June 23, 1936. C. KANNEL 2,044,946

LEATHER TANNING

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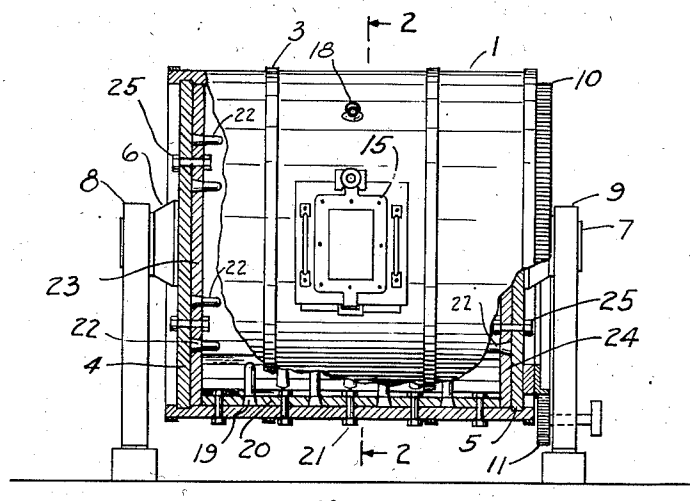


Fig. 1.

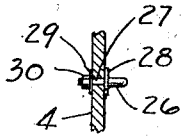


Fig. 3.

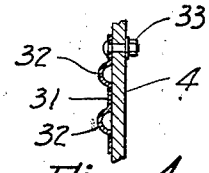


Fig. 4.

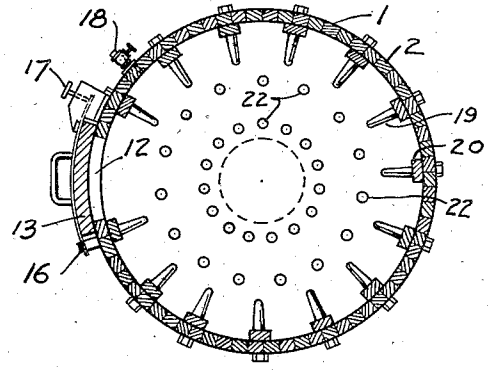


Fig. 2.

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2,044,946

LEATHER TANNING

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2 Claims. (Cl. 149—11)

This invention relates to apparatus for the tanning of leather, and is particularly directed to a rotatable tanning drum which is provided with projections that extend from the inside of the heads whereby hides within the drum may be tumbled without being rubbed or scratched by the drum heads.

In my U. S. Patent 1,893,706 I have disclosed a tanning drum which is provided on its cylindrical wall with long, inwardly directed pins. This type of drum has operated very satisfactorily, and it has produced leather of excellent quality with a great saving of time.

Despite the effectiveness of the pins, the leather, tho of high quality, is slightly damaged by rub-marks. These rub-marks, so called, have been attributed, by those working in the art, to a supposed rubbing or scratching action of the pins. Numerous attempts have been made to avoid rub-marks by varying the shape, size, and location of the pins, but such attempts have consistently failed. Other types of tanning drums have produced leather which is even more damaged.

By inserting a small glass window in a tanning drum of the type of my prior patent, I was able to study the tumbling action of the hides. As the drum rotated, the hides were lifted by the pins and carried towards the top of the drum. At, or near, the top of the drum, the hides were released and allowed to fall into the tanning liquors. I observed that some of the hides which were released slid down one of the heads of the drum. Because of the relatively high speeds of rotation, and because of the length of the pins used in the drums of the type seen in my prior patent, the hides were lifted high in the drum and were thrown against the drum heads. It is my belief that rub-marks are caused, primarily, by a rubbing or scratching action which the heads of the drums exercise on the hides which are thrown against them and which slide down them.

It is an object of my invention to produce a leather substantially free from rub-marks by preventing contact between hides and the end walls of a tanning drum. It is a further object of my invention to provide simple and inexpensive means for thus preventing contact between hides and the end walls of a drum. Further objects of my invention will appear hereinafter.

My objects are accomplished, briefly, by providing inwardly directed projections on the inner sides of the heads of a tanning drum. Projections so located prevent contact between hides and the end wall: causing the hides to fall directly into the tanning solution.

In order more fully to understand my invention, reference should be had to the accompanying drawing, wherein:

Figure 1 shows an elevation, partly in section, of a tanning drum of the type of my above mentioned prior patent.

Figure 2 shows a section on the line 2—2 of Figure 1.

Figure 3 shows a modified form of projection mounting, and

Figure 4 shows a further modified form of projection.

The tanning drum 1 is made up of wooden staves 2 suitably bound together by bands 3. The staves are set upon heads 4 and 5 which close the ends of the drum. Axles 6 and 7, secured to heads 4 and 5 respectively, are journaled in supports 8 and 9, respectively. The drum is rotated by means of a driving gear 11 which engages a gear 10. An opening 12, provided with a closure 13, permits charging of the drum. The closure 13 is held in place by an element 15 one tongue of which is slipped under a loop 16 and the other tongue of which is secured in place by a bolt 17. A valve 18 permits the withdrawal of gases and vapors from time to time during the operation of the drum.

Pins 19 are secured to the cylindrical wall of the drum by mounting them in shelves 20, as best seen in Figure 1. Bolts 21 hold the shelves in place. The drum is usually about ten feet in diameter and ten feet long, and the pins 19 are over six inches long.

My invention resides in providing projections on the heads of the drum. As seen in Figures 1 and 2, pins 22 are secured in place by mounting them in inner heads 23 and 24 which are fastened to heads 4 and 5, respectively, by bolts 25. As shown in Figure 2, the pins 22 are arranged in two concentric circles.

As seen in Figure 3, the projections may be mounted in various manners. In Figure 3 a pin 26 which has a reduced threaded portion 27 is held in place on the drum head 4 by a nut 30. Gaskets 28 and 29 prevent leakage thru the holes in the drum head.

In the modification of Figure 4, a plate 31 is secured by bolts 33 to the drum head 4. A number of almost semi-spherical projections 32 are provided in plate 31.

The projections do not need to be as long as the pins 19. They may be about one-half to three or four inches long, but they may vary

greatly without departing from the spirit of my invention. Specifically, I have found projections about three inches long quite satisfactory.

It will be readily understood that the projections can be arranged on the drum heads in various ways. While I have shown them arranged in two concentric circles, they may be arranged in a greater or smaller number of circles. If desired, of course, they may be arranged in other patterns or even in a haphazard manner. It is important only that the projections be so arranged and of such number and size as to prevent a deleterious contact between the hides and the drum heads.

While my invention finds a peculiar utility in connection with drums of the type illustrated, it will be readily apparent that the provision of projections on the heads of any tanning drum is within the spirit of my invention.

While I have shown certain specific forms of projections and certain specific manners of using and mounting projections, I do not intend to be limited thereby, the scope of my invention being set forth in the following claims.

I claim:

1. A rotatable tanning drum a head of which is provided with projections no less than about three inches long for preventing a deleterious contact of the head with hides.

2. A rotatable tanning drum a head of which is provided with inwardly directed pins no less than about three inches long for preventing a deleterious contact of the head with hides.

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