

United States Patent Office.

JOHN E. SMITH AND CHARLES L. SMITH, OF SOUTH DEDHAM, MASSACHUSETTS.

Letters Patent No. 108,060, dated October 4, 1870.

IMPROVEMENT IN TANNING-VATS.

The Schedule referred to in these Letters Patent and making part of the same.

We, JOHN E. SMITH and CHARLES L. SMITH, both of South Dedham, in the county of Norfolk and State of Massachusetts, have invented certain Improvements in Tanning-Vats, of which the following is a specification:

Figure 1 is a plan view of our invention;

Figure 2 is a section through line *x x*, fig. 1; and Figure 3 is a similar section through line *y y*, fig. 1.

This invention relates to that class of tanning-vats wherein the hides are suspended vertically in the liquid from racks at the top of the vat.

Its object is to agitate the tannin while the operation is going on, in order to distribute its strength equally around all parts of the hides, and prevent any deposit at the bottom of the vat; to which end, we employ a horizontal wheel, located at or near the bottom of the vat, and revolved, by means of suitable gearing, in such manner as to agitate the tannin and throw it upward centrifugally.

The details of construction and method of operation will be more fully described hereinafter.

In the drawing—

A represents the vat, which is mounted on legs *a*, and provided on the inside with the triangular projections B, inclined plates B', and, near the bottom, with the slats C.

Below the slats C, and journaled in the center of the bottom of the vat A, is the horizontal wheel D, which nearly covers the bottom of said vat, and is operated by the bevel-gearing E F and crank G.

Between the inclined plates B' and the adjacent sides of vat A are spaces or channels H.

The operation of our invention is as follows:

The vat A is filled with tannin, the hides being sus-

pended from suitable racks from above, and prevented from coming in contact with the wheel D by the slats C, while the tannin enters the space around said wheel.

The projections B and plates B' terminate above wheel D, and between the sides B' and the walls of vat A are the channels H, as above described.

Motion being imparted to the wheel D, the tannin will be thrown outward centrifugally, and press against the sides of the vat A and bases of the projections B; and when the motion of the wheel is sufficiently rapid, this pressure will force the liquid upward, through channels H, over the tops of plates B' into the upper part of the vat, and against the hides suspended therein, thus creating a constant current, and subjecting the entire surfaces of the hides to the uniform action of the liquid.

Having thus fully described our invention,

What we claim as new, and desire to secure by Letters Patent, is—

1. Providing a tanning-vat with a horizontal revolving wheel, near its bottom, as and for the purpose set forth.

2. The combination of wheel D with the vat A, triangular projections B, and inclined plates B', substantially as set forth.

In testimony whereof, we have signed our names to this specification in the presence of two subscribing witnesses.

JOHN E. SMITH.
CHARLES L. SMITH.

Witnesses:

CARROLL D. WRIGHT,
CHARLES F. BROWN.