

C. J. GLASEL.
 APPARATUS FOR TREATING HIDES.
 APPLICATION FILED SEPT. 24, 1909.

970,701.

Patented Sept. 20, 1910.

2 SHEETS-SHEET 1.

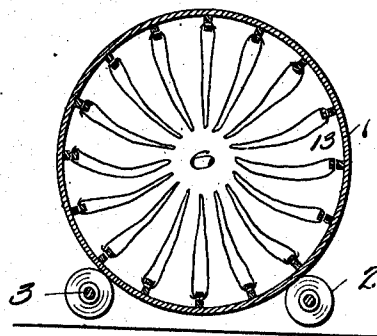
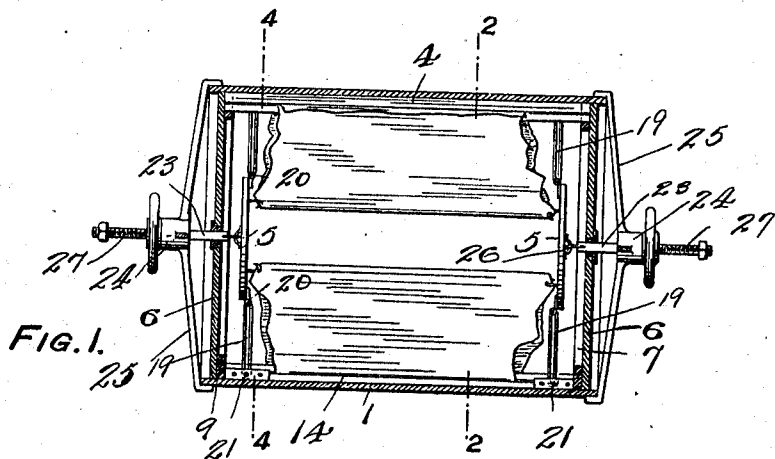


FIG. 2.

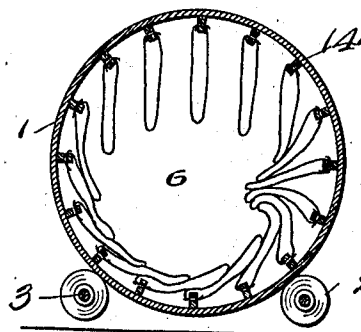


FIG. 3.

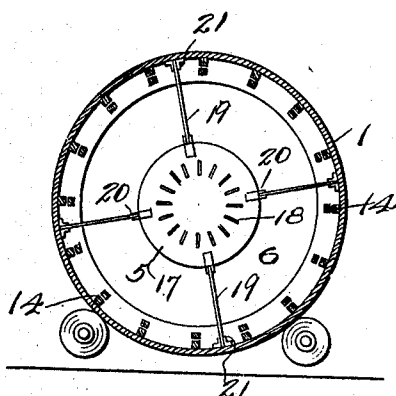


FIG. 4.

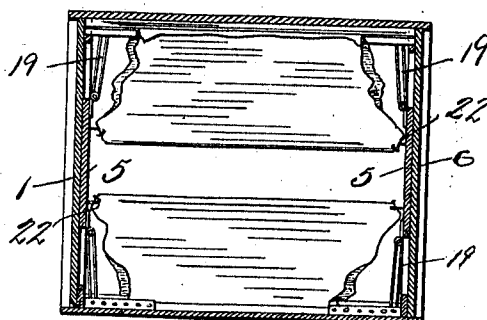


FIG. 5.

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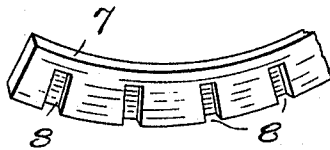


FIG. 6.

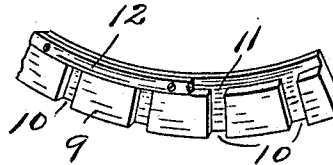


FIG. 7.

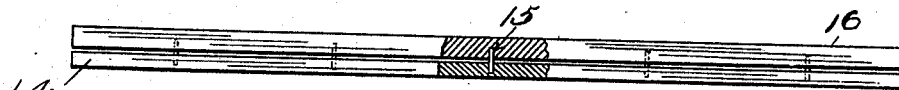


FIG. 8.

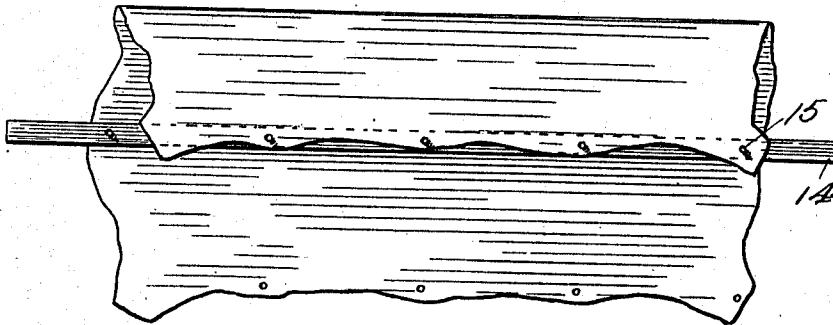


FIG. 9.

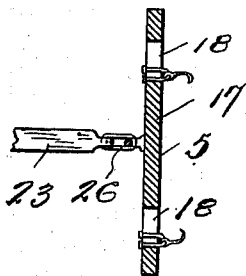


FIG. 10.

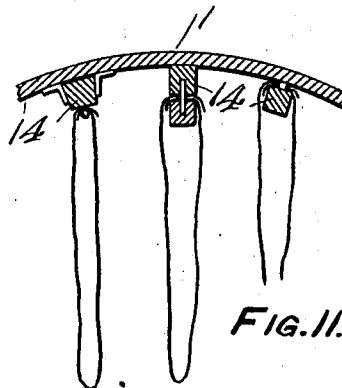


FIG. 11.

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UNITED STATES PATENT OFFICE.

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APPARATUS FOR TREATING HIDES.

970,701.

Specification of Letters Patent. Patented Sept. 20, 1910.

Application filed September 24, 1909. Serial No. 519,460.

To all whom it may concern:

Be it known that I, CHARLES JOHN GLASEL, citizen of the United States, residing at Washington, District of Columbia, have invented certain new and useful Improvements in Apparatus for Treating Hides, of which the following is a specification.

The present invention contemplates improvements in the art of tanning hides or skins and includes apparatus for tanning and re-tanning, coloring, and bleaching, and otherwise treating hides or skins in the presence of tanning agents.

I have found by actual experience and practice that hides and skins may be tanned, re-tanned and otherwise treated most effectively and expeditiously, by temporarily shaping or forming the hides into receptacles having open ends and subjecting the hides or skins, while held in such formation, to the action of tanning liquor, and gases. In action, because of the formation of the hide the liquor or agent is retained therein a sufficient time to treat the hide, and the repeated subjection of the hide to the tanning agents accomplishes the desired result. Preferably I employ a revolving receptacle, containing a tanning liquor, and accumulated gases arising therefrom, in which the hides are suspended in receptacular formation, and as the hides are passed through the liquor each receptacle or inclosure draws a quantity of the agent with it, retains the liquor for a short time, and then discharges it from the open ends of the inclosure.

In the accompanying drawings I have illustrated several forms of modified devices for accomplishing the above result, constructed according to the best modes I have so far devised for the practical application of the principles.

Figure 1 is a vertical central section of a rotatable vessel, preferably a cylinder, showing the hides or skins suspended therein, and means for laterally adjusting the suspending means. Fig. 2 is a transverse section of Fig. 1 on line 2—2. Fig. 3 is a transverse section of a rotary vessel having hides or skins suspended therein by modified means. Fig. 4 is a transverse section of Fig. 1 at line 4—4. Fig. 5 illustrates the hides or skins suspended in a closed receptacle, of modified formation. Figs. 6 and 7 are fragmentary views, in perspective, of portions of the hide carrying and retaining means. Fig.

8 is a plan view, partly broken away, of the means for holding or suspending the hides in the receptacle. Fig. 9 illustrates the manner of attaching the edges of the hide to the hide holding means. Fig. 10 is a broken sectional view of one of the holding disks, and Fig. 11 is a fragmentary section view, showing several different forms of attaching the hides to the rotary receptacle.

The cylindrical vessel 1 is rotatable by means of the friction wheels 2, supported to revolve with the driving shafts 3, which shafts are driven by suitable means not shown.

Referring particularly to Figs. 1, 2, 4, 6, 7, etc. the hides or skins are suspended in the receptacle, between retaining bars 4, and a pair of disks 5, 5, in a receptacular formation having open ends, in the following manner.

Each head 6, 6 of the receptacle is provided with a retaining ring, one of which, as 7, is formed with notches 8, cut therein, but having closed ends. The other retaining ring 9 is also provided with radial notches or grooves 10, which open into the space 11, formed by cutting out an annular recess in the material of the ring. This recess is adapted to seat the clamping ring 12, which may be secured therein. The notches 8 and 12 are spaced equidistant about their respective rings, and are equal in number. When the ring 7 is secured against the inner side of the cylinder head, the open outer ends of the notches are closed by the walls of the cylinder, and form recesses or sockets for one end of a series of bars 4. The open ends of the notches or grooves 10 are also closed by the walls of the cylinder and form sockets for the reception of the other ends of the series of bars. These bars 4 are preferably made in two pieces, one of which as 14, has a number of pins seated therein, and the end of these pins 15 protrude or project from said piece. The other piece or section 16 of the bar is formed with complementary sockets for the reception of the pins. Thus the hide or skin is attached to one section of the bar, (as shown in Fig. 9) by means of the protruding pins, and then the other section is placed thereupon, the sockets receiving the free ends of the pins. The bar with the hide thus suspended thereon is with one end, engaged in the notches 8 of ring 7, and the other end of the bar is pushed into

the open notch of recess 10 in ring 9. The closure or clamping ring 12 is placed in position and secured, thus holding the hide or skin in suspension. As many hides may be
 5 suspended in the vessel as there are bars and notches to receive them.

The above described construction is also exemplified in Fig. 3, which will be more definitely brought out hereinafter.

10 In addition to suspending the hides or skins by means of the retaining rings and bars, I also preferably attach them at their inner ends, that is, near the axial center of the rotary vessel. For this purpose, I provide duplicate disks 5 which are formed with
 15 radial slots 18 therein, and suspended near each end of the cylinder, by means of a spider, comprising links 19, which are pivoted at 20 to the disk and adjustably pivoted at 21 to the inner wall of the cylinder. Within the radial slots I locate a number of
 20 hooks 22 which are spaced equidistant about each disk and in line with the notches or recesses of the retaining rings before described. By this means the inner end of the
 25 hide, which is formed into a pocket or bag-like receptacle with open ends, may be caught over a hook 22 at each end of the cylinder and held distended.

30 To provide adjustment of the disks to suit different sizes of hides I utilize an integral trunnion which is passed through a perforation in the heads of the cylinder, and this trunnion, which may be a bar as 23, is supported in a sleeve 24 having radiating arms
 35 or braces 25 by means of which it is held to the cylinder. The inner end of each trunnion is linked, as at 26, to a disk, and the outer end is threaded as at 27. A wheel located on the threaded end of each trunnion
 40 engages the threads thereon and may be turned to insert or withdraw the trunnion through the cylinder head, carrying with it the supporting disks, to adjust the supporting
 45 means for differing sized hides.

In Fig. 9 the suspending device at the center is similar to the supporting bars 13. At the right and left of this device are shown modified means for suspending the hides.
 50 In all cases the essential idea is that the hides may be applied with facility, and that the extreme edges which overlap are not tightly incased, but are free to be acted upon and to absorb the tanning liquor as they
 55 pass therethrough, so that every portion of the hide is subjected to the treatment.

In Fig. 3, as the receptacle revolves, the hides assume a perpendicular position at the upper portion of the receptacle, after they
 60 have passed through the tanning agent. As the hides traverse the circular path, they are bunched, as shown at the right, and in this manner the remaining liquor held in the pockets is pressed therefrom. A continuation of the rotary movement causes the hides

to pass through the liquor, and in passing a quantity of the agent is carried by each hide, which is absorbed, and is again pressed out as before stated.

In both forms of the invention the liquor 70 is picked up and inclosed and carried by the receptacular formation of the hides during the rotation of the vessel, and the liquor or tanning medium is distributed over the entire area of the hide. 75

By virtue of the weight of the hide, and also of the liquor carried thereby, the operation and working of the hide is accelerated, due to the action of gravity which expels
 80 the undesirable substances from the pores of the hide, and permits the entrance thereto of the agent when again submerged.

I have found that the gases arising from the tanning agent or liquor while confined in the vessel, also have a very important
 85 effect on the hides being tanned, and that the alternate submersion of the hides in the liquor, and exposure to the gases as the hides are rotated, materially hastens and improves the treatment thereof. 90

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

1. An apparatus for treating hides comprising a casing containing a tanning agent, 95 means for suspending the hides in receptacular formation, and means for alternately submerging the hides in the agent and withdrawing them therefrom.

2. An apparatus for treating hides comprising a casing containing a tanning agent, 100 means for suspending the hides in receptacular formation, and rotary means for alternately subjecting the hides to the treating agent and withdrawing them therefrom. 105

3. An apparatus for treating hides containing a treating agent, devices for suspending the hides in receptacular formation, adjustable means for accommodating different sized hides, and means for alternately 110 submerging the hides in said agent and withdrawing them therefrom.

4. An apparatus for treating hides comprising a closed rotary cylinder containing a treating agent, slotted rings at each end of 115 said cylinder, and a plurality of holding bars seated in said slotted rings for suspending the hides.

5. The combination with a casing having retaining rings therein, of suspending bars 120 as described, and devices for connecting said bars with the rings.

6. The combination in a hide treating apparatus having retaining rings in its ends, 125 of a plurality of hide supporting bars and means for connecting said bars with said rings.

7. The combination in a hide treating apparatus having supporting bars at its inner 130 perimeter, of attaching means located at the

axial center of the heads of the apparatus, and means for adjusting said attaching means.

8. The combination in a hide treating apparatus of a rotary cylinder having retaining rings therein, supporting bars extended between said rings, a pair of disks at the axial center of said cylinder and located at its ends, and means for laterally moving said disks, said disks having attaching devices thereon.

9. The combination in a hide treating apparatus of a rotary cylinder having hide suspending means therein, a pair of disks at the axial center of the cylinder provided with means for attaching the hides, threaded trunnions in connection with the disks, and a turn wheel on each trunnion for adjusting said disks.

10. The combination in a hide treating

apparatus of a rotary cylinder having hide suspending means therein, a pair of disks formed with threaded trunnions, and turn wheels on said trunnions, radial slots formed in said disks, and hooks attachable therein for holding the hides.

11. An apparatus for treating hides comprising a rotary casing suitable for containing a liquid tanning agent and gaseous tanning agents, means for suspending the hides in receptacular formation, and means whereby the hides are alternately subjected to the liquid agent and the gaseous agents.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES JOHN GLASEL.

Witnesses:

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E. H. PARKINS.