

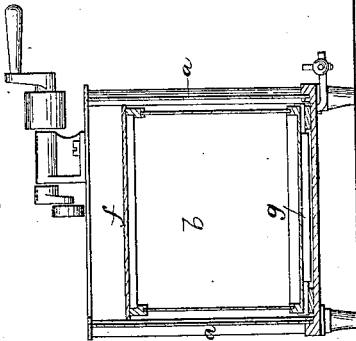
T. Sharp.

Tanning-Hides.

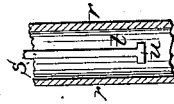
N^o 51,870.

Patented Jan 2, 1866.

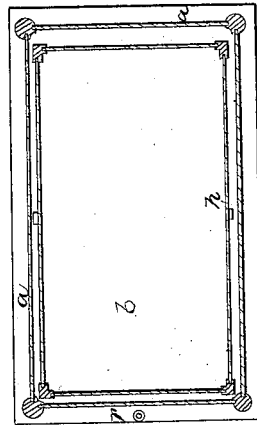
Fig; 2.



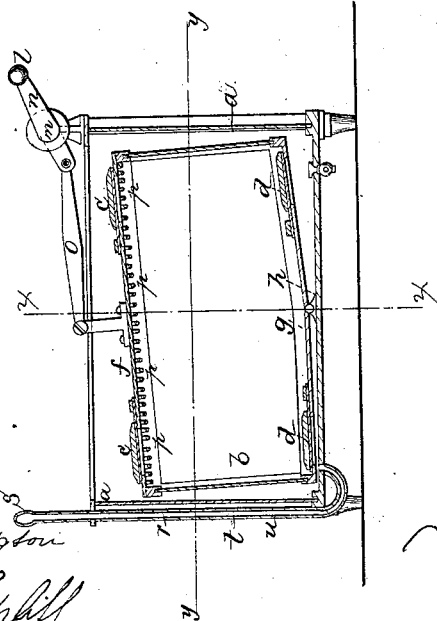
Fig; 4.



Fig; 3.



Fig; 1.



Witnesses;

J. M. B. Livingston

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UNITED STATES PATENT OFFICE.

THOMAS SHARP, OF NASHVILLE, TENNESSEE.

IMPROVED APPARATUS FOR TANNING.

Specification forming part of Letters Patent No. 51,870, dated January 2, 1866.

To all whom it may concern:

Be it known that I, THOMAS SHARP, of Nashville, in the county of Shelby and State of Tennessee, have invented new and useful Improvements in Apparatus for Tanning Hides; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

The present invention consists in the use of a reservoir for containing the tanning solution or liquor employed, having one or more false vats or chambers made of any suitable material impervious to the liquor, and provided with one or more valves at their top and bottom, and arranged in such a manner and operated by any suitable mechanical means as to produce an oscillating motion thereof in a vertical plane, so that the hides to be tanned, being properly suspended within the said false vats, a current of the tanning-liquor in the reservoir will be constantly maintained in an upward direction through the vats, entering at the lower valves and discharging at the upper ones, they being alternately opened and closed by the oscillating movement of the vats, whereby the hides are continually subjected to a fresh volume and supply or quantity of the tanning-liquor, swinging at the same time to and fro, and the tanning-liquor also prevented from settling at the bottom of the reservoir because of its greater specific gravity than water, the importance of both of which results are obvious to all conversant with the tanning of hides.

In addition to the above I also use a graduated index, arranged with regard to the tanning-liquor reservoir in such a manner as to plainly indicate the varying strength of such liquor as it is absorbed by the hides being tanned, thus enabling liquor to be supplied with accuracy at such times as may be deemed expedient to counterbalance or overcome the deficiency thus occasioned.

Having thus, in general terms, stated the objects and principles of the present invention, I will now proceed to describe the same in detail, reference being had to the accompanying plate of drawings, of which—

Figure 1 is a central longitudinal vertical

section; Fig. 2, a transverse vertical section taken in the plane of the line *x x*, Fig. 1; and Fig. 3 a horizontal section taken in the plane of the line *y y*, Fig. 2.

a a in the drawings represent a reservoir or vessel for containing the tanning-liquor used. In this reservoir *a* a false vat or chamber, *b*, made of any suitable material impervious to the tanning-liquor, and closed upon all its sides, and with valves *c c* and *d d* opening upward, respectively, at each end of its top and bottom pieces, *f* and *g*, is hung at its center, *h*, upon pivots or in any other manner, to the bottom of the reservoir *a*, so that by turning the winch-handle *l*, connected through a shaft, *m*, crank-arm *n*, and connecting-rod *o* with the top of the false vat *b*, an oscillating motion shall be imparted to the vat in a vertical plane.

At or near the top of the vat and upon its inside, extending entirely across it, are a series of rods *p p p*, of any desired number, to and on which rods the hides to be tanned are suspended within the vat in any proper manner.

The reservoir *a* having been filled to the requisite height with the tanning-liquor employed, and the hides to be operated upon hung within the false vat, as described, the false vat is then made to oscillate within the reservoir by turning the winch-handle connected therewith, as explained, which oscillation or motion thereof alternately opens and closes the valves at each of its ends, thus causing an upward current of the tanning-liquor through the vat, entering at its bottom and discharging at the top, whereby a constant and fresh supply of the tanning-liquor is produced and furnished to the hides, the hides at the same time swinging to and fro within the vat, thus agitating the liquor and preventing, in connection with the free and constant circulation thereof, as above explained, all possibility of its settling at the bottom of the reservoir, which, owing to its greater specific gravity than water, it would be inclined to do were it not thus kept in motion.

Although I have explained my improvements in connection with a single vat arranged so as to oscillate in a reservoir containing tanning-liquor, it is obvious that two or more can be similarly employed, and, furthermore, that there are various means by which the oscillation of the vats can be secured other than those herein described, and therefore I do not intend

to limit myself either to the use of any particular number of vats in one tanning reservoir or vessel, or to any one arrangement of devices for oscillating them.

At one end of the tanning-reservoir, and inserted in a vertical tube, *r*, communicating with the liquid therein at the bottom, is an index, *s*, graduated or otherwise properly marked in degrees, half-degrees, and whatever subdivisions may be deemed expedient, attached at its lower end, *t*, to an air-tight float, *u*, which rests upon the top of the liquor in the tube, whereby, as the strength of the tanning-liquor becomes reduced from the absorption thereof by the hides being tanned, the amount of exhausted liquor to be drawn off will be plainly indicated, so that it can be replaced with liquids of the maximum strength to impart the necessary strength to the tanning solution to overcome its deficiency, produced as above specified.

I claim as new and desire to secure by Letters Patent—

1. The use in a reservoir or vessel containing the tanning-liquor employed of either one or more false vats or chambers provided with one or more valves in the lower and upper portions thereof, and so arranged or hung within the reservoir as to be susceptible of an oscillating motion in a vertical plane, substantially in the manner described, and for the purpose specified.

2. The graduated index *s*, arranged as and for the purpose specified.

The above specification of my invention signed by me this 15th day of June, 1865.

THOMAS SHARP.

Witnesses:

THOMAS BAPTIST,
T. B. ROWLAND.