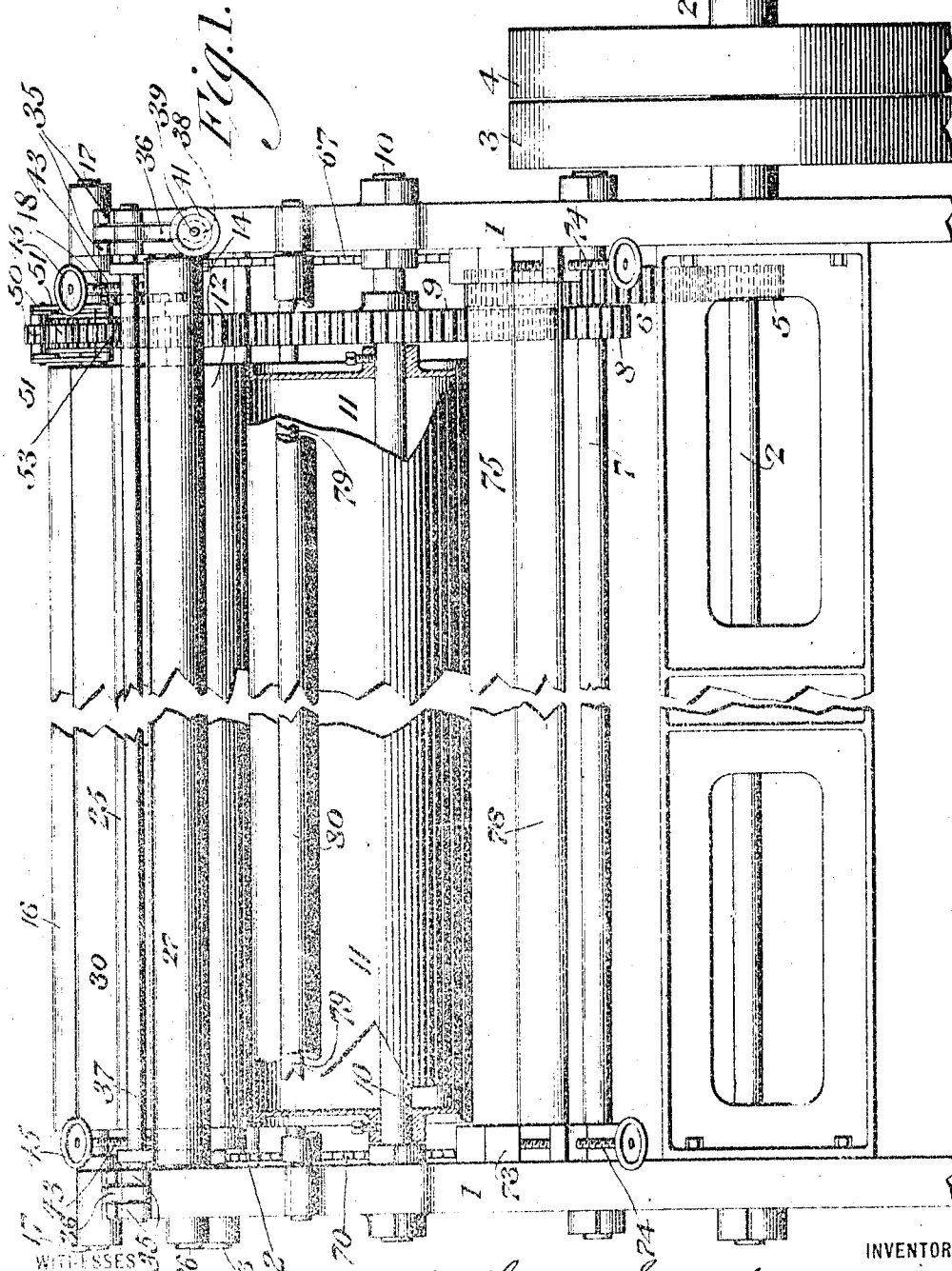


G. V. ANDERSON.
LEATHER TREATING MACHINE.
APPLICATION FILED OCT. 25, 1911.

1,054,329.

Patented Feb. 25, 1913.

4 SHEETS-SHEET 1.



WITNESSES
L. Nowville,
P. H. Nagel.

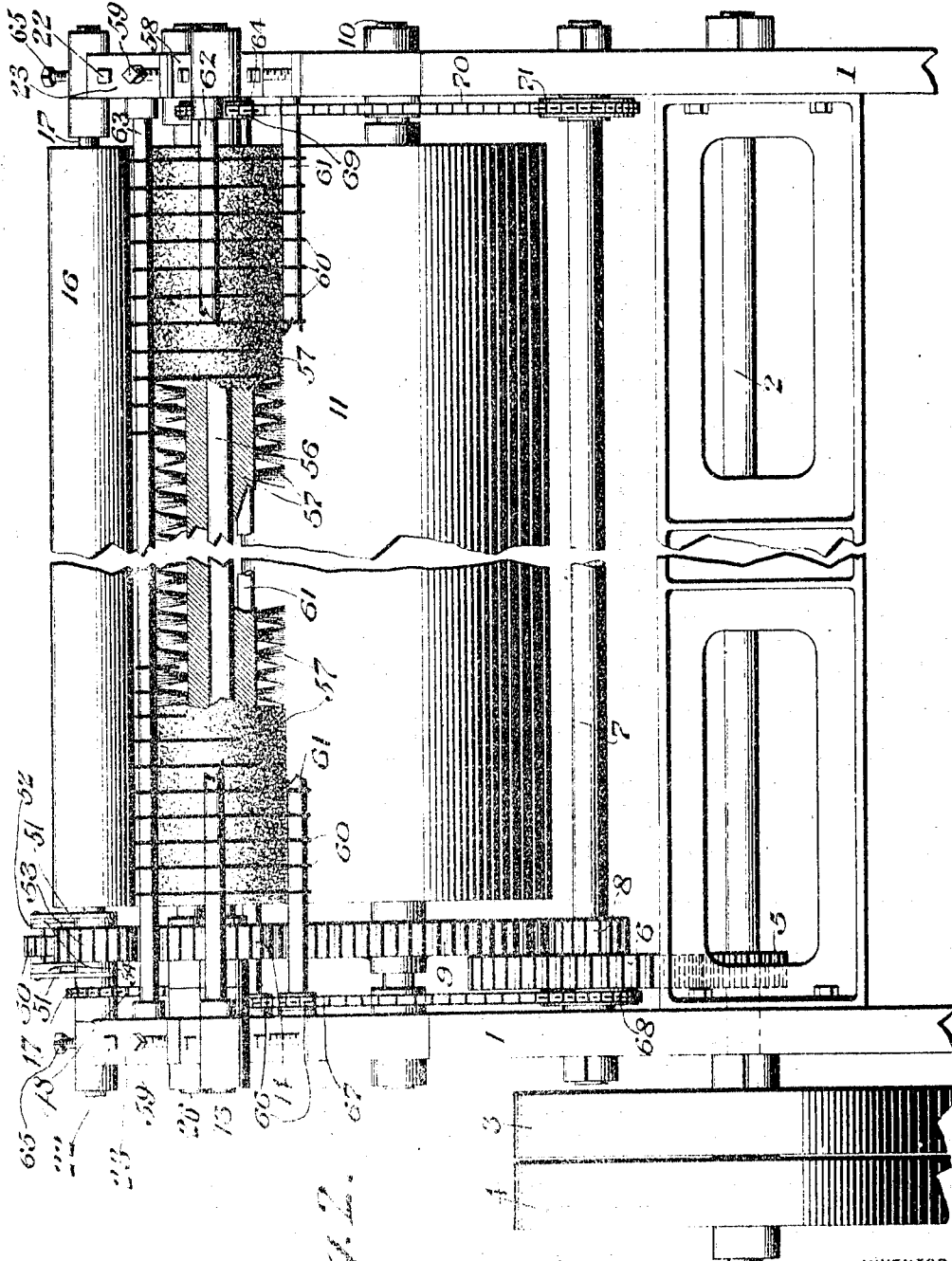
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4 SHEETS-SHEET 2.

1,054,329.



WITNESSES

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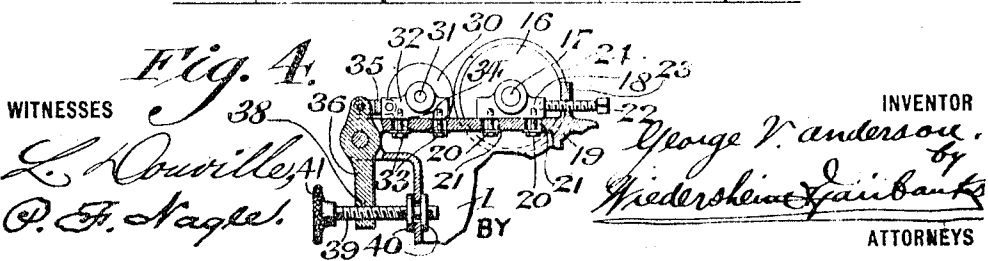
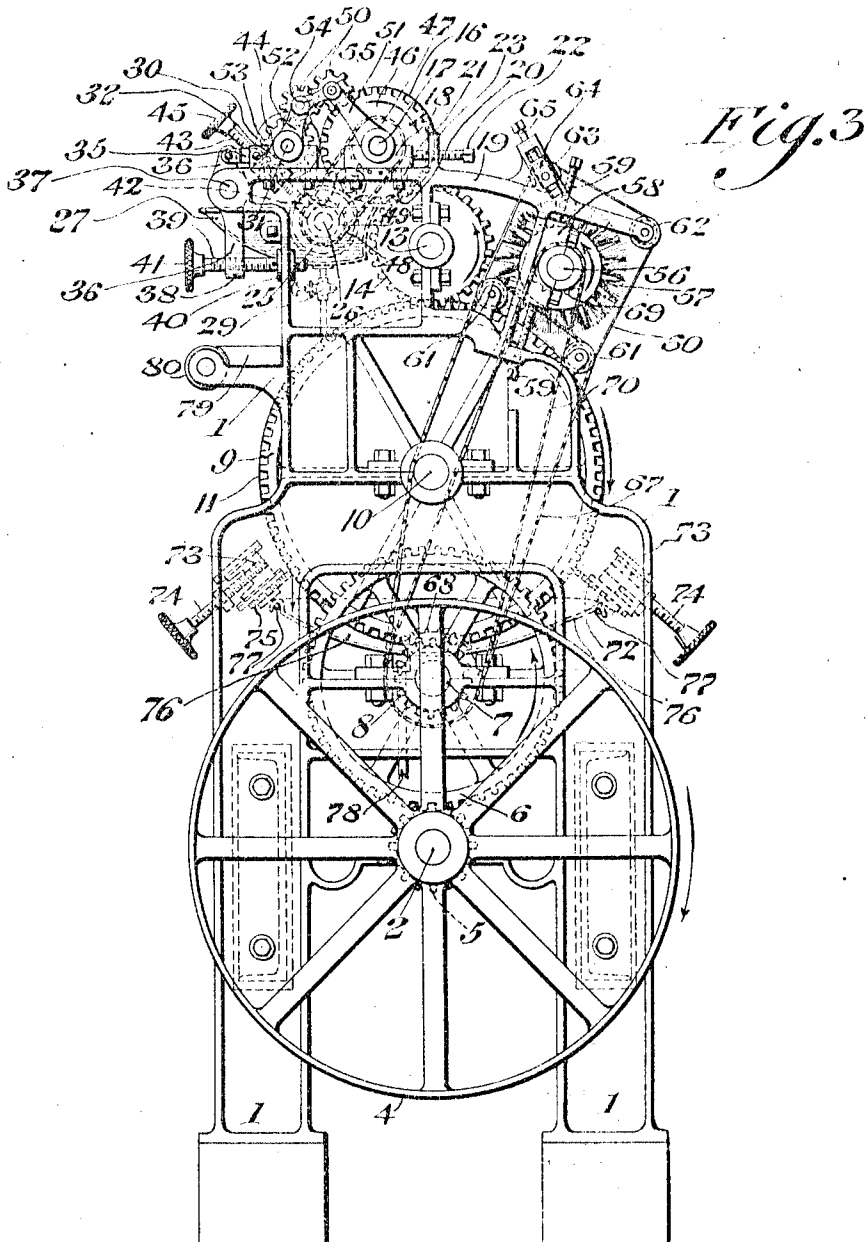
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4 SHEETS-SHEET 3.



WITNESSES

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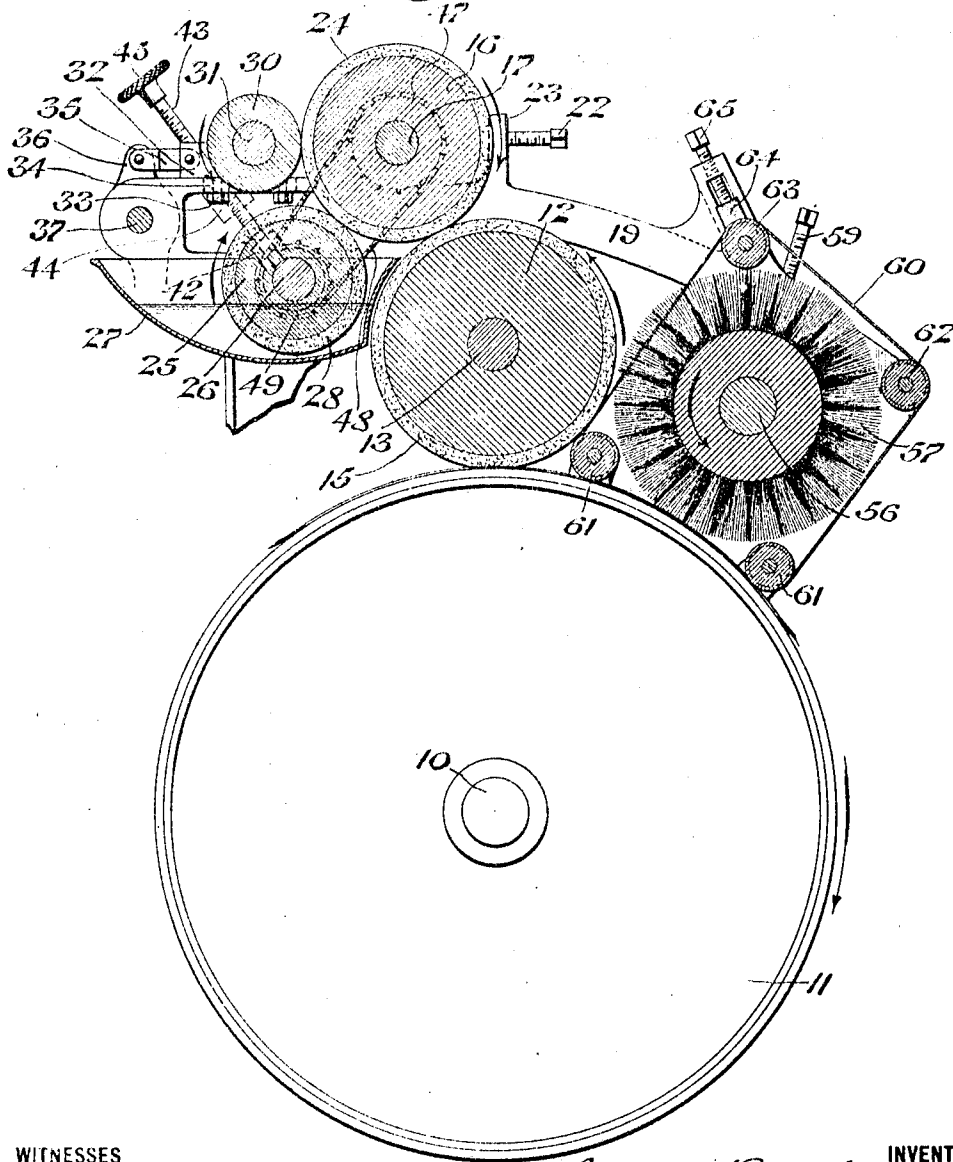
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1,054,329.

Patented Feb. 25, 1913.

4 SHEETS-SHEET 4.

Fig. 5.



WITNESSES

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UNITED STATES PATENT OFFICE.

GEORGE V. ANDERSON, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO DELAWARE LEATHER MACHINERY COMPANY, OF WILMINGTON, DELAWARE, A CORPORATION OF DELAWARE.

LEATHER-TREATING MACHINE.

1,054,329.

Specification of Letters Patent.

Patented Feb. 25, 1913.

Application filed October 25, 1911. Serial No. 656,753.

To all whom it may concern:

Be it known that I, GEORGE V. ANDERSON, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Leather-Treating Machine, of which the following is a specification.

This invention relates to a leather treating machine and more particularly to a liquid applying machine for use in connection with seasoning and oiling-off operations and has for an object to provide a machine wherein a skin or skins are fed through the machine and into position for the liquid applying device to accomplish its purpose.

It has for a further object to provide a bolster of novel form and construction by means of which the skin is properly guided in its passage through the machine and held in such a manner as to prevent kicking up or turning over of the edges while at the same time the liquid applying device cooperates with the surface of the skin to work the liquid thoroughly and effectively into the skin.

It further consists of other novel features of construction, all as will be hereinafter fully set forth.

For the purpose of illustrating my invention, I have shown in the accompanying drawings one form thereof which is at present preferred by me, since the same has been found in practice to give satisfactory and reliable results, although it is to be understood that the various instrumentalities of which my invention consists can be variously arranged and organized and that my invention is not limited to the precise arrangement and organization of these instrumentalities as herein shown and described.

Figure 1 represents a front elevation of a machine embodying my invention. Fig. 2 represents a rear elevation of the same, certain of the parts being broken away for the sake of clearness of illustration. Fig. 3 represents a side elevation of the machine showing more particularly the driving mechanism. Fig. 4 represents a detail of the liquid regulating device. Fig. 5 represents a detail showing diagrammatically the arrangement of the liquid applying devices.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings, 1 designates the frame of my novel leather treating ma-

chine in which is journaled the main shaft 2 carrying thereon the usual fast and loose pulleys 3 and 4 which are of course driven from any suitable source of power. The shaft 2 also has keyed or otherwise fixedly secured thereon a gear 5 meshing with a similar gear 6 splined to the countershaft 7, the latter being also journaled in the frame 1 and serving as a means to transmit motion to the various devices for feeding the skins and applying liquid thereto.

12 designates a pinion fixedly secured to the countershaft 7 and meshing with a gear 9 carried by the shaft 10 and through which it drives the cylinder or drum 11 upon which the skins are carried to the working liquid applying rolls.

12 designates a liquid applying roll, in the present instance, mounted for rotation on the shaft 13 which latter is driven by means of a gear 14 meshing with the gear 9 whereby the roll 12 rotates in the opposite direction from the drum 11 in order to feed the skin through the machine. The roll 12 is preferably provided with a surface 15 of fabric or other suitable liquid absorbing material and serves in addition to feeding the skin as a means for delivering liquid thereto, it being noted that the roll 12 is so positioned as to contact with the surface of the drum 11. As here shown, the liquid is delivered to the roll 12 by means of a delivery roll 16 mounted on the shaft 17 the latter being carried by the adjustable bearing blocks 18 mounted on a skeleton frame 19 which forms a part of the main frame 1. These bearings 18 are normally fastened by bolts 20 which pass through slots 21 in the frame 19 and adjustment is secured by means of the bolts 22 threaded into suitable flanges 23 of the said frame 19. This roll 16 like the roll 12, is preferably provided with a liquid absorbing surface 24 which receives the liquid and delivers the same in predetermined quantities to the surface 15 of the roll 12.

The means for delivering the liquid to the delivery roll 16 consist, in the present instance, of a receiving roll 25 carried by a suitably mounted shaft 26 and positioned partially within a liquid receptacle or reservoir 27, it being noted that this receptacle extends partially beneath the roll 16 in order to catch the drip therefrom. The receiving roll 25 is provided with a surface 28

preferably of absorbing material and positioned so as to contact with the surface 24 of the roll 16. It will thus be apparent that rotation of the roll 25 causes liquid to be carried from the reservoir 27 by the surface 28 to the surface 24 of the roll 16 from which it is delivered to the surface 15 of the feed and liquid applying roll 12. The receptacle 27 is of course suitably secured to a fixed portion of the machine such as the frame 1 and is provided with a drain-cock 29 of well known construction.

30 designates a regulating roll rotatably carried by the shaft 31 suitably journaled in the bearing blocks 32, the latter being adjustably mounted, as here shown, on the skeleton frame 19 by means of the bolt and slot connection 33 and 34. These bearing blocks 32 are each preferably secured by a link 35 connecting respectively to the rock levers 36 mounted on the spindle 37, the latter having bearing in the frame 19. The rock levers 36 each terminate in a threaded eye 38 through which passes a threaded rod 39, one end of which is fixed by suitable collars 40 to the frame 1 and the opposite end carries a hand-wheel 41 for operating purposes. By this preferred construction it will be apparent that a turning of the rods 39 causes the levers 36 to rock and thereby vary the position of the roll 30 with respect to the roll 16. In this manner the quantity of liquid carried by the roll 16 may be regulated since it will be apparent that the function of the roll 30 is to squeeze a certain quantity of the liquid from the surface 24 and thus determine the amount which is delivered to the surface 15. Attention is directed in this connection to the fact that the liquid which is squeezed or pressed out of the surface 24 drops directly upon the receiving roll 25 which carries it again to the surface 24.

In connection with the roll 25 it will be noted in the present instance that the shaft 26 is mounted at each end in a hanger 42 carried by a threaded spindle 43 each of said spindles 43 passing through a threaded sleeve 44 attached to the frame 19. The threaded spindles 43 are preferably provided with a hand wheel 45 by means of which they may be rotated to raise or lower the shaft 26 thereby varying the amount of the surface of the roll 25 which is submerged in the liquid. The driving means for this fluid applying mechanism comprises, in the present instance, a gear 46 meshing with the gear 14 and mounted on the shaft 17 whereby the roll 16 is driven in the direction shown by the arrow of Fig. 5. The shaft 17 also carries a sprocket 47 transmitting the motion, by means of a chain 48, to a sprocket 49 on the shaft 26 whereby the roll 25 is driven in the direction shown in Fig. 5. In order to transmit motion to the shaft 31

and at the same time allow for the adjustment between the rolls 30 and 16, I preferably provide a pair of pinions 50 one of which is carried by arms 51 from the shaft 17 and meshes with the gear 46 while the other is carried by arms 52 mounted on the shaft 31 and in mesh with a gear 53 on the last named shaft. It will further be noted that links 54 are provided connecting the spindles 55 of the two pinions 50.

56 designates a shaft carrying a brush roll 57 and having its ends rotatably mounted in adjustable bearings 58 the latter being supported by threaded bolts 59 from a fixed portion of the machine, a construction which permits the shaft 56 to be adjusted to vary the position of the brush roll 57 with respect to the drum 11 with which it is normally adapted to be in contact. This roll 57 serves the purpose of a distributor for the fluid and operates to work the fluid evenly into the surface of the skin.

In the present instance the brush roll 57 is inclosed by and works within a bolster member comprising in the present instance a plurality of endless cords or bands 60 or the like spaced apart and suitably positioned with respect to each other so as to permit the brush bristles to pass between them into contact with the skin, it being understood that this segmental bolster serves to direct and guide the skin as it is carried through the machine by the drum 11. It will further be noted that a portion of each of the cords 60 comprising the bolster contacts with the drum 11 and is held in proper position by guide rolls 61 suitably positioned with respect to the drum 11 and mounted in bearings of the frame 1. In addition to the rolls 61 there are guide rolls 62 and 63 rotatably mounted at suitable points on the frame 1 for conveying the bolster around the brush 57 one of which, as the roll 63, is preferably mounted in adjustable bearings 64. These bearings 64 have threaded adjusting bolts 65 by which the tension of the bolster cords 60 may be adjusted.

In the present instance the rolls 61 each carry a sprocket 66 driven by a sprocket chain 67 from a sprocket 68 on the counter-shaft 7 and by means of which the bolster 60 rotates with respect to the drum 11. The brush roll 57 is driven by means of a sprocket 69 on the shaft 56 through the medium of a sprocket chain 70 passing around a sprocket wheel 71 on the same shaft 7 the arrangement being such that in the present instance the brush 57 rotates in the opposite direction from the drum 11 although of course it will be understood that the sprocket chain may be arranged so that this brush 57 rotates in the same direction as the drum and it will thus be apparent that a construction is provided which permits the brush to rotate in either direction.

After the skin passes between the bolster and drum 11 it is removed by the operator and the surface of the drum 11 comes into contact with a scraper blade 72 adjustably mounted with respect thereto and preferably of steel or like material adapted to remove any of the fluid adhering to the drum after the skin has been removed. The scraper blade 72, as here shown, is carried by a cross-head 73 threaded into which is an adjusting spindle 74, the parts being suitably secured to a fixed portion of the machine as will readily be understood.

75 designates a second scraper blade positioned beyond the scraper blade 72 and preferably formed of rubber although of course leather or other suitable material, may be employed adapted to contact with the drum 11 to wipe the surface of the drum clean and dry preparatory to the same receiving another skin. This scraper 75 is adjustably mounted in a manner similar to that described for the scraper 72 and it is not thought necessary to go into a detailed description thereof and the parts are accordingly correspondingly supplied with reference numerals.

76 designates a drip pan suitably supported by rods 77 or the like from the frame 1 and located in position beneath the drum 11 so as to catch the oil or fluid removed by the scraper 72 and 75. This pan 76 is provided with an outlet 78 by which the fluid collected may be drained off as desired and returned to the reservoir 27 to be again used.

79 designates a table upon which the skins are placed one at a time and fed to the drum 11 and it will be seen that the outer edge of this table is preferably provided with a cylindrical member 80 suitably mounted so as to rotate freely and permit the skins to be readily positioned upon the table.

In the operation of the machine the driving means is shifted from the loose pulley to the fast pulley and thereby through the different gear mechanisms and chain and sprocket devices the several rolls are rotated as indicated by the arrows in Fig. 5. It will of course be assumed that the liquid applying rolls have been properly adjusted with respect to each other before a skin is passed into the machine though such adjustment may not necessarily be fixed as at any time the relation may be varied to regulate the quantity of liquid supplied since some skins require more liquid and some less than others.

The reservoir 27 being filled to the desired height of the liquid and the roll 25 partially submerged therein causes the liquid to be carried by the surface 28 and delivered to the surface 24 of the roll 16. In contact with this roll 16 is the roll 30 which acts to press out the superfluous liquid thereby al-

lowing only a certain amount to be carried forward and deposited upon the surface 15 of the liquid applying roll 12.

The skins are passed one at a time to the drum 11 and carried beneath the roll 12 which is properly positioned to apply a coat of the liquid to the entire exposed surface of the skin and after leaving this roll the skin is drawn beneath my novel bolster construction which in operation acts to maintain all parts of the skin in close contact with the drum 11 and prevent the sides, ends or corners from turning over or kicking up. While passing beneath the bolster substantially the entire skin on one side is subjected to the working or rubbing action of the brush roll 57 whereby the liquid previously applied is distributed evenly and uniformly over the surface and is thoroughly and effectively worked into the skin by this brush action. As soon as the skin passes beyond the control of the bolster it is received by the operator of the machine and removed therefrom. It often happens that some of the liquid is deposited on the surface of the drum 11 and therefore in order to prevent the underside of another skin from being coated thereby the two scrapers 72 and 75 are provided the first being preferably of metal to thoroughly scrape the liquid adhering to the surface of the drum 11 and the latter being preferably of rubber to clean and dry the drum ready to receive another skin.

It will now be apparent that I have devised a complete unitary structure well adapted to the purpose intended, simple in construction, effective in operation and one wherein a novel type of bolster is embodied which performs the function of accurately positioning a skin upon the skin carrier and at the same time permits a liquid working device to operate therethrough in such a manner as to effectively distribute and work the coating liquid into a skin.

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

1. In a machine of the character stated, a frame, a drum rotatably carried thereby and adapted to support a skin, a reservoir for liquid, a plurality of rolls adapted to apply said liquid to a skin carried by said drum, means for regulating the quantity of liquid applied by said rolls to said skin, a bolster for feeding said skin comprising a plurality of endless bands of inconsiderable width, and a brush roll encircled by said bolster and adapted to distribute said liquid on a skin.

2. In a machine of the character stated, a frame, a drum rotatably carried thereby and adapted to support a skin, a reservoir for liquid, a plurality of rolls adapted to apply said liquid to a skin carried by said drum,

means for regulating the quantity of liquid applied by said rolls to said skin, a bolster for feeding said skin comprising a plurality of endless bands of inconsiderable width, a brush roll encircled by said bolster and adapted to distribute liquid on a skin, and means for varying the tension of said bolster.

3. In a machine of the character stated, a frame, a drum rotatably carried thereby and adapted to support a skin, a reservoir for liquid, a roll within said reservoir, a delivery roll adapted to receive liquid from said receiving roll, a liquid applying roll suitably mounted to receive liquid from said delivery roll and deposit the same upon a skin carried by said drum, means to vary the quantity of liquid delivered to said applying roll, a plurality of cords or bands of inconsiderable width forming a bolster adapted to guide and feed a skin supported on said drum, and a brush roll rotatably mounted interiorly of said bolster.

4. In a machine of the character stated, a frame, a drum rotatably carried thereby and adapted to support a skin, a reservoir for liquid, a receiving roll within said reservoir, a delivery roll adapted to receive liquid from said receiving roll, a liquid applying roll suitably mounted to receive liquid from said delivery roll and deposit the same upon a skin carried by said drum, means to vary the quantity of liquid delivered to said applying roll, a plurality of cords forming a bolster adapted to guide and feed a skin supported on said drum, a brush roll rotatably mounted interiorly of said bolster, and a plurality of scrapers suitably mounted to engage the surface of said drum.

5. In a machine of the character stated, a frame, a drum rotatably carried thereby and adapted to support a skin, means for applying a liquid to said skin, a bolster comprising a plurality of endless bands of inconsiderable width adapted to feed said skin and a brush roll encircled by said bolster and adapted to distribute said liquid on a skin.

6. In a machine of the character stated, a frame, a drum rotatably carried thereby and adapted to support a skin, a reservoir for liquid, a plurality of rolls mounted to contact with each other, one of said rolls engaging said drum, another of said rolls positioned to pass through said liquid reservoir, a bolster comprising a plurality of endless bands of inconsiderable width adapted to feed said skin, said bands being spaced apart, and a brush roll rotatably mounted interiorly of said bolster.

7. In a device of the character stated, the combination with a skin carrier, of a bolster comprising a plurality of endless bands of inconsiderable width adapted to feed a skin, means to drive said bolster, a liquid applying device, and means operating through said bolster to work said liquid into a skin on said carrier.

8. In a device of the character stated, the combination with a skin carrier, of a bolster comprising a plurality of endless bands of inconsiderable width adapted to feed a skin, means to rotate said bolster, a liquid applying device, and a brush roll operating through said bolster to work said liquid into a skin on said carrier.

9. In a machine of the character stated, a frame, a drum rotatably carried thereby and adapted to support a skin, a reservoir for liquid, a pair of rotatably mounted rolls adjacent said reservoir, one of said rolls being partially submerged in the liquid in said reservoir the other of said rolls being located in contact relation with a skin carried by said drum, an intermediate roll contacting with said pair of rolls, a surface of absorbing material on each roll, and a pressure member adapted to contact with the surface of said intermediate roll whereby a predetermined quantity of liquid is fed to said skin.

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Witnesses:

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