

J. MAXWELL.
Leather-Scouring Machines.

No. 151,144.

Patented May 19, 1874.

Fig. 1.

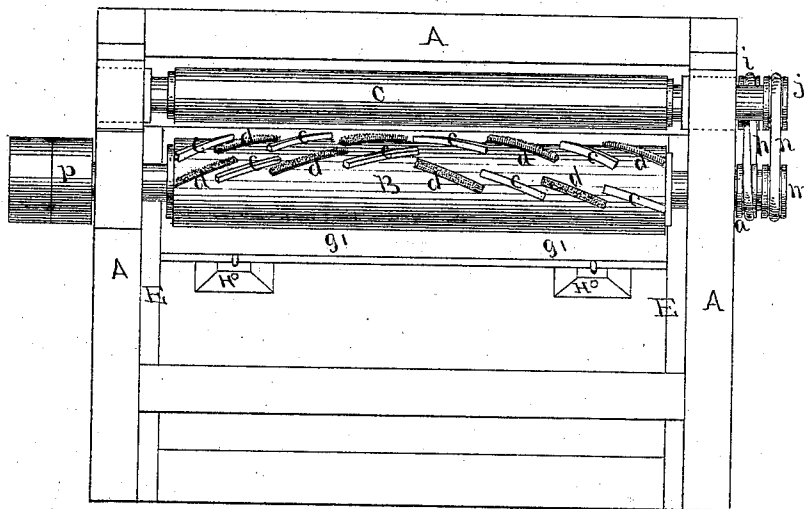
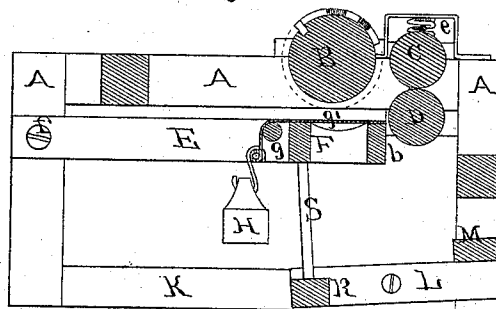


Fig 2



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JOHN MAXWELL, OF WOBURN, MASSACHUSETTS.

IMPROVEMENT IN LEATHER-SCOURING MACHINES.

Specification forming part of Letters Patent No. 151,144, dated May 19, 1874; application filed February 11, 1874.

To all whom it may concern:

Be it known that I, JOHN MAXWELL, of Woburn, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Machines for Scouring 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 plan or top view, and Fig. 2 a sectional elevation.

This invention relates to machinery for scouring leather in the process of its manufacture; and it has for its object to greatly facilitate the scouring process, and to perform the work in a superior manner without injury to the leather. This invention consists in the combination of a pair of pressure, feeding, and holding rolls arranged one above the other, with and at the rear side of the scouring-cylinder, and with the yielding bolster and the upper roll pressing upon the under one or upon the leather passing between them by the action of springs on the tops of the bearings of the upper roll, the object being to feed the leather to the scouring-cylinder at a uniform speed and to prevent such leather being drawn too rapidly and irregularly forward by the action of the scouring-cylinder, and thereby to scour the whole surface of the leather equally, or one part as much as another, and all parts alike, which cannot be done so perfectly by feeding the leather to the cylinder by hand or over the old single roll without a pressure and holding roll, it being the natural action of the revolving scouring-cylinder to draw the leather forward with rapidity proportionate to the unevenness or inequalities of its surface and thickness, and unless the leather is held firmly and delivered slowly, or with a uniform movement, to the scouring-cylinder, the scouring will be imperfectly done. This invention also consists of the yielding bolster beneath the scouring-cylinder—that is, the bolster which has a double capacity to yield to the action of the scouring-cylinder in one way by its free end being weighted and passing over a roll, and in another way by leverage, which raises the roll, the weights, and the free end of the bolster, this being made of leather and fastened only at its rear side to a longitudinal bar, then ex-

tending forward and over a roll and downward where its free end is weighted to keep a constant draft upon said bolster, but allowing it to yield when, with the leather being scoured, it is raised to bring the leather into contact with stones and brushes on the rotating scouring-cylinder.

The object of the double-yielding bolster, or the bolster having a double or twofold capacity to yield, is to further prevent injury to the leather by inexperienced or careless workmen, who are liable to apply too much pressure by the lever-connections and the foot-board or treadle when running the leather through the machine. For scouring leather of different kinds, qualities, and thicknesses it is intended to have weights of appropriate gravities to so regulate the tension on the bolster that each and any kind of leather can be well and rapidly scoured without injury.

In the said drawings, A represents the frame of the machine, and B the scouring-cylinder, armed with scouring-stones *c* and brushes *d* in or upon the periphery of the cylinder. Forward of the cylinder B, and in suitable positions, are two pressure feeding and holding rolls, C and D, arranged in end bearings on the frame. The lower roll is in fixed bearings and the upper roll, C, is movable vertically and held down by springs *e*, so as to accommodate and hold and feed different thicknesses of leather to the scouring-cylinder. To the front part of each end of the frame A an arm or lever, E, is pivoted at *f*. These arms extend backward to near the lower feed-roll, where a girt or bar, *b*, is fitted and fastened to the ends of the two arms under the rear side of the cylinder B. Beneath the forward side of the cylinder a second bar, F, is fitted between and fastened to the two arms. A little forward of the bar F, and loosely fitted in bearings in the arms E, is a roll, *g*, extending from one arm to the other. *g'* is the bolster, fastened at one side to the bar *b* and extending forward over the bar F and over the roll *g*. Its forward side passes downward where one or more weights, H, are connected to retain a constant even draft and tension on the bolster and allow it to yield when too much pressure is applied by the operator. Near the rear side, and at the lower part of the machine ends, or to the bottom girts K, rocking arms or le-

vers L are pivoted at or near their centers. A foot-board, M, connects the two rear ends of said arms, and a girt, R, connects the forward ends, and between the girt R and the bar F is an upright strut or connection, S, by which to raise the rear ends of the arms E, and the connected bolster and the leather passing over it into operating contact with the stone and brush surfaces of the scouring-cylinder, which is done by downward pressure on the foot-board M, operating the arms L, the connected girt R, and the strut S, and through this the bolster and its connections.

The sides of leather are fed to the stone and brush surfaced cylinder B between the feed and pressure rolls, passing beneath the revolving cylinder and over the bolster, which is raised as described. The passing side of leather is held and moved or drawn forward in contact with the scouring stones and brushes, which draw the leather forward and scour its surface in a superior manner, as before described. The weights H and roll *g* allow the bolster to yield to unnecessary pressure, and thus accommodate inequalities or thick and thin places in the leather, and otherwise prevent injury, as before described.

The cylinder B is driven by a belt over the pulley P, and the feed-rolls are driven each in

an opposite direction by pulleys *m* and *a* on one end of the cylinder-shaft, and by bands *h* and *n* running from said pulleys over similar pulleys *i* and *j* on the ends of the feed-rolls, one band *h* being crossed and the other band open, as shown.

My said improved machine is well adapted for use in hide-working in the beam-house, and in brushing, stoning, and softening the leather in the dry-finishing process.

That which I consider new in this machine, and claim as my invention, is—

1. In combination with the scouring-cylinder B and with the yielding bolster, the pressure, feeding, and holding rolls C and D, arranged one above the other, and operating in the manner and for the purpose described.

2. The automatically and lever actuated yielding bolster, substantially as described, in combination with the scouring-cylinder, and operating as specified.

3. The combination of the weight or weights H and the roll *g* with the arms E and bars, and with the connected bolster, operating in the manner and for the purpose described.

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Witnesses:

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