

Self-adjusting Leather Scourer.

Patented August 8, 1871.
Figure 1.

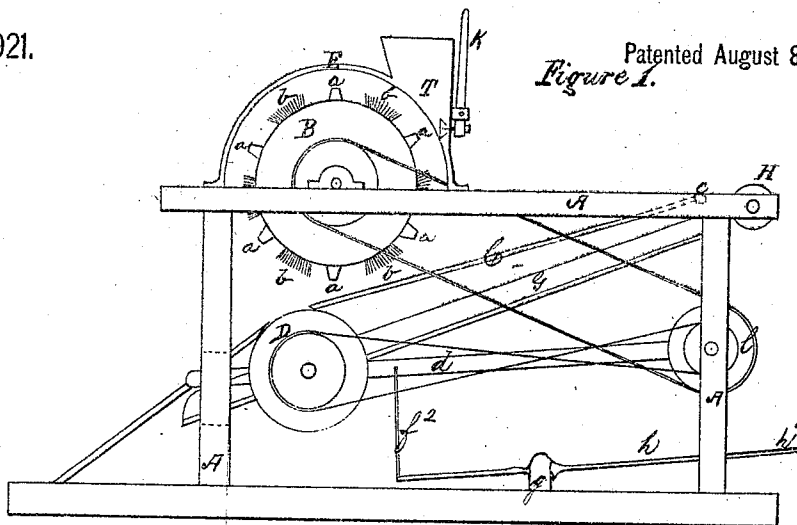
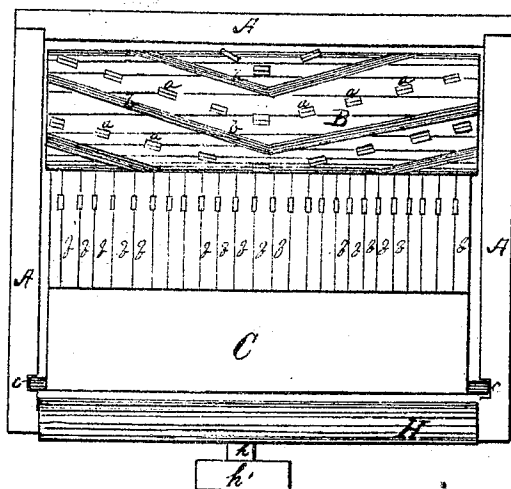


Figure 2.



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IMPROVEMENT IN MACHINES FOR SCOURING AND STRETCHING LEATHER.

Specification forming part of Letters Patent No. 117,921, dated August 8, 1871.

To all whom it may concern:

Be it known that I, JAMES C. PARMERLEE, of Bean Blossom, county of Brown and State of Indiana, have invented new and useful Improvements in Machines for Scouring and Stretching Hides; and I do hereby declare the following to be a clear and exact description thereof, sufficient to enable others skilled in the art to make and use the same, reference being had to the accompanying drawing making part of this specification.

The nature of my invention relates to an improved construction of machinery for scouring and stretching hides in the process of making leather, wherein I use a cylinder, on the outer surface of which are arranged, diagonally from the center to the ends of said cylinder, alternate parallel rows of brushes, and stone, metal, or wooden scrapers, while underneath said cylinder is placed an adjustable elastic apron, on which may be placed the hides to be treated, and, through the elasticity and adjustability of said apron, be pressed against the under side of said cylinder, which as it revolves causes the brushes and scrapers set in its surface to act on the hide underneath in a manner similar to the common hand process.

To enable those skilled in the art to which my invention appertains to understand its construction and operation, I will proceed to describe its parts in detail, their individual, and also their combined action, reference being had to the accompanying drawing.

Figure 1 represents a side view of my improved self-adjusting leather-scouring and stretching machine. Fig. 2 is a top or plan view of the same.

A A represent a hexagonal or other suitably-constructed frame-work of timbers, forming a support for the different working parts. On top of and within this frame-work, near one end, is placed the cylinder B, resting in suitable bearings. This cylinder may be of any suitable length, diameter, construction, or material. On the outer surface of this cylinder, and firmly embedded with it, are arranged, diagonally from the center to its ends, parallel rows of stone, wood, or metal pressure-projections or scrapers *a a*, having any suitable projection from the surface, and presenting any suitable conformation of face. These scrapers are set in line, with al-

ternate spaces between, and in such order that in any two consecutive lines, if numbered from either end, the scrapers in one line will correspond to the spaces in the adjoining line. *b b* are continuous rows of brushes, both parallel, and alternating with the rows of scrapers *a a*. My object in this diagonal arrangement of the projections or scrapers on the surface of the cylinder is to cause them to act from the center of the hide to its edges, thereby stretching the hide, taking out the wrinkles more effectually, and causing it to assume a smoother and more uniform appearance, while the alternating spaces between the scrapers permit their full and more effective individual action, all of which will become more apparent when considering the relation of the scouring-cylinder to parts hereinafter described. C is an elastic apron, formed of narrow consecutive slats *f* of wood, metal, or other suitable material, and provided with openings in or between the slats to prevent the adherence of the hide to the apron by atmospheric pressure. The front side of the apron is firmly attached to the cross-piece *c*, its opposite side resting on the roller D. It will be observed that the elasticity of the apron permits an even and uniform pressure of the hide against the scouring-cylinder, however great its inequality of surface or thickness. The bars *d d*, on which the roller D rests, are pivoted to the front posts of the frame-work, while their opposite ends play up and down in slots through the back posts of the frame-work, said ends being supported underneath by the spring-bars *f f*, which, in turn, rest at or near their center on the ends of the cross-beam *g*, and having their opposite ends attached to the foot of the front posts of the frame-work. The foot-lever *h* is provided with a foot-piece, *h'*, and having its fulcrum so arranged that its shorter arm may act underneath the center of the cross-beam *g*, causing it to rise, and thereby bearing up the spring-bars *f f* against the bars *d d*, which in their turn cause pressure of the apron C against the cylinder B. This arrangement permits complete control by the operator, through the foot-piece *h*, of the pressure of the scrapers and brushes against the hide as it is acted on by the revolving cylinder. F is a water-tank, situated above and in front of the cylinder B, and provided with the lever K, which, acting through suitable mechanism, operates a valve, permitting the liquid to

drip onto the hide, thus rendering the action of the scrapers more effectual, and carrying off dirt, hair, &c., which, falling below onto the inclined table G, runs off into a drain underneath. At one end of cylinder B is affixed a belt-pulley, which, acting on the double pulley *l* attached to the front post of the frame-work, by cross-belt gives motion to the adjustable roller D. This arrangement of belts causes the upper surface of the roller D to move from the operator, and its office is to assist in drawing the hide under the scouring-cylinder B. H is a feeding-roller, situated in front of the apron C, over which the hide is rolled in its passage under the scouring-cylinder B. E is a cover, fitting over and protecting the scouring-cylinder B, and preventing, also, its throwing off by centrifugal action the sedimental liquid gathered from the hides.

In operating the machine, which may be driven by hand, horse, steam, or other power, by properly belting or gearing with one end of the shaft of the scouring-cylinder B, the hide is placed on the apron C and moved under the cylinder B. The elasticity of the apron, also controlled by the foot-piece *h*, as before shown, causes every portion of the hide to be uniformly pressed against the scrapers and brushes on the cylinder, which, as they revolve, act on the surface of the hide, pressing from its center outward, thereby stretching and freeing it from wrinkles, pressing out the surplus liquid, giving the hide a smooth uniform surface, and altogether operating in a manner substantially the same as by the ordinary hand process.

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

1. In a machine for scouring and stretching hides, a revolving cylinder, B, provided with a series of projections or pressure-scrapers, *a a*,

arranged diagonally from the center to the ends of the cylinder, in combination with the apron C, substantially as and for the purpose set forth.

2. In a machine for scouring and stretching hides, a series of brushes, *b b*, arranged diagonally from the center to the ends of the surface of the cylinder, in combination with a series of similarly-arranged projections or pressure-scrapers, *a a*, substantially as and for the purpose set forth.

3. In a machine for scouring and stretching hides, the inclined apron C, formed with elastic legs *f*, arranged below the rotary scouring-cylinder B, as and for the purpose set forth.

4. In a machine for scouring and stretching hides, the inclined elastic apron C, in combination with the foot-lever *h*, spring-bars *f² f²*, bars *d d*, and roller D, substantially as and for the purpose specified.

5. In a machine for scouring and stretching hides, the water-tank F arranged above the elastic and adjustable apron C, in combination with the cylinder B, brushes *b b*, and pressure-scrapers *a a*, substantially as described.

6. In a machine for scouring and stretching hides, the inclined table G, in combination with the inclined elastic legs *f* of the apron C, roller D, and tank F, substantially as described.

7. In a machine for scouring and stretching hides, the rotary cylinder B, brushes *b b*, and projections or pressure-scrapers *a a*, in combination with the inclined apron C, foot-lever *h*, roller D, and adjusting-bars *d d*, and the driving mechanism, substantially as set forth.

To the above I have signed my name this 16th day of June, A. D. 1871.

JAMES C. PARMERLEE.

Witnesses:

WILLIAM PARMERLEE,
JAMES H. PUDNEY.