

No. 747,500.

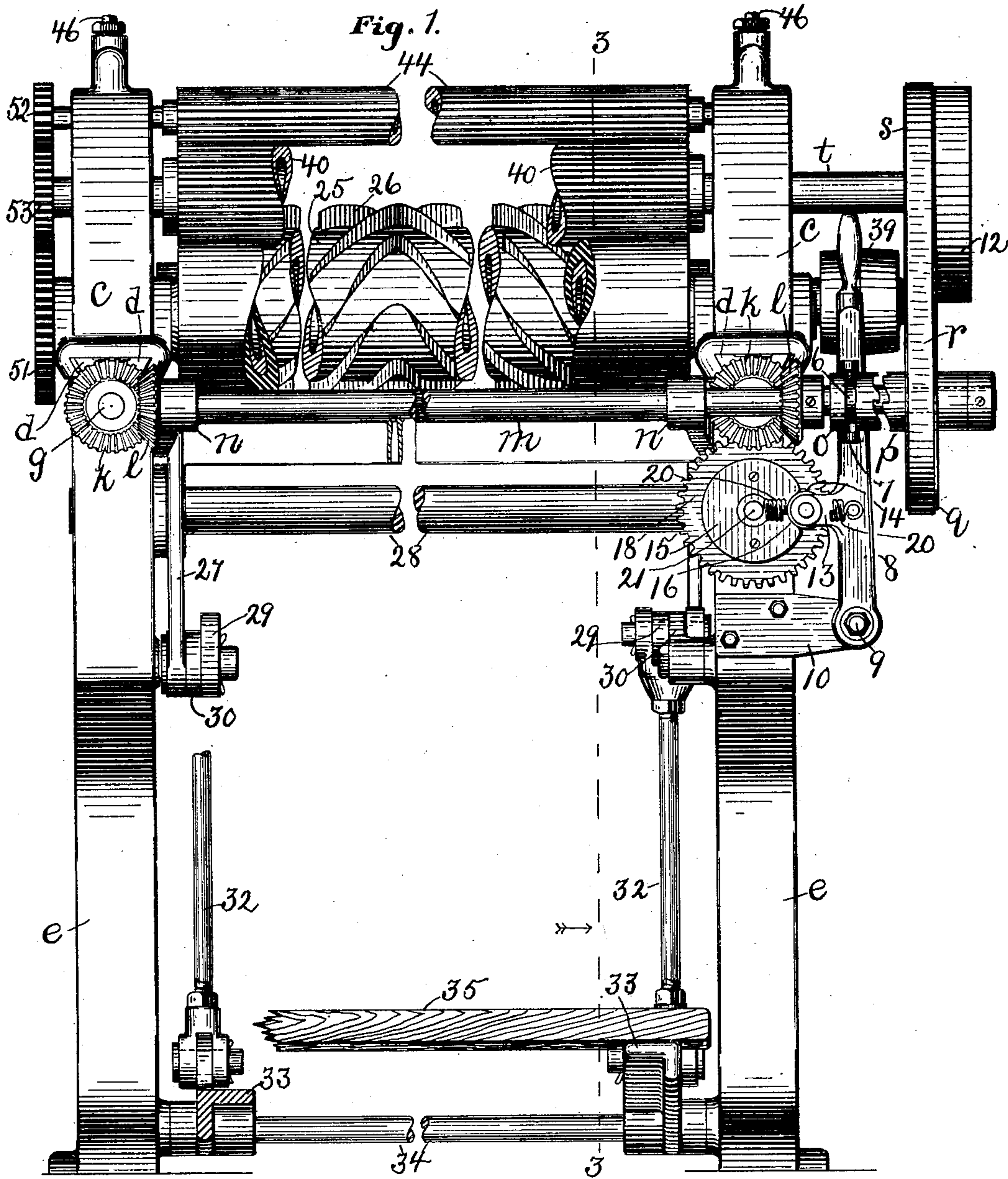
PATENTED DEC. 22, 1903.

R. W. STROUT.
MACHINE FOR TREATING HIDES OR SKINS.

APPLICATION FILED JULY 23, 1903.

NO MODEL.

4 SHEETS—SHEET 1.



Witnesses:

Josiah E. Reid
J. Murphy.

Inventor.

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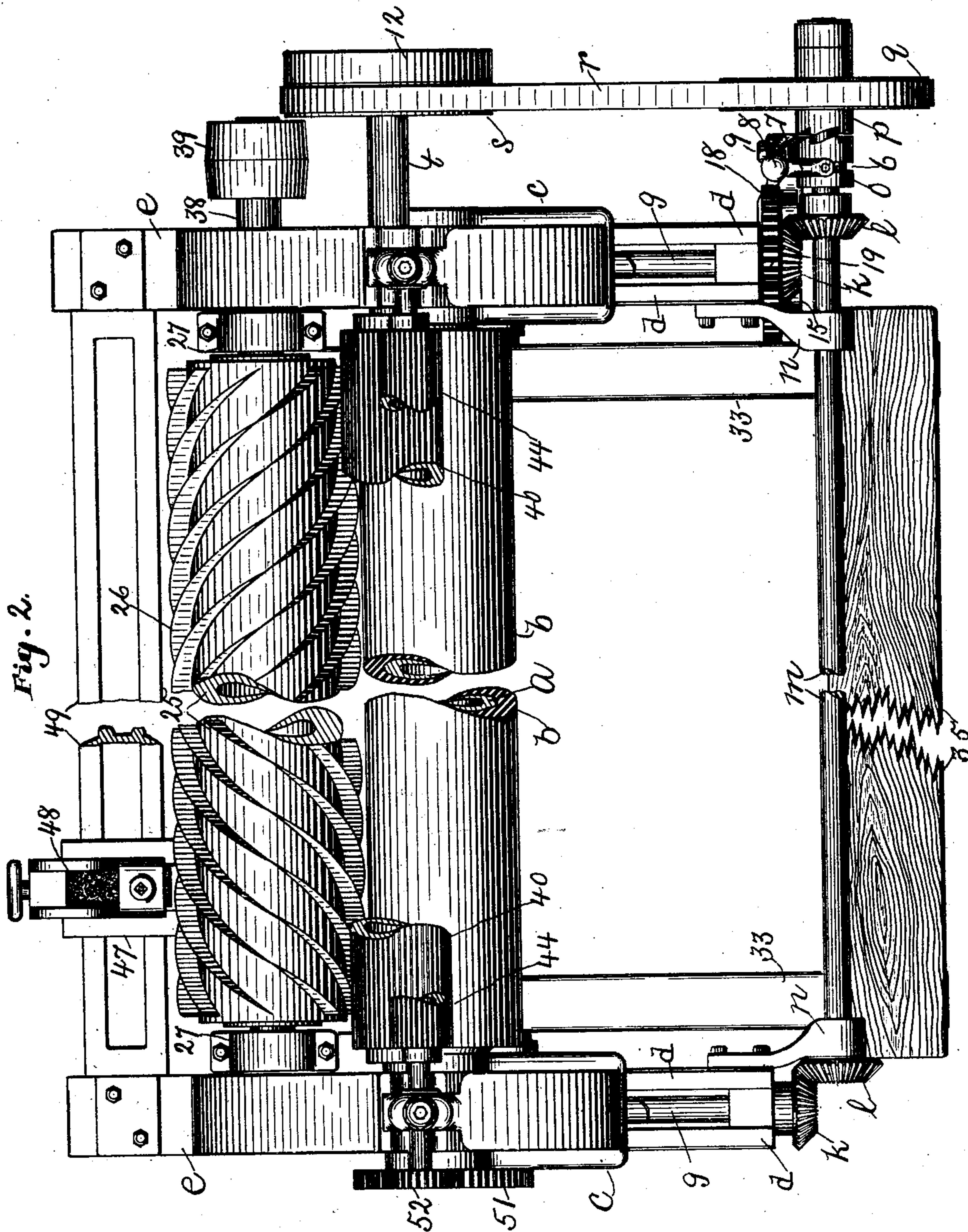
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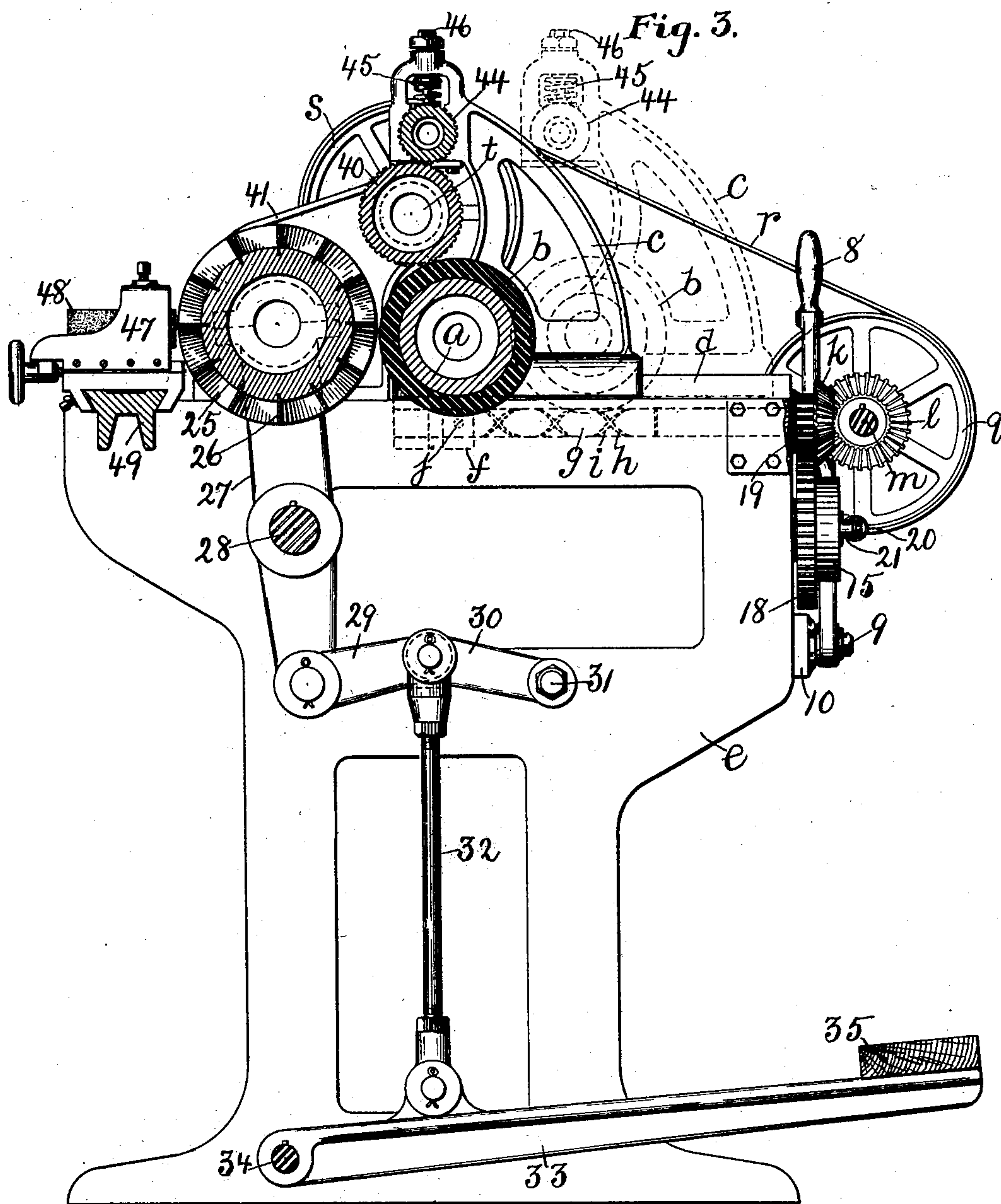
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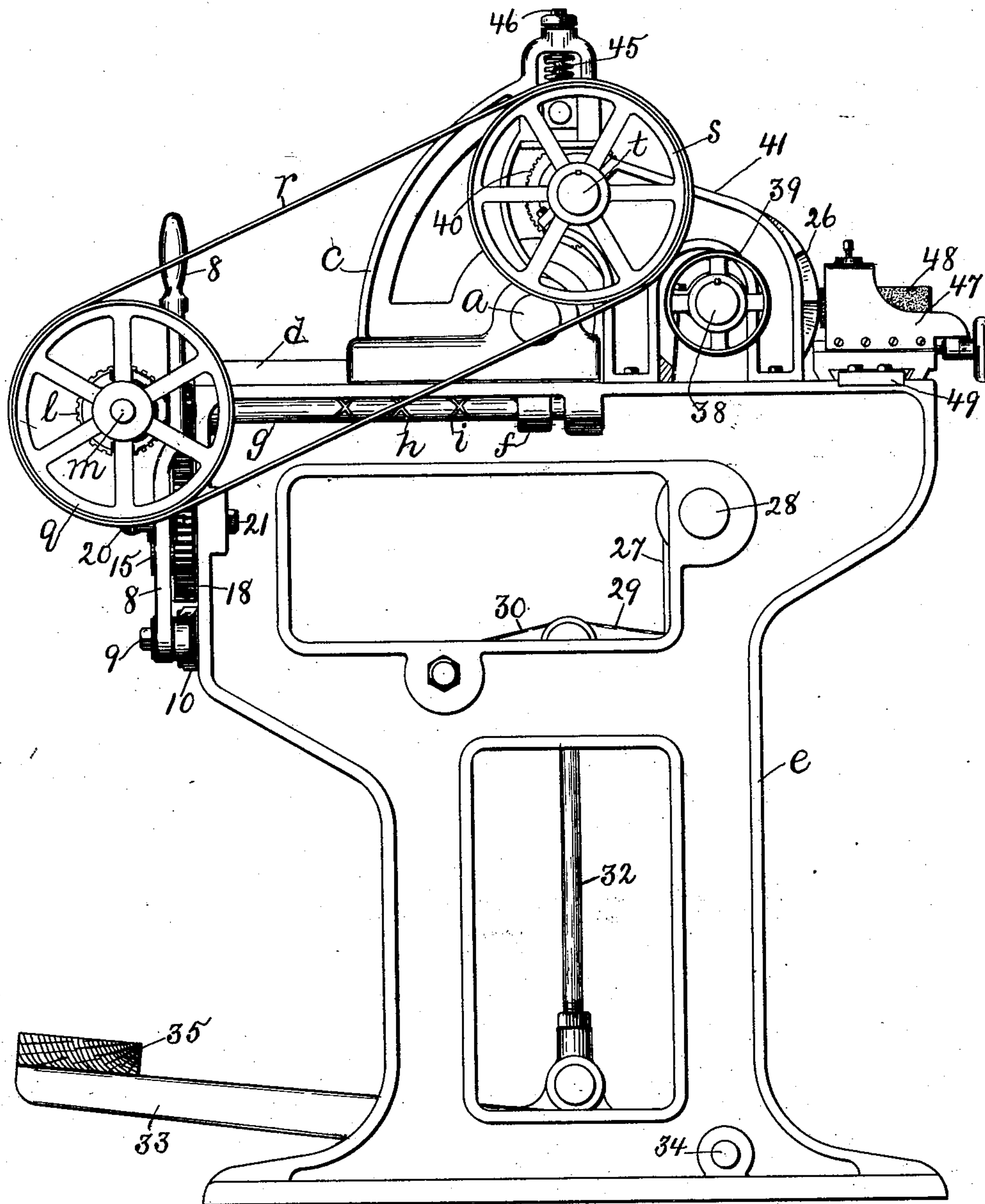
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4 SHEETS—SHEET 4.

Fig. 4.



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UNITED STATES PATENT OFFICE.

ROBERT W. STROUT, OF SALEM, MASSACHUSETTS, ASSIGNOR 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. 747,500, dated December 22, 1903.

Application filed July 23, 1903. Serial No. 166,681. (No model.)

To all whom it may concern:

Be it known that I, ROBERT W. STROUT, of Salem, county of Essex, and State of Massachusetts, have invented an Improvement in
5 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.

10 This invention relates to a machine for treating hides and skins, and more particularly for fleshing and unhairing the same.

The invention has for its object to provide a machine of the character described which
15 is highly efficient and extremely sensitive in its operation and one which can be easily operated, whereby the workman is relieved from strain and labor. For this purpose I employ a power-operated bed-roll and a manually-
20 operated knife cylinder or tool, which cooperates with the bed-roll and is under control of the operator, so that the pressure with which the knife-cylinder engages the work can be regulated by the workman according to the
25 character or kind of work being treated.

The machine may be provided with one or more feed-rolls, as will be described.

These and other features of this invention will be pointed out in the claims at the end
30 of this specification.

Figure 1 is a front elevation of a machine embodying this invention with parts broken away; Fig. 2, a plan view of the machine shown in Fig. 1; Fig. 3, a vertical section on the line 3-3, Fig. 1, looking toward the right;
35 and Fig. 4, a side elevation of the machine shown in Fig. 1 looking toward the left.

In the machine herein shown as embodying this invention, *a* represents a bed-roll which
40 is provided with a covering *b*, of rubber or other yielding material, and is mounted in suitable bearings in a reciprocating support or carriage. The reciprocating support or carriage may be made as herein shown, and
45 comprises two uprights *c*, mounted to slide on guides *d*, secured to or forming part of the upper surface of the side frames *e* of the machine, and in the present instance the uprights *c* are dovetailed onto the guides *d*, as

clearly shown in Figs. 1 and 3. The recip- 50
rocating carriage is operated by power, which may be effected as herein shown and as will now be described. To this end each side or upright *c* of the carriage is provided with a depending lug *f*, extended between the guides 55
d and provided with an eye or opening, through which is extended a shaft *g*, supported in suitable bearings in a side frame *e* and provided with helically-arranged grooves or channels *h i*, running longitudinally of the 60
shaft *g* in opposite directions and into which a pin or stud *j*, carried by the lug *f*, is projected, so that the shafts *g* may be rotated in one direction and produce movement in opposite directions of the carriage *c* and the 65
bed-roll *a*. The grooved shafts *g* may be driven as will now be described. The front ends of the shafts *g* project beyond the side frames *e* and have fast on them bevel-gears *k*, which mesh with like gears *l* on a counter-shaft *m*, extended across the machine 70
and supported, as shown, by brackets *n*, attached to the side frames of the machine. The rotation of the counter-shaft *m* is controlled, as shown, by a clutch, which may be 75
of any suitable or usual construction and which is shown as a toothed hub *o*, splined on the shaft *m*, and a toothed hub *p*, loose on the said shaft and forming part of a pulley *q*, which is driven by a belt *r* from a pulley *s* 80
on a shaft *t*. The toothed hub *o* is provided with an annular groove 6, which is engaged by the forked arm 7, attached to a lever 8, pivoted at 9 to a bracket or lug 10 on one of the side frames *e*. The shaft *t* may be driven 85
in the usual manner by a belt, (not shown,) but which is passed over a pulley 12 on said shaft.

From the above description it will be seen that the carriage *c* and the bed-roll *a* are re- 90
ciprocated by power when the operator throws the lever 8 so as to bring the toothed hub *o* into engagement with the toothed hub *p*.

Provision is made for automatically retaining the toothed hub *o* in engagement with 95
the toothed hub *p* until the carriage has completed its movement in one direction and to automatically disengage the hub *o* when the

carriage has reached the end of its movement in said direction. This result may be accomplished by mechanism as will now be described.

5 Referring to Fig. 1, the lever 8 is provided with a lug or arm 13, carrying a roller or wheel 14, which coöperates with a disk 15, having a recess 16 in its periphery. The disk 15 is fast to a gear 18, which meshes with
10 and is driven by a pinion 19 on one of the grooved shafts *g*—namely, the right-hand shaft viewing Fig. 1. The roller or wheel 14 is kept in engagement with the periphery of the disk 15 by a spring 20, connected with
15 the lever 8 and with the shaft 21, on which the gear 18 is mounted. By reference to Fig. 1 it will be seen that when the lever 8 is thrown to engage the toothed hub *o* with the toothed hub *p* the gear 18 is set in rotation,
20 and the disk 15 revolving therewith enables the operator to release the lever 8 and give his entire attention to manipulating the hide or skin, as the lever 8 is retained in the position into which it has been moved by the
25 operator by the full periphery of the disk engaging the roller or wheel 14, thereby rendering the spring 20 powerless to disengage the clutch until the disk 15 has made a complete revolution and the recess 16 has been
30 brought opposite the roller or wheel 14, at which time the spring 20 becomes active and moves the lever in the opposite direction and into the position shown in Fig. 1, thereby stopping the carriage at the end of its travel
35 in one direction.

The power-operated bed-roll *a* has coöperating with it an operating-tool, which may and preferably will be a cylinder 25, provided with helically-arranged blades or vanes 26,
40 adapted to the particular work to be performed by the machine. The bladed cylinder 25 may and preferably will be manually operated, and to this end the said cylinder is supported by the upper end of vertically-arranged levers 27, fast on a rock-shaft or pivot
45 28, supported by the side frames *e* of the machine. Each lever 27 has its lower end connected to one link or lever 29 of a toggle mechanism, the other link or lever 30 of which
50 is pivoted at 31 to a side frame of the machine. The toggle mechanisms are connected at their center by links 32 to a foot-treadle comprising, as herein shown, two levers 33, fast on a rock-shaft or pivot 34, supported by
55 the side frames of the machine and having their front end connected by a cross-piece or footboard 35.

The toggle-levers 29 30 are normally out of line with each other when the treadle is
60 elevated, and at such time the cylinder-carrying levers 27 are inclined backward and the knife-cylinder is in what may be termed its "withdrawn" or "inoperative" position. By depressing the treadle the toggle-levers are
65 caused to approach a straightened position and the cylinder-supporting levers are moved

so as to bring their upper ends forward, and thus cause the knife-cylinder to engage the work on the bed-roll. It is to be observed that the operating tool or cylinder is under
70 control of the operator, and the pressure of said cylinder on the work can be regulated by him to suit the particular kind of work being treated. In this manner he is able to
75 cause the knife-cylinder to engage some work lightly and other kinds of work heavily, rendering the machine sensitive to the character of the work. The knife-cylinder may be driven in any suitable manner and is shown
80 as having its shaft 38 extended beyond one side frame of the machine and provided with a pulley 39.

The machine may be provided with a fluted or other feed roll 40, having its shaft *t* journaled in uprights 41, attached to the side
85 frame *e*, one of the said uprights, as shown, having an opening 42, (see Fig. 4,) through which the shaft 38 of the knife-cylinder is extended. The feed-roll 40 coöperates with the bed-roll *a*, and for some classes of work
90 the said feed-roll may coöperate also with an auxiliary feed-roll 44, supported in the carriage *c*, so as to coöperate with the upper portion of the feed-roll 40, as shown in Fig. 3. The feed-roll 40, as shown, is supported in
95 rigid bearings, while the auxiliary feed-roll 44 is supported in movable bearings which are acted upon by the springs 45, the pressure of which can be regulated by the adjusting-screws 46.
100

The machine may be provided with a grinding mechanism, which may be made as herein shown, and comprises a carrier 47 for an emery or other grinding brick or block 48, which carrier is movable upon a suitable
105 track 49, supported by the side frames.

In operation with the machine herein shown the operator throws the hide or skin over the feed-roll 44 when the carriage *c* is in its starting position, and arranges the hide so that
110 substantially one-half of the same hangs below the bed-roll. The lever 8 is then thrown to apply the power to the carriage and the latter carrying the hide or skin is moved from the position indicated by dotted lines to that
115 shown by full lines, thereby bringing the hide or skin into engagement with the feed-roll 40, which, in coöperation with the bed-roll *a* and auxiliary feed-roll 44, feeds the hide or skin past the knife-cylinder, which has at such
120 time been brought into engagement with the hide or skin by depressing the treadle. The bed-roll *a* and feed-roll 44 are rotated in the same direction by a gear 51 on the shaft of the bed-roll and a pinion 52 on the shaft of the feed-
125 roll engaging with and being driven by a gear 53 on the shaft of the feed-roll 40. When substantially one-half of the hide or skin has been acted upon by the knife-cylinder, the carriage *c* is returned to its starting position
130 by the operator throwing the lever 8 so as to engage the clutch-hub *o* with the hub *p*, and

when the carriage has reached the end of its backward movement it is stopped by the spring 20 disengaging the clutch *c* from the hub *p*. The hide or skin is then reversed and the machine again set in operation.

It is to be observed that after the operator has started the machine in operation both hands are free to handle the hide or skin. Furthermore, torn or poor hides or skins or those weak in structure can be treated with excellent results, as the pressure of the knife-cylinder can be varied at the will of the operator.

Believing myself to be the first to embody in a machine of this character a bed-roll which is moved into and out of its operative position by power and an operating tool or cylinder which is moved into its operative position manually, I do not desire to limit this feature of my invention to the particular construction shown.

I claim—

1. In a machine for treating hides and skins, in combination, a bed-roll, a reciprocating carriage in which said bed-roll is mounted, power-operated mechanism for reciprocating said carriage, means for automatically stopping said carriage, a feed-roll movable with said carriage and separated from said bed-roll, a second feed-roll cooperating with the bed-roll and with the feed-roll movable with said carriage, a knife-cylinder, movable supports for said knife-cylinder, and a treadle connected with said supports to move the knife-cylinder toward and from said bed-roll, substantially as described.

2. In a machine for treating hides and skins, in combination, a bed-roll, a reciprocating carriage in which said bed-roll is mounted, power-operated mechanism for reciprocating said carriage, means for automatically stopping said carriage, a feed-roll cooperating with said bed-roll when the latter has been moved into its operative position, a knife-cylinder, movable supports for said knife-cylinder, and a treadle mechanism connected with said supports, substantially as described.

3. In a machine for treating hides and skins, in combination, a bed-roll, a reciprocating carriage in which said bed-roll is mounted, mechanism for reciprocating said carriage, a feed-roll cooperating with said bed-roll and toward and from which the latter is moved by the reciprocation of said carriage, a knife-cylinder movable toward and from said bed-roll, and mechanism for moving said knife-cylinder, substantially as described.

4. In a machine for treating hides and skins, in combination, a bed-roll, a reciprocating carriage in which said bed-roll is mounted, a rotary shaft mechanism for connecting said carriage with said rotary shaft to produce reciprocation of said carriage by rotation of said shaft, a feed-roll cooperating with said bed-roll and toward and from which the latter is

moved, and a knife-cylinder cooperating with said bed-roll, substantially as described.

5. In a mechanism for treating hides and skins, in combination, a bed-roll, a reciprocating carriage for said bed-roll, and mechanism for reciprocating said carriage, said mechanism comprising a shaft having helically-arranged grooves extended in opposite directions, means for connecting said carriage with the grooves in said shaft, and means for rotating said shaft, substantially as described.

6. In a machine for treating hides and skins, a bed-roll, a reciprocating carriage in which said bed-roll is mounted, a feed-roll mounted in bearings in said carriage above said bed-roll and separated therefrom, a feed-roll toward which said carriage is moved and cooperating with said bed-roll and the feed-roll carried by said carriage, and a knife-cylinder cooperating with said bed-roll, substantially as described.

7. In a machine of the character described, in combination, a bed-roll movable into and out of its operative position, power-operating mechanism for effecting movement of said bed-roll, and an operating-tool movable toward and from the bed-roll at the will of the operator to regulate the action of the operating-tool upon the work and while the machine is in operation, for the purpose specified.

8. In a machine for treating hides and skins, in combination, a support for the hide or skin movable into and out of its operative position, power-operated mechanism for reciprocating said support, means for automatically interrupting the application of the power employed to reciprocate said support, when the latter is in its operative position, and a bladed cylinder cooperating with said support and movable toward and from the same at the will of the operator when the support is in its operative position, for the purpose specified.

9. In a machine for treating hides and skins, in combination, a support for the hide or skin movable into and out of its operative position, power-operated mechanism for reciprocating said support, means for automatically interrupting the application of the power employed to reciprocate said support, when the latter is in its operative position, and an operating-tool cooperating with said support and movable toward and from the same at the will of the operator when the support is in its operative position, for the purpose specified.

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

ROBERT W. STROUT.

Witnesses:

S. G. H. FITCH,
ROGER A. POOR.