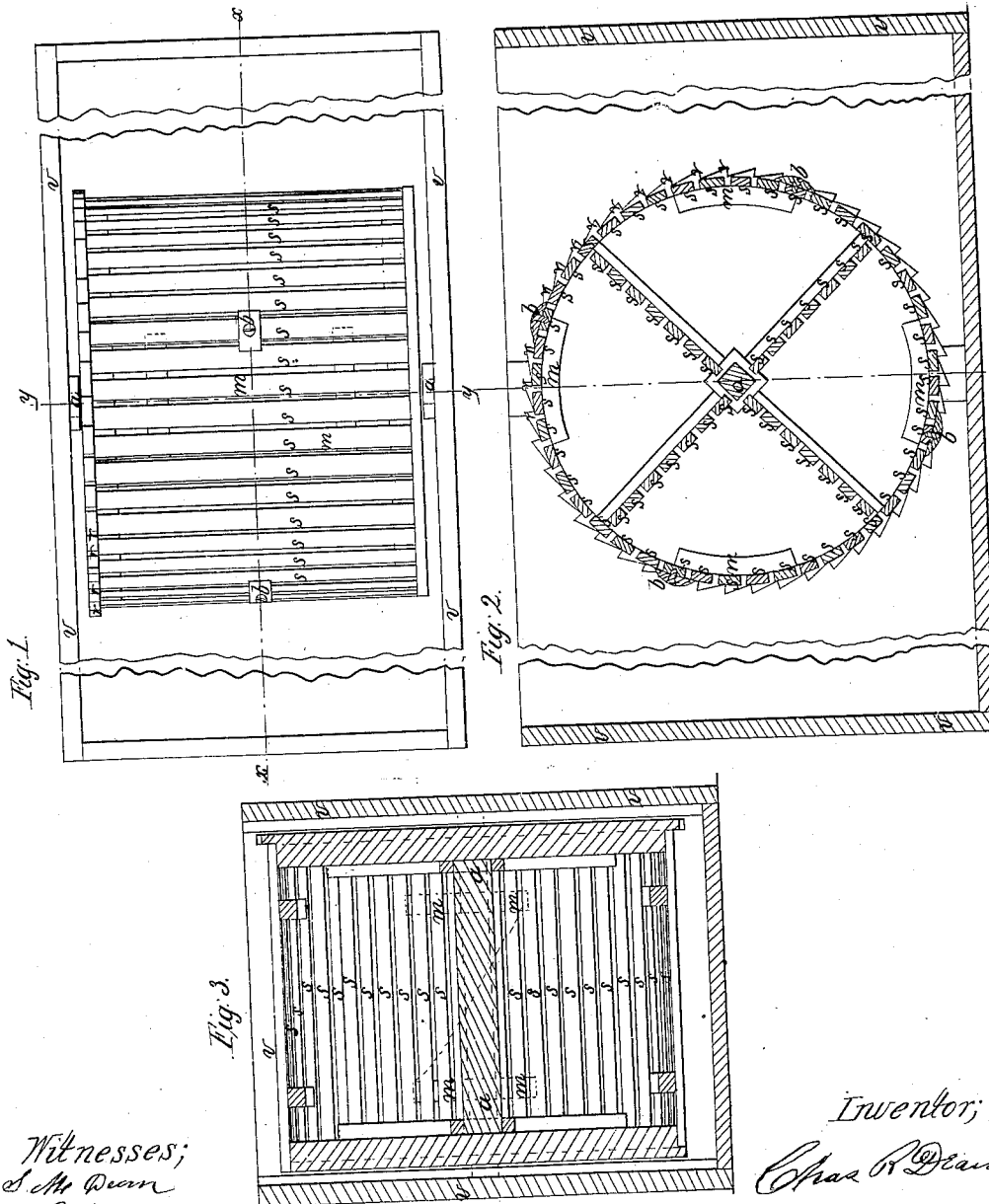


No. 50,228.

PATENTED OCT. 3, 1865.

C. R. DEAN.
APPARATUS FOR TANNING.



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CHARLES R. DEAN, OF RANDOLPH, NEW YORK.

IMPROVED APPARATUS FOR TANNING.

Specification forming part of Letters Patent No. 50,228, dated October 3, 1865.

To all whom it may concern:

Be it known that I, CHARLES R. DEAN, of Randolph, in the county of Cattaraugus, in the State of New York, have invented an Improved Process of Tanning by the use of a hollow cylinder with compartments, as hereinafter described; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, the same letters representing corresponding parts in the different figures.

The nature of my invention consists in providing an appliance by means of which, in the process of tanning, all the hides and every part thereof may be continuously changed in position, so that the whole hide is constantly and uniformly exposed to the action of the tanning which converts it into leather.

The advantages which I claim for my process are rapidity of tanning, saving of labor, the utilization of nearly all the tannic acid, and the production from a given quantity of hides of a greater amount of leather than is obtained by the usual process of tanning.

I am thoroughly tanning slaughter-leather in from four to six weeks by this process. The hides during the process of tanning require hauling but a very few times.

By my process the tannic acid is so rapidly united with the gelatine of the hide that time is not afforded for the conversion of it into gallic acid.

In the usual process of tanning much of the gelatine is dissolved and lost, while by my process almost the whole of it is chemically combined with the tannic acid, thereby securing in the yield of leather a gain equal to the amount of gelatine otherwise lost and the tannic acid which will combine with it.

To enable others skilled in the art to make and use my invention, I will proceed more fully to describe its construction and operation.

I construct my vat in the usual manner with level or curved bottom, with or without a tight-fitting cover. I then construct a hollow cylinder or cylindrical wheel of size as large as may be and turn readily within the vat, yet to be wholly or nearly immersed in the liquor with which the vat is to be filled. I divide the interior of the wheel by partitions into compartments. In my practice I prefer that the num-

ber of these compartments should be four, but a greater or less number may be used. The circumference and partitions are formed of slats with narrow spaces, so that the liquor may readily penetrate every portion of the wheel, while the hides are retained within the compartments in which they are placed. The partitions run lengthwise in the wheel, and reach from the axis to the circumference, making the compartments triangular in shape. The cylindrical wheel may be replaced by an equivalent, prismatic or prismoidal in form, with compartments, as described, but I prefer the cylindrical form. The ends of the wheel are made of wood or other fitting material, and should be strong, to receive the application of power by means of ratchets, gearing, or otherwise.

In the drawings, Figure 1 represents a top view of the wheel. Fig. 2 represents a longitudinal section of the wheel cut through the line *xx* of Fig. 1. Fig. 3 represents a cross-section of the wheel cut through the line *yy* of Fig. 1.

The sides of the vat in which the wheel is placed are shown at *vv*. The axis of the wheel on which it turns within the vat is shown at *a*. The slats in the circumference of the wheel, and forming the sides of the compartments, are shown in the various figures at *ss*, &c. The circumference of the wheel on one side, or both if necessary, is furnished with ratchets, (shown in the longitudinal section, Fig. 2, and in Fig. 1, at *rrr*, &c.) The object of these ratchets is to enable the whole wheel, when filled, to be gradually and regularly turned on its axis within the vat by means of power applied to the ratchets in succession.

Each of the compartments of the wheel is provided with an aperture or man-hole embracing several of the slats in the circumference fastened together so that they can be removed and replaced readily and secured to the circumference when in place by means of buttons or otherwise. The buttons by which these doors are secured are shown at *bb*.

The apertures should be made of sufficient width to enable the workman to fill the compartments readily with hides and to remove the hides from the various compartments through them. Each compartment requires but one man-hole. The cylindrical wheel thus formed is placed in the vat, securely fastened on its axis,

so that it will readily and freely turn thereon. The vat is then filled with liquor, and hides not crowded in each compartment. Then, by means of power applied to the wheel the whole is slowly and regularly turned within the vat. This causes the hides to move among themselves and within the ooze.

In practice I usually do not allow the liquor to cover the upper surface of the wheel, because of the convenience of opening and closing the doors when a small portion of the wheel is exposed.

The wheel constructed as above described may also be used in a vat wholly inclosed and in which the liquor is subjected to pressure. In this case I prefer to apply the power through the cover of the vat by means of a piston-rod

through a stuffing-box. I also make use of the same form of cylindrical wheel with compartments in my liners and grainers, generally constructing my vats with curved bottoms corresponding to the circumference of the wheel.

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

The construction of a hollow cylinder, or its equivalent, with slats or their equivalent and compartments, and the application thereof in the process of tanning, substantially as above described.

CHAS. R. DEAN.

Witnesses:

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