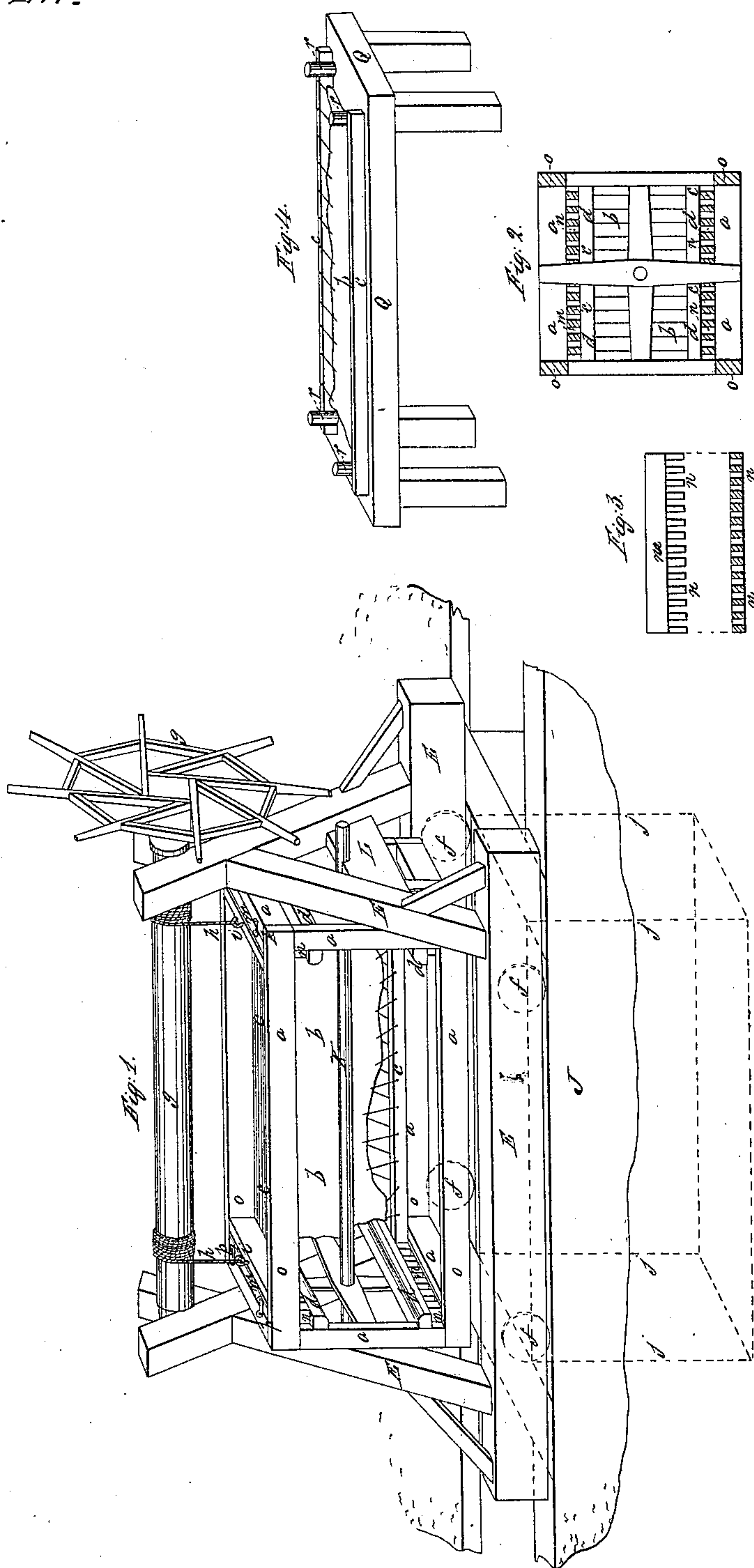


# Shaw & Clark, Tanning Apparatus,

N<sup>o</sup> 19,211.

Patented Jan. 26, 1858.





# UNITED STATES PATENT OFFICE.

CHARLES A. SHAW AND JAMES CLARK, OF BIDDEFORD, MAINE.

## APPARATUS FOR TANNING SKINS.

Specification of Letters Patent No. 19,211, dated January 26, 1858.

*To all whom it may concern:*

Be it known that we, CHARLES A. SHAW and JAMES CLARK, of Biddeford, in the county of York, State of Maine, have made a new and useful Improvement in Tanning Apparatus; and we hereby declare that the following is a full and exact description of the same, reference being made to the accompanying drawings, of which—

Figure 1, is a perspective view of our improved tanning apparatus, representing the false vat partially filled with hides, as elevated above the real vat containing the tanning liquors. Fig. 2 is an end view of the frame or false vat. Fig. 3 is a view of a toothed supporting bar. Fig. 4 is a view of the table upon which the hides are attached to the sticks.

In Fig. 1, of such drawings, *a, a, a, a*, is a strong framework, or false vat, having two open sides and made to exactly fit the real vat *J*, in which the hides or sides to be tanned *b, b*, are placed firmly secured on two opposite sides to the sticks *c, c, c, c*. These sticks are supported at each end by the horizontal rests *d, d, d, d*, which rests are strongly bolted to the inside of the ends of the framework *a, a, a, a*, at a sufficient distance only from the side of said frame to freely admit the said sticks, thus keeping the sides fully extended while in the frame *a*. *E, E, E, E*, is a frame constructed so as to be easily moved from one vat to another upon the trucks *f, f, f, f*, having a windlass *g, g*, disposed in the top of the same, by means of which, and the ropes *h, h*, and hooks *i, i*, the false vat *a, a, a, a*, can be raised from, and lowered into the real vat *J*, in which the tanning liquors are contained. *K*, is an adjustable axle or pole passing through the center longitudinally the entire length of the frame *a, a, a, a*, and supported at each end upon the cross pieces *L, L* of the frame *E, E, E, E*. Said axle is used only to sustain the frame *a*, when raised entirely above the vat *J*, and is that upon which the said frame is rotated in reversing the position of the hides *b, b*, after having been in and raised from the vat *J*, to the position shown in this figure. This is removed when it is required to return the frame *a* to its proper position in the vat *J*. *M, M, M, M*, are adjustable bars having toothed projections *n, n* upon one side which bars are so fitted between the side pieces *o, o* of the frame *a* at each end of said frame, that the teeth *n, n*, pass between and keep at

an equal distance the sticks *c, c*, as well whether the hides are in a horizontal or a vertical position. These bars are adjusted and fastened in their places by the hasps *p, p, p, p*, after filling the frame *a* with hides, completely securing all the sticks *c, c*, at such a distance from each other as to freely admit the tan liquors to the hides and at the same time keep them all in a proper position in the frame *a* when the said frame is rotated upon the pole or axle *K*.

Fig. 2 is an end view of the false vat *a*, with the axle *K* withdrawn showing more fully the position of the hides *b, b*, and the manner in which the sticks *c, c*, are kept in place by the toothed bars *m, m*.

Fig. 3, represents the toothed bar *m, m*, withdrawn from the frame *a, a*.

In Fig. 4, *Q* is a large table upon which each hide is spread perfectly smooth while being attached to the sticks *c, c*, which are kept at the same distance apart as when in the frame *a, a*, by means of the stationary upright pins *r, r, r, r*. The back of the hides are first fastened by being nailed with small nails to one stick and the parts opposite are then laced firmly to the other. In this manner the operator has perfect control of his work, and the hide can be easily and expeditiously prepared for the frame *a, a*.

From the above description it will be seen that the hides to be tanned when ready for the tan liquors are prepared by being firmly attached upon two opposite sides to sticks (Fig. 4) which are fitted to slide into a hollow frame-work or false vat (*a*) upon rests (*d*) in such a manner as to keep the hide fully extended and in the best shape to receive the tanning liquors. The false vat (*a*) is then filled with hides thus prepared and the sticks are arranged and firmly secured at an equal distance from each other by means of the toothed bars *m, m*, the frame *a* in the meantime being supported upon the axle *K*. When thus filled, the axle *K*, is withdrawn and the frame *a* containing the hides, lowered into the vat *J*, (also represented by the dotted lines *J, J, J, J*), containing the tanning liquors, by means of the windlass *g, g*. When it becomes necessary to "handle" or change the position of the stock in the vat *J*, the frame *a* is again drawn up; the axle or pole *K*, is inserted and made to sustain the frame *a*; the hooks *i, i* are then unhooked and the frame *a* turned one half way around, thus



reversing the position of all the hides at the same time; the frame is then lowered again into the vat J, the hides being in a vertical position. When it is required to  
 5 change the hides from a weak to a strong liquor or from one vat to another the frame *a* is drawn up, as in Fig. 1; and while in that position the supporting frame E, E, E, E, is rolled upon the trucks *f, f, f, f*,  
 10 to the place desired. In order that the frame may be equally balanced, in filling it the sides are put in alternately with a neck and butt at each end.

Among the advantages of this method of  
 15 tanning can be enumerated 1st, the improved appearance of the grain of the stock, produced by keeping the hide extended and perfectly smooth while in the liquors. 2nd,  
 20 the great gain in the weight and saving of time in the production of stock, due to having the hides constantly and perfectly exposed on all sides to the tan liquors and to subjecting all parts of the hide equally  
 25 and successively to the action of the strongest portion of the liquors at the bottom of the vat. 3d, the ease and facility with which a whole "pack" of hides can be  
 "handled" at one time or changed from vat to vat in the yard.

30 We are aware that a patent was granted Otis B. Wattles, 26th May 1857, for an improvement in tanning apparatus, to the practical working of whose invention, there are many objections which are entirely over-  
 35 come by our improvements. In the apparatus of said Wattles, the hide is secured or fastened by being "laced all around its border" directly to the outside framework of the false vat itself; which, constructed  
 40 to fit an ordinary tan vat, will be nearly 4 x 4½ ft. x 7 ft. long. This frame, as in ours, it is most convenient and necessary to have supported upon an axle or pole (as in Fig. 1) during the operation of "filling" and  
 45 over the vat containing the tanning liquors.

From the above it will be seen, that, in order to fill a frame with hides in that manner, owing to its size and position, each hide must be supported in its place

at "arms length," as it were, while being  
 50 laced into the frame, if put in a vertical position, rendering the operation exceedingly laborious and lengthy with wet heavy hides, and requiring the services of two or  
 55 three men. If the frame is turned to bring an open side up and the hides are put in at the top in a horizontal position, it is impossible to keep them from "sacking"  
 60 down and loosening the lacings; as every hide before it is fastened has to be thrown in upon those already in the frame. It is also necessary to constantly change the frame from side to side in order to fill  
 65 both sides at the same time, and that it may be evenly balanced when entirely filled. Again, in revolving or changing the frame from side to side the weight of the hides causes the strings to slip and let them come  
 70 together, or get misplaced in such a manner as to throw so much weight to one side or the other of the frame that it cannot be revolved. Whereas, on the contrary, in our improved method the ease and facility with  
 75 which the hides can be moved from place to place after being attached to the sticks *c c*, (as in Fig. 4) render the labor of filling or emptying the frame *a, a*, comparatively trifling; while by having the hides kept perfectly smooth and at an equal distance  
 80 apart during the process of tanning, in the manner previously described, an extra quality of stock is produced, and an immense saving of labor made over any other method known to us.

We make no claim whatever to the in-  
 85 vention of the said Wattles as patented by him May 26th, 1857, or any part thereof.

We claim—

The use of the horizontal movable frame rods, or sticks, *c, c, c, c*, the toothed bars, *m, m, m, m*, and the rests, *d, d, d, d*, or their equivalents, for the purposes set forth and specified.

CHAS. A. SHAW.  
 JAMES CLARK.

Witnesses:

JOHN F. LORD,  
 LEONARD WARREN.