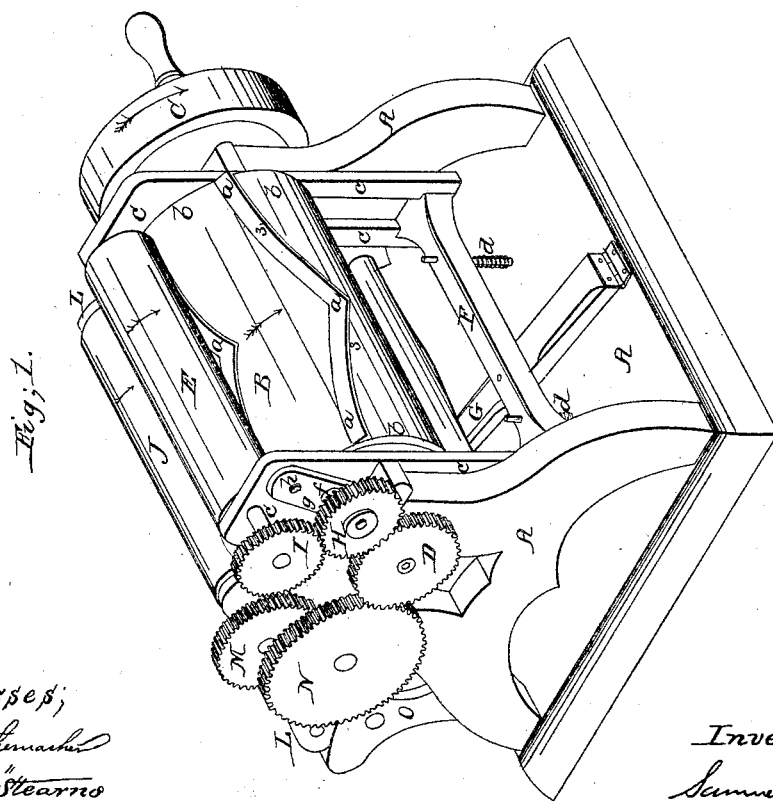
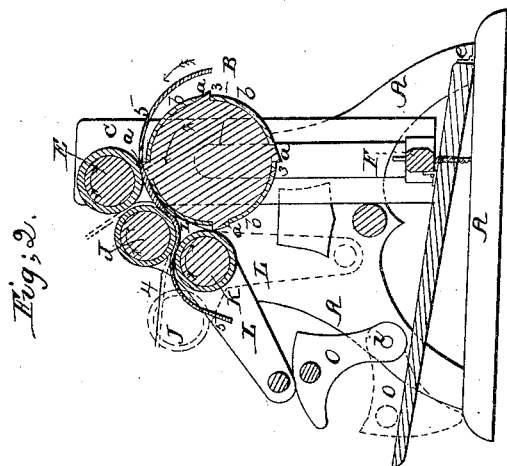


S. S. WEED.  
 APPARATUS FOR REMOVING HAIR AND LIME FROM HIDES.  
 No. 49,811.                      Patented Sept. 5, 1865.



*Witnesses;*  
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# UNITED STATES PATENT OFFICE.

SAMUEL S. WEED, OF STONEHAM, MASSACHUSETTS.

## IMPROVED APPARATUS FOR REMOVING HAIR AND LIME FROM HIDES.

Specification forming part of Letters Patent No. 49,811, dated September 5, 1865.

*To all whom it may concern:*

Be it known that I, SAMUEL S. WEED, of Stoneham, in the county of Middlesex and State of Massachusetts, have invented a new and useful Machine for Removing the Hair and Lime from Hides and Scouring and Preparing Leather, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of my improved machine. Fig. 2 is a transverse vertical section through the same.

My invention consists in an improved machine for removing the hair and lime from hides and scouring and preparing leather, in which the hide or leather is acted upon by a corrugated cylinder with an elastic material placed between the corrugations, the cylinder working in connection with a yielding pressure-roll and feed-rolls for drawing the hide or leather through the machine, as will now be more fully set forth and described in such terms that others skilled in the art may understand and use my invention.

In the said drawings, A is the frame-work of the machine, in suitable bearings in which runs the corrugated cylinder B, the shaft of which carries at one end the driving-pulley C and at the opposite end a cog-wheel, D.

The ribs or projections *a* on the cylinder B are curved from the center of its length toward each end, as seen in Fig. 1, and their square shoulders 3 form scraping-edges in the direction in which the cylinder is revolved, thus scraping the leather (when the machine is used for scouring) from the center outward, in a manner similar to that performed by hand. The spaces between these ribs *a* are filled in with rubber or other elastic material, *b*, so as to adapt the cylinder to removing the hair from hides when the machine is to be used for that purpose.

E is an elastic pressure-roll, which revolves in bearings in the upper ends of the bifurcated arms, *c*, which embrace the journals of the cylinder, B, which serve as guides and are secured at their lower ends to a cross-bar, F, which is drawn down against the resistance of the springs *d* by means of a foot-lever, G, which is hinged at *e* to the bed of the machine.

H is an intermediate wheel, by means of which motion is communicated from the cog-wheel D to the gear I on the shaft of the pressure-roll E, the intermediate wheel running on a stud, *f*, projecting out from a swinging arm, *g*, pivoted to the arm *c* at *h*, and when the machine is to be used for scouring leather this intermediate wheel is swung out of gear with the wheels D and I, the pressure-roll E being revolved by the leather as it passes through the machine.

J K are the feed-rolls, which are covered with rubber or other elastic substance. The lower one, K, runs in bearings in the frame-work A, while the upper one, J, has its bearings in a frame, L, which swings on the journals of the roll K as a center. The shaft of the roll J projects out from the frame L on one side, and carries a gear, M, which is driven by a cog-wheel (not shown in the drawings) on the shaft of the roll K, which also carries a larger gear, N, that is driven by the gear D on the shaft of the cylinder B.

O is a swinging rest, which is pivoted to the frame-work at *i*, and is brought up under the frame L, so as to hold the upper roll, J, firmly in place, as seen in the drawings.

I will first describe the operation of the machine when used for removing the hair and lime from hides, and afterward its operation when scouring and preparing leather.

The machine being set in motion and the feed-rolls J being in the position seen in red in Fig. 2, the hide (shown in red) is taken out of the lime and entered at 4, Fig. 2, between the feed-rolls, with the hair side down, when the upper feed-roll, J, is swung up into the position shown in black lines in Fig. 2 by raising the frame L, (which is held in place by means of the rest O, as before explained,) thus pressing the hair side of the hide against the corrugated cylinder B, and the intermediate wheel, H, having been thrown into gear, the foot-lever G is depressed so as to bring down the pressure-roll E, which serves to press the hide against the upper feed-roll, J, the pressure-roll E taking off a portion of the hair as it revolves in contact with the hide, and the remainder of the hair being taken off by the corrugated cylinder as the hide is drawn through the machine by the feed-rolls.

If preferred, the hide may be run through

the machine in the opposite direction, the feed-rolls being geared so as to revolve in a direction contrary to the arrows, the cylinder B always revolving in the direction of its arrow.

When the machine is to be used for scouring and preparing leather, the leather 5 is first passed between the yielding pressure-roll E and the corrugated cylinder B until it is caught between the feed-rolls J K, the former of which is then brought up, as before explained, and held in place by means of the rest O. The foot-lever G is now depressed so as to bring down the pressure-roll E and press the leather firmly against the corrugated cylinder B, which is then revolved in the direction of the arrow, pressing the water out of the leather, and at the same time, by the peculiar form of its corrugations or ribs *a*, laying out and smoothing down the wrinkles on its surface, and as the feed-rolls revolve, through the connections explained, the leather is carried between the upper feed-roll, J, and the cylinder B, where it is still further pressed and smoothed down by its corrugated surface, and is dried and finished by passing between the feed-rolls J. K.

The corrugations *a* on the cylinder B may be more or less curved, as desired, or they may be inclined directly from the center to the ends, if preferred; and where the machine is to be used

only for the purpose of scouring and preparing leather the rubber or other elastic material, *b*, between the corrugations may be dispensed with, if desired.

It will thus be seen that the several operations of removing the hair from hides and scouring and preparing the leather are performed in a thorough and expeditious manner, and with a very slight expenditure of time and labor.

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

1. The corrugated cylinder B, with the rubber or elastic material *b*, operating substantially as and for the purposes specified.
2. The feed-rolls J K, in combination with a corrugated cylinder, B, operating substantially as described.
3. The pressure-roll E, in combination with a corrugated cylinder, B, and feed-rolls J K, operating substantially as set forth.
4. The combination of a corrugated cylinder, B, feed-rolls J K, and the yielding pressure-roll E, operating substantially as set forth, for the purposes described.

SAMUEL S. WEED.

Witnesses:

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