

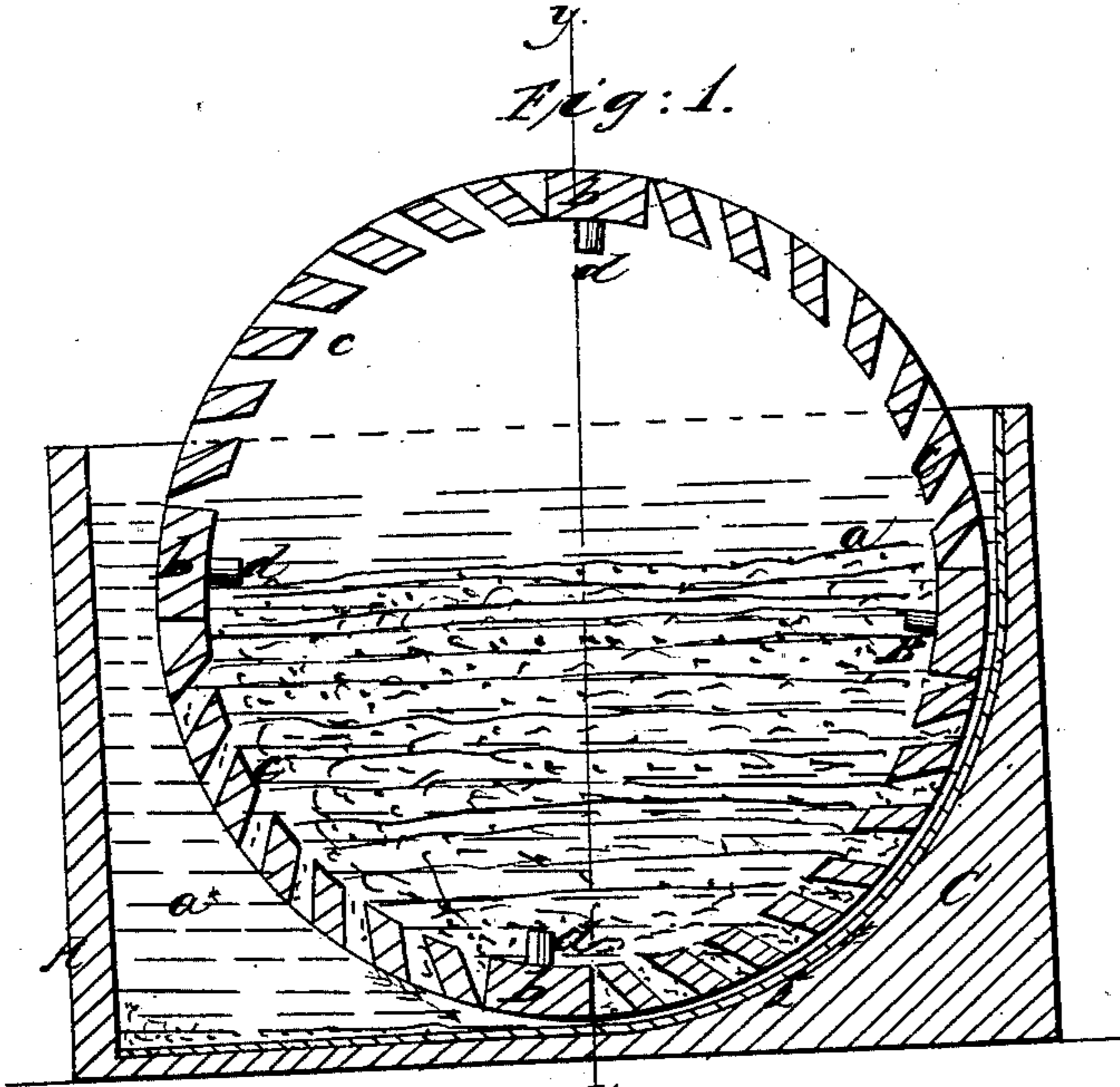
*D. L. Hubbard,*

*Tanning Hides.*

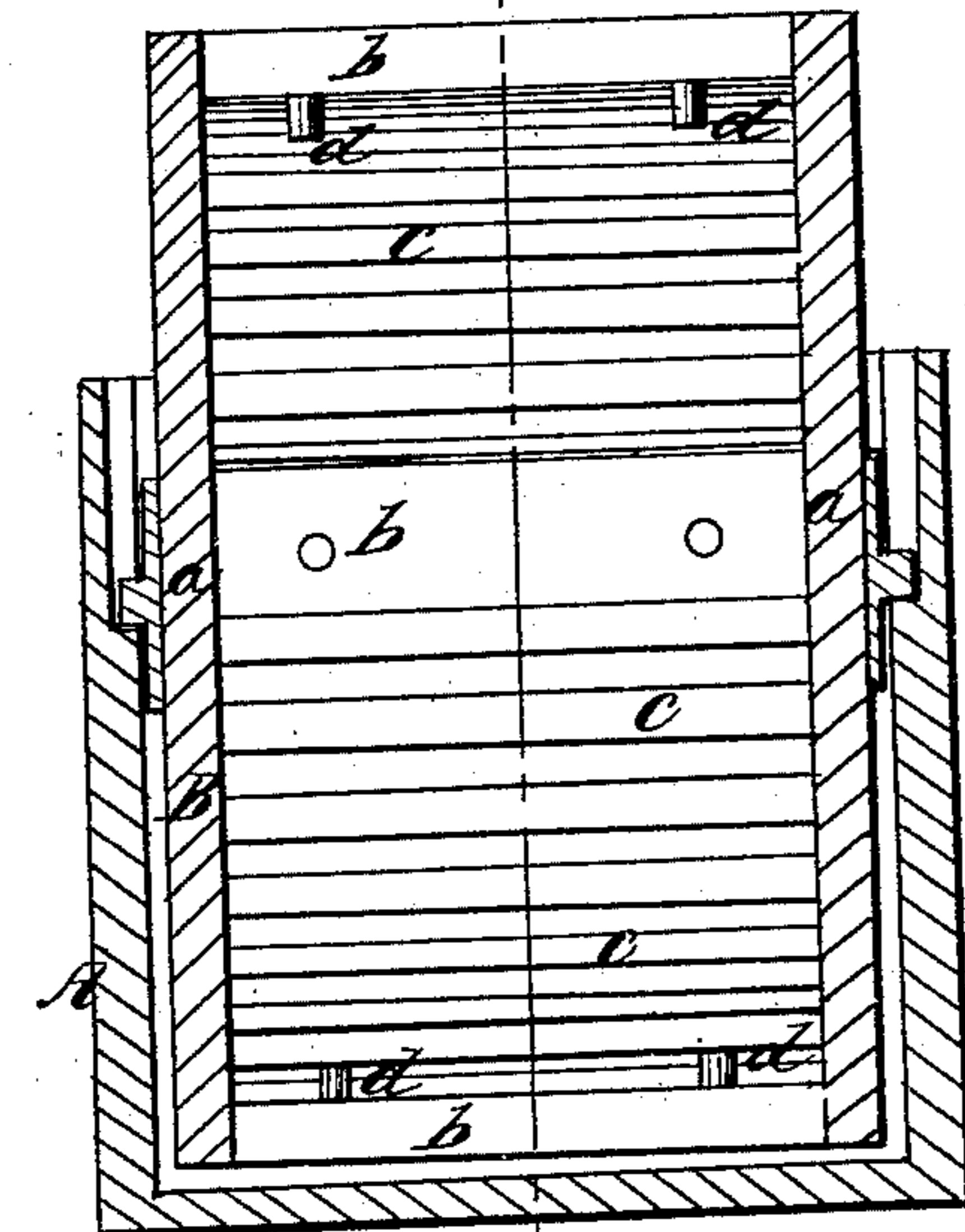
*N<sup>o</sup> 24,560.*

*Patented June 28, 1859.*

*Fig: 1.*



*Fig: 2.*



*Witnesses*  
*W. L. Smith*  
*A. B. C. & Co.*

*Inventor:*  
*D. L. Hubbard*

# UNITED STATES PATENT OFFICE.

D. L. HUBBARD, OF GLASTENBURY, CONNECTICUT.

## APPARATUS FOR TANNING.

Specification of Letters Patent No. 24,560, dated June 28, 1859.

*To all whom it may concern:*

Be it known that I, D. L. HUBBARD, of Glastenbury, in the county of Hartford and State of Connecticut, have invented a new and Improved Apparatus or Device to be used in the Process of Tanning; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figures 1 and 2 are vertical central sections of my invention, the two planes of section crossing each other at right angles.

Similar letters of reference indicate corresponding parts in the two figures.

This invention consists in the employment or use of a wheel or cylinder having a periphery formed of slats and placed within a proper vat, the whole being constructed and arranged as hereinafter fully shown and described, whereby the hides may be turned so that all their parts may be properly exposed to the action of the tannin, and fresh bark added, as well as spent bark allowed to be removed from the liquor in the vat without agitating said liquor sufficiently to appreciably deteriorate it by the absorption of oxygen, a contingency which occurs by the usual manipulation of hides in vats.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A, is a vat which may be of any suitable dimensions, and B, is a wheel or hollow cylinder suspended therein so that it may rotate freely. This wheel is formed of two disks *a, a*, connected at their edges by bars *b*, and oblique slats *c*. The position of the slats *c*, is shown clearly in Fig. 1, and they constitute the principal portion of the periphery of the cylinder, the bars *b*, merely serving as firm connections for the disks *a, a*. The slats *c*, are made sufficiently deep to extend a suitable distance within the wheel. To the inner sides of the bars *b*, pins *d*, are attached, two or more to each, two pins are shown attached to each bar in the drawings.

Within the vat A, at one end an apron C, is placed. This apron extends from the center of the bottom of the wheel or cylinder upward to the top of the vat and corresponds with the curvature of the wheel, as shown clearly in Fig. 1, the periphery of

the wheel or cylinder being quite close to the apron, the outer edges of the slats being curved corresponding to the curvature of the peripheries of the disks *a, a*.

The hides and bark are placed within the wheel or cylinder B, and the vat A, is supplied with a requisite quantity of water, nearly filled. The hides remain immersed a sufficient length of time so that their exposed surfaces will be acted upon by the tannin, and the wheel or cylinder B, is then slowly turned so that the portions of the hides that were previously not fully exposed may be changed or turned to occupy exposed positions and thereby cause all parts of the hides to be equally acted upon, the wheel or cylinder being slowly turned from time to time, for such purpose, in the direction indicated by arrow 1. When the wheel is rotated in this direction the bark within the wheel or cylinder will not escape therefrom between the slats owing to the oblique position of said slats. When the bark in the cylinder B, becomes spent, the cylinder is slowly turned in the direction indicated by arrow 2, and the bark will pass between the slats *c*, a result due to the oblique position of the slats relatively with the direction of the movement of the cylinder. The apron C, causes the bark that escapes between the slats directly over it to pass down to the open space *a\**, at the end of the vat and the whole of the spent bark will therefore collect at the bottom of said open space and may readily be removed. Fresh bark of course may be placed within the cylinder at any time.

From the above description it will be seen that the hides may be changed in position without materially agitating or disturbing the liquor in the vat, and that the spent bark may also be removed without disturbing the liquor. This is an important result, for agitating or disturbing the liquor causes it to imbibe oxygen, it having an affinity therefor, and the tannin in solution is converted into gallic acid, and its properties destroyed. This tendency of the tannin seriously impedes the process of tanning when the hides are changed or turned by hand and the bark renewed, for this work cannot be done without disturbing or agitating the liquor to a considerable degree. By my invention this difficulty is obviated.

I do not claim a rotating cylinder for changing the position of hides in a vat, irrespective of the slats *c*, attached to the wheel and forming its periphery to effect the result described, but,

Having thus described my invention what I claim as new and desire to secure by Letters Patent, is—

1. The wheel or cylinder B, having its periphery formed of oblique slats *c*, placed

within the vat A, and arranged to operate as and for the purpose set forth.

2. I further claim in combination with the wheel or cylinder B, constructed as described, the apron C, for the purpose specified.

D. L. HUBBARD.

Witnesses:

WM. TUSEH,  
T. V. HAUP.