A. J. ALEXANDER.
Leather-Dressing Machine.

No. 207,930. **Patented Sept. 10, 1878.**

Fig. 1.

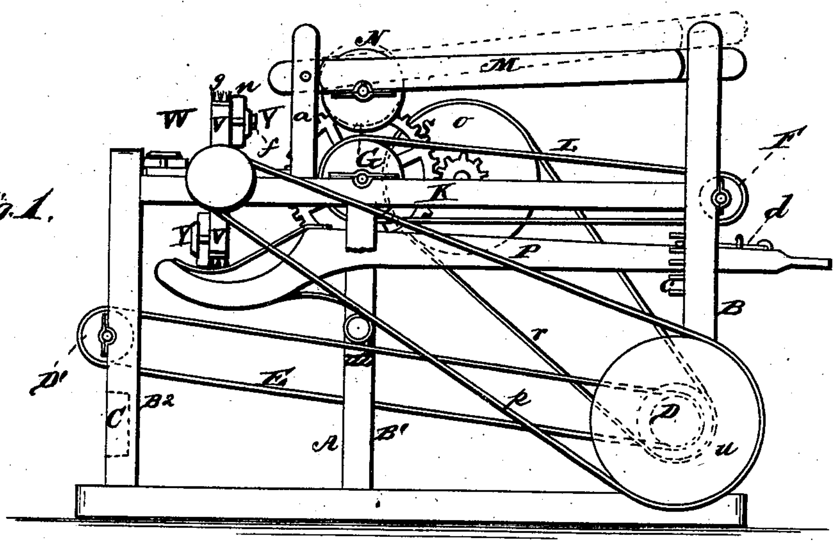


Fig. 2.

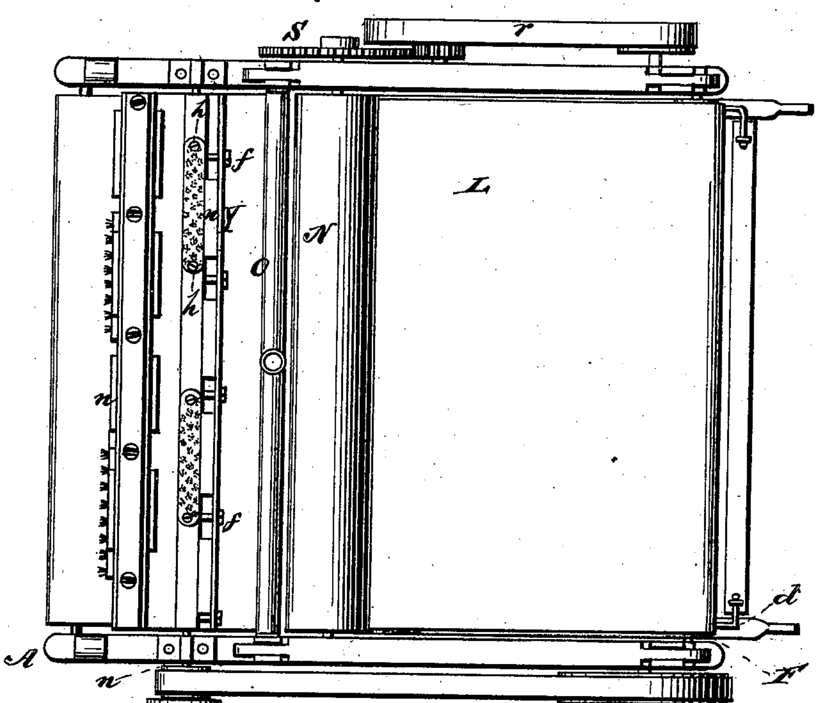
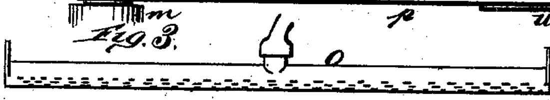


Fig. 3.



WITNESSES

Robert Everett

Geo. E. Upham

Fig. 4.

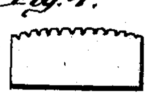


Fig. 5.

INVENTOR.

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UNITED STATES PATENT OFFICE.

ANDREW J. ALEXANDER, OF GALLIPOLIS, OHIO, ASSIGNOR OF ONE-HALF HIS RIGHT TO JOHN ALEXANDER AND JOHN W. CUBBAGE, OF SAME PLACE.

IMPROVEMENT IN LEATHER-DRESSING MACHINES.

Specification forming part of Letters Patent No. **207,930**, dated September 10, 1878; application filed June 22, 1878.

To all whom it may concern:

Be it known that I, ANDREW J. ALEXANDER, of Gallipolis, in the county of Gallia and State of Ohio, have invented a new and valuable Improvement in Leather-Workers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a side view of my leather-worker. Fig. 2 is a plan view. Fig. 3 is a view of the sprinkler, and Figs. 4 and 5 are detail views of same.

This invention relates to improvements in leather-working machines; and it consists in combining a working-wheel having radial arms, and attachable for removably securing the stones, brushes, or knives, with rollers carrying an endless apron, and a pair of pivoted levers carrying a roller above said endless apron, for the purpose of compressing the liquor from the hide, and of presenting it properly to the working-wheel for the purpose of unhairing, scouring, &c.

It further consists of a pressure-frame pivoted below the working-wheel to the frame by wire springs, and having latches at its power end adapted to engage with pins in the frame of the machine at that end, for the purpose of properly presenting the hide to the working-wheel after the hide has left the endless apron, all of which will be hereinafter fully described, and particularly pointed out in the claims.

A of the drawings represents a frame, having upright posts B B^1 B^2 on each side, and a cross-bar, C, uniting the posts B^2 at what I call the rear end of the frame. The letter D on the front end of the frame and D′ on the rear end represent rollers, over which is passed the endless belt E, as shown. The letter F represents another roller attached to the front end of the frame, and G is also a roller of larger diameter, arranged in or upon the longitudinal bar K at or near the top of post B^1. The rollers F and G serve as means for actuating the endless belt L, which said belt is passed over said rollers, respectively as represented on the drawings.

A second or supplemental frame is arranged upon the top of the main frame, to provide for holding and actuating the press-roller, pivoted levers, and sprinkler next described. This frame is usually formed by an extension of the posts B, slotted at their tops, and short posts *a*, also slotted, and provided with a pivot-pin to secure one end of the longitudinal levers M, in the manner represented on the drawings. The levers M are pivoted at one end in the slots formed in the top of posts *a*, while the opposite ends thereof rest within the slots formed in the tops of posts B. By this arrangement the front ends of these levers may be raised or depressed at will to regulate the pressure upon the roller N, as shown by the dotted lines on Fig. 1 of the drawings.

The letter N represents my press-roller journaled in or to the levers M, and O represents a sprinkling-tube, preferably arrranged a little above and at the rear of roller N, as shown.

The letter P indicates a pressure-frame pivoted to the central posts B^1, and extending to the rear of the main frame, as shown. My method of pivoting this frame to the posts B^1 is preferably by wire or plate springs so arranged as to give it elasticity. This is done in order that the pressure of said frame against the dressing-wheel, hereinafter described, may be yielding and not rigid. This frame P is made adjustable at the front end of the main frame by ratchet or pins *c* upon the post B and the spring-latches *d* upon the frame P. Any other suitable device may be used for securing the desired adjustability.

The letter W represents my working-wheel, which consists of a series of radial arms, V, centrally united upon a shaft, and each arm provided with an auxiliary longitudinal bar, Y, attachable thereto and detachable therefrom by screws *f*.

Upon the outer surfaces of the arms V, I affix a series of brushes, *g*, by means of screws *h*. It is obvious that when so connected these brushes are removable at will.

The letter *n* represents abrading-stones, a

series of which is interposed between the bars Y and the arms V, as shown.

For some portion of the work of dressing leather and hides, I substitute the toothed knives, Fig. 4, or the smooth-edged knives, Fig. 5, as hereinafter mentioned.

The gearing for operating my machine consists of the drum *m* on the end of the shaft of the working-wheel W, and the drum *u* on the end of the shaft of the roller D.

Another drum, *o*, is attached to a short shaft journaled in the right side of the frame. These several drums and their shafts and rollers are actuated by the belts *p* and *r* in the manner shown on the drawings. A gear-wheel, S, is attached to the end of roller G, and a pinion meshing and operating with said wheel is arranged on the short shaft above mentioned, and on the inner side of drum *o*, as represented. The power is applied to the end of the shaft of the working-wheel.

My leather-worker is operated as follows, viz: Standing at the end of the machine opposite the working-wheel, the operator spreads a hide upon the upper endless belt, which I call the "feed-table." The machine, being in motion, carries the hide under the roller N, which is manipulated by means of the levers so as to give the pressure required. From this roller the hide descends under the working-wheel, when it is subjected to the action of the brushes *g* and abrading-stones *n*. It is obvious that the hide may be pressed upward against the working-wheel with the precise force required by means of the frame P, arranged under the working-wheel for that purpose. From the working-wheel the hide is carried rearward down this inclined endless belt L to the feet of the operator. The pressure-roller N (either of naked wood or metal, or it may be clothed with any suitable jacket, such as cloth, rubber) presses the old exhausted liquor from the hide, and at the same time forces the liquor toward its center, moistening the same.

The rollers F and G unitedly serve to feed the hide to the working-wheel, and it is apparent that, by reason of the adjustability of the former, hides of all thicknesses may be passed through and pressed.

After passing through the feed-rollers the hide is brought in contact with the working-wheel, when it is scoured and cleaned by the stones and brushes. While this process is being carried on the hide is sprinkled with water from the sprinkler. By these means the hide becomes freed in great measure from exhausted liquor and sediment, and its pores opened to receive a fresh supply of fresh liquor. The operation is repeated as often as may be found necessary. The abrading-stones *n* may also be used in stoning the bate.

In breaking hides I remove the brushes and stones and replace the latter with the saw-toothed knives shown in Fig. 4, and in slicking or unhairing hides I use the smooth-edged knives, Fig. 5.

That portion of the frame under the working-wheel which serves to press the hide upward against said wheel should be clothed with leather, cloth, or other flexible material, in order to diminish the force of the stroke of the stones, brushes, or knives upon the side. It is obvious that this frame may be arranged above the wheel, if desirable, and still be made effective.

The hide is treated as above described, passing through the machine, as mentioned, until it is ready to be laid aside in a vat or elsewhere.

Hides treated by my machine are tanned with great rapidity; and not only is the process of tanning greatly facilitated thereby, but the leather is found to be more solid and of heavier weight than when it is tanned in the usual manner. I find also, by my experiments, that a great saving in bark and other substances affording the tannin is effected by the use of my machine.

I am aware that endless aprons have been used to convey the hides to the working-wheel in this class of machines, and that a platform or block has been placed beneath the working-wheel, and that the hide has been passed between them. Such constructions are not sought to be covered in this application.

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

1. In a machine for unhairing, scouring, or currying hides or skins, the combination of the working-wheel W, having radial arms V and attachable bars Y, with the rollers F and G, and endless apron, L, and the pivoted levers M, carrying the roller N, constructed and operating substantially as and for the purposes set forth.

2. In a machine for unhairing, scouring, or currying hides, the combination of the pressure-frame P, pivoted to the uprights B^1 by wire springs, as shown, and having the latches *d* adapted to engage with the pins *c*, with the working-wheel W, substantially as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

ANDREW JACKSON ALEXANDER.

Witnesses:
JNO. C. VANDEN,
CHAS. H. D. SUMMER.