Aug. 29, 1950 F. W. HENNING 2,520,599

ART OF SCUDDING HIDES

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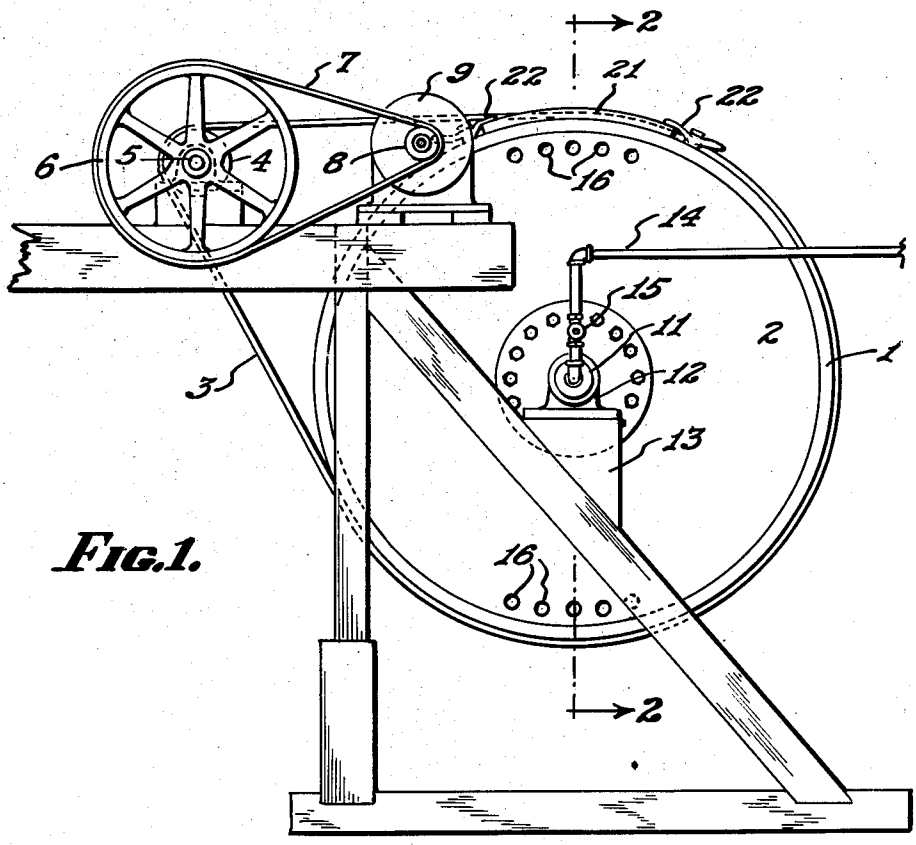


FIG. 1.

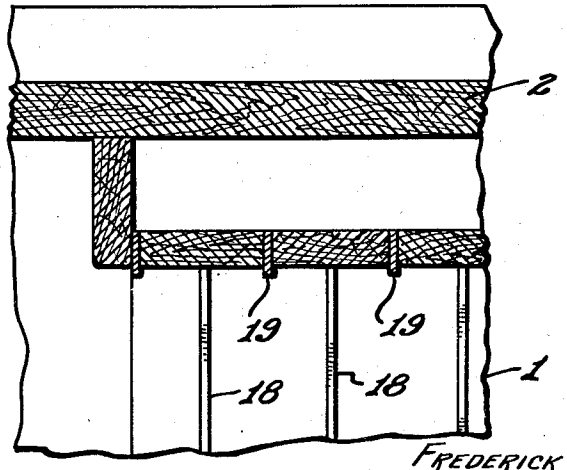


FIG. 5.

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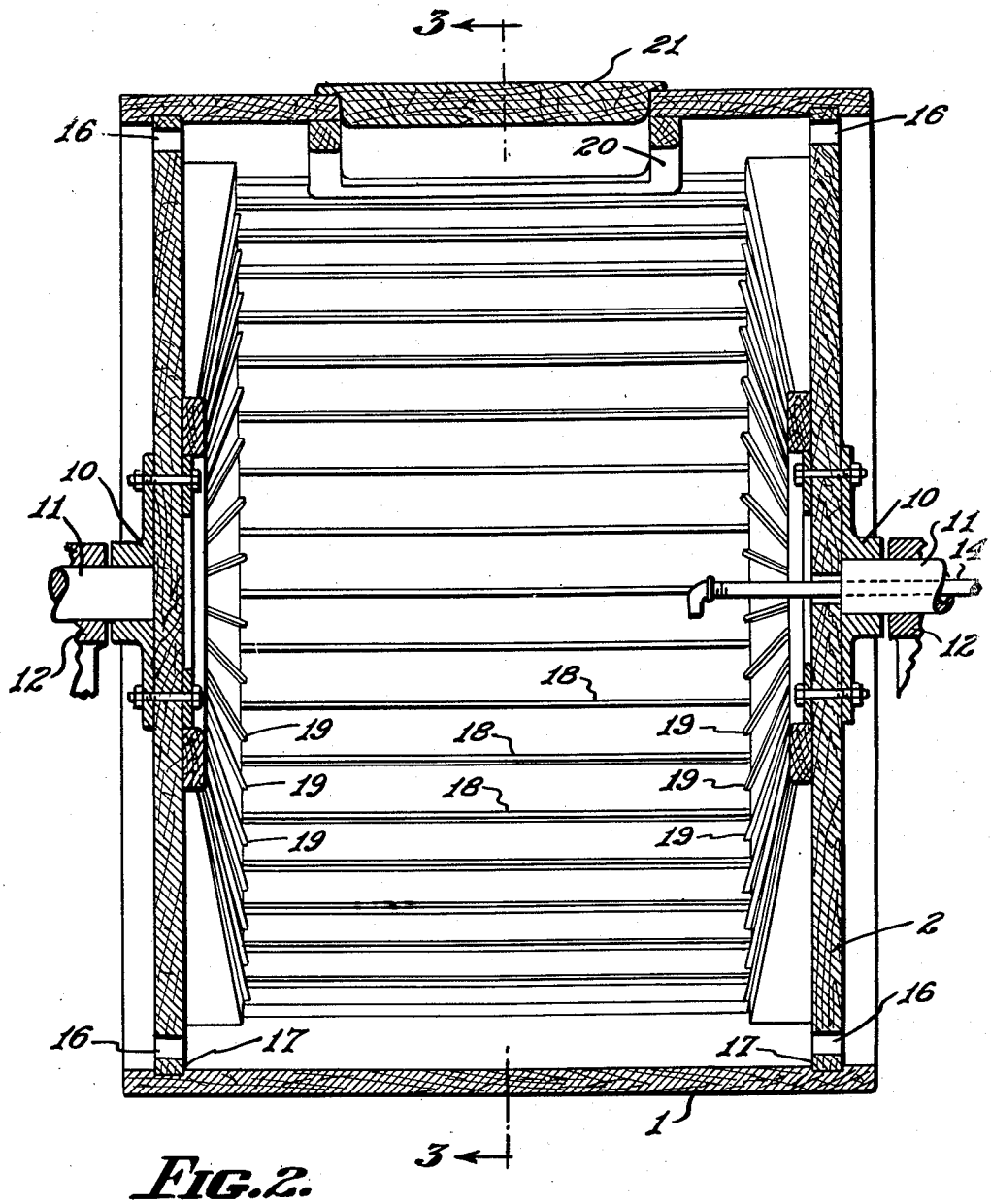


FIG. 2.

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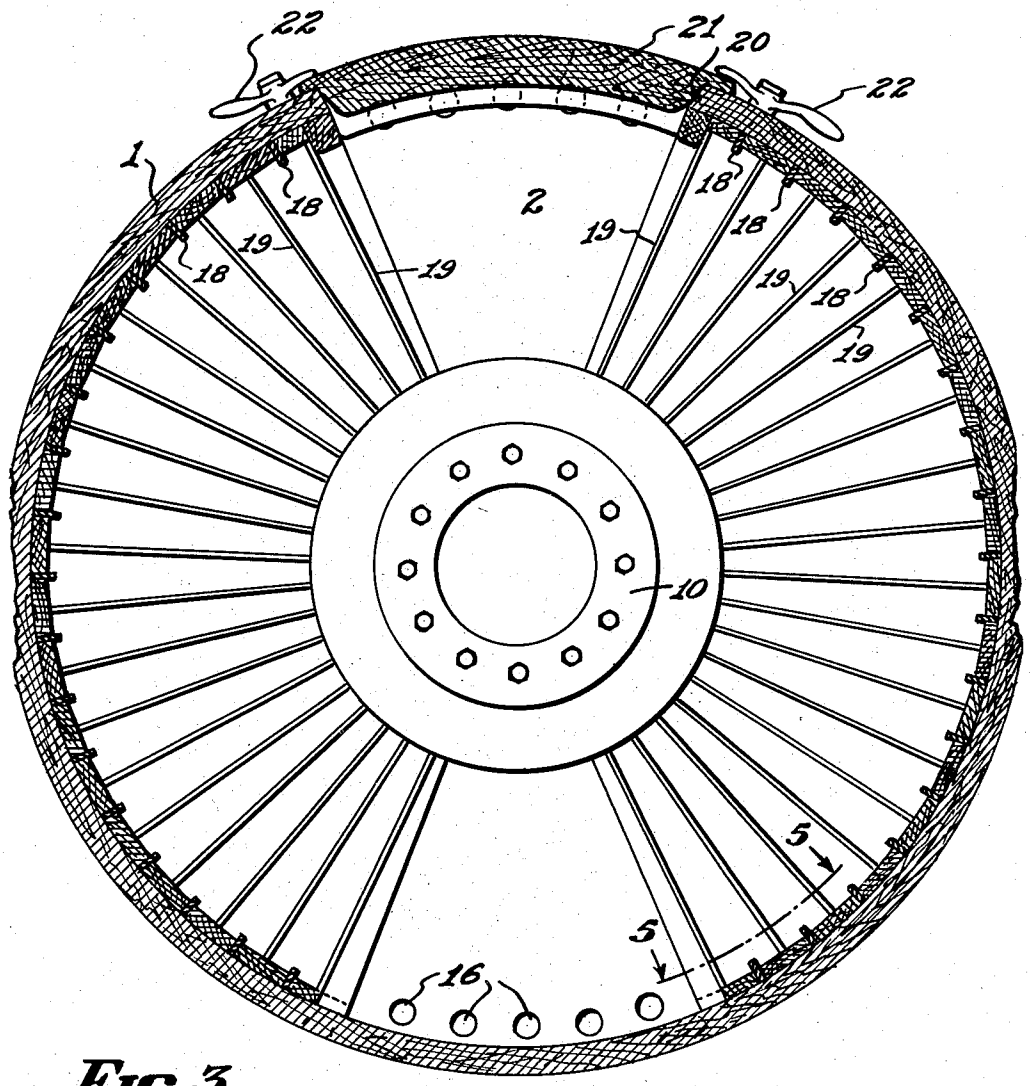


FIG. 3.

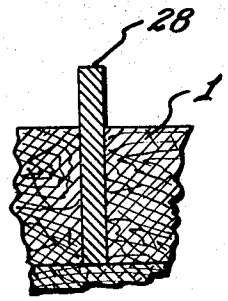


FIG. 4.

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UNITED STATES PATENT OFFICE

2,520,599

ART OF SCUDDING HIDES

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Application February 4, 1948, Serial No. 6,330

5 Claims. (Cl. 69—30)

1

My invention relates to a machine for removing the scud from pieces of hide prior to tanning.

After liming, the orinary procedure in a tannery is to unhair the hides and then to remove the flesh therefrom (an operation ordinarily called "fleshing"). These operations are ordinarily carried out on unhairing and fleshing machines. Aside from manually throwing the hides into the machines and removing them, the machines do the work of unhairing and fleshing.

As a step in the final treatment to prepare the hides for tanning, the hides are placed manually upon a rounded form called a beam, and an operative called a "beamer" scrapes and presses down on the hide with a sharp knife held obliquely so as not to cut the hide, and squeezes out the goo and lime deposit (called scud) from the grain side of the hide.

This operation is very tedious and laborious and always presents a difficult problem to secure operatives competent to do this work. It is an essential operation because an unbeamed and unscudded hide will seldom have a good color after the hide is tanned, and unless the scud is caused to be exuded from the hide, proper tanning will not take place.

It has long been the aim of tanners to work out some mechanical apparatus to do this very laborious and tedious task. A good beamer will beam from 15 to 20 hides an hour. It is most painstaking work for it not only requires scraping of the grain surface of the hide but pressure must be exerted on the hide to cause the scud to exude from it.

It is broadly the object of my invention to mechanically scud hides, thereby making unnecessary the burdensome manual operation and at the same time to improve the quality of the operation, so that after tanning the hides will be more uniformly tanned and of good color.

The foregoing objects I accomplish by the method hereinafter described in which I have illustrated mechanism for the accomplishing of my objectives.

In the drawings:

Figure 1 is a side elevation of a cylindrical drum within which the scudding knives are mounted.

Figure 2 is a sectional view along the lines 2—2 of Figure 1.

Figure 3 is a sectional view along the lines 3—3 of Figure 2.

Figure 4 is an enlarged detail sectional view of one of the scudding knives.

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Figure 5 is an enlarged fragmentary sectional view along the lines 5—5 of Figure 3.

Broadly speaking, the principle of my method as proposed involves the placing of a group of hides within a rotary drum, preferably with enough liquid (which may be water) to keep the hides moist. A sufficient number of hides are placed in the drum so that the weight of several or more thicknesses of hides will cause the lowermost hides to be held down with some pressure. I then cause the drum carrying the scudding knives on its inner surface to move at a rapid rate underneath the hides. Thus I utilize the principle of a rotating drum action in which the scudding knives are mounted on the inside of the cylindrical wall of the drum. The rotation of the drum causes the lowermost hides to be held down enough by the weight of the stacked hides for the rotating knives to scrape over and cause the scud in the hides to exude. The scud can be washed away in wash water which is permitted to flow out of the drum.

Instead of holding the hides down with any clamping device and causing the knives to press against the clamped surface, the hides are free to slip around so that fresh surfaces of hides are continuously moving to position at the bottom of the stack. As far as I am advised scudding hides from underneath where the weight of the successive layers is the only force which causes contact of the hide surface with the scudding knives is broadly new.

In the apparatus illustrated, a cylindrical drum having a cylindrical wall 1, has ends 2. The drum may be rotated by a belt 3, driven from a pulley 4 on a countershaft 5. The countershaft 5 has a driving pulley 6 engaged by a belt 7 from the pulley 8 of an electric motor 9. The drum has hub members 10 and journals 11, which rotate in bearings 12 suitably mounted on machine frame members 13, which must be sufficiently sturdy to support the drum and its operating parts.

A pipe 14 and valve 15 is arranged so that it will control the flow of water into the drum, if water is required. So that it will be possible to discharge wash water containing scud the end walls of the drum are provided with discharge openings 16 which may, as illustrated in Figure 1, be set in radially a short distance from the inner periphery of the drum, as indicated at 17 in Figures 1 and 2. The openings shown are in the heads.

I have found that from two to six inches of water or other liquid may be run into the drum during the operation and I may drain this liquid

out during the operation. The presence of the liquid does not appear to be essential to successful scudding as long as the hides are sufficiently slippery to slide around and provide constantly changing underneath surfaces.

There are preferably two sets of scud knives, those which extend lengthwise across the drum and those which are mounted in a radial arrangement at the ends of the drum.

The particular drum illustrated, and which has a capacity of from 35 to 45 beef hides, has an inside diameter of about seven feet. The knives 18 arranged on the inside of the cylindrical wall are parallel with the axis of the drum and are spaced about eight inches apart. The drum may be rotated at about eighteen revolutions per minute, so that the speed of the knives as carried around is about six feet per second.

The ends of the drum are also provided with scudding knives 19. These knives extend from the inner surface of the cylindrical wall in an axial arrangement like the spokes of a wheel. Preferably the knives 19 are mounted in a conical arrangement as illustrated in Figure 2, and may as shown be spaced between the knives 18.

A charging opening 20 is provided in the cylindrical wall and a closure 21 is secured to the outer wall of the cylinder with swivel clamps 22.

The knives are blunt ended steel bars with sharp corners which scrape over and squeeze the underneath surfaces of the hides, causing the scud to be exuded.

Ordinarily for a charge of 35 to 45 beef hides, the water level is maintained at from two to ten inches in depth. If water is run in and drained out continuously, the higher the water level is maintained the greater the water pressure will become and the more wash water will be discharged. It is comparatively simple by controlling the valve 15 to maintain a desired level of water within the drum, if the scudding operation is carried out in the presence of water.

By an operation of about ten minutes, the hides will be found to be bright and clean, and obviously more successfully scudded than by the old laborious method of hand scudding.

It will be noted that the wall of the drum where the closure 21 is positioned, as well as a section of the wall diametrically opposite does not have scudding knives (see Figure 3). This space on each side of the drum causes a sort of tumbling pocket which appears helpful in constantly causing the hides to move one relative to another, so that constantly changing underneath surfaces are exposed to the scudding action of the knives.

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

1. A leather scudding machine comprising a substantially cylindrical drum rotatable on a substantialy horizontal axis, said drum having a main opening in the cylindrical wall of the drum with a closure therefor, and scudding knives arranged in spaced position around the inner surface of the cylindrical wall of the drum, and scudding knives also arranged extending from the axes of the heads along the inner surfaces of the heads of the drum in radially spaced position to the outer circumferences of said heads,

2. A leather scudding machine comprising a substantially cylindrical drum rotatable on a substantially horizontal axis, said drum having a main opening in tne cylindrical wall of the drum with a closure therefor, and scudding knives arranged in spaced position around the inner surface of the cylindrical wall of the drum, scudding knives also arranged extending from the axes of the heads along the inner surfaces of the heads of the drum in radially spaced position to the outer circumferences of said heads, and liquid discharge openings in the drum walls.

3. A leather scudding machine comprising a substantially cylindrical drum rotatable on a substantially horizontal axis, said drum having a main opening in the cylindrical wall of the drum with a closure therefor, and scudding knives arranged in spaced position around the inner surface of the cylindrical wall of the drum, scudding knives also arranged extending from the axes of the heads along the inner surfaces of the heads of the drum in radially spaced position to the outer circumference of said heads, liquid discharge openings in the drum walls and means for continuously supplying liquid to the interior of said drum during the rotation thereof.

4. A machine for treating pieces of hide prior to tanning which comprises a cylindrical rotary drum having spaced scudding knives secured to the inner walls of the drum and extending parallel to the axis of the drum, said drum having an opening in its cylindrical wall for charging the drum with a plurality of hides and with a closure for the opening and radially spaced scudding knives arranged in concave conical formations on the inside of the heads of the drums.

5. A machine for treating pieces of hide prior to tanning which comprises a cylindrical rotary drum having spaced scudding knives secured to the inner walls of the drum and extending parallel to the axis of the drum, means for supplying a hide softening fluid to the interior of the drum and means for draining out the fluid at a rate which maintains a sufficient volume within the drum to keep the hides substantially emersed therein, said drum having an opening in its cylindrical wall for charging the drum with a plurality of hides and with a closure for the opening and radially spaced scudding knives arranged in concave conical formations on the inside of the heads of the drum, and tumbling areas arranged within the drum walls into which areas the scudding knives do not extend.

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