

931,340.

Fig. 3. A detailed cross-sectional view of a mechanical assembly, likely a pump or engine component. The diagram illustrates the internal structure, including a central shaft, gears, and various housing components. Key parts are labeled with numbers: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193. The assembly features a central shaft (1) with multiple gears (2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193) and various housing components (1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193). The diagram shows the intricate mechanical design and the relationship between the various components.

Fig. 1.

Fig. 2.

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UNITED STATES PATENT OFFICE.

FRANKLIN J. PERKINS, OF WOBURN, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS,
TO TURNER TANNING MACHINERY COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION.

PUTTING-OUT MACHINE.

No. 931,340.

Specification of Letters Patent.

Patented Aug. 17, 1909.

Application filed July 28, 1904. Serial No. 218,447.

To all whom it may concern:

Be it known that I, FRANKLIN J. PERKINS, a citizen of the United States, residing at Woburn, in the county of Essex, State of Massachusetts, have invented a certain new and useful Improvement in Putting-Out Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to a machine for working hides, skins and leather, and is especially adapted to perform the operations of putting out, unhairing, setting etc.

Heretofore, it has been the custom to work 15 hides by means of such a machine as is shown in my Patent No. 746,144 dated December 8, 1903, but considerable difficulty has always been experienced in successfully treating the part of the skin which lies over the end of the 20 operating table, shown in that and other patents. The portion of the skin which lies over the end of the operating table is that portion which lies along the back bone of the animal.

My present invention has for its object to 25 provide a machine which shall work the portion of the skin which comes over the edge of the table of the ordinary putting out machine independent of the machine which works the remainder and major portion of the hide or 30 skin. This operation may be performed upon the machine embodying my present invention either before or after the remainder of the skin is worked, but I have found it more satisfactory to perform this operation before the rest 35 of the hide is worked, because if the portion of the hide along the back bone is worked after the remainder of the hide, the water etc. in the back portion is driven again into the sides of the hide and a poorly finished 40 hide is produced. On the other hand if the back of the hide is worked first in my preliminary machine and the hide is afterward worked in an ordinary serial table machine, the water etc. which is worked away from 45 the end of the table on both sides is completely removed from the hide by the second operation.

Referring to the drawings,—Figure 1 is a side elevation of a machine embodying my 50 invention, certain portions being shown in section for greater clearness. Fig. 2 is a front elevation and Fig. 3, a detail to be referred to.

Having reference to the drawings, 1 is the 55 framework of the machine and is of any con-

venient form adapted to support the various operating members. An operating roll or tool 2 composed of a series of helical blades of the well known form is supported in suitable bearings 11 and 12 on the frame 1 and 60 is driven by a belt, not necessary to be shown, running upon the pulley 3 which is fast to the end of the axle 4 of the operating roll.

The skin or hide to be worked is thrown over a pad 5 having a circular contour on the 65 side next the operating roll in order that the proper portion of the skin may engage the surface of the operating tool 2, the amount of the skin which engages with the operating tool being determined by the shape and size 70 of this pad 5. The pad 5 is carried by a pair of swinging supports 6 and 7 which are pivoted at their lower ends to the frame of the machine. By the movement of these swinging supports 6 and 7, the skin upon the pad 5 75 is caused to engage the surface of the operating tool 2. The pad 5 is made of wood with a yielding covering of leather or other similar material in the manner common in such cases, and is provided with pivots 51 at each 80 end upon which the pad may turn in relation to its supports 6 and 7. Projecting from each end of the pad 5 is a stop 52 which projects into a slot 53 in the side of the support. By this means the amount of swing of the 85 pad 5 about the pivot 51 is limited, so that the pad cannot turn over but can still adapt itself slightly to the position of the operating roll 2.

To move the pad 5 in and out of contact 90 with the operating tool, I provide the following mechanism. A shaft 8 which will be called the lower countershaft is located in suitable bearings 81 on the frame 1 of the machine and is driven by means of a chain 9 95 and a pair of sprocket wheels 101 and 102 located upon the shaft 4 of the operating tool and on the lower countershaft 8 respectively. On this countershaft 8 is placed a friction-clutch 121. In the lower part of the ma- 100 chine is a treadle shaft 13 upon which are a treadle 131 and a weight 139 which tends to keep the treadle in its raised position. A fork or ring 132 for the clutch 121 is attached to the upper end of an arm 133 fast to the 105 treadle shaft 13, and two pointed pins 134 and 135 are screwed into suitable holes in the sides of this ring 132. These pins 134 and 135 engage the cone 136, which in turn engages and operates the lever 122 of the fric- 110

tion clutch 12. It is unnecessary to describe the friction clutch 12, as its construction is well known and any convenient form of clutch may be used. The upper end of the arm 133 which carries the fork or ring 132 also carries a roller 137 which is free to turn about the spindle 138. The object of this roller 137 will be hereinafter more fully described.

A second or upper countershaft 14 is located above the lower countershaft 8 and carries thereon a large gear 15 which meshes with and is driven by the small gear 16 on the lower countershaft 8. On each end of this upper countershaft 14 is located a crank 161 operating a pair of connecting rods 17 which move the pad 5 toward and away from the operating roll 2 with each revolution of the upper countershaft 14.

Upon the upper countershaft 14 is a stop-disk 141 having a raised rim 142 within which are two oppositely disposed depressions or notches 143, and 144. When the treadle 131 is depressed the roller 137, previously referred to, which is carried by the upper end of the fork or ring 132, is lifted from the depression 143 in which it is shown as resting, and as the stop-disk 141 turns with the hopper counter-shaft 14, the roller 137 rolls around on the edge of the rim 142 until it drops into the second depression 144, by reason of the weight 139 against the action of which the treadle 131 is depressed. When the roller drops into either of the depressions 143 and 144, the cone 136 releases the clutch lever 122, and the movement of the gear 15 and the pad 5 ceases. By this arrangement of parts, it will be seen that the machine stops when the pad 5 has reached the limit of its movement away from the operating roll 2, giving the operator an opportunity to take off one hide and put on another before starting the machine again. This stop disk also stops the machine when the hide is in contact with the operating roll 2 and the parts remain in this position until the operator thinks that the hide or skin is sufficiently worked, and again depresses the treadle. The above-described parts of the machine stop twice for every revolution of the stop-disk 141. Of course it is to be understood that the operating roll rotates continuously and independently of the remainder of the machine.

To prevent the skin or hide from slipping on the pad 5 during the working a clamp is provided. (See more particularly Fig. 3.) At each end of the frame of the machine are placed guides 18 in which slides a clamp bar 19 which is held in engagement with the skin or hide by means of the spring 22. This clamp bar is provided with a blunt or rounded edge 191 for engagement with the skin, and holds the skin firmly between this edge and the upper edge of the pad 5. The

pressure of the clamp bar 19 is adjustable by means of the screw 23 which passes through the ends of the guides 18 and is held in place by a check nut 24. When the movable pad 5 is brought into engagement with the clamp bar 19, the clamp bar is moved back until the surface of the skin upon the pad 5 is brought into contact with the operating roll 2. An upper clamp bar 192 is fastened to the clamp bar 19 by a bolt 193 and projects over the top of the pad 5 when it is in working position, thus holding the hide at a second point and making it certain that the hide does not slip during the working operation.

In order that the skin may be pressed against the operating roll with the right amount of pressure some adjusting means between the crank 161 and pad 5 is necessary. To accomplish this I provide the connecting rod 17 with two end pieces 25 and 26, having screw-threaded holes therein for the reception of the ends of the connecting rods 17 which are provided with right and left hand screw-threads. By turning the connecting rod 17, the two end pieces 25 and 26 may be drawn nearer together or spread farther apart as is required. Check nuts 251, 261, are provided to keep the jarring of the machine from loosening the connecting rod 17.

When the machine is in use, the operator throws a skin or hide over the pad 5 so that the portion of the skin or hide which was over the back bone of the animal comes over the pad 5 between its upper and lower edges. He then presses down the treadle 131, which causes the clutch 121 to operate and starts the rotation of the gear 15, thus bringing the movable pad 5 into engagement with the operating tool 2, while the clamp holds the hide firmly against the pad 5. When the stop-disk 141 has completed half a revolution, the roller 137 drops into one of the depressions in the stop disk and causes the gear 15 to cease its rotation, thus holding the hide or skin in contact with the operating roll until the operator again depresses the treadle. The pad 5 then moves back out of the way of the operating tool, so that the operator may remove the hide and repeat the operation.

What I claim is;

1. A preliminary putting-out machine, comprising essentially an operating roll, a non-rotating supporting pad for the skin or hide, upright levers in which said pad is supported, power-operated means for automatically moving said levers to bring the said pad into or out of working position with relation to the said roll, and means to render said power-operated means inoperative with the supporting pad in its operative and inoperative positions subject to the will of the operator, substantially as described.

2. A preliminary putting-out machine comprising essentially an operating roll, a support for the skin or hide substantially

conforming in contour to the periphery of the operating roll, automatic means operating to move one of said members into or out of working position with relation to the other member, means to retain said movable member in its operative position subject to the will of the operator, and means to rotate said operating roll independently of the said automatic means.

10 3. In a machine of the character specified, the combination of an operating roll, a non-rotating supporting pad for the skin or hide, power connections to move one of said parts into working position with relation to the
15 other, means for automatically rendering said power connections inoperative when said movable part is in its operative position to obtain a stationary relation between said roll and pad, means for rotating said operat-
20 ing roll independently of the power connections, and manually operated controlling means for said power connections.

4. In a machine of the character specified, the combination of an operating roll, a non-
25 rotating supporting pad substantially conforming in contour to the periphery of the operating roll, power connections to move one of the said members into working position with relation to the other, manually op-
30 erated control means for the said power connections upon the operation of which the said movable member is alternately moved into and out of working position with relation to the other of two first-mentioned members,
35 and means to rotate said operating roll independently of said power connections.

5. In a machine of the character specified, the combination of an operating roll, a pad
40 for the skin or hide having a concaved surface of substantially the curvature of the roll and cooperating therewith, power connections to move one of said parts into working position with relation to the other, stop-
45 mechanism to automatically cause the movement of the said moving part to cease when the working position is reached and to stop it again at the other extreme of its move-
ment, and manually controlled starting mechanism for renewing the movement of
50 the said moving part after it has been stopped by the stopping mechanism, and means to rotate said operating roll independently of said power connections.

6. In a machine of the character specified, the combination of an operating roll, a non- 55 rotating supporting pad, conforming substantially in contour to the periphery of the operating roll, power connections to move one of said members into working position with relation to the other, manually operated 60 control means for the said power connections, and stopping means to cause the movement of the said moving member to cease when the working position is reached and to stop it again at the other extreme of its 65 movement.

7. In a machine of the character described, in combination, an operating roll, a supporting pad for the skin or hide, movable to and from the said roll and having a con- 70 caved surface of substantially the curvature of the roll and cooperating therewith, moving means for the said pad, stop mechanism whereby the pad is caused to stop in its extreme positions, and manually controlled 75 starting mechanism for renewing the motion of the pad after it has been stopped.

8. In a machine of the character specified, the combination of an operating roll, a non-rotating supporting pad for the skin or hide 80 having a curved surface cooperating with said roll, automatic means operating to move one of the said members into or out of working position with relation to the other and a spring-operated sliding clamp cooperating 85 with the said pad to hold the skin or hide firmly upon the said pad when the pad and roll are in working position.

9. In a machine of the character specified, in combination, a rotatable operating roll, 90 means to rotate it, a supporting bed movable toward and from said roll and substantially conforming in contour to the periphery of the operating roll, a sliding clamping device located above the operating roll and cooperat- 95 ing with the said bed to engage the hide or skin thereon, and means to yieldingly act on said clamping device, substantially as described.

In testimony whereof I affix my signature 100 in presence of two witnesses.

FRANKLIN J. PERKINS.

Witnesses:

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