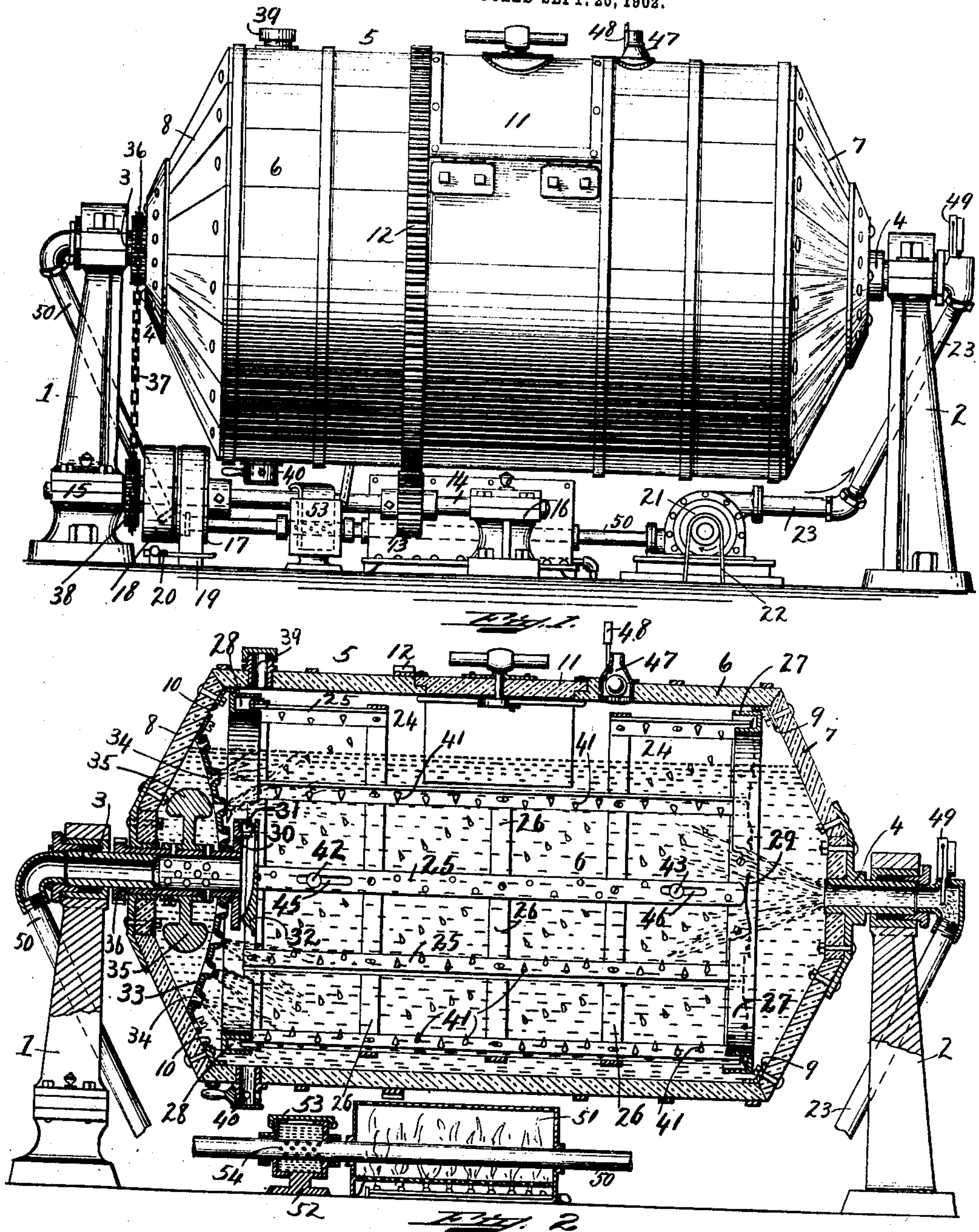


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PATENTED MAY 21, 1907.

C. J. GLASEL.
COLORING AND TANNING APPARATUS.

APPLICATION FILED SEPT. 26, 1902.



Witnesses:
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UNITED STATES PATENT OFFICE.

CHARLES JOHN GLASEL, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO T. LATZLSPERGER, OF SAULT AUX RECOLLÈTS, CANADA.

COLORING AND TANNING APPARATUS.

No. 854,415.

Specification of Letters Patent.

Patented May 21, 1907.

Application filed September 26, 1902. Serial No. 124,963.

To all whom it may concern:

Be it known that I, CHARLES JOHN GLASEL, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Coloring and Tanning Apparatus, of which the following is a specification.

My invention relates to improvements in coloring and tanning apparatus, and the objects of my improvements are to rapidly tan hides and skins, on the most economical scale, with the heaviest gains in time, weight, evenness, and durability, and to cause eight hides to be tanned, to upper leather, in from two to sixteen hours, and heavy hides, to sole leather, belting, within forty eight hours. Also, by my invention, the bellies and flanks of the hides, are rendered as hard, and firm, as the middle part of the skin, and the hides, or skins, are evenly stretched while the solution of tanning or coloring substance, is evenly distributed and caused to permeate each, and every part of the hides, or skins.

By my apparatus the leather is evenly colored, and the coloring solution kept under control, as may be desired, and driven or distributed as may be wished.

I attain these objects by means of the mechanism illustrated in the accompanying drawing, in which;

Figure 1, is a view of the exterior of my mechanism; Fig. 2, is a sectional view of the interior of my apparatus.

Similar numerals refer to similar parts throughout the views.

1 and 2 are standards, of suitable form and construction, in the tops of which are journaled, in suitable boxes, the shafts 3, and 4, of the drum 5. The drum 5, is composed of staves, hooped together forming a cylinder 6, and having the cones 7 and 8. Said cones being held to the cylinder by the angle irons 9 and 10. The shafts 3 and 4 are tubular, and are firmly clamped in place on the cones 7 and 8.

11 is a lid which is adapted to hermetically seal, and shut in the contents of the drum.

On the drum 5, is the cogwheel 12, which engages with the cogwheel 13, and thereby the drum 5 is rotated. The wheel 13 is set on the shaft 14, which is journaled in the box 15, of the standard 1, and the standard 16. The shaft 14 is rotated by the pulley 17 which is belted to suitable driving power.

18, is a loose pulley, on shaft 14, to which the driving belt 19, may be shifted by the shipper 20, to shut off the power.

21 is a rotary pump, of suitable form and construction, rotated by suitable gear, driven by belt 22, by which, power is transmitted from suitable mechanism. From the pump 21, is the tube 23, which is joined to the tubular shaft 4, and through which, is driven the liquid solution used, as indicated by the arrow in Fig. 1, and the spray in Fig. 2; the solution may be any well known solution, as the solution which I am desirous to use, I prefer to make the subject of another application, it being different from those heretofore used.

24 is a cage, formed of the slats 25, provided with the points 41, said points being also on the interior walls of the drum when desired, preferably for light weight hides and skins. The slats 25 constitute one form of hide-agitating or hide-moving members, but other forms may be employed. The ends of the slats 25, rest in the channeled hoops 27 and 28, which are fixed to the interior part of the cylinder 6 and the cage 24 is thus supported by the ends of the slats resting in the channels of the metal hoops 27 and 28. In the hoop 27, is the spring 29, while on the shaft 3, is the plate 30, which is composed of a disk with sleeve fitting around the shaft 3, said disk having a suitable shoulder to allow the pulley 31 to be held in place. The loose friction pulley 31, is rotated around by means of said shaft, as hereinafter described, which pulley 31, moves over a cam plate 32, fixed on the outside of the metal hoop 28, by means of a metal spider or any suitable device.

33 is a disk, provided with orifices 34.

35 is a rotary spatula on the shaft 3, and rotated by means of the sprocket wheel 36, on said shaft, which is operated by the chain gear 37, from the sprocket wheel 38, on the shaft 14.

39 is a screw capped inlet, and 40 an outlet, for the purpose of filling or emptying the solution.

42 and 43 are pegs, holding the cage to the inner part of the cylinder 6, while the slots 45 and 46, allow the lateral motion, hereinafter described.

47 is a ball valve, which allows the gas to escape, when the drum is turned upward, and

48 is a gas gage, which is adapted to indicate the pressure of gas within the cylinder, the gas rushing upward through the gage, when desired, shows the pressure of the gases within the cylinder, as well as the nature of the same.

49 is a thermometer, inserted in the tube 23, to measure the temperature of the liquid solution.

50 is a tube from the pump 21, through the tubular shaft 3, and through which the solution is exhausted by the rotary pump 21.

51 is a heater of suitable form and construction, whereby the liquid flowing through the tube 50, is heated, as may be desired.

52 is a sampling box, provided with a cover 53, through which the tube 50 passes, and wherein the liquid is allowed to penetrate, by means of the orifice 54.

The hides, or skins, are placed through the lid 11, in the drum 5, and are caught on the points 41, of the slats 25. The solution is then poured in through the inlet 39, and the drum 5, rotates by means of the cogwheels 12 and 13. The cage 24, suspended in the drum 5, has not only the rotary motion of the drum 5, but also a reciprocating movement, by means of the friction pulley 31, acting on the cam plate 32, in cooperation with the spring 29. The spatula 35 keeps the liquid in motion, while the liquid is being forced by the pump through the drum. By this means, a constant, continuous flow, of the liquid solution, is driven through the hides, which are kept distended evenly, upon the cage, by means of the rotary, and reciprocating motion, and never wedged, or bunched together, as in the ordinary manner, and the bellies and flanks are thoroughly and evenly tanned. By means of the thermometer 49, the liquid solution can be, at any time, measured, as to heat, and force, by the gasometer 48. In the box 52, a hide is placed, and at any time may be taken out, and examined, to ascertain the result of the solution used.

When the tanning, or coloring, is ascertained, to be finished, then, on the drum 5, being stopped, the hides can be readily removed, by taking off the lid 11.

Having described the construction and operation of my invention, I desire not to be confined to the literal interpretation of the details herein shown, but may adapt such fair equivalents therefor, as will come within

the fair scope of my invention, which, having described, I claim:—

1. The combination with a cylinder and means for revolving it, of a spring pressed cage supported therein, a cam disk carried by the cage, and a fixedly supported roller bearing on the cam disk to force the cage against the spring pressure.

2. In a tanning and coloring apparatus the combination of a rotating drum having hollow trunnions, means for rotating the drum, standards supporting the trunnions, a frame composed of slats, and rings, adapted to reciprocate within the drum, while it rotates, longitudinal slots in the slats, bolts or pins passing through the slot and into the walls of the drum, a cam disk carried by the frame, an anti-friction roller connected with one of the standards and acting on the cam disk as the drum rotates, so as to cause the cam and frame to move longitudinally and springs acting on the frame, in opposition to the roller.

3. In a tanning and coloring apparatus the combination of a rotating drum having hollow trunnions, standards, means for rotating same, stuffing boxes, circulating pipes within the trunnions, conical heads to the drum, a perforated partition in one of the heads, a spatula or beater behind the partition and secured to the circulation pipe and hide agitating means in front of the partition.

4. In a tanning and coloring apparatus the combination of a rotating drum, means for rotating same, hollow trunnions, stuffing boxes, standards, circulating pipes terminating within the trunnions, a fluid mixer or agitator, a pump, a heater, a testing box through which the circulating pipe passes, and openings in said pipe within the box.

5. In a tanning and coloring apparatus, the combination of a rotating drum, means for rotating same, automatic agitating means for the hides or skins within the drum, and circulating means embracing the drum, a mixer, hollow trunnions standards, pipes, a sampling (researching) box a heater and a pump.

In testimony whereof I have affixed my signature, in presence of two witnesses.

CHARLES JOHN GLASEL.

Witnesses:

H. DUNHAM,
EDNA E. JEFFERY.