

F. J. PERKINS.
LEATHER WORKING MACHINE.
APPLICATION FILED AUG. 30, 1909.

992,049.

Patented May 9, 1911.

2 SHEETS—SHEET 1.

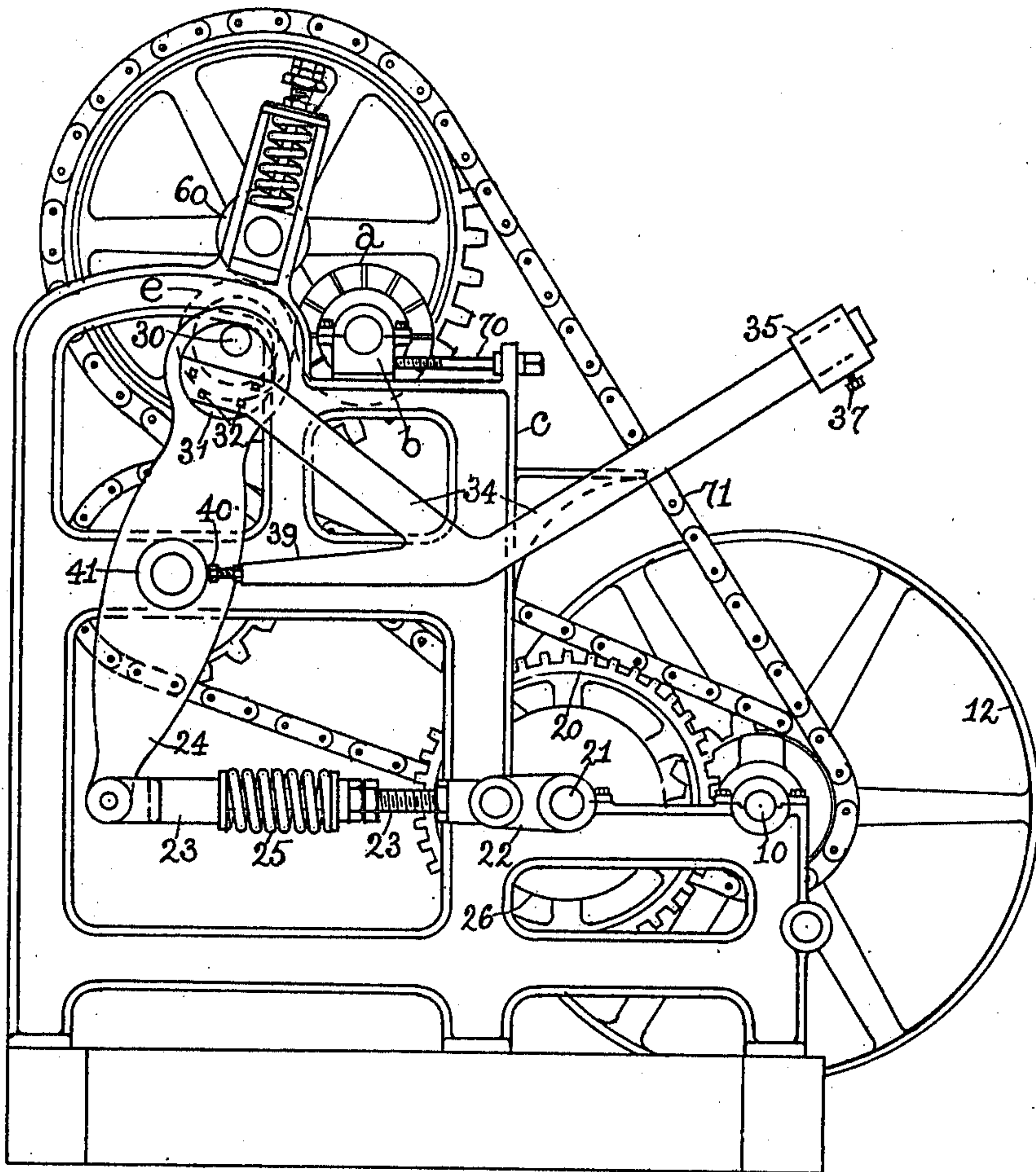


Fig. 1.

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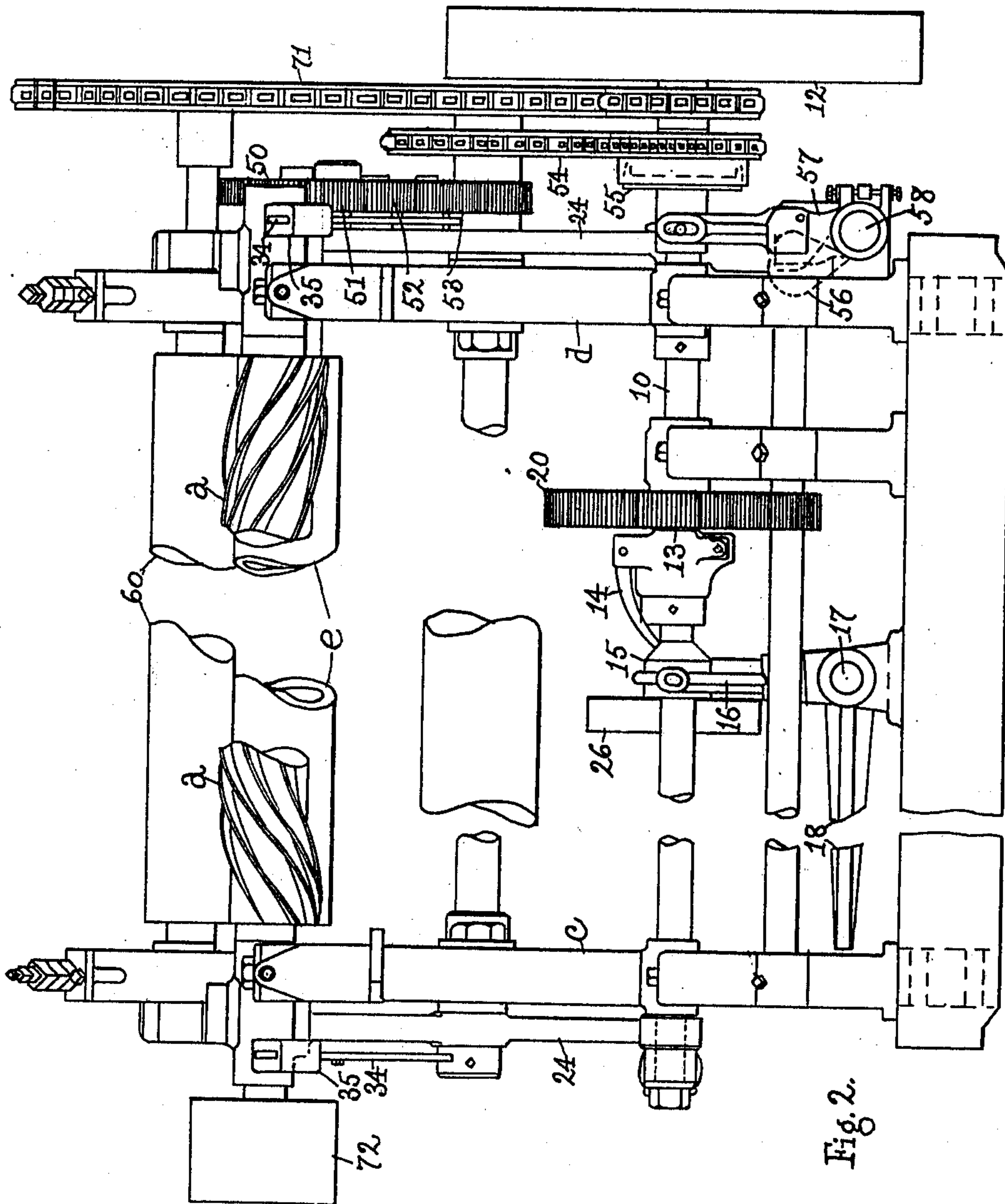


Fig. 2.

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UNITED STATES PATENT OFFICE.

FRANKLIN JAY PERKINS, OF WOBURN, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE TURNER TANNING MACHINERY COMPANY, OF PEABODY, MASSACHUSETTS, A CORPORATION OF MAINE.

LEATHER-WORKING MACHINE.

992,049.

Specification of Letters Patent.

Patented May 9, 1911.

Application filed August 30, 1909. Serial No. 515,129.

To all whom it may concern:

Be it known that I, FRANKLIN JAY PERKINS, a citizen of the United States, residing in Woburn, county of Middlesex, and State of Massachusetts, have invented an Improvement in Leather-Working Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to machines for treating hides, skins and leather of that class in which a bed roll is employed to support the work and a bladed cylinder or roll to act on the work upon the bed roll.

The present invention is particularly applicable to machines of the class described in which the bed roll is moved toward and from the bladed cylinder by power-operated means, which now include helical springs for the purpose of compensating for irregularities in the thickness of the hide or skins.

Machines of the class described are deficient in that the springs referred to, which are compressed when a thick portion of the hide or skin is interposed between the bed roll and the bladed cylinder, are not uniformly increased in strength by such compression, but vary in strength according to the thickness of the hide or skin.

When the machine is used for fleshing, a greater amount of material is removed from the thick portions than from the thin portions of the hide or skin, which results not only in loss of good material but also causes a variable or non-uniform tanning of the hide or skin.

When the machine is used for unhairing, the grain is liable to be scraped or otherwise injured.

The present invention has for its object to overcome the above-mentioned objections or deficiencies in the class of machines referred to and provide for obtaining the same or a uniform pressure of the operating tool on the thick and thin portions of the hide or skin. To this end, I employ a weight which is operatively connected with the bed roll so as to move therewith and apply to the hide or skin the same pressure irrespective of the thickness of the hide or skin, with the result that the same amount of material is removed from the thick parts as from the thin parts.

Figure 1 is a side elevation of one construction of machine embodying this invention, and Fig. 2, a rear elevation with parts broken away of the machine shown in Fig. 1 looking toward the left.

In the present instance, the invention is shown as embodied in a power-operated machine of the same general construction as that shown and described in United States Patent No. 873,790 dated December 17, 1907, in which the bladed cylinder or roll *a* is mounted in boxes *b* supported by the upright side frames *c*, *d*, and has coöperating with it a bed roll *e*, which supports the hide or skin (not shown) while it is being fleshed, un-haired or otherwise treated by the bladed cylinder *a*. The bed roll *e* is movable bodily toward and from the bladed cylinder *a* by power-operated means, which is and may be the same as that shown in the patent referred to and comprises a continuously driven main shaft 10 having the driving pulley 12 and a pinion 13 loose thereon and adapted to be rendered fast on said main shaft by the clutch members 14, 15, the latter being slid along the shaft 10 by a forked arm or crank 16 on a rock-shaft 17 operated by a foot treadle 18. The pinion 13 meshes with a gear 20 fast on a counter shaft 21 having cranks 22 connected by rods 23 with the lower ends of upright levers 24 constituting one form of carrier for the bed roll, said connecting rods being provided (as shown) with spring cushions 25.

The counter shaft 21 is given a half turn and then automatically stopped by a cam disk 26, which coöperates with a crank or arm (not shown) on the rock-shaft 17, to hold the clutch members 14, 15, in engagement, while the countershaft 21 is making a half turn and then to permit the clutch member 15 to be disengaged from the member 14 and remain disengaged until the operator again depresses the foot treadle 18 as fully described in the aforesaid patent.

In the patent referred to, the bed roll *e* is journaled in the levers 24, whereas in the present instance, the bed roll is eccentrically journaled at 30 in circular disks 31, which are hereinafter referred to as eccentric disks and are mounted to turn in suitable openings in the said levers, said eccentric disks having secured to them as by screws or bolts 32 or otherwise, arms 34 carrying at their

rear ends counterweights 35 for the bed roll, said weights being shown as adjustably secured on the said arms by set screws 37.

The weighted arms 34 are provided with 5 fingers 39, having adjustably secured to their ends set-screws 40, which are adapted to cooperate with the hubs 41 of the levers 24 and thus limit the rotation of the disks 31 in said levers under the influence of said 10 weights, thereby limiting the forward movement of the bed roll *e* toward the bladed cylinder *a* and initially positioning said bed roll with relation to the said cylinder, to properly treat the thin portions of the hide 15 or skin.

The bed roll is moved from its operative position shown in Fig. 1 away from the bladed cylinder, on one one half turn of the counter-shaft 21 and remains in its inoperative position while a hide or skin is being 20 placed thereon, after which the operator depresses the foot treadle 18 and starts the machine in motion so as to cause the counter shaft 21 to make another half turn and move the levers 24 and the bed roll *e* with 25 the hide or skin thereon into substantially the position represented in Fig. 1. At or about the time the bed roll has been moved into its operative position, shown in Fig. 1, 30 it is set in rotation by a train of gears 50, 51, 52, 53, which are driven from the main shaft by link chain 54 controlled by a clutch whose movable member 55 is operated by a crank (not shown) on the counter-shaft 21, 35 which cooperates with dogs 56, 57, on a rock-shaft 58, as fully described in the patent referred to and which does not need to be more specifically described, as it forms no part of the present invention.

40 The bed roll *e* is initially positioned to treat the thin portion of the hide or skin and when a thick portion of the latter is interposed between the bladed cylinder and the bed roll, as the hide or skin is fed out 45 of the machine by the bed roll *e* and the feed roll 60 cooperating therewith, the bed roll *e* is forced away from the bladed cylinder *a* and by reason of its being journaled eccentrically in the disks 31, rotates the 50 latter and causes the weighted levers or arms 34 to be moved in the arc of a circle with the disks 31 as a center, with the result, that the thick portion of the hide or skin is pressed against the bladed cylinder with 55 the same pressure, namely, that of the weight 35, with which it was pressed when a thin portion of the hide or skin was being treated by the bladed cylinder or roll.

As the bed roll is moved backward away 60 from the bladed cylinder, more or less according to the thickness of the hide or skin, the weight is moved more or less in the arc of a circle, and as a result the hide or skin is presented to the bladed cylinder with the 65 same pressure irrespective of the thickness

of the hide or skin, with the beneficial results above mentioned.

The journal boxes *b* for the bladed cylinder are adjustable on the framework of the machine by means of the screws 70 and 70 when once adjusted, said boxes are secured in their adjusted position, so that the bladed cylinder is journaled in practically stationary bearings.

In the present instance, the connecting 75 rods 23 are provided with the spring cushions 25, and while I may prefer to employ them, said cushions may be omitted and the movement of the eccentric disks alone depended upon to compensate for the different 80 thickness of the hide or skin, but both features may be advantageously used in the same machine.

The feed roll 60 may be continuously driven from the main shaft 10 by the link 85 chain 71, and the bladed cylinder may be continuously driven by a suitable belt (not shown), but which is passed about the pulley 72.

I have herein shown the invention as embodied in one form of machine for treating 90 hides, skins and leather, in which the bed roll is carried by pivoted supports or levers and is bodily movable toward and from the bladed cylinder in a substantially horizontal plane by power-operated means, but 95 I do not desire to limit the invention in this respect, as I believe myself to be the first to provide a machine of this class in which a weight is operatively connected 100 with the bed roll so as to be moved by the latter in the arc of a circle by the difference in thickness of the hide, skin or leather and obtain a constant or uniform pressure of the said tool upon the hide, skin or leather 105 irrespective of the thickness of the same.

Claims

1. In a machine of the character described, in combination, a bladed cylinder, a bed roll to support the hide or skin while 110 it is being treated by said cylinder, oscillatory devices in which said bed roll is eccentrically mounted, levers to support said oscillatory devices, power-operated means for moving said levers on their pivots and 115 for bodily moving said bed roll toward and from said bladed cylinder, weights, and supports for the latter connected with said oscillatory devices, for the purpose specified.

2. In a machine of the character described, in combination a bladed cylinder, a bed roll to support the hide or skin while it is being treated by said cylinder, oscillatory 120 devices in which said bed roll is eccentrically mounted, levers to support said oscillatory devices, means for moving said levers to bodily move the bed roll toward and from the bladed cylinder, a weight, and a support 125 for the latter connected with one of said oscillatory devices, for the purpose specified. 130

3. In a machine of the character described, in combination, a bladed cylinder, a bed roll to support the hide or skin while it is being treated by said cylinder, a carrier
5 for said bed roll movable toward and from said cylinder, power-operated means for moving said carrier, a weight, and a support for the latter operatively connected with the said bed roll to be moved thereby in-
10 dependently of said power-operated means and in response to different thicknesses in the hide or skin as the latter is interposed between the said bed roll and cylinder, to obtain a constant or uniform pressure of the
15 bladed cylinder upon the hide or skin irrespective of the thickness of the latter, substantially as described.

4. In a machine of the character described, in combination, a bladed cylinder,
20 a bed roll to support the hide or skin while it is being treated by said cylinder, oscillatory devices in which said bed roll is eccentrically mounted, levers to support said oscillatory devices, means for moving said
25 levers to bodily move the bed roll toward and from the bladed cylinder, a weight, and

a support for the latter operatively connected with said bed roll to cause the weight to be moved in the arc of a circle as the bed roll is moved toward and from said cylinder, 30 for the purpose specified.

5. In a machine of the character described, in combination, a bladed cylinder, a work-support for the hide or skin co-
35 operating with said bladed cylinder, a carrier for said work-support movable toward and from said cylinder, means to move said carrier, a weight, and a support for the latter operatively connected with the said
40 work-support to be moved thereby independently of the means for moving the said carrier and in response to different thickness in the hide or skin as the latter is in-
45 terposed between the work-support and said cylinder, for the purpose specified.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

FRANKLIN JAY PERKINS.

Witnesses:

JAS. H. CHURCHILL,
J. MURPHY.