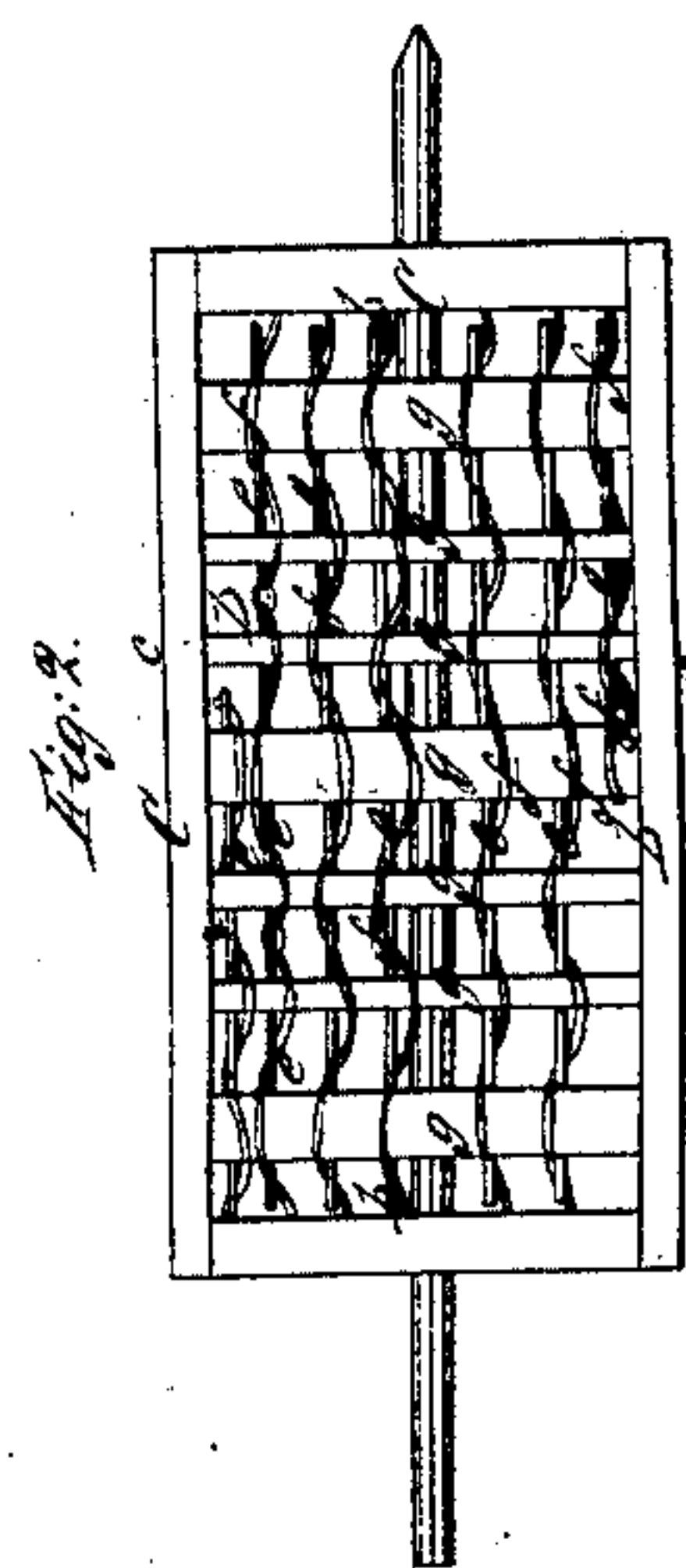
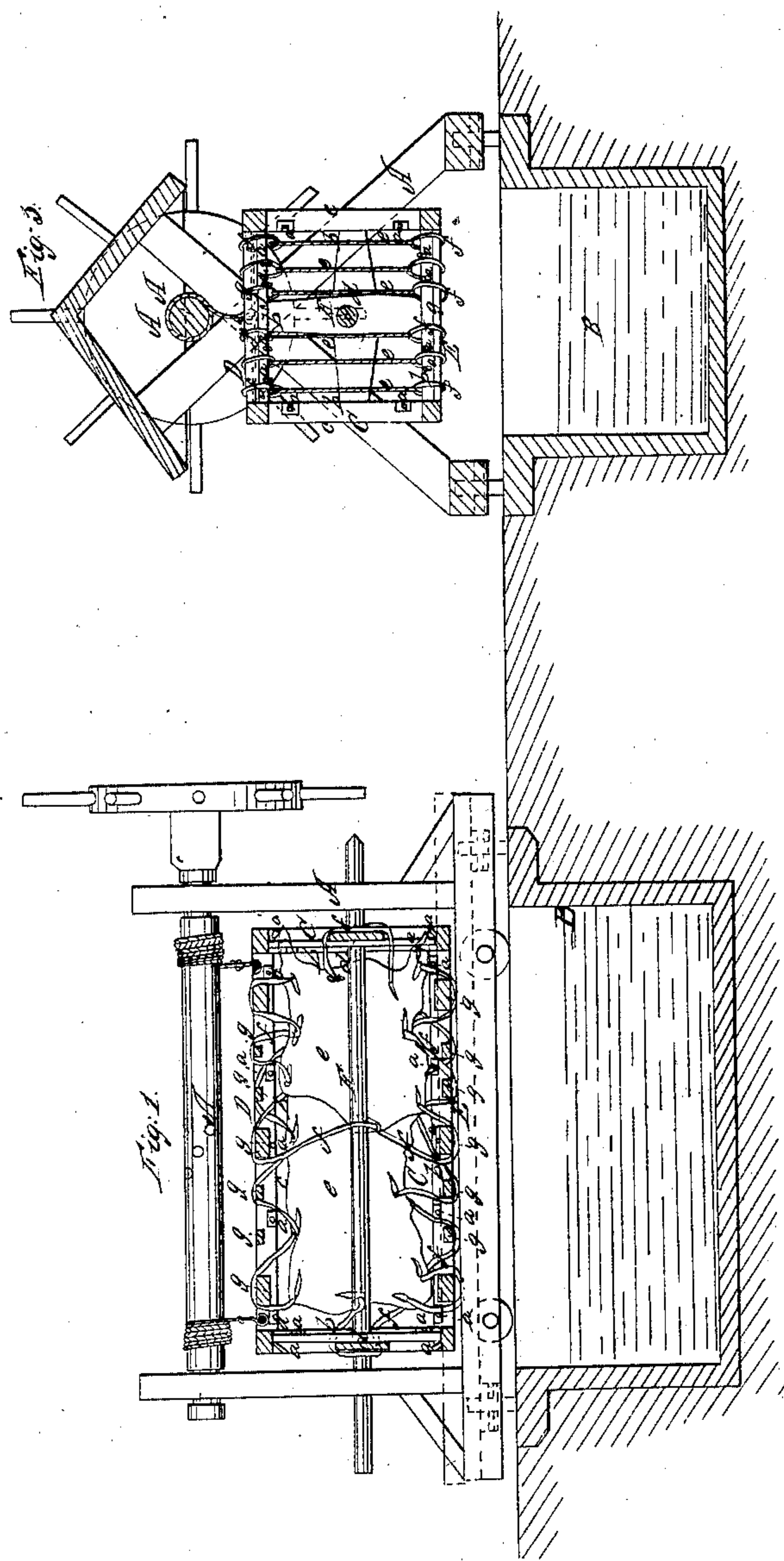


*O. B. Wattles,*

*Tanning Apparatus,*

*N<sup>o</sup> 17,399.*

*Patented May 26, 1857.*





# UNITED STATES PATENT OFFICE.

OTIS B. WATTLES, OF WADDINGTON, NEW YORK.

## TANNING APPARATUS.

Specification of Letters Patent No. 17,399, dated May 26, 1857.

*To all whom it may concern:*

Be it known that I, OTIS B. WATTLES, of Waddington, in the county of St. Lawrence and State of New York, have invented a  
5 new and useful Improvement in Tanning Apparatus; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming  
10 part of this specification, in which—

Figure 1, is a vertical section, Fig. 2, a plan, and Fig. 3, a transverse section of my improved apparatus.

Similar letters of reference in each of the  
15 several figures indicate corresponding parts.

My invention relates to an improvement in that description of tanning apparatus which keeps the hides separated and in a horizontal position while being tanned; and  
20 is designed to obviate some very serious objections to the same, and to facilitate and at the same time render more perfect and uniform the tanning process.

The nature of my invention consists in  
25 the hides laced in the frame entirely around its border and sustained vertically in the vat in the manner hereinafter described.

To have the hides separate from one another as is well known by all practical tanners is important and absolutely necessary  
30 in order to effect a speedy and perfect penetration of the tannin liquor into the skins or hides over all parts of their grain and flesh surfaces at one and the same time.  
35 And it has long been a favorite object among tanners to discover some method whereby skins of all kinds and especially calf and sheep skins, after being rendered soft and capable of readily receiving an  
40 impression from any hard substance, might be tanned in a frame without having any impression or wrinkles made upon their surface and at the same time have freedom to  
45 "swell or plump" during the tanning process. One method to effect these objects, and perhaps the most successful, adopted, is that resorted to by Mr. Eliason, patented 1856. This plan is to arrange a series of  
50 slats horizontally and in tiers one above the other in a loose frame. By this arrangement the hides are, it must be admitted, kept apart, and such large heavy hides as will remain in his frame, after being first slightly stiffened, are completely exposed to the  
55 tannin liquor and have a chance to "swell and plump". To Eliason's method there are

several objections. 1st. Hides and particularly calf and sheep skins cannot be placed while in the green and soft state in his frame so as to remain in place while the frame is  
60 being raised or revolved, owing to their flimsy nature. 2nd. The necessity of having the hides in a horizontal position while in the liquor allows the sediment with which all liquors are impregnated to settle upon  
65 the hides and thereby close the pores thereof and thus prevent the perfect insinuation of the tannin liquor between the fibers of the same. 3rd. The necessity of raising the  
70 hides with their broad surfaces upward requires an increase in strength of framing, renders operation of hoisting more laborious, as a large amount of liquor is raised between and with them when the hide frame  
75 is brought up for the purpose of reversing and throwing the upper part of the hides in contact with the strong liquor at the bottom of the vat or vice versa, and besides this a large quantity of liquor is unavoidably  
80 wasted over the edges of the vat, owing to the liquor being thus raised between the hides. To overcome these objections I lace and fasten the hides and skins in a vertical  
85 position in the frame C, by means of leather thongs *f, f, f*, and pins *a, a, a, a*, as follows: The frame C, is brought to a proper position over the vat and kept so by running a  
90 shaft F, through its boxes *d, d*, and having it rest on the windlass frame A. A hide is first fastened at four or more points on  
95 the pins *a, a, a, a*, and then laced into the frame by being slitted at different points all around its edges and having a leather thong pass first through one slit then around a  
100 slit *g*, of the frame and next through another slit and then over another slit and so on until it is fastened all along its upper and lower edges, and also at both ends  
105 which latter is effected by passing the thong through slits and attaching them to pins *a, a*, around the inner edge of the ends of the frame C, as shown. In this manner the frame is filled with hides and skins care being taken to balance it equally, by placing  
either a skin or hide as occasion may re-

quire.  
By this method of attachment hides and skins of all shapes, sizes and natures can be fastened and tanned in a frame, no matter  
110 how soft and slippery, delicate or irregular shaped they may be, in a more speedy manner and without being creased or wrinkled,



owing to their being hung in suspension, and the sediment being kept from settling on them and closing their pores and thus preventing the entrance of the tannin through the same between their fibers. The labor is also lessened and the tannin liquor saved from being wasted—as the hides and skins are raised with their edge upward and consequently meet with but little resistance and do not lift the liquor along with them and spill it over the edges of the vat.

To operate my frame after being filled with hides and skins I attach it to a windlass A, by means of cords and hooks then withdraw the shaft F, unlock the windlass and let the frame descend into the vat by its own gravity. After the frame has been down into the vat a certain length of time it is raised by means of the windlass to a proper position and the shaft F passed through it. This being done it is turned half around on said shaft so as to throw the upper parts of the hides down and thus have the same come in contact with the strongest liquor at the bottom of the vat

when the frame is again lowered into the vat. After the hides have been in the liquor a proper length of time they are hoisted out and run off by the windlass, either forward or sidewise (two trucks being provided one fixed to the windlass frame and the other detached from it), to a proper place and left to drain and dry, while which processes are going on the hides and skins retain their proper shape or are prevented from being wrinkled or having an uneven surface owing to being laced in the frame in a perpendicular position and extended in all directions.

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

The hides laced in the frame entirely around its border and sustained vertically in the vat in the manner set forth in the specification.

OTIS B. WATTLES.

Witnesses:

R. W. FENWICK,  
GOODWIN YORKE AT LEE.