C. P. BOSSERT.

MACHINE FOR TREATING HIDES AND THE LIKE.

APPLICATION FILED APR. 30, 1918.

1,300,920.

Patented Apr. 15, 1919.

3 SHEETS—SHEET 1.

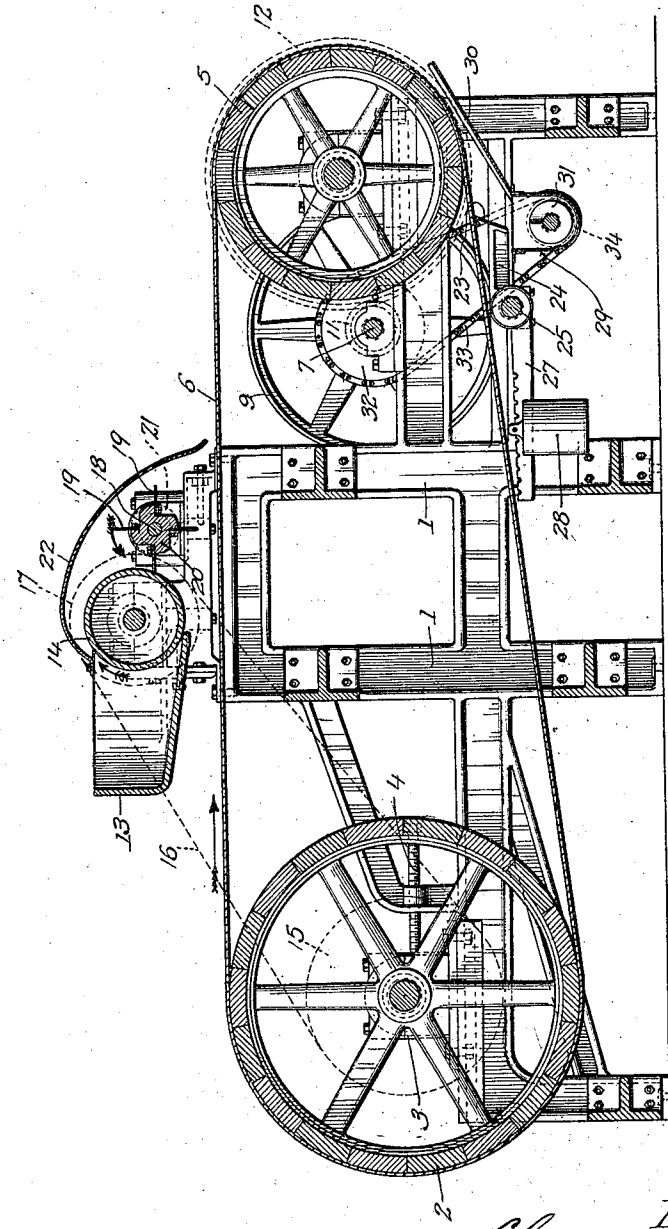


Fig. 1.

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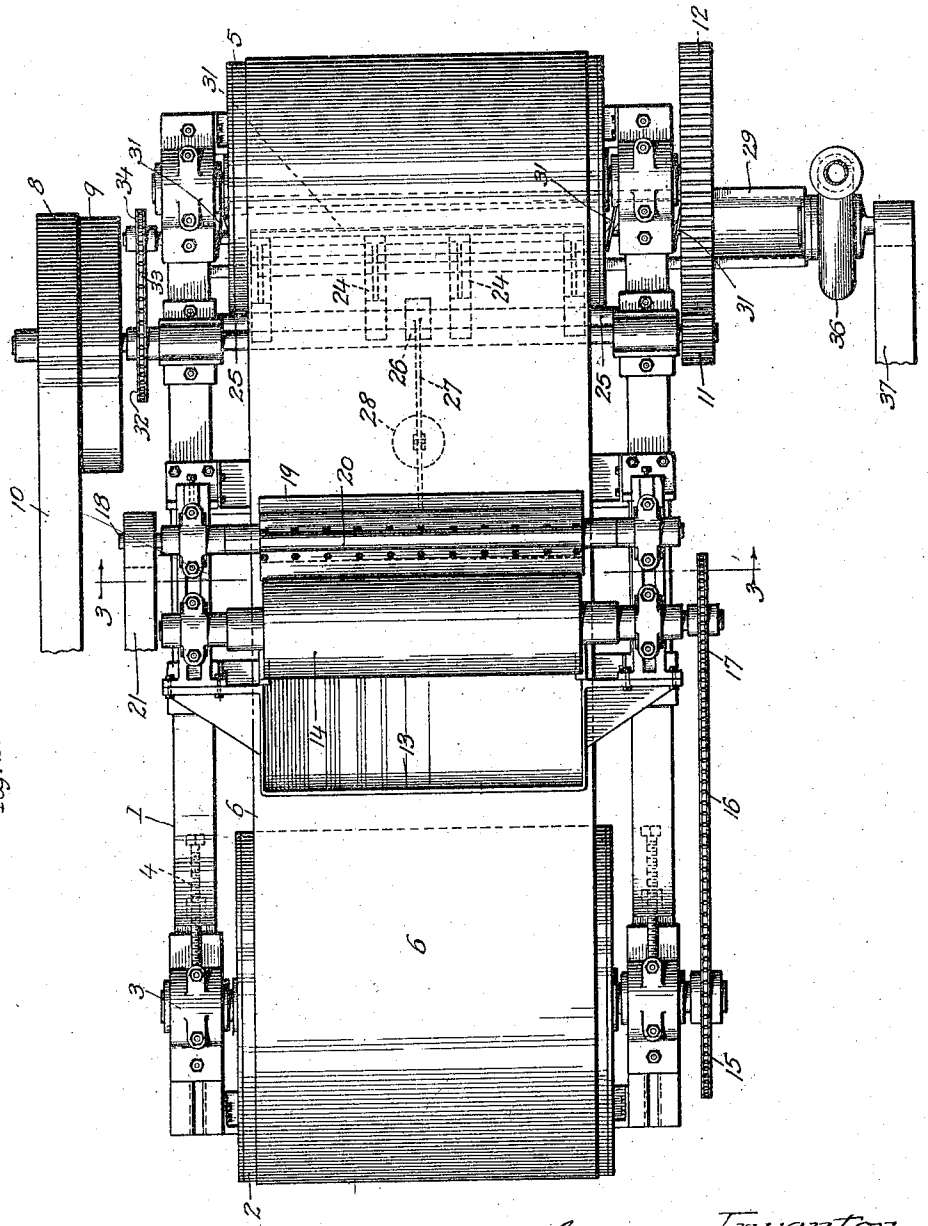


Fig. 2.

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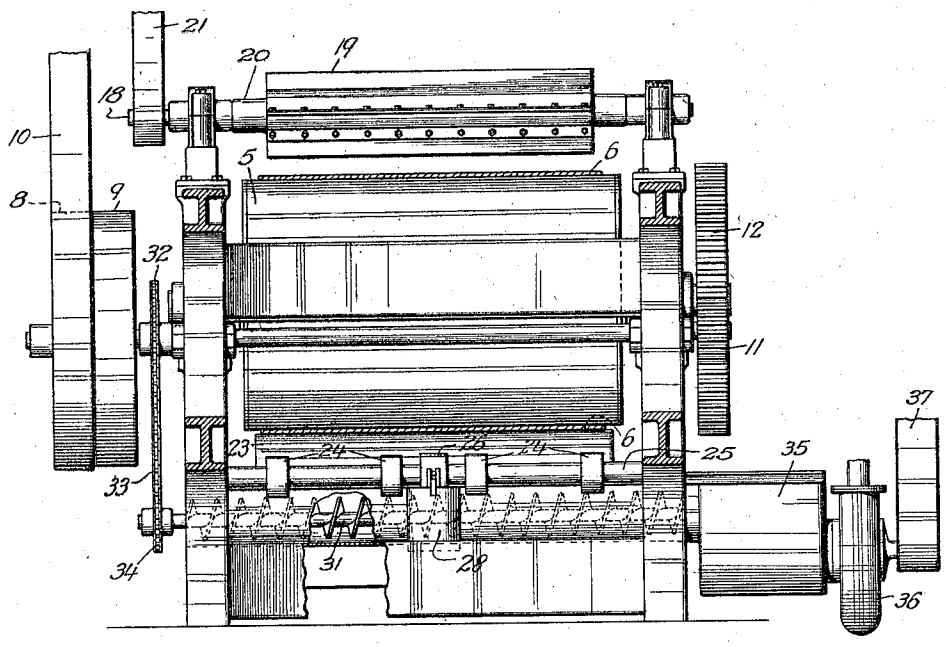


Fig. 3.

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UNITED STATES PATENT OFFICE.

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MACHINE FOR TREATING HIDES AND THE LIKE.

1,300,920. Specification of Letters Patent. Patented Apr. 15, 1919.

Application filed April 30, 1918. Serial No. 231,572.

To all whom it may concern:

Be it known that I, CHARLES P. BOSSERT, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Machines for Treating Hides and the like, of which the following is a specification.

This invention relates to apparatus for applying plastic substances to articles. More particularly it relates to apparatus for applying hair removing compounds to hides and skins.

In the leather industry the hair is usually removed from the hides and skins by applying to the hide a so-called sulfid compound, usually composed of sulfid of soda and lime. This compound is allowed to remain on the hide for a short time, and has the effect of loosening the hair so that it may be readily removed by a subsequent operation.

The sulfid compound which is used is of a thick plastic nature, and has heretofore been applied by hand because no successful way has ever been found for applying it mechanically.

One object of this invention is to provide apparatus for mechanically applying hair removing compound to hides and skins.

Another object is to provide an improved apparatus for applying any material of a plastic nature to various articles such as hides and skins.

Other objects of the invention will hereinafter appear.

One embodiment of the invention is illustrated in the accompanying drawings. The views of the drawings are as follows:

Figure 1 is a vertical longitudinal section through a machine constructed in accordance with the invention.

Fig. 2 is a plan view of the machine shown in Fig. 1, and

Fig. 3 is a vertical transverse section taken on the line 3—3 of Fig. 2.

One embodiment of the invention will be specifically described to illustrate the invention, but the specific description should not be construed in a limiting sense as the invention may take various different forms.

The machine comprises in general an endless belt upon which the hides or skins are placed. The belt moves the hides under the mechanism for applying the sulfid compound thereto. This mechanism comprises a feed hopper containing the compound and a feed roll to which the compound is supplied from the hopper. Located adjacent to the feed roll is the distributing means which comprises a shaft having a series of radially projecting flexible strips or wiping elements. As this shaft is rotated the flexible strips contact with the surface of the feed roll, remove the adhering sulfid compound therefrom and throw it onto the surface of the hide. The feed roll is rotated at a relatively slow speed, but the distributing roll rotates fast enough so that the flexible strips will strike against the feed roll in rapid succession and throw the material onto the surface of the hide in such a manner that the entire surface of the hide will receive a uniform coating of the compound.

The machine comprises various other instrumentalities such as scraper mechanism for removing the surplus sulfid compound from the endless belt. A trough receives the compound scraped from the belt and this compound is then pumped back to the supply hopper.

The embodiment of the invention illustrated in the accompanying drawings comprises a suitable framework 1. A roller 2 is journaled at the forward end of the framework 1 in bearing boxes 3 which may be adjusted longitudinally of the framework by means of the adjusting screws 4.

A second roller 5 is journaled at the rear end of the framework 1 and an endless belt 6 passes over the two rollers 2 and 5. By turning the adjusting screws 4 the tension on the belt 6 may be regulated.

The belt 6 is operated by means of a driving shaft 7 which extends transversely across the machine near the rear roller 5. At one side of the machine the driving shaft 7 carries a loose pulley 8 and a fixed pulley 9. These pulleys may be rotated from any suitable source of power by means of the belt 10. The other end of the driving shaft 7 carries a pinion 11 which meshes with a gear 12 secured to the end of the shaft upon which the rear roller 5 is mounted. This driving mechanism will impart rotation to the rear

roller 5 and also to the endless belt 6 and the other roller 2.

A supply hopper 13 is mounted over the belt 6. This hopper is adapted to contain the sulfid compound to be applied to the hides. A feed roller 14 rotates adjacent to the supply hopper 13 and receives upon its surface a coating of the sulfid compound from the supply hopper. The feed roller 14 is rotated at a relatively slow speed from the shaft of the roller 2. As shown in Fig. 2 this shaft carries a sprocket 15 from which rotation is imparted by means of the chain 16 to a sprocket 17 carried by the shaft of the feed roller 14.

Journaled in the framework adjacent to the feed roller 14 is the distributing means which comprises a shaft 18 and a plurality of radially projecting flexible strips or wiping elements 19. In the present instance there are four of these flexible strips, but there may be as many as desired. Each of the strips extends across the machine throughout the entire length of the feed roller 14. These strips may be associated with the shaft 18 in any suitable way, but in the present instance they are secured at their inner edges to a support 20 which in turn is carried by the shaft 18. The shaft 18 is rotated from any suitable source of power by means of the belt 21. It is rotated at a speed which is considerably greater than the speed at which the feed roller 14 is rotated. The parts are so positioned that when the shaft 18 is rotated in the direction indicated by the arrow, the flexible strips 19 will strike against the surface of the feed roller 14, remove the adhering sulfid compound therefrom, and throw it down toward the belt 6. The feed roller 14 and the distributing means may be inclosed by a guard or casing 22.

The hides or skins to be treated are placed upon the belt 6 at the forward end of the machine. As they pass under the distributing means the latter supplies to the surface of the hide a uniform coating of the sulfid compound. The rapidly revolving flexible strips 19 strike the surface of the feed roller 14 in rapid succession, remove the sulfid compound therefrom, and throw it down on to the surface of the hide. All of the moving parts are so timed that the sulfid compound is thrown on to the surface of the hide in a substantially continuous manner, so that the hide receives a uniform coating of the sulfid compound. When the hides reach the rear end of the machine they are removed by hand or any other appropriate means.

The sulfid compound which falls upon the belt is removed by means of the scraper 23 which passes transversely across the machine under the roller 5. The scraper 23 is carried by a series of brackets 24 secured to a shaft 25 which is loosely mounted in the framework. A bracket 26 (Fig. 3) is secured to the shaft 25 intermediate its ends, and is provided with a projecting arm 27 (Fig. 1) adapted to support a weight 28. The weight 28 serves to bias the shaft 25 in such a way as to force the scraper 23 against the surface of the lower run of the endless belt. The force with which the scraper 23 is pressed against the belt may be regulated by shifting the weight 28 along the arm 27.

The material removed from the belt by the scraper 25 falls into a trough 29 extending transversely across the machine just below the scraper. A guard 30 carried by the trough 29 projects toward the rear of the machine a sufficient distance to catch any material which may fall from the belt before it reaches the scraper. This guard is inclined as shown in Fig. 1 so that any material dropping thereon will flow into the trough 29.

A conveyer 31 rotates in the trough 29. It may be operated in any suitable way. In the present instance it is driven from a sprocket 32 carried by the driving shaft 7 (Fig. 2) by means of a chain 33 passing over a sprocket 34 carried by the conveyer shaft. The conveyer serves to move the sulfid compound toward the end of the trough 29 where it is deposited in a receiver 35. The compound may be pumped from the receiver 35 back to the supply hopper 13 by means of a pump 36 driven from any suitable source of power by means of a belt 37.

Although the invention has been described in connection with hide treating machines, it will be understood that it may be used for other purposes. It will be found of particular value in applying to articles a material of a thick plastic nature. Heretofore, considerable difficulty has been experienced and much time has been consumed in applying to articles various materials of a thick plastic nature. The present machine constitutes efficient means for doing this mechanically and rapidly.

What I claim is:

1. An apparatus for applying substances to hides and the like, having means for delivering the substance to a position adjacent the hide, a flexible strip for receiving a portion of the substance therefrom, and means for moving said strip at a comparatively high velocity to throw the substance received thereby onto said hide.

2. An apparatus for applying plastic substances to hides and the like, having means forming a surface for delivering a thin sheet of the substance to a position adjacent the hide, a plurality of spaced apart, flexible strips, each extending substantially the width of said surface, for wiping portions of the substance therefrom, and means for

moving said strips at a comparatively high velocity to throw the removed substance onto said hide.

3. Means for applying a plastic substance to an article comprising a feed roll, and distributing means under which the article passes, said distributing means having at least one radially projecting flexible strip adapted to rotate in contact with the surface of the feed roll to remove the plastic substance therefrom and throw it onto the surface of the article.

4. Means for supplying a plastic substance to an article comprising a moving surface to which some of the plastic substance is adapted to adhere, a rotary member adapted to revolve adjacent to said surface, and at least one radially projecting flexible strip associated with said member adapted to contact with said surface to remove the plastic substance therefrom and to throw it onto the surface of the article.

5. Apparatus for applying plastic substances to articles comprising a rapidly rotating member having a plurality of radially projecting flexible strips, and a moving surface to which the plastic substance is adapted to adhere, said flexible strips being adapted to rotate in contact with said surface to remove the plastic substance therefrom and to distribute it upon the surface of the article.

6. Means for applying plastic substances to articles comprising a feed roll and distributing means coöperating therewith having a plurality of radially projecting flexible strips adapted to contact with the surface of the feed roll, means to rotate the feed roll in one direction at a relatively slow speed and to rotate the distributing means in the opposite direction at a relatively fast speed whereby the plastic substance is removed from the surface of the feed roll and thrown onto the surface of the article.

7. An apparatus for applying plastic substances to hides and the like, having means for delivering the substance to a point adjacent the hide, means presenting an edge for receiving a portion of the substance therefrom, and means for moving said last named means at a comparatively high velocity to throw the substance received thereby onto said hide.

8. An apparatus for applying plastic substances to hides and the like, having means for delivering the substance to a point adjacent the hide, a strip for receiving a portion of the substance therefrom, and means for moving said strip at a comparatively high velocity to throw the substance received thereby onto said hide.

9. An apparatus for applying plastic substances to hides and the like, having means for delivering the substance to a point adjacent the hide, a plurality of spaced apart, flexible strips for receiving the substance therefrom, and means for moving said strips at a comparatively high velocity to throw the substance received thereby onto said hide.

10. An apparatus for applying plastic substances to hides and the like, having means forming a surface for delivering a thin sheet of the substance to a position adjacent the hide, a plurality of spaced apart, flexible strips extending substantially the width of said surface for removing portions of the substance therefrom, and means for moving said strips at a comparatively high velocity to throw the removed substance onto said hide.

11. In an apparatus for applying plastic substances to hides or other articles the combination of a conveyer, means for delivering the plastic substance to a point adjacent the conveyer, means for removing portions of the substance from the delivering means and throwing it onto an article on the conveyer, and means for removing the substance which falls on the conveyer and returning such substance to the delivering means.

12. In an apparatus for applying plastic substances to hides or other articles the combination of a conveyer, means for delivering the plastic substance to a point adjacent the conveyer, a strip for removing portions of the substance from said means and throwing such substance onto an article on the conveyer, and means for removing the substance which falls on the conveyer.

13. In an apparatus for applying plastic substances to hides or other articles the combination of an article support, means for delivering the plastic substance to a point adjacent the article on said support, means for removing the substance from said delivering means and throwing such substance onto the article on said support, means for removing the substance which falls on said support and returning such substance to said delivering means.

14. The combination with mechanism for applying a plastic substance to hides or other articles, of an article conveyer, means for removing the substance which falls on said conveyer, and means for returning such removed substance to the substance applying mechanism, said last named means including a conveyer extending transversely of said article conveyer in a position to receive the substance removed from the article conveyer.

15. An apparatus for applying a plastic substance to hides including a conveyer for carrying a hide through the machine with one side exposed, means for delivering the substance to a point adjacent the conveyer, and means driven at a high angular velocity for removing portions of the substance from

said delivering means and throwing such removed substance onto the exposed side of the hide.

16. A hide treating machine comprising a conveyer for moving the hide through the machine, and distributing means under which the hide passes for applying a plastic substance to the hide, said distributing means comprising a moving surface to which some of the plastic substance adheres and a plurality of spaced apart flexible strips rotating in contact with said surface and adapted to strike the same to thereby remove the substance from said surface and throw it on to the hide.

In witness whereof, I have hereunto subscribed my name.

CHARLES P. BOSSERT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."