

No. 704,095.

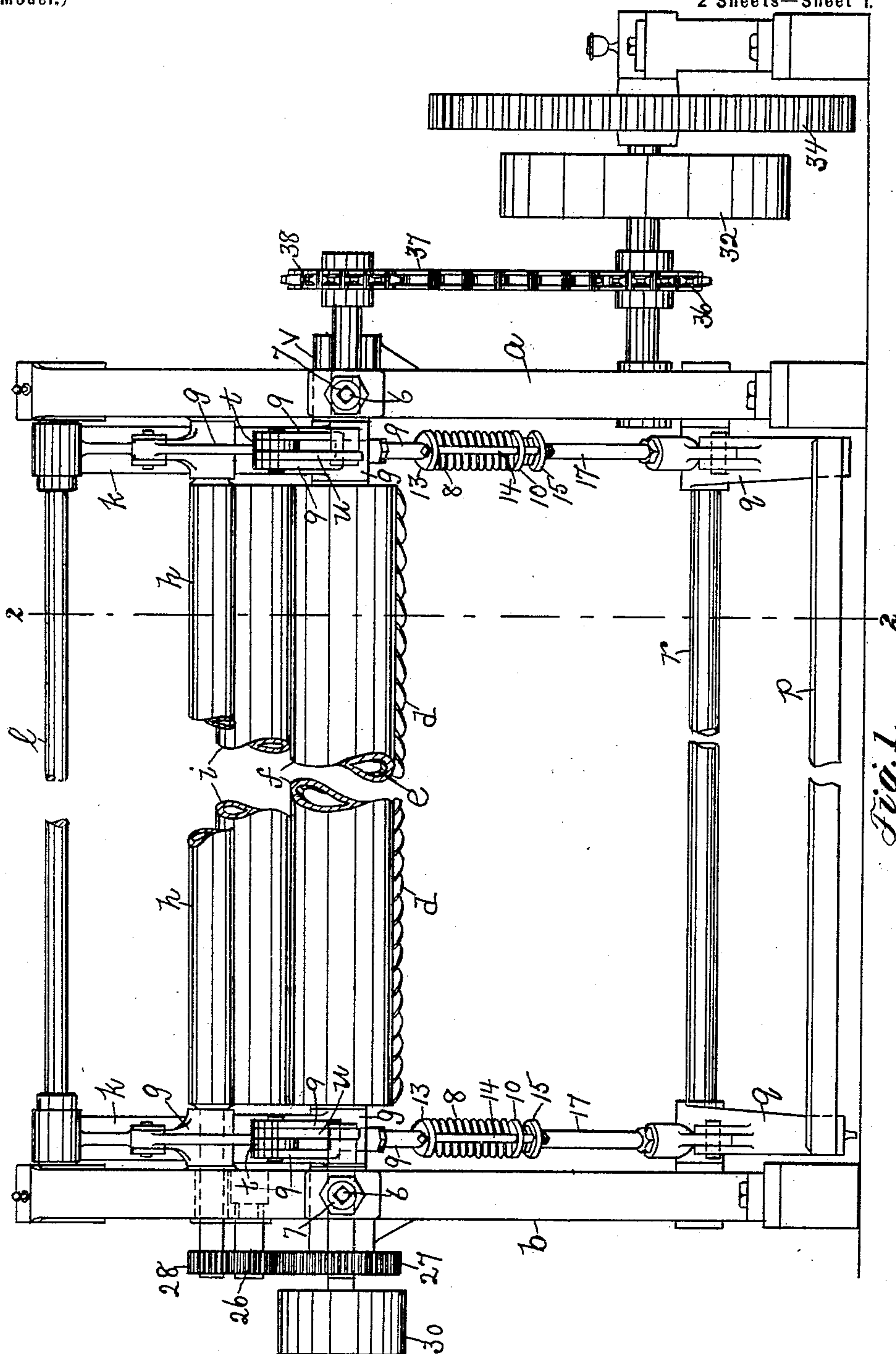
Patented July 8, 1902.

F. J. PERKINS & F. A. PARKHURST.
MACHINE FOR TREATING HIDES OR SKINS.

(Application filed Oct. 1, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses.

C. H. Bennett
J. Murphy.

Inventors.

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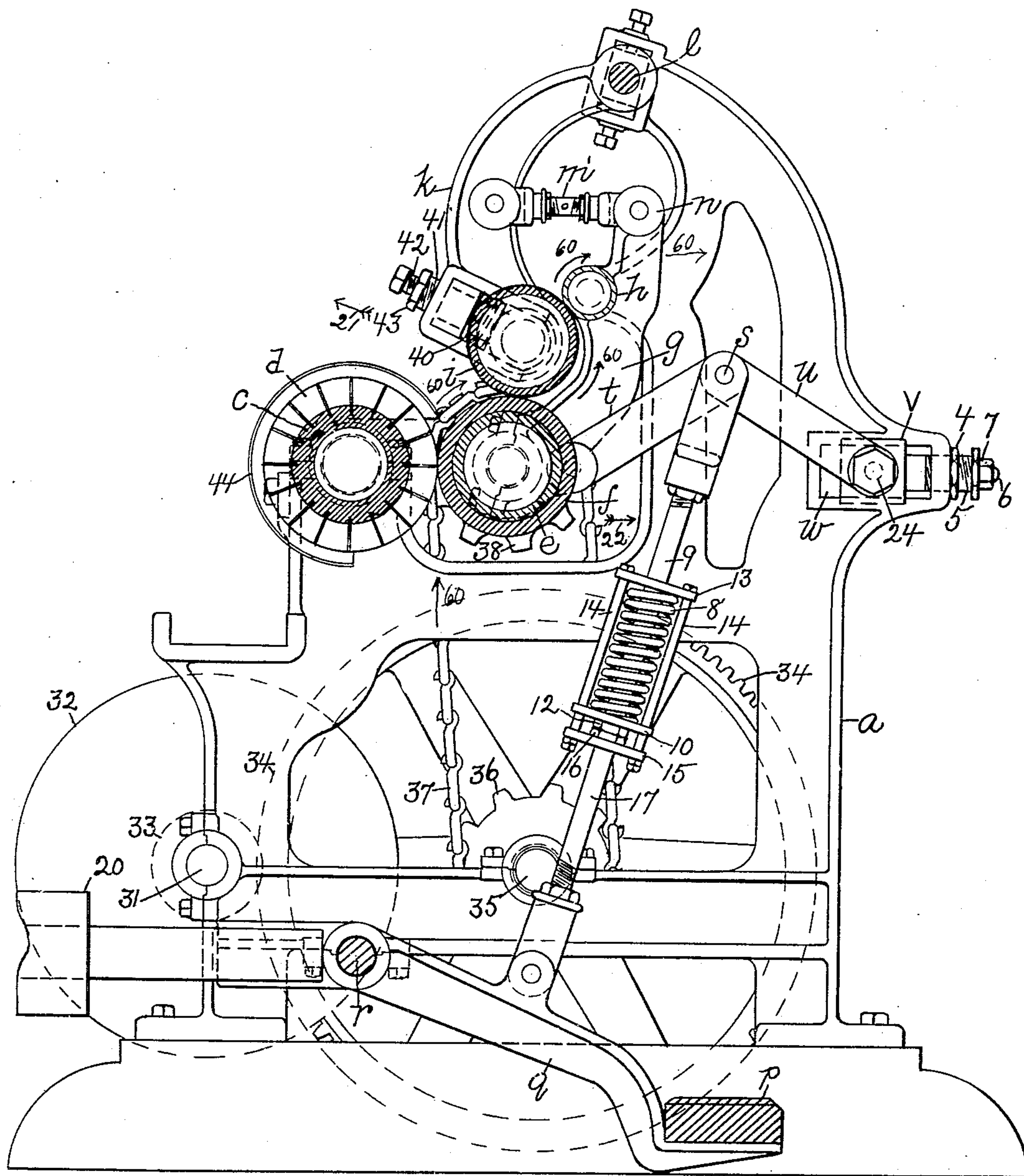


Fig. 2

Witnesses.

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UNITED STATES PATENT OFFICE.

FRANKLIN J. PERKINS, OF WOBURN, AND FREDERIC A. PARKHURST, OF PEABODY, MASSACHUSETTS, ASSIGNORS TO VAUGHN MACHINE COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF WEST VIRGINIA.

MACHINE FOR TREATING HIDES OR SKINS.

SPECIFICATION forming part of Letters Patent No. 704,095, dated July 8, 1902.

Application filed October 1, 1901. Serial No. 77,248. (No model.)

To all whom it may concern:

Be it known that we, FRANKLIN J. PERKINS, residing in Woburn, in the county of Middlesex, and FREDERIC A. PARKHURST, residing in Peabody, in the county of Essex, State of Massachusetts, citizens of the United States, have invented an Improvement in Machines for Treating Hides or Skins, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to a machine for treating hides or skins, and is especially designed and adapted, among other uses, to be employed for fleshing and unhairing hides.

The invention has for its object to provide a simple and efficient machine for the purpose specified. For this purpose we employ a pinch or feed roll and a bed-roll movable toward and from each other and a practically stationary feed-roll cooperating with the said movable rolls, so that the hide is pinched or pressed by the movable feed-roll between the said stationary feed-roll and said bed-roll while it is being operated upon by a suitable tool or cutting-cylinder, as will be described. The bed-roll and feed or pinch roll may be operated by a treadle mechanism, as will be described. Provision is made for compensating for wear of the bed-roll, as will be described. These and other features of this invention will be pointed out in the claims at the end of this specification.

Figure 1 is a front elevation, with parts broken away, of a machine embodying this invention; and Fig. 2, a section on the line 2 2, Fig. 1.

The framework of the machine may be of any suitable construction and comprises, as shown, the side frames *a b*, suitably connected together. The side frames *a b* support in suitable bearings a rotatable tool comprising, as shown, a cylinder *c*, provided with helically-arranged knives or blades *d*. The rotatable tool has cooperating with it a bed-roll *e* of usual or suitable construction, it being provided with a covering *f*, of rubber or other yielding material. The bed-roll is mounted

to turn in suitable boxes carried by levers *g*, located at opposite sides of the machine and mounted to turn on a pivot formed by a roll *h*, supported in suitable bearings in the side frames *a b*. The roll *h* constitutes a practically stationary feed-roll, being mounted in fixed bearings. The bed-roll *e* and the stationary feed-roll *h* have cooperating with them a movable pinch or feed roll *i*, journaled in suitable boxes carried by levers *k*, located at opposite sides of the machine and mounted on a pivot shaft or rod *l*, supported by the side frames *a b*. Each of the levers *k* may and preferably will be connected by an adjustable rod *m*, with the small arm *n* of the lever *g* located at the same side of the machine, so that the bed-roll and the pinch-roll may be simultaneously moved toward each other by a single mechanism, which may and preferably will be operated by the foot of the operator. The mechanism referred to is shown as a treadle-bar *p*, connecting treadle-levers *q*, located at opposite sides of the machine and mounted on a pivot rod or shaft *r*, each of said treadle-levers being joined by a yielding connection with the connecting-pin *s* of toggle-levers *t u*, the lever *t* being pivotally connected to the lever *g* and the lever *u* being pivoted to a boss or block *v*, adjustably mounted in a slot *w* in a side frame of the machine, but held normally stationary by a nut 4 on an externally and internally threaded sleeve 5, encircling a threaded rod 6, attached to the boss or block *v* and provided with a nut 7. The yielding connection referred to may and preferably will be made as herein shown (see Fig. 2) and consists of a spring 8, encircling a rod 9, connected to the pivot-pin *s* of the toggle-levers and bearing at one end against a cross-bar 10, retained on the rod 9 by the nut 12, the other end of the spring 8 bearing against a cross-bar 13, secured to guide-rods 14, which pass through the cross-bar 10 and are secured to a cross-bar 15, retained by the nut 16 on a rod 17, pivotally connected to the treadle-lever *q*. The cross-bar 10 slides on the guide-rods 14. The spring 8 holds the bed-roll in its operative position (shown in the drawings) with a yielding pressure, so as to

permit the bed-roll to yield under the influence of the hide to compensate for unevenness in the said hide.

In the drawings the parts of the machine 5 are shown in their operative position with the treadle depressed. When the pressure is removed from the foot-treadle, the levers *kg* are moved away from each other under the influence of the springs 8 and of the counterweight 20, attached to the treadle-levers, 10 and the feed-roll *i* is moved away from the bed-roll and the roll *h* in the direction indicated by the arrow 21, while the bed-roll is moved in the direction indicated by arrow 22 15 away from the knife-cylinder *c*. When the treadle is elevated, the toggle-levers *tu* are moved upward into a more acute position than that shown in Fig. 2, the lever *u* turning on its pivot 24 as a fixed point. When 20 the feed-roll is moved in the direction indicated by the arrow 21 and the bed-roll in the direction indicated by the arrow 22, opportunity is afforded for the operator to place a hide over the stationary feed-roll *h* and let 25 a portion of it pass down between the bed-roll and the knife-cylinder, and when in proper position the treadle is depressed and the hide is brought into contact with the knife-cylinder, while at the same time it is engaged by 30 the pinch or movable feed-roll and positively drawn up past the knife-cylinder, as indicated by the arrows 60, Fig. 2, by the movable and stationary feed-rolls, assisted by the operator at the front of the machine, which rolls 35 are suitably geared together and with the bed-roll by a gear 26 on the movable feed-roll engaging gears 27 28 on the bed-roll and the stationary feed-roll. The gears are provided with teeth sufficiently long to enable 40 them to remain in mesh when the movable feed-roll and the bed-roll are moved away from each other by the thicker portions of the hide. The knife-cylinder may be continuously revolved by a suitable belt (not 45 shown) passed about the pulley 30 on the shaft of the said cylinder, and the bed-roll may be revolved from a shaft 31, which may be driven from the same shaft which drives the knife-cylinder and which is suitably 50 geared to the bed-roll, so as to revolve the bed-roll at a reduced speed. In the present instance the shaft 31 is shown as provided with a substantially large pulley 32 and with a pinion 33, which meshes with a large gear 55 34 on a shaft 35, provided with a sprocket-wheel 36, which is connected by a link chain 37 to a sprocket-wheel 38 on the shaft of the bed-roll.

By reference to Fig. 2 it will be noticed that 60 the center of the pivot *l* for the levers *kg* is in a substantially straight line with the center of the bed-roll when the latter is in its operative position and that the point of contact of the feed-roll with the bed-roll when 65 the feed-roll *i* is in its operative position is substantially in the same line, with the result

that in case the rubber covering for the bed-roll should wear away in service the feed-roll will yet maintain an efficient grip upon the hide notwithstanding the said wear, or, in 70 other words, by locating the pivot for the feed-roll in a straight but inclined line with relation to the bed-roll the wear of the bed-roll is compensated for and the operation of the machine maintained efficient notwithstanding 75 such wear, for it will be seen that as the bed-roll wears away it is moved toward the knife-cylinder, which causes a corresponding movement of the feed-roll in the opposite direction, and as the movement of the feed-roll 80 is in the arc of a circle having the pivot *l* as a center, with the lowest point in the arc in a perpendicular line through the pivot *l*, the movement of the feed-roll toward said lowest point in the arc is downward, thus bringing 85 the feed-roll nearer the center of the bed-roll an amount or distance equal to the decrease in the size of the bed-roll due to wear. By means of the adjustable connecting-rod *m*, 90 which is provided with right and left threads, the feed-roll *i* and bed-roll may be accurately positioned one with relation to the other. The feed-roll *i* may, and preferably will, be made corrugated or fluted longitudinally and is 95 mounted in boxes adjustably secured in a slot 40 in the levers *kg* by means of a threaded sleeve 41 and a threaded rod 42, the said box when in its adjusted position being rendered stationary by the lock-nut 43. The revolving knife in practice may, and preferably will, 100 be protected by a cover or shield 44.

By reference to Fig. 2 it will be observed that the toggle-levers *tu* are not brought into a straight line when the treadle is depressed and the bed-roll is in its operative position, 105 but are inclined to each other, and the pivot *s* is above a straight line through the pivot 24 and the point of attachment to the bed-roll. As a result the bed-roll is free to yield against the action of the spring 8 when an increased 110 thickness of the hide or skin is passing between the bed-roll and the knife-cylinder, and this yielding movement of the bed-roll is transmitted by the spring to the foot of the operator, who in such case can diminish the 115 pressure of his foot upon the treadle, and thus avoid injurious action of the knife-cylinder upon the hide or skin. In other words, by interposing the yielding connection between the foot-treadle and the toggle-levers the machine is rendered more sensitive and less liable 120 to perform imperfect work.

We claim—

1. In an apparatus of the class described, the combination with a roll mounted in fixed 125 bearings, and a bed-roll, of a feed-roll cooperating with said bed-roll to hold the hide or skin in contact therewith, means to support said feed-roll and bed-roll normally separate from each other on opposite sides of a plane 130 substantially through the center of the rolls when in their operative position, and means

for moving said feed-roll and bed-roll toward each other and into their operative position with their axes substantially in the same plane.

5 2. In an apparatus of the class described, the combination with a bed-roll, and levers in which said bed-roll is mounted, of a feed-roll, and separate levers in which said feed-roll is mounted, and means to connect the said le-
10 vers on opposite sides of their pivots, whereby the bed-roll and feed-roll may be moved simultaneously toward and away from each other, substantially as and for the purpose specified.

15 3. In an apparatus of the class described, the combination with a bed-roll, and levers in which said bed-roll is mounted, toggle-levers to which said levers are connected, of a foot-treadle, and a yielding connection between
20 the said foot-treadle and the said toggle-levers, the latter being out of line with each other when the bed-roll is in its operative position, for the purpose specified.

4. In an apparatus of the class described,
25 the combination with a bed-roll, and levers in which the said bed-roll is mounted, of toggle-levers having one end connected to the levers carrying the bed-roll and the other end to a fixed pivot, a foot-treadle, and a yielding con-
30 nection between the said toggle-levers and the said foot-treadle, said toggle-levers being out of line with each other when the bed-roll is in its operative position, for the purpose specified.

35 5. In an apparatus of the class described, the combination with an operating-tool, of a bed-roll movable toward and from said tool, and a feed-roll cooperating with said bed-roll and movable toward and from the same, said
40 feed-roll and bed-roll being normally separated and located on opposite sides of a plane substantially through the center of the rolls when in their operative position, and means for moving said feed-roll and bed-roll toward
45 each other and into their operative position

with their axes substantially in the same plane.

6. In an apparatus of the class described, the combination with a bed-roll and a movable support therefor, of toggle-levers con- 50
nected at one end to said movable support and at their other end to a fixed support, said fixed support, a lever for moving said toggle-
levers toward a straight line through their pivots, and a yielding mechanism connecting 55
said lever with said toggle-levers, said toggle-levers being out of line with each other when the bed-roll is in its operative position, for the purpose specified.

7. In an apparatus of the class described, 60
the combination with a bodily-movable bed-roll, of a bodily-movable feed-roll cooperating with said bed-roll to hold the hide or skin in contact therewith, and levers in which said
65 feed-roll is mounted having their pivots in an inclined plane substantially through the center of the bed-roll when the latter is in its operative position, and supporting said feed-
roll with its axis slightly at one side of said inclined plane, substantially as described. 70

8. In an apparatus of the class described, the combination with a bed-roll, levers in which said bed-roll is supported, and adjustable bosses or blocks, means to secure said
75 bosses or blocks in their adjusted position, toggle-levers having one end pivoted to said adjustable bosses or blocks and their other end to said levers, a foot-treadle and a yielding connection between said foot-treadle and
80 said toggle-levers, the latter being out of line with each other when the bed-roll is in its operative position, for the purpose specified.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

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FREDERIC A. PARKHURST.

Witnesses:

HORACE P. FARNHAM,

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