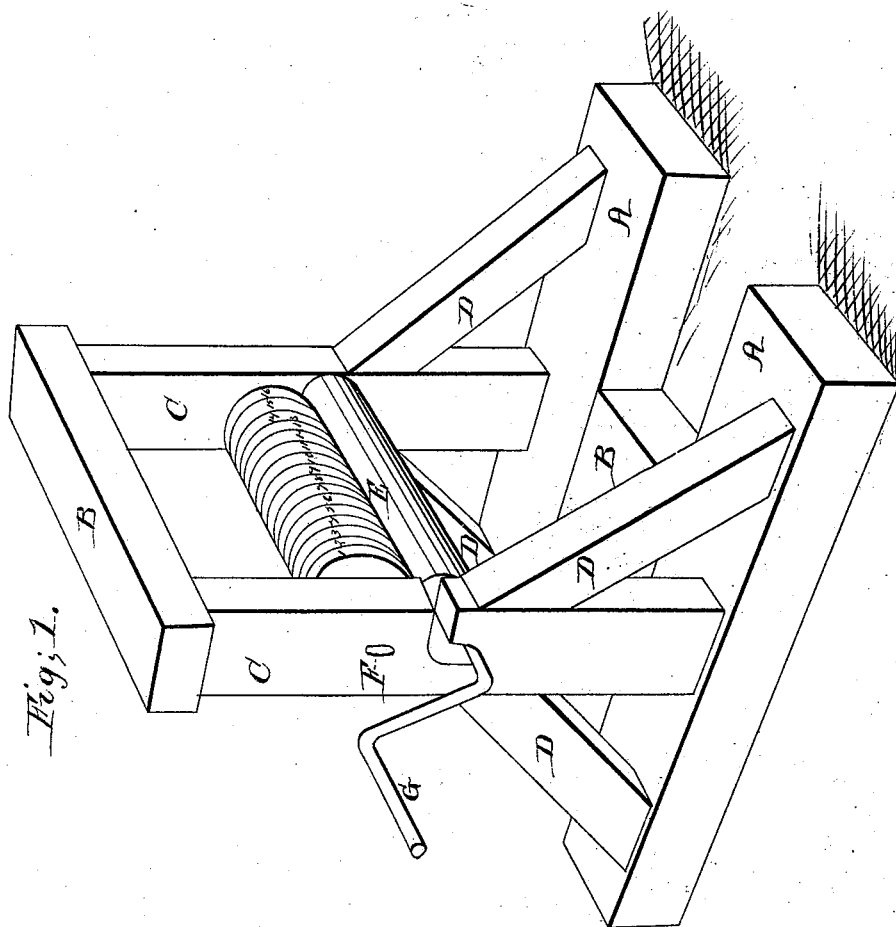
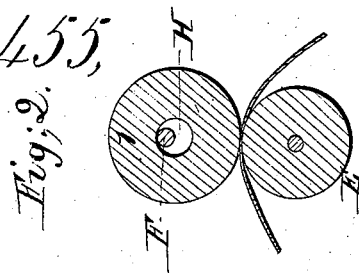


*L.R. Palmer,*  
*Tanning Leather,*  
*No. 1,455, Patented Dec. 31, 1839.*



# UNITED STATES PATENT OFFICE.

LEWIS R. PALMER, OF MARYLAND, NEW YORK.

## CONSTRUCTION OF ROLLERS FOR PRESSING HIDES IN THE PROCESS OF TANNING.

Specification of Letters Patent No. 1,455, dated December 31, 1839.

*To all whom it may concern:*

Be it known that I, LEWIS R. PALMER, of Maryland, Otsego county, State of New York, have invented a new and useful Improvement in Tanning Leather, being a Machine for Changing the Hides from One Vat to Another and Expressing the Exhausted Liquor Therefrom, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

The nature of this invention and improvement consists in a certain new and useful arrangement of loose rollers on a horizontal axle placed above and parallel with a revolving cylinder between which the hides are pressed and by which the exhausted liquors are expressed therefrom however uneven the surfaces of the hides may be which cannot be effected by two parallel cylinders of equal length.

To enable others skilled in the art to which this invention appertains to make, construct and use the same, I will proceed to describe its construction and operation.

It is a principle which has long been admitted and practised upon by all good tanners that the process of tanning will be facilitated in proportions to the frequent changes of the hide from partially reduced liquors to stronger liquors attended by such an expression of the reduced liquor as could be obtained by throwing them up in large piles to press each other. The principle of this machine is to perform the same operation in a more perfect manner and with a saving of at least three-fourths the labor, allowing the machine to be propelled by manual labor. But it is contemplated also to add other propelling power that may be obtained at less expense by which the cost of tanning will be proportionally reduced.

A, A, sills constructed of suitable material form and size to adopt them to a fixed or portable machine. B, B, cross pieces to brace and support the machine. C, C, posts with boxes to receive the gudgeons of and support the cylinder E, and also boxes to receive the shaft F, made with a perpendicular play so as to allow said shaft to rise. D, D, D, D, braces to said posts. E, cylinder made of any suitable material and convenient size resting in boxes in posts C C as above. F, shaft passing through the center of rollers 1, 2, 3, &c., made of any suitable

material and size and strength sufficient to support said rollers, resting and working in boxes as above described. G, the crank, pulley, drum or wheel to which the propelling power is applied to operate the machine. Figures 1, 2, 3, &c., pressing rollers made with holes in the center of any suitable material and of sufficient circumference to obtain the requisite pressing power and made of such thickness as will best conform to the uneven surface over which they are to pass. Said rollers to be hung on shaft F, so as with their weight on cylinder E and such a number of them as the width of the sides or hides of leather may require to press the entire width at one time.

Fig. 2<sup>d</sup> represents the position of one roller. F is the shaft. H the hole in the center and considerable larger than shaft F, so that in case the part or shanks, of the hide or any part doubled should pass between said roller and cylinder E, said roller will rise separately for it to pass through and leave the remainder of the side or side subject to the action of the other rollers, thus conforming separately to the thickness of the hides with which each roller comes in contact and pressing the entire surface with equal weight; when cylinder E is put in motion the rollers 1, 2, 3, &c., resting on said cylinder the consequent friction gives said rollers all the motions necessary.

The manner of using said machine to facilitate the process of tanning is first to take the hide after it has passed through the ordinary process of preparation to receive the tannin—fasten any convenient number of them together with strings or cords in the best manner in one vat then place the machine over said vat pass the string or belt of hides or sides between the cylinder F, and rollers 1, 2, 3, &c., which being made heavy will press out by their weight the old liquor and let it run back into the same vat while the hide comparatively dry drops into a stronger liquor which it readily absorbs and extracts what tannin said liquor contains. This process being frequently repeated which the mechanical advantages of the machine enables the manufacturer to do with comparatively little expense greatly facilitates the process of tanning.

Fig. 1 is a perspective view of the machine. Fig. 2, is a vertical section through the rollers and cylinder.

The hides may be passed through one or more sets of these cylinders and rollers.

The invention claimed and desired to be secured by Letters Patent consists in—

- 5 The before described combination and arrangement of the parallel loose revolving rollers with the revolving cylinder placed

below the same between which the hides are drawn for pressing the exhausted liquors therefrom, in the process of tanning leather. 10  
L. R. PALMER.

Witnesses:

WM. P. ELLIOT,  
EDMD. MAHER.