to the proper portions, thereby increasing the friction between the under surface of the hide and the surface of the bar H, and causing the onward movement of such portions of the hide to be retarded. The portions thus pressed upon, therefore, are more severely stretched than other parts of the hide, and by proper manipulation by the attendant its thickness is rendered uniform, and it passes to the stretching-bar K in a smooth condition, having been longitudinally stretched upon the beam H.

In passing over the bar K the hide is transversely stretched by the doubly-inclined sides *k k'*, from which it passes onward to the roller E, winding about the said roller uniformly and smoothly. The machine is now stopped, the hide removed, another secured to the roller E, and the operations above described are repeated.

From the foregoing description my improved machine will be readily understood; and it will be seen that my improvement in the method of stretching hides results from the combination of the mechanical agencies mentioned, coupled with the manipulation of the hide as it passes over the friction table or beam, at which time it is smoothed from wrinkles and reduced to a uniform thickness.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of a friction table or beam, over which the hide is drawn, a stretcher, substantially as described, and a revolving roller, to which the hide is secured and around which it is wound as the hide is drawn over the friction-beam and stretcher, substantially as set forth.

2. The combination of a revolving roller, to which the hide is secured and around which it is wound, a laterally-yielding stretcher, and a laterally-yielding friction table or beam, substantially as described.

3. The improvement in the method of stretching hides, which consists in dragging the hide over a stretcher, and also over a friction table or beam, by means of a revolving roller, to which the hide is secured, as described, whereby as the hide is passed over the table or beam the thicker portions of the hide are detained or made to lag by pressure applied to such thicker portions, to increase at such points the friction between the hide and the table, substantially as specified.

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