

J. W. McDONALD.

Machine for Unhairing and Scouring Hides and Skins.

No. 200,078.

Patented Feb. 5, 1878.

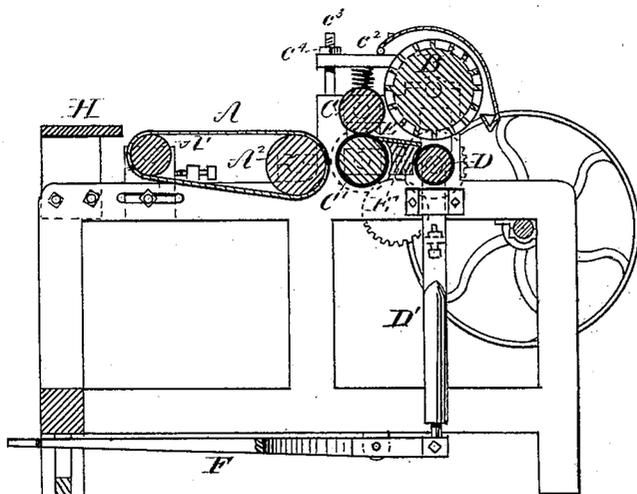


Fig. 1.

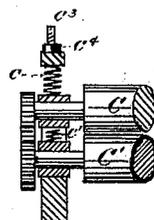


Fig. 4.

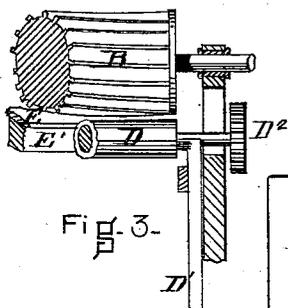


Fig. 3.

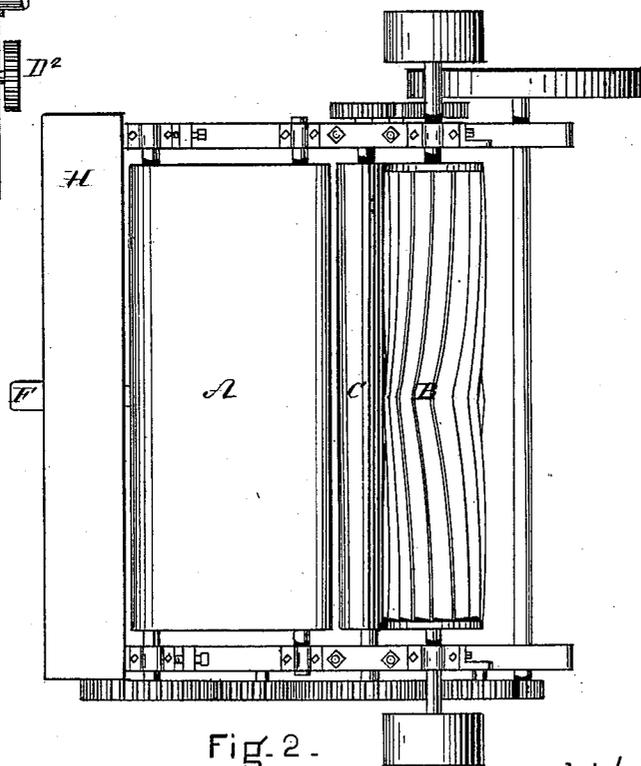


Fig. 2.

WITNESSES

Frankl. Parker  
F. F. Raymond 2d.

INVENTOR

J. W. McDonald

# UNITED STATES PATENT OFFICE.

JAMES W. McDONALD, OF WOBURN, MASSACHUSETTS.

## IMPROVEMENT IN MACHINES FOR UNHAIRING AND SCOURING HIDES AND SKINS.

Specification forming part of Letters Patent No. **200,078**, dated February 5, 1878; application filed December 17, 1877.

*To all whom it may concern:*

Be it known that I, JAMES W. McDONALD, of Woburn, Massachusetts, have invented an Improvement in Machines for Unhairing and Scouring Hides and Skins, of which the following is a specification:

This invention is an improvement on Patent No. 184,175, granted L. and E. M. Roberts, November 7, 1876, the nature of which will be explained by reference to the accompanying drawing, forming a part of this specification, in which—

Figure 1 represents a vertical section of the machine with my invention attached; Fig. 2, a plan thereof, and Figs. 3 and 4 detail views.

The endless apron or belt A, instead of extending the length of the machine and passing under the scouring-roll B, as described in the patent referred to, is arranged upon the rolls A<sup>1</sup> A<sup>2</sup>, and operates to present the hide or skin to be unhaird or scoured to the feed-rolls C C'. Beyond the feed-rolls C C', between them and the scouring-roll B and the pressure-roll D, is a table or bed, E, preferably of metal, and inclined from the feed-rolls toward the pressure-roll. The upper surface of this bed or table, at the edge next the lower feed-roll, is flush, or just below the top of the lower feed-roll, and preferably is brought as near the roll as possible, and the lower feed-roll on this account is fixed, and not yielding, as described in the patent spoken of. The table or bed is also extended toward the pressure-roll, so as nearly to touch its periphery at its top, sufficient room being allowed for the movement of the pressure-roll to and from the scouring-roll, as hereinafter set forth. The cross-piece E' supports the table.

The pressure-roll D is provided at each end with bearings in the levers D<sup>1</sup>, having vertical adjustability, and are operated by the treadle F in lifting the pressure-roll against the scouring-roll. This same adjustability is provided the pressure-roll in the patented machine of which my invention is an improvement; but I provide my roll with constant rotation by means of the gear D<sup>2</sup>, which movement is not given the pressure-roll of Roberts.

The upper feed-roll C is provided with automatic adjustability by means of the springs c c<sup>1</sup>, placed respectively above and below movable

bearings at each end of the roll, so that the roll is floated on the springs c<sup>1</sup>, and provided with vertical adjustment against the action of springs c. The tension of the springs c is adjusted by bolts c<sup>2</sup>, arranged to pass through the ends of bars c<sup>2</sup>, which cover the springs, and the nuts c<sup>4</sup>.

The table H is arranged at the apron end of the machine as a support for the hides, on which they may be spread before feeding to the apron.

The scouring-roll has projections or blades like those described in the above-named patent.

The gearing which I employ need not be specified, in view of the state of the art and the following description of the operation of the machine: The hides, being properly prepared by dissolving the hair-sheath, are fed to the scouring-roll by the endless apron, feed-rolls, and pressure-roll, the apron advancing the hide or skin to the feed-rolls, which seize, draw forward, and push it over the table or bed to the scouring-roll, which is caused to revolve much faster than the feed-rolls, and the pressure-roll. The pressure-roll, upon being lifted, serves to hold the hide firmly against the scouring-roll, at the same time by its rotation drawing the same, and the scouring-roll, revolving much faster than the pressure-roll, removes the hair and scours the hide effectually.

It will be seen that the employment of a narrow table or bed for the support of the hide or skin while being acted upon by the scouring and pressure rolls enables me to dispense with that portion of the apron heretofore used in presenting the hide to the scouring-roll, and also provides a firm unyielding support for the hide, not liable to appreciable wear.

It would be possible to use the machine without an apron, if so desired, by moving the table H nearer the feed-rolls, and feeding directly from the table to the rolls; but I prefer to employ a short apron, because I am enabled to prepare a hide for feeding while one is being scoured.

In the Roberts patent it was not necessary to employ a rotating pressure-roll positively actuated, as the endless apron served to present the hide to the scouring-roll; but as I do

not use the apron for that purpose I am obliged to use the pressure-roll also as a feed-roll in advancing the hide to the action of the scouring-roll.

This construction enables me to present and hold the hide or skin firmly against the scouring-roll, (thereby affecting a superior result over that obtained in the Roberts machine,) as well as preventing the destruction of the apron between the pressure and scouring rolls.

In some instances I speed the pressure-roll so that it revolves faster than the feed-rolls, and, with the scouring-roll, exerts a slight tension on the hide.

I claim—

1. In a machine for unhairing and scouring hides and skins, a table or bed arranged between a feeding device and a pressure-roll, to support or partially support the hide or skin in relation to a scouring-roll, substantially as and for the purpose described.

2. In a machine for unhairing or scouring hides and skins, the combination of the table E, the positively-actuated adjustable revolving pressure-roll D, and a scouring-roll, B, arranged immediately over said pressure-roll, substantially as described.

3. The combination of the feed-rolls C C', the bed or table E, the scouring-roll B, and the adjustable revolving pressure-roll D, as described.

4. The combination of the endless apron, not extended beyond the feed-rolls, a table or bed, E, the scouring-roll B, and an adjustable revolving pressure-roll, as set forth.

5. In a machine for unhairing or scouring hides and skins, the combination of the feed-

roll C, having a yielding bearing between the springs *c c'*, and means for adjusting the same with the feed-roll C', all arranged substantially as and for the purpose set forth.

6. The combination of the endless apron and feeding-rolls, or either, with the bed E, scouring-roll B, and an adjustable revolving pressure-roll, substantially as described.

7. In a machine for unhairing and scouring hides and skins, the combination of the positively-actuated adjustable pressure-roll, provided with means for vertical adjustment in relation to the scouring-roll, with the scouring-roll arranged above said pressure-roll, substantially as described.

8. The combination of a positively-actuated adjustable pressure-roll, provided with means for vertical adjustment in relation to the scouring-roll, a scouring-roll arranged above said pressure-roll, as shown, and means for presenting the hide or skin to be operated upon to said pressure and scouring rolls, substantially as described.

9. The combination of the positively-actuated adjustable pressure-roll, provided with means of vertical adjustment in relation to the scouring-roll, scouring-rolls, and feed-rolls, when the said pressure-roll is caused to revolve somewhat faster than the feed-rolls, thereby exerting a straining action upon the hide or skin while it is being fed, substantially as and for the purpose described.

JAMES W. McDONALD.

Witnesses :

F. F. RAYMOND, 2d,  
A. J. OETTINGER.