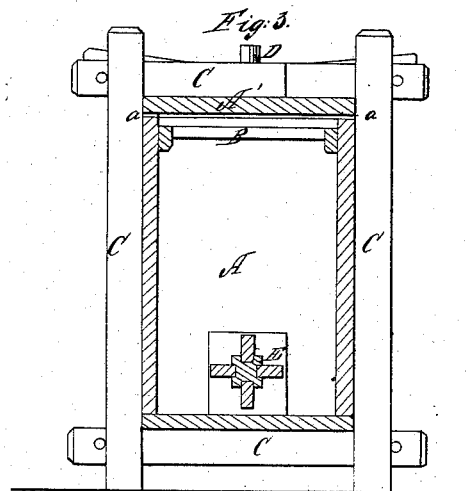
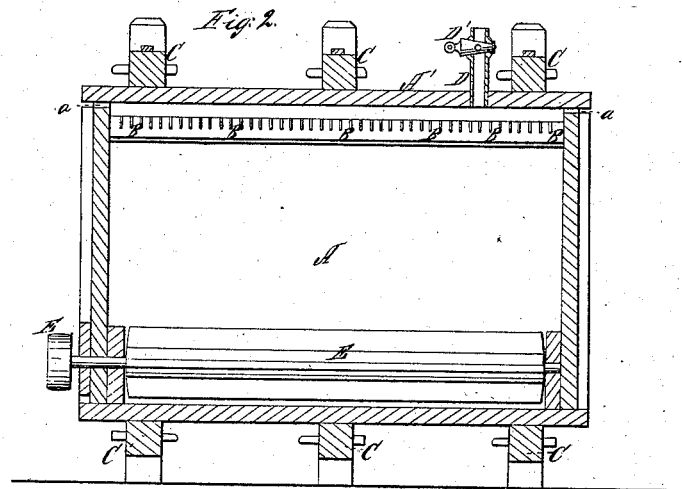
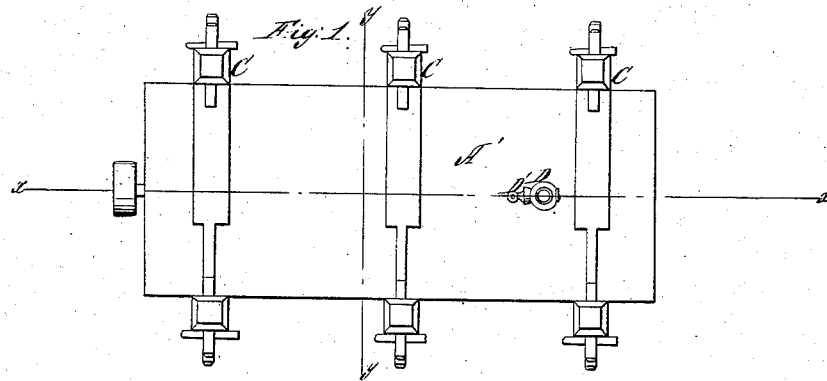


McNulty & Kern,
Tanning Apparatus,
N^o 1,784. *Patented May 23, 1865.*



Witnesses:

C. D. Smith

Inventor:
B. McNulty
Wm. Kern
By *Attorneys*

UNITED STATES PATENT OFFICE.

B. H. McNULTY AND WILLIAM KERN, OF MANSFIELD, OHIO.

IMPROVED PROCESS FOR TANNING.

Specification forming part of Letters Patent No. 47,844, dated May 23, 1865.

To all whom it may concern:

Be it known that we, B. H. McNULTY and WILLIAM KERN, both of Mansfield, in the county of Richland and State of Ohio, have invented a new and Improved Process for Tanning; and we do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a plan of the apparatus employed in carrying our invention into effect. Fig. 2 is a vertical longitudinal and central section of the same, the line *xx* denoting the plane of section. Fig. 3 is a vertical transverse section in the line *yy*, Fig. 1.

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

This invention relates to an improved process for tanning, consisting essentially in agitating the tanning-liquid while under a state of pressure and within a close vat containing the hides to be tanned. We are cognizant of the fact that it is not new to force and retain the impregnating liquid in a vat under pressure nor to agitate the tanning-liquid; but we are not aware that in any process heretofore devised the liquid has been put in violent motion or agitated at the time it was under pressure. We have discovered by practical test that by thus agitating the liquid while under pressure the tanning substance is caused to thoroughly permeate the hides in much less time than that required in the ordinary processes, and, in addition to this, a considerable saving in material is effected.

To enable others skilled in the art to which our invention appertains to fully understand and use the same, we will proceed to describe the manner of carrying it into effect.

In the accompanying drawings, A represents a vat, and A' a lid therefor, a tight joint being made between the lid and vat by an elastic packing, *aa*, which prevents the escape of water from the interior of the vat during the tanning process. The hides are hung upon the supports or bars B, and after this has been done the lid A' is placed in position on the vat and secured by the braces or retainers C, which, being connected to-

gether in fours by pins and wedges, so as to form frames, may be readily applied and removed.

D is a pipe or nozzle inserted into and passing through the lid A', and providing with a cock, D'. The hose of a force-pump may be attached to the nozzle D, and after the tanning-liquid has been forcibly injected into the vat, until the requisite degree of pressure is attained, such pressure is sustained by turning the cock D'. Leather of a superior quality may be produced by thus retaining the liquid within the vat under pressure; but it is manifest that in the motionless condition of the liquid, the tanning substance in the immediate vicinity of the leather is absorbed, while the portion of the liquid more remote from the leather remains charged.

To keep the liquid in circulation and in contact with the surface of the leather, we employ a dasher, E, which, through the medium of a pulley, E', may be rotated so as to keep fresh portions of the liquid, or that which contains the tanning substance, constantly in contact with the leather, and this agitation, being performed while the liquid is under pressure, insures the rapid and complete impregnation of the leather by the tannin. The dasher or agitator E is located in the bottom of the vat A, and the power whereby it is rotated can be derived from a steam engine or any other suitable source.

Having thus described our invention, what we claim as new therein, and desire to secure by Letters Patent, is—

1. The tanning process herein described, the same consisting in agitating the liquid by a rotary dasher, E, or equivalent mechanical means, while under pressure within the vat, substantially as and for the purpose set forth.

2. The apparatus used in the above process, comprising the vat A, lid A', packing *a*, nozzle D, braces or retainers C, and dasher E, combined and arranged in the manner herein described and represented.

B. H. McNULTY.
WM. KERN.

Witnesses:

ABNER WRIGHT,
J. G. THOMAS.