

UNITED STATES PATENT OFFICE

1,961,377

METHOD OF TREATING HIDES AND SKINS

Matthew M. Merritt, Middleton, and Nathan H. Poor, Peabody, Mass., assignors to The Tanning Process Company, Boston, Mass., a corporation of Massachusetts

No Drawing. Application January 2, 1932,
Serial No. 584,570

10 Claims. (Cl. 149—2)

This invention relates to methods of treating hides and skins which are to be subjected to machine operations. While the invention is exemplified with reference to the performance of cutting operations upon hides and skins it is to be understood that the invention may have other applications and uses.

It has heretofore been very difficult to perform certain machine operations on hides and skins due to the exceedingly slippery condition of the latter, particularly in certain stages of the preparation of the hides and skins for tanning operations. For instance, it has always been difficult to split hides and skins after the liming and unhairing operations or even to flesh the hides or skins at this same stage in their preliminary treatment. This is due largely to the fact that because of the slippery condition of the hides or skins it is with extreme difficulty that the feeding means provided in splitting and fleshing machines can be caused to operate efficiently in the feeding of the work and in the proper control thereof during the operation of the splitting and fleshing tools. Sometimes the work cannot be properly fed with the result that it is damaged and the machine clogged in its operation. Moreover, the cutters or blades of fleshing machines operate with difficulty on very slippery work. Where the work is successfully carried out, it is often at the loss of considerable hide substance due to excessive pressure exerted by the feeding means upon the relatively soft and gelatinous hide or skin substance.

It is an object of this invention to facilitate machine operations upon hides and skins without producing any deleterious effect on the hide or skin substance and without interfering with subsequent operations, whether chemical or mechanical, by which the hides or skins are converted into finished leather products.

To these ends and in accordance with an important characteristic of the invention the hides or skins are treated with a substance designed to increase the frictional quality of one or both surfaces of each hide or skin as a preliminary to the performance of cutting operation thereon. Conveniently, the hide or skin is treated on one or both surfaces with a water-insoluble powder which may be readily applied by a brush or a swab or by introducing the hides or skins in mass

in a suspension in water of the powder in suitable quantity. The powder, spread more or less uniformly over the surface of the hide or skin, reduces the slipperiness of the hide or skin, firms the surface thereof, and enables the feeding means to feed and control the work to much better advantage than has heretofore been possible. For splitting and fleshing operations upon hides and skins, the preliminary treatment may satisfactorily be carried out by drumming hides or skins in relatively large numbers in a water suspension of the mixture known as lithopone. This powdery substance, when thus applied to both surfaces of the hides or skins enables the feeding means to obtain a better grip upon the work so that the splitting and fleshing operations are greatly facilitated as compared with prior practices. Furthermore, much better results are obtained than were heretofore possible in fleshing operations upon untanned hides and skins due to better feeding of the hide or skin and to better operation of the cutters, so much so that the product resembles that obtained from shaving tanned skins.

While in the illustrated exemplification of the invention lithopone, which is a water insoluble powder, is used in the preliminary treatment for the purpose of overcoming the slipperiness of hides and skins, it should be understood that the invention is not in all of its aspects limited to the use of substances of this class.

These and other important characteristics of the invention will now be described in detail and then pointed out more particularly in the appended claims.

In the practice of the method, designed particularly for the preparation of hides and skins preliminarily to the performance of fleshing and splitting operations thereon, the hides or skins are subjected to treatment by a suspension in water of the mixture known to the trade as lithopone. This powdery substance consists of a mixture of barium sulphate, zinc sulphide and zinc oxide. The lithopone is conveniently introduced into a drum with a suitable quantity of water and the hides or skins are drummed in the lithopone suspension until both sides of each hide or skin are coated to the desired degree with the lithopone powder, rendering the hide or skin less slippery and somewhat firmer so that the feeding

mechanism of the splitting or fleshing machine may secure a better grip upon the hide or skin to feed it to and past the splitting and fleshing tool. Such a powder also causes better operation

5 of the cutting blades of the fleshing machine through firming of the surface to be fleshed and by increased friction so that the cutters or blades do not slip so readily on such surface but on the contrary "dig" in more effectively. Soon after
10 the application of lithopone to the hides or skins, that is as soon as practicable, within a few minutes or a few hours, the hides or skins thus treated are subjected to feeding and cutting operations, conveniently in a machine commonly employed in feeding and cutting hides and skins.
15 It has been found that the use of lithopone in comparatively small amounts, for example, in an amount corresponding to approximately 7% of the weight of the skins fresh from the degreasing
20 press gives satisfactory results.

The lithopone powder is not of such a quality as to increase perceptibly the wear of the cutting knives or blades nor is any deleterious substance formed from any constituent of the lithopone
25 powder during subsequent chemical treatments of the hide or skin. Another preparation which may be utilized in place of lithopone is French chalk, which is a natural calcium carbonate. While not so efficient for fleshing operations as
30 the substance next mentioned, chalk is entirely satisfactory in other cutting operations, such as splitting of hides and skins. Still another preparation is the well known pumice powder which is chiefly a complex silicate of aluminum, potassium and sodium. This substance works particularly well in fleshing operations, the particles being harder than those of chalk, for instance. Commonly, the hides or skins will be drummed
35 in a wash water, for example 40% salt solution, for ten minutes to remove all or the greater part of the powder, after the cutting operation and before continuing with tanning and other operations.
40

Having described my invention, what I claim as new and desire to secure by Letters Patent of the
45 United States is:

1. That improvement in methods of performing cutting operations on untanned hides or skins with the aid of a machine having cutting
50 and feeding means for the hides or skins which comprises applying to a hide or skin a water-insoluble substance to reduce the slipperiness and to firm one or both surfaces thereof, and then while the surface to be operated on carries a substantial amount of said insoluble substance cutting a portion from said surface of the hide or skin, said cutting operation being carried out in
55 a machine designed to feed each hide or skin and perform cutting operations thereon.

2. That improvement in methods of performing cutting operations on untanned hides and skins which comprises applying to a hide or skin a substance designed to increase the frictional quality of a surface thereof, and then while said
60 surface carries a substantial amount of said substance cutting the hide or skin, said cutting operation being carried out in a machine designed to perform cutting operations on hides and skins.

3. That improvement in methods of performing cutting operations on untanned hides and skins which comprises applying lithopone to one or both surfaces of each hide or skin and then while lithopone forms a substantial coating on one or both surfaces of the hide or skin feeding the
70 hide or skin and performing cutting operations

thereon, said feeding and cutting operations being carried out in a machine designed to feed each hide or skin and perform cutting operations thereon.

4. That improvement in methods of performing cutting operations on untanned hides and skins which comprises drumming hides or skins in a suspension of a water-insoluble substance until the surfaces of the hides or skins are coated with said substance, and then while the surfaces
80 of the hide or skin are coated with said substance cutting portions from a surface of each hide or skin, said cutting operations being carried out in a machine designed to perform cutting operations on hides and skins.
85

5. That improvement in methods of performing cutting operations on untanned hides and skins which comprises drumming hides or skins in a suspension of lithopone until the surfaces of the hides or skins are coated with the lithopone, and then while the surfaces of the hide or skin are coated with lithopone cutting portions from a surface of each hide or skin, said cutting operations being carried out in a machine designed to perform cutting operations on hides
90 and skins.
95

6. That improvement in performing cutting operations on untanned hides and skins which comprises applying French chalk to the hides or skins until each hide or skin is coated on one or both surfaces thereof with the chalk, and then while French chalk forms a substantial coating on one or both surfaces of each hide or skin cutting portions from a surface of each hide or skin, said cutting operations being carried out in a machine designed to perform cutting operations on hides and skins.
100

7. That improvement in performing cutting operations on untanned hides and skins which comprises applying pumice powder to the hides or skins until each hide or skin is coated on one or both surfaces thereof with the powder, and then while pumice forms a substantial coating on one or both surfaces of each hide or skin cutting portions from a surface of each hide or skin, said cutting operations being carried out in a machine designed to perform cutting operations on hides and skins.
105

8. That improvement in methods of performing cutting operations upon untanned hides and skins, which comprises applying to one or both surfaces of a hide or skin a substance designed to increase the frictional quality of said surface or surfaces in an amount substantially just sufficient to effect the result desired, and as soon thereafter as practicable and while said substance is still functioning, subjecting the hide or skin to cutting operations, said cutting operations being carried out in a machine designed to perform cutting operations on hides and skins.
110

9. That improvement in methods of performing feeding and cutting operations upon untanned hides or skins, which comprises applying to a hide or skin a water-insoluble substance to reduce the slipperiness and to firm one or both surfaces of each hide or skin, said substance being applied in an amount substantially just sufficient to secure the desired result, and then while said substance is still functioning feeding the hide or skin and performing cutting operations thereon, said feeding and cutting operations being carried out in a machine designed to feed each hide or skin and perform cutting operations thereon.
115

10. That improvement in methods of treat-
120

80

85

90

95

100

105

110

115

120

125

130

135

140

145

150

ing hides and skin preparatory to tanning operations thereon, which comprises treating the hides or skins with a lime solution designed to loosen the hair or wool, the liming operation having the incidental effect of swelling the hides or skins and rendering the surfaces thereof slippery to a marked degree, subjecting the limed hides or skins to treatment by a water-insoluble substance to reduce the slipperiness and to firm one

or both surfaces of the hides or skins, and then feeding the hides or skins and performing cutting operations thereon, said feeding and cutting operations being carried out in a machine designed to feed each hide or skin and perform cutting operations thereon.

MATTHEW M. MERRITT.
NATHAN H. POOR.

10

85

15

90

20

95

25

100

30

105

35

110

40

115

45

120

50

125

55

130

60

135

65

140

70

145

75

150