

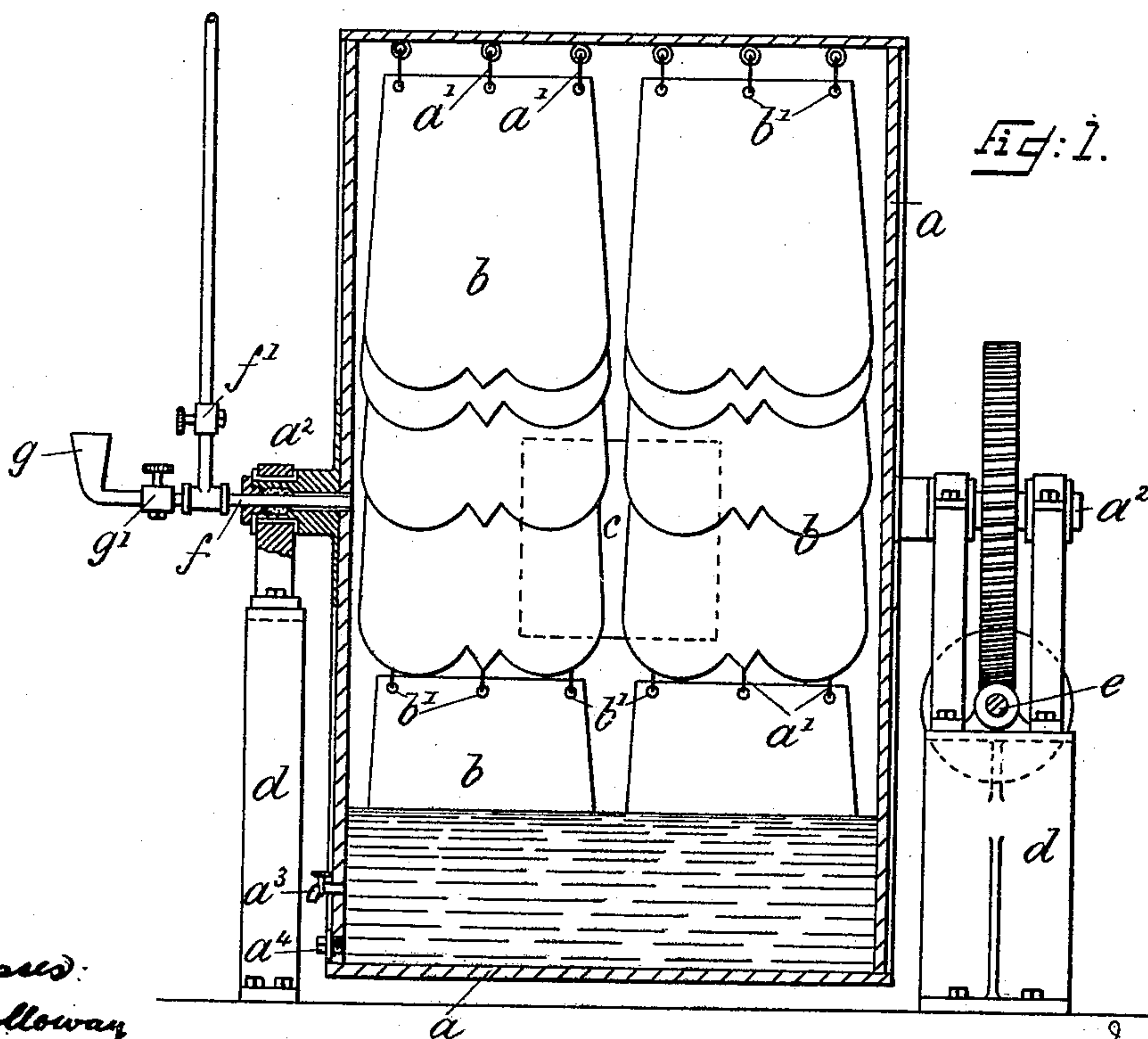
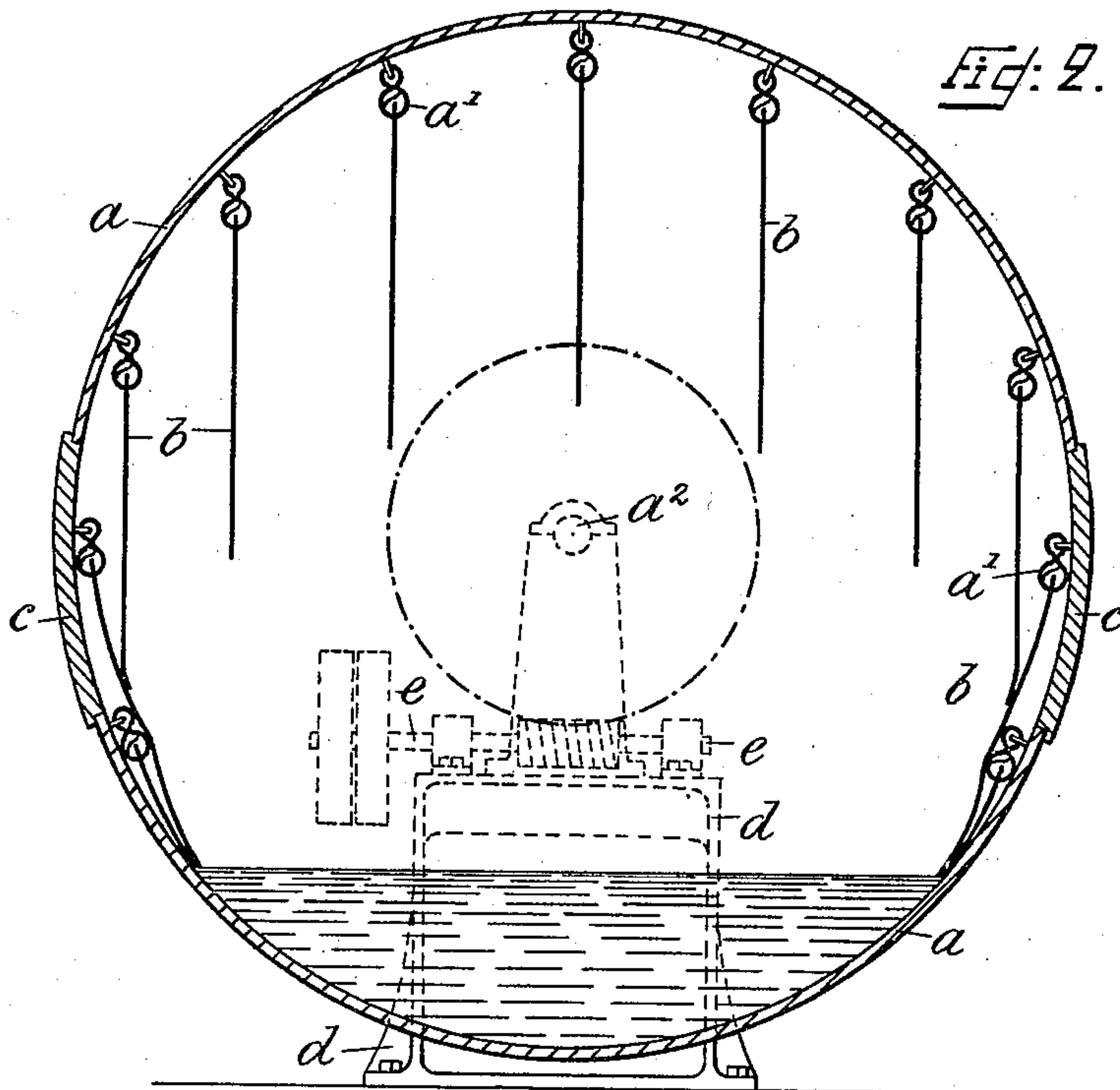
No. 615,969.

Patented Dec. 13, 1898.

J. H. CURLING.
TANNING HIDES OR SKINS.

(Application filed Sept. 3, 1898.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

JESSE HANDCOCK CURLING, OF TROWBRIDGE, ENGLAND.

TANNING HIDES OR SKINS.

SPECIFICATION forming part of Letters Patent No. 615,969, dated December 13, 1898.

Application filed September 3, 1898. Serial No. 690,185. (No model.)

To all whom it may concern:

Be it known that I, JESSE HANDCOCK CURLING, a subject of the Queen of Great Britain and Ireland, and a resident of Trowbridge, Wiltshire, England, have invented certain new and useful Improvements in Tanning Hides or Skins, (for which I filed applications for patents in Great Britain on July 27, 1898, No. 16,369, and in Belgium on August 2, 1898, Serial No. 107,274,) of which the following is a specification.

This invention relates to the tanning of hides or skins; and it consists in certain improvements in drum-tannage, most advantageously applicable to the treatment of the thicker hides, such as cow or ox hides, and which enable me to effectively tan such hides in but a comparatively short time to that usually occupied and to produce leather having the flexibility, firmness, and other attributes indispensable to a sound and serviceable product of high quality.

On the accompanying drawings, Figure 1 is a longitudinal section, and Fig. 2 a transverse section, of a tanning-drum adapted in accordance with the present improvements.

In carrying out the invention I employ a drum *a*, such as that represented on the drawings, and suspend the hides *b* therein separately and freely without stretching the same. The drum is made of a relatively large diameter, so that the hides can be lifted well out of the tanning liquor as the drum is slowly revolved, and the hides are suspended therein at a distance apart sufficient to keep them well separated while out of the tanning liquor and to prevent any undue rubbing thereof together while in the liquor, with the object of insuring an even tannage color and the avoidance of grain. The drum may be made of a width suitable to the suspension of one, two, or more series of hides side by side. The drum is provided with peripheral liquid-tight doors *c*, through the doorways of which an operative can obtain access to the drum interior for suspending and removing the hides. The hides are separately suspended by the operative punching holes *b'* therein and hanging the same onto snap-hooks *a'*, secured to the drum. The drum is provided with trunnions *a''*, which are mounted on bearings *d*, one of the trunnions gearing with a driving-shaft *e*

and the other being made hollow and provided with an inlet-pipe *f*, (having a stop-cock *f'*,) leading from a main, (not represented,) with which connect other pipes having stop-cocks and respectively leading from reservoirs of the several tanning extracts or liquors which may be required to be used, according to the nature of the hides under treatment, so as to provide means of supplying to the drum such liquors as may for the time be required therein. The pipe *f* is also provided with an independent inlet and vent *g*, having a stop-cock *g'* and serving as a means of introducing into the drum from time to time a quantity of turpentine, relatively small in proportion to the quantity of tanning liquor employed, as a means of discharging the contained initial atmosphere of air, and also from time to time the gases generated within the drum, and of substituting therefor an atmosphere of or saturated with turpentine-vapor.

In carrying out the improved process I employ a relatively small quantity of the tanning liquor in relation to the capacity of the drum in lieu of a relatively large quantity, as customary in drum-tannage, and also freely suspend and relatively widely separate the adjacent hides, as aforesaid, and also introduce into the drum from time to time a quantity of turpentine relatively small in relation to the quantity of the contained tanning liquor, introducing such material for the purpose of discharging the initial atmosphere of air contained by the drum, and thereby removing its oxidizing influences, which are liable to spot the hides, and substituting an atmosphere of vapor which is not subject to this disadvantage, but has a mellowing influence on the suspended hides, which, alternating with the tanning action of the tanning liquors and conjunctively with the use of the relatively small quantity of tanning liquor, is effective in preventing fermentation of the latter and in causing the rapid conversion of the hides into leather of high quality. I effect the tanning operation first by means of weak tanning liquors of appropriate character conjunctively with a small addition of turpentine, as aforesaid, and gradually raise the strength of the tanning solution and maintain its strength, as desired, by the addition from time to time of fresh extract, and from time

to time discharge the gaseous atmosphere of the drum and admit further additions of turpentine in small quantities, as and for the purpose aforesaid.

5 The drum is provided with a test-cock a^3 , by which part of its liquid contents may from time to time be drawn off for testing the strength thereof, and with a liquid-outlet a^4 ,
10 by which its contents may be drawn off as required either for emptying the drum prior to the removal of the hides or for substitution by different liquors or extracts, as the nature of the hides may require.

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

The hereinbefore-described improved process of tanning hides and skins, the same consisting in suspending the hides separately and freely in a drum made of a relatively large
20 diameter so that as the drum is slowly revolved the hides can be lifted well out of the tanning liquor and kept well separated while out of the tanning liquor and prevented from any undue rubbing thereof together while in
25 the tanning liquor and in the employment of a relatively small quantity of tanning liquor in relation to the capacity of the drum, and in the introduction into the drum from time

to time of a quantity of turpentine relatively small in relation to that of the contained tanning liquor as a means of discharging the initial atmosphere of air contained in the drum and also from time to time the gases generated therein during the tanning process and of substituting therefor an atmosphere of turpentine-vapor, and in submitting the suspended hides to the mellowing influence of such vapor while out of the tanning liquor alternately with the tanning action of the liquor while passing therethrough, the hides being first submitted to the action of weak tanning liquors of appropriate character conjunctively with a relatively small addition of turpentine and the strength of the tanning liquor being gradually raised until the desired strength is obtained; whereby fermentation of the tanning liquor is avoided and the rapid conversion of the hides into leather of high quality is effected, as set forth.

Signed at London, England, this 20th day 50 August, 1898.

JESSE HANDCOCK CURLING.

Witnesses:

CHARLES AUBURY DAY,
ALFRED CHARLES DAY.