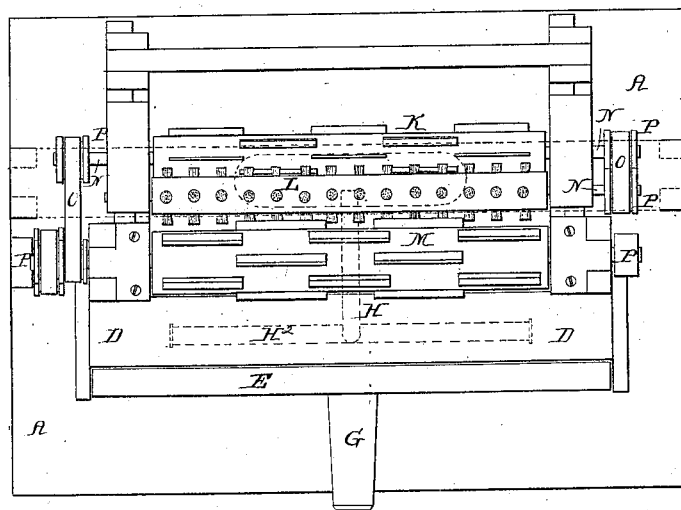


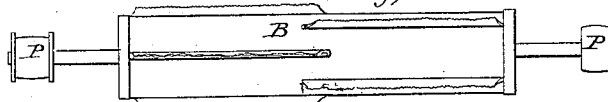
## Preparing Hides,

Fig; 1.

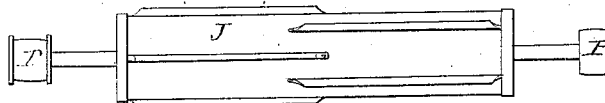
*Fig; 2.*



Fig; 3.



Fig; 4.



# UNITED STATES PATENT OFFICE.

GEORGE WELTY, OF WEST NEWTON, PENNSYLVANIA.

## IMPROVEMENT IN WORKING HIDES.

Specification forming part of Letters Patent No. 4,570, dated June 13, 1846.

### *To all whom it may concern:*

Be it known that I, GEORGE WELTY, of West Newton, in the county of Westmoreland, State of Pennsylvania, have invented a new and useful Mode of Breaking, Fleshing, and Unhairing Hides and Setting Sole-Leather, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1 is a vertical transverse section. Fig. 2 is a top view, the reservoir being removed in order to show the brush and represented by dotted lines. Fig. 3 is a plan of the cylinder used for breaking and fleshing the hides. Fig. 4 is a plan of the cylinder used for unhairing the hides. Fig. 5 is a cylinder of beaters for setting sole-leather.

The nature of my invention and improvement consists in a new mode of working hides by power machinery instead of hand—that is to say, taking the hides after being properly soaked and subjecting them to the action of a series of parallel serrated plates (for breaking and fleshing the hides) placed on the periphery of a revolving cylinder arranged immediately above a revolving drum for sustaining, raising, and carrying forward the hides between the cylinder and drum, the hides being introduced from an inclined table and roller, the effect of said serrated plates being to break and flesh the hides as they pass between the said cylinder and drum, the drum C being raised by the foot of the operator, the foot being borne down upon a lever G, placed below it in order to bring the hide in contact with the said plates, at the same time water being introduced by a branched perforated sprinkler H H<sup>2</sup>, leading from a reservoir I of water above, the hide being held by the operator and permitted to pass two-thirds its length through between the cylinder and drum, the drum being then let down and the hide drawn back, then reversed in position or turned end for end and the operation repeated until finished, then drawn out and laid aside, the plates having taken off the flesh and broken the hide and made it soft and pliable by means of the revolving motion of the cylinder containing said plates. The hides are then limed in the usual mode. They are then unhaired by the same process or means as was made use of in breaking and unfleshing, as above

described; but by another description of plated cylinder, the plates having their edges made smooth instead of serrated or rough, as represented in Fig. 4, which cylinder is put in the place of the one with serrated edges above described, which must be put in the place of the revolving beaters M, represented in Figs. 1 and 2. The hides are next worked in a state of bats by the same description of plates as were used in unhairing, with the addition of a revolving cylinder K of copper plates arranged near the drum. The hides are then scoured by the combined action of the cylinders, brush, and drum, as shown in the drawings at Fig. 1.

The operation of setting sole-leather is effected by means of the cylinder M<sup>2</sup>, Fig. 5, having a series of oblong teeth or beaters *m* inserted into its periphery, which cylinder is put in the place of the cylinder represented at M, Fig. 1, and in the position of the cylinder of beaters above the drum shown in Fig. 1.

The several cylinders and drums are turned by pulleys and bands, by horse, water, or other power applied to their axles, said bands being arranged to give the cylinders their required motion for producing the intended effect.

A represents the frame for containing and supporting the several parts hereinafter described, made of sufficient size and of proper material.

B is the cylinder of serrated plates before mentioned, which must be put into the frame in the place of the cylinder of beaters M, Figs. 1 and 2, for breaking and fleshing the hides.

C is the drum for supporting, raising, and lowering and moving the hides toward or from the cylinders, supported on an axle turning in vertical sliding boxes Q, moved up or down in grooves in the frame by a lever G, connected to said boxes by means of a horizontal cross-bar R, into which one end of the lever G is inserted, the other end of the lever serving as a treadle upon which the operator places his foot in order to raise the drum, the weight of the drum with the hide thereon being sufficient to depress or lower the sliding boxes, the fulcrum of the lever being another cross-bar S, turning on gudgeons in two short posts T.

D and E are an inclined table or board and roller, upon which the hide is placed previous

to being introduced to the cylinder and drum.

I is the reservoir of water for sprinkling the hides.

H is a right angled pipe for conveying the water from the reservoir to a horizontal perforated cylinder or sprinkler H<sup>2</sup>, arranged immediately over the drum, through which the water passes and descends upon the hide.

J, Fig. 4, is a cylinder having parallel plates with smooth edges arranged over its circumference for unhairing the hides. When this cylinder is to be used it must be placed in the position occupied by the cylinder M, directly over the drum C. This cylinder is also used for working the hides in a state of bats in combination with another cylinder K, having a number of copper plates on its periphery arranged behind and near the drum. In scouring the hides the cylinder M of beaters must be used in combination with the cylinder L of brushes and cylinder K of copper plates and drum C.

In setting sole-leather the cylinder M of beaters must be used in combination with the drum C, arranged as represented in Figs. 1 and 2.

N are the axles, O the bands, and P the pulleys, composing the gearing.

M<sup>2</sup>, Fig. 5, is a cylinder of beaters *m* for setting sole-leather. When this cylinder is to be used, it must be put in the place of the one represented at M, Fig. 1.

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

The before-described mode of fleshing, unhairing, and scouring hides and setting sole-leather, as described, by means of the afore-said combination of the cylinders and drum, arranged and operated in the manner set forth.

GEORGE WELTY.

Witnesses:

WM. P. ELLIOT,

ALBERT E. H. JOHNSON.