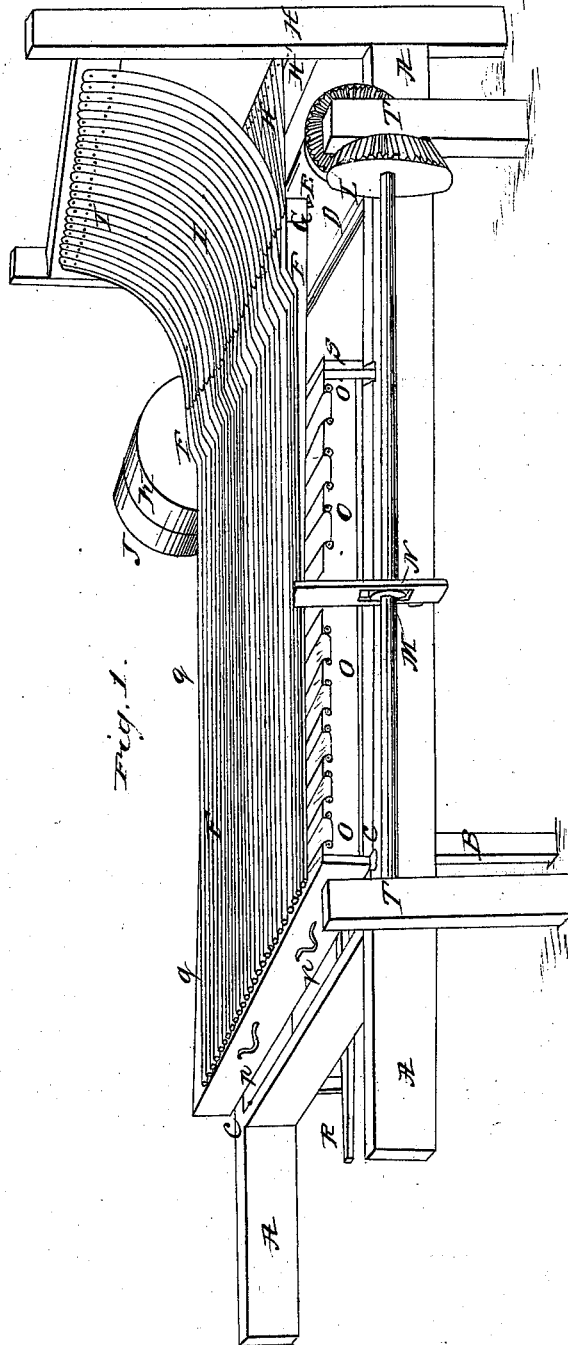
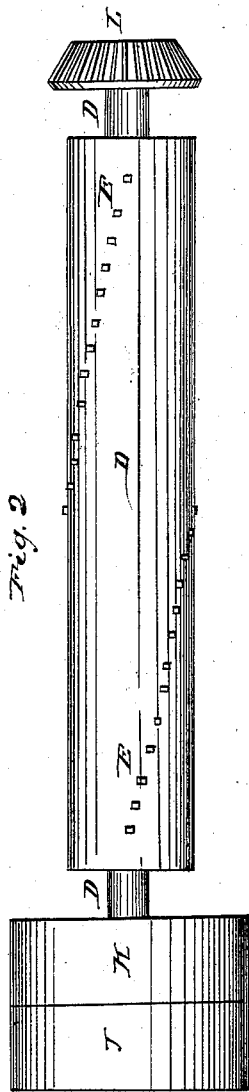


R. Dorrney,
Tanning Apparatus,
No 3,632, Patented June 15, 1844.



UNITED STATES PATENT OFFICE.

ROBERT DOWNEY, OF NEW ALBANY, INDIANA.

MAKING LEATHER.

Specification of Letters Patent No. 3,632, dated June 15, 1844.

To all whom it may concern:

Be it known that I, ROBERT DOWNEY, of the city of New Albany, county of Floyd, and State of Indiana, have discovered and
5 invented a new and Improved Mode of Tanning Leather by Means of a Flagellator; and I do hereby declare that the following is a full and exact description.

The nature of my invention consists in
10 flagellating or whipping the hides on the flesh side during and while in the first stages of being tanned. After ten or fifteen days the hides may occasionally be flagellated on the grained side a little. For this purpose
15 I use a machine called a flagellator, which will be more fully described in the following specifications and drawings which form a part of said specifications.

When the hides are taken from the "bate"
20 after dressing them out on the beam, they should be immersed in weak bark liquor, and its strength increased from day to day until the leather is perfected.

Believing that one of the effects of the
25 bark in the ordinary mode of tanning is to close the pores of the hide and thus prevent that complete saturation with the bark liquor, which contains the tannin and on which the perfection of leather depends in
30 order to obviate this objection I propose to use the above named machine which strikes about twenty-five hundred strokes in a minute and which raises and thickens the hide and so opens the pores that at the same
35 time the gelatin and gluten are oozing out the bark liquor is driven in with the machine and the hide is made ready for the reception of another saturation and may be placed either in the revolving or a station-
40 ary handler, until again saturated, which may be known by the closing of the pores, and then the hide may be taken out and the same process of whipping and immersing may be gone through again and again
45 until the hide is struck through with the tannin, which is done in less than half the time of the ordinary mode of tanning and about half the usual quantity of bark only is required. Instead of rotting or steaming
50 out the "gelatin" and "gluten" this process drives it out mechanically and the membraneous part of the hide remains firmer and stronger as the result will show. When the hide is fully struck through nothing re-
55 mains but to lay it away in bark and renew it at short intervals say from ten to fifteen

days always observing to increase the strength of the bark liquor as you progress.

I will now more minutely describe this valuable machine. First it consists of a frame
60 at letters A, sixteen feet long and eight feet wide elevated by legs at letters, B, which are framed in and measuring 18 inches from the ground or floor to the top at letter, C, and it has let in at one end of said frame a
65 cylinder at letter, D. This cylinder is 8 feet long by 2 feet in diameter and has two rows of cogs or slides at letter, E. See Fig. 2. They are spirally arranged so as to equalize the power, and raise only one slat at a time.
70 Over these spiral rows of cogs or slides extend 25 or 30 slats at letter F. These slats or whips are made of tough wood and have an iron socket at the butt end which is square where it passes over the cog or slide
75 at letter G. These slats are $7\frac{1}{2}$ feet long, and at the butt end at G. They are 3 inches wide at the little end, at F they are half inch wide. They are $1\frac{1}{2}$ inches in thickness
80 throughout. The slats are fastened at letter H, by straight steel springs 20 inches long to a cross timber at H. Said cross timber is fastened to the first frame between two upright posts at H, just behind said cyl-
85 inders, then directly over the aforesaid straight springs is the same number of curved springs fastened to a cross timber at letter I. These are for the purpose of strengthening the first set. The cylinder
90 when properly rigged has at letter J, a loose pulley to ship and unship the band and at letter, K, a tight pulley to move the cylinder, and put the machine in motion. At
95 letter, L, is a pair of bevel wheels connecting the cylinder with a shaft letter M, near which is a cam, that works in a frame let-
ter, N, and gives a see saw motion to the carriage at letter, O. The said carriage is
100 a second frame and lies across the first on rollers at, O. This carriage is 10 feet long by 8 feet wide and may be shipped and unshipped at pleasure by the handles at let-
ter, P. Across this frame there is stretched strong hemp, 3 inch, webbing (such as is
105 used by saddlers) from O, to Q, with a web brace. On this frame or carriage the hide is spread with the flesh side up. It is then shoved under the slats at, P, while the operator puts his foot on the lever at letter, R. Said lever is connected in the center with
110 a little frame at letter, S. The fulcrum on which the lever rests lies just behind the

frame letter N, by which the slats are elevated. As soon as the hide is laid on the braced webbing on the carriage between O and Q he removes his foot from the lever 5 and the slats are let down. He then slips his band from the loose pulley, I, to the tight pulley, K, and starts his horse and all is in motion and one minute's flagellation is sufficient for a hide. The posts at letter, T, are 10 for to hold the shaft M, which works the cam in the frame N which moves the carriage back and forth from O to Q, so as to give the hide a regular flagellation. When 15 hides are to be tanned in this way, they are first taken through the ordinary modes of preparation. When they are worked out of

the bate they may be laid on the carriage and receive at first a light flagellation and laid in a weak bark liquor for 12 hours then renew the flagellation and increase the 20 strength of the bark liquor until you arrive at perfection.

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

The flagellating or whipping, the hides by 25 means of the beaters, as herein described, or any other mode substantially the same.

ROBERT DOWNEY.

Witnesses:

JNO. B. WINSTANDLEY,
WM. JAS. NEWKIRK.