No. 626,473. Patented June 6, 1899.

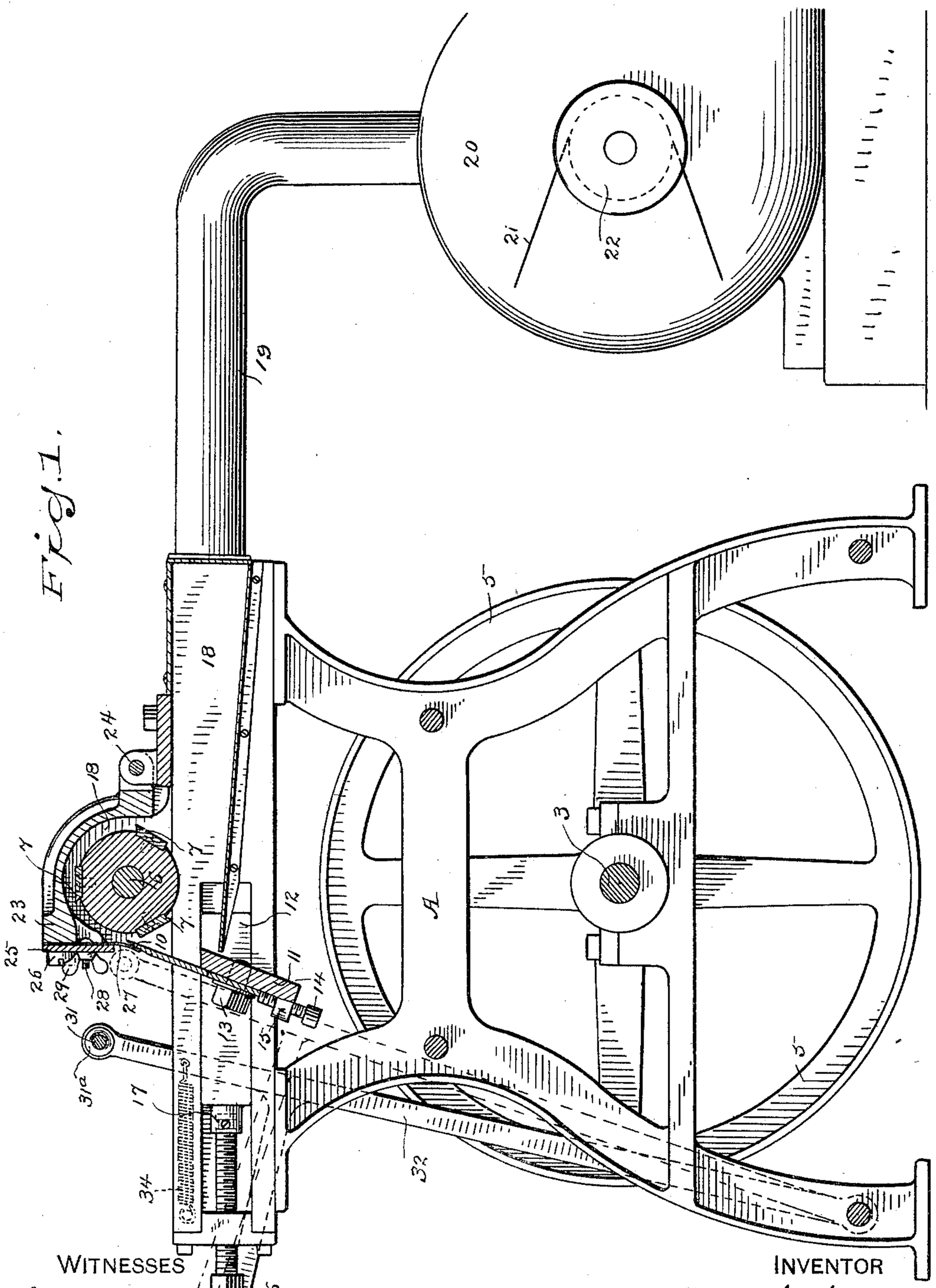
P. YOUNG.

MACHINE FOR CLIPPING HAIR FROM SKINS OF FUR BEARING ANIMALS.

(Application filed Feb. 6, 1899.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.



WITNESSES

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Fig. 2.

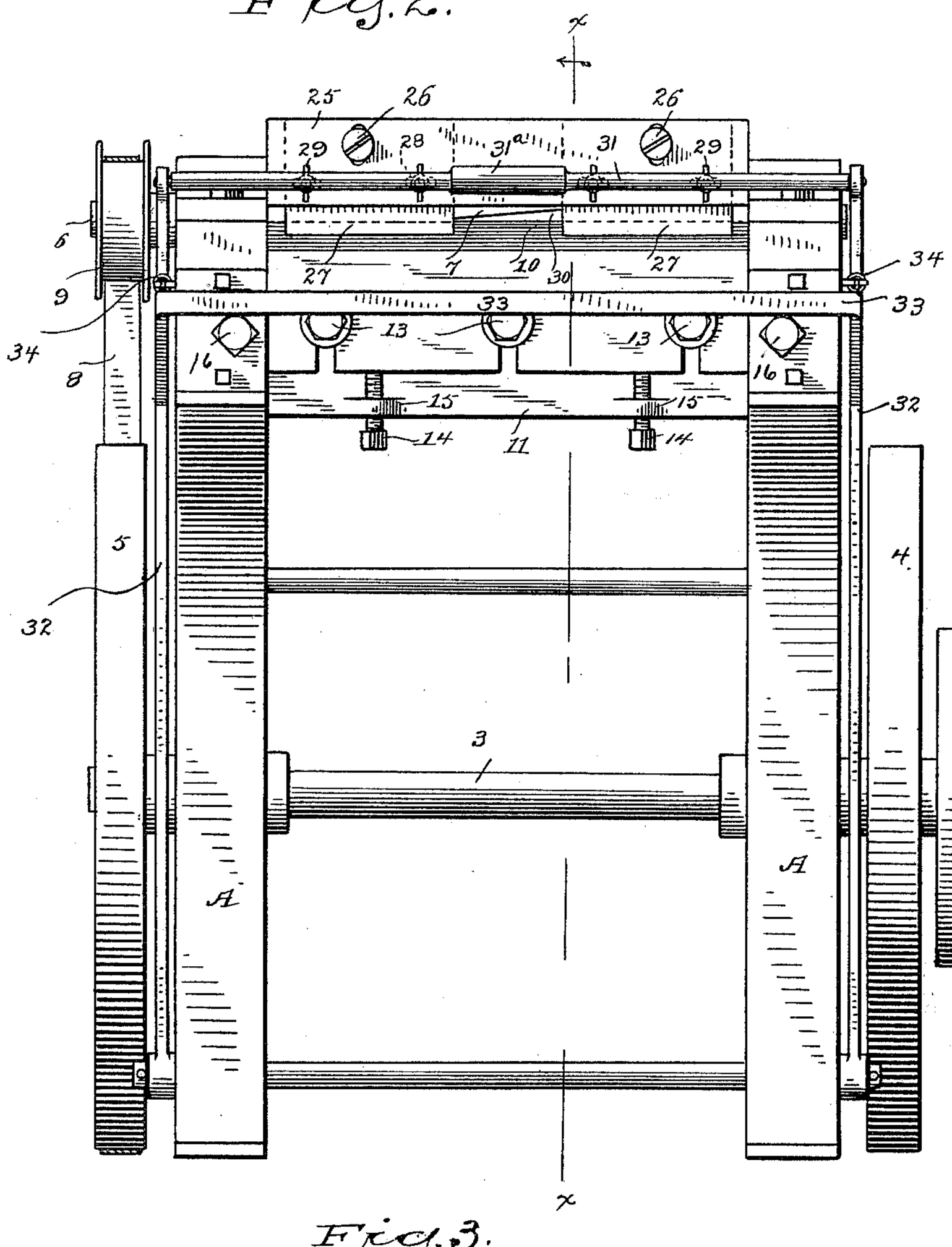
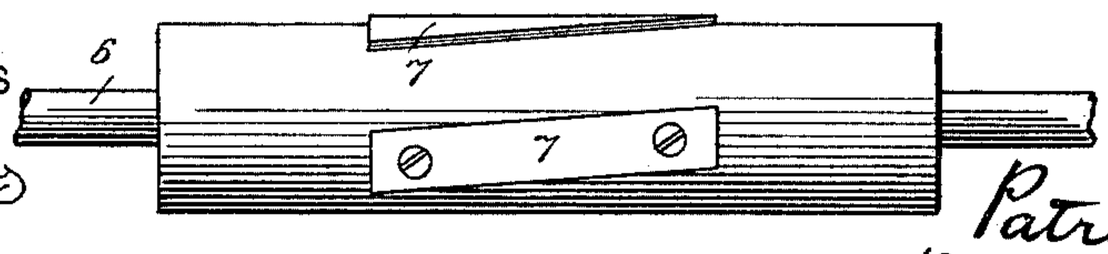


Fig. 3.



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UNITED STATES PATENT OFFICE.

PATRICK YOUNG, OF DANBURY, CONNECTICUT.

MACHINE FOR CLIPPING HAIR FROM SKINS OF FUR-BEARING ANIMALS.

SPECIFICATION forming part of Letters Patent No. 626,473, dated June 6, 1899.

Application filed February 6, 1899. Serial No. 704,618. (No model.)

To all whom it may concern:

Be it known that I, PATRICK YOUNG, a citizen of the United States, residing at Danbury, county of Fairfield, State of Connecticut, have invented a new and useful Machine for Clipping Hair from Skins of Fur-Bearing Animals, of which the following is a specification.

My invention has for its object to produce a machine that will clip the hair from the skins of fur-bearing animals in a much quicker and more generally satisfactory manner than has been possible with any machine heretofore in use and which, furthermore, will cause the skins to yield more fur than when clipped by any machine heretofore in use or than when the hair is pulled from the skins, it having been a serious objection to machines for pulling the hair from skins that in addition to their relatively slow operation they pulled out a great deal of the fur with the hair and to the machines heretofore used for clipping the hair from skins that they could not be made to clip the hair close enough where the fur was short and at the same time avoid clipping off a great deal of the fur on skins or portions of the skins where the fur was relatively long.

In order to overcome the objections found to exist in all of the various machines which have heretofore been produced for removing hair from the skins of fur-bearing animals, I have devised the simple and novel machine for clipping hair from skins without waste of fur and without regard to the length of the fur in different skins and in different parts of the same skin, of which the following description, in connection with the accompanying drawings, is a specification, reference characters being used to designate the several parts.

Figure 1 is a section on the line $x\,x$ in Fig. 2; Fig. 2, a front elevation of the machine complete, and Fig. 3 is a view of the cutter-shaft and rotating cutters detached.

A denotes the framework of the machine, which may be of any ordinary or preferred construction. Power is applied to drive the machine by means of a belt (not shown) passing over one of the belt-pulleys 2 on a shaft 3, one of said belt-pulleys 2 being loose on the shaft and the other affixed thereto. Shaft 3 extends across the machine and carries outside of the framework on each side, respectively, large belt-pulleys 4 and 5.

6 denotes a shaft carrying cutters 7, which for convenience I term the "rotating" cutters. Power is communicated from shaft 3 to shaft 6 by means of a belt 8, which passes over large belt-pulley 5 and over a small belt-pulley 9 on shaft 6. The clipping of the hair is effected by means of an adjustable stationary cutter 10, acting in connection with the rotating cutters. Cutter 10 is carried by a cross-piece 11, the ends of which are secured to slides 12, one only being shown in Fig. 1, said slides being adapted to be moved in the opposite sides of the framework. Cutter 10 is adjustably secured to the cross-piece in any suitable manner, as by means of bolts 13, which pass through slots in the cutter and engage the cross-piece.

14 denotes set-screws which pass through lugs 15 on the cross-piece and engage the back of the cutter. After adjustment by means of the set-screws the cutter is locked in position on the cross-piece by means of bolts 13. The cross-piece and slides are adjusted toward or from the rotating cutters in the horizontal plane by means of screws 16, which pass through the framework, and the inner ends of which are rotatably connected to the slides, as at 17, so that rotation of the screws in either direction, as may be, will move the slides, cross-piece, and stationary cutter toward or from the rotating cutters. The rotating cutters and the shaft by which they are carried are inclosed in a chamber 18, the size and shape of which are not of the essence of my invention, and is a matter that may be left to be determined by the special circumstances in building a machine or by the taste of the manufacturer. A pipe 19, leading from chamber 18, is connected with an exhaust-fan 20 of any ordinary or preferred type. This exhaust-fan is operated by means of a belt 21, which passes over a belt-pulley 22 on the fan-shaft and over large belt-pulley 4 on shaft 3. A portion of the top of chamber 18 consists of a removable cover 23, which I have shown as hinged to the top of the chamber, as at 24. This cover is shown as curved upward and over shaft 6 and the rotating cut-

ters, the main portion of the chamber being lower. These details of construction, however, are not of the essence of my invention, it being simply necessary that the rotating cutters be inclosed in a suitable chamber and that a portion of the cover of said chamber be removable, either hinged or otherwise, so as to permit the operator to look into the chamber at any time. At the front of the cover is a vertically-adjustable plate 25, which is secured to the front of the cover by means of screws 26, which pass through slots in the plate and engage the front of the cover.

27 denotes a guard which is adjustably secured to plate 25 by means of threaded studs 28, which are rigidly secured to the guard, extend through transverse slots, (see dotted lines, Fig. 2, in plate 25,) and are engaged by thumb-screws 29. This guard may be made of sheet metal or any suitable material and overlaps stationary cutter 10 back of the cutting edge, as clearly shown in Fig. 1. At the center of guard 27 is an opening 30, which is clearly shown in Fig. 2, said opening of course registering with the rotating cutters on shaft 6. Owing to the overlapping of the guard upon the stationary cutter 10, as above described, and owing to the said guard being attached to the rigid plate 25 the said plate 25 and guard 27 prevent the pressure of a skin toward the rotary cutter from deflecting the stationary cutter 10 inward, where it might be struck by the rotating cutters. It will be apparent that by means of the lateral adjustment of the guard relatively to plate 25 and the vertical adjustment of said plate on the front of cover 23 it is perfectly easy to effect any required adjustment of the guard relatively to the rotating cutters. The skins as they are being operated upon are passed by hand over a roller 31, carried by a swinging frame 32. I have shown this frame as pivoted near the bottom of the framework and as provided with a breast-piece 33 against which the operator leans when it is desired to press the roller forward. The frame and roller are held at the retracted position, as shown in the drawings, by means of springs 34, one only of said springs appearing in dotted lines in Fig. 1. These springs are connected to the swinging frame and to any convenient portion of the framework, as indicated in the drawings. The operative position of the frame and roller is shown by dotted lines in Fig. 1.

The operation will be readily apparent from the drawings and description. The operator passes the skins by hand over roller 31 and by leaning slightly forward against the breast-piece places the roller, with the skin to be operated upon, in the position indicated by dotted lines in Fig. 1. It will of course be understood that the action of the exhaust-fan will be to draw air through opening 30 in the guard, so that as the skin is passed in front of said opening the hair upon the skin will be drawn into the opening and will be clipped by the rotating cutters acting in connection with the stationary cutter.

It will be readily understood that the skin is at all times perfectly controlled by the operator, who has both hands free to control the skin and who determines the length of the clip by his manipulation of the swinging frame which carries the roller, this being, as already stated, effected by pressing against the frame with the breast against the power of the springs, the operator of course taking care to just clip the hair down to the fur, but without removing any of the fur. It is of course well understood that the fur upon no two skins is of the same length and that the fur differs in length in different portions of the same skin. The object of clipping the skins is to remove just as much hair as is possible without removing any of the fur. This I accomplish perfectly with my novel machine, as the operator while drawing the skin forward and backward over the roller is enabled also to move it freely from side to side owing to the construction of the swinging frame with a horizontal portion or support at each end of said roller and in line therewith. Thus the straight portions of the swinging frame at each end of the roller will support the skin when moved from side to side without wrinkling it so as to interfere with accurate trimming. At the same time the operator moves the roller, which carries the skin toward or from opening 30 in the guard, as may be necessary to enable him to clip the hair close down to the fur, but without removing any of the fur. The immediate portion of roller 31 over which the skin is passed while it is being clipped is preferably made larger than the remainder of the roller, as at 31^a, for convenience in manipulating the skins.

Having thus described my invention, I claim—

1. The combination with a stationary cutter, and a series of rotating cutters, of a chamber inclosing the rotating cutters and having a movable cover and an adjustable guard attached to said cover and engaging the stationary cutter back of the cutting edge, said guard being provided with a central opening through which the hair of skins passes to be acted upon by the cutters.

2. In combination the stationary and rotating cutters, a chamber inclosing the rotating cutters, a guard overlapping and engaging the stationary cutter back of the cutting edge and having a central opening, a roller carried by a swinging frame over which the skins are passed and an exhaust-fan connected with the chamber and acting to draw the hair of skins which are being passed over the roller through the opening in the guard so that the hair will be clipped by the cutters.

3. The combination with the stationary and rotating cutters, a chamber in which the rotating cutters are inclosed, and a guard at the front of the chamber overlapping and engaging the stationary cutter and having an open-

ing registering with the rotating cutters, of an exhaust-fan connected with the chamber and a roller over which the skins are passed while being operated upon.

4. The combination with the cutters, chamber 18 having a movable cover and an adjustable guard 27 attached to the cover and having an opening 30 registering with the cutters, of an exhaust-fan connected with the chamber, and a movable roller over which the skins are passed while being operated upon.

5. The combination with a stationary and a series of rotating cutters, a chamber in which the rotating cutters are inclosed and a guard at the front of the chamber which overlaps and engages the stationary cutter and is provided with a central opening, of an exhaust-fan connected with the chamber, a roller over which the skins are passed while being operated upon, a swinging frame by which the roller is carried, and means for normally retaining the frame and roller out of operative position.

6. The combination with a stationary and a series of rotating cutters, a chamber in which the rotating cutters are inclosed and a guard at the front of the chamber which overlaps and engages the stationary cutter and is provided with a central opening, of an exhaust-fan connected with the chamber, a roller over which the skins are passed while being operated upon, a swinging frame by which the roller is carried and which is provided with a breast-piece and springs for normally retaining the swinging frame and roller out of operative position.

7. The combination with shaft 6 and cutters carried thereby, cutter 10, a cross-piece by which said cutter is carried, slides to which the cross-piece is connected and means for adjusting the cutter vertically on the cross-piece and for adjusting the slides and cross-piece toward or from the cutters on shaft 6, of a chamber in which shaft 6 and its cutters are inclosed, a guard on said chamber overlapping the cutter 10 and having an opening registering with the cutters on shaft 6, an exhaust-fan connected with the chamber, a roller over which the skins are passed while being operated upon and means for moving said roller toward or from the cutters.

8. The combination with a stationary and a series of rotating cutters, a chamber in which the rotating cutters are inclosed and a guard at the front of the chamber which overlaps the stationary cutter and is provided with an opening registering with the rotating cutters, of an exhaust-fan connected with the chamber, a swinging frame 32 and a roller carried by said frame which is provided with an enlarged portion 31^a over which the skins are passed while being operated upon.

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

PATRICK YOUNG.

Witnesses:

AUGUSTUS G. ISING,

NORMAN HODGE.