(No Model.) 2 Sheets—Sheet 1.

C. E. SACKETT.

MACHINE FOR PLUCKING HAIR FROM FURRED PELTS.

No. 557,236. Patented Mar. 31, 1896.

Fig 2

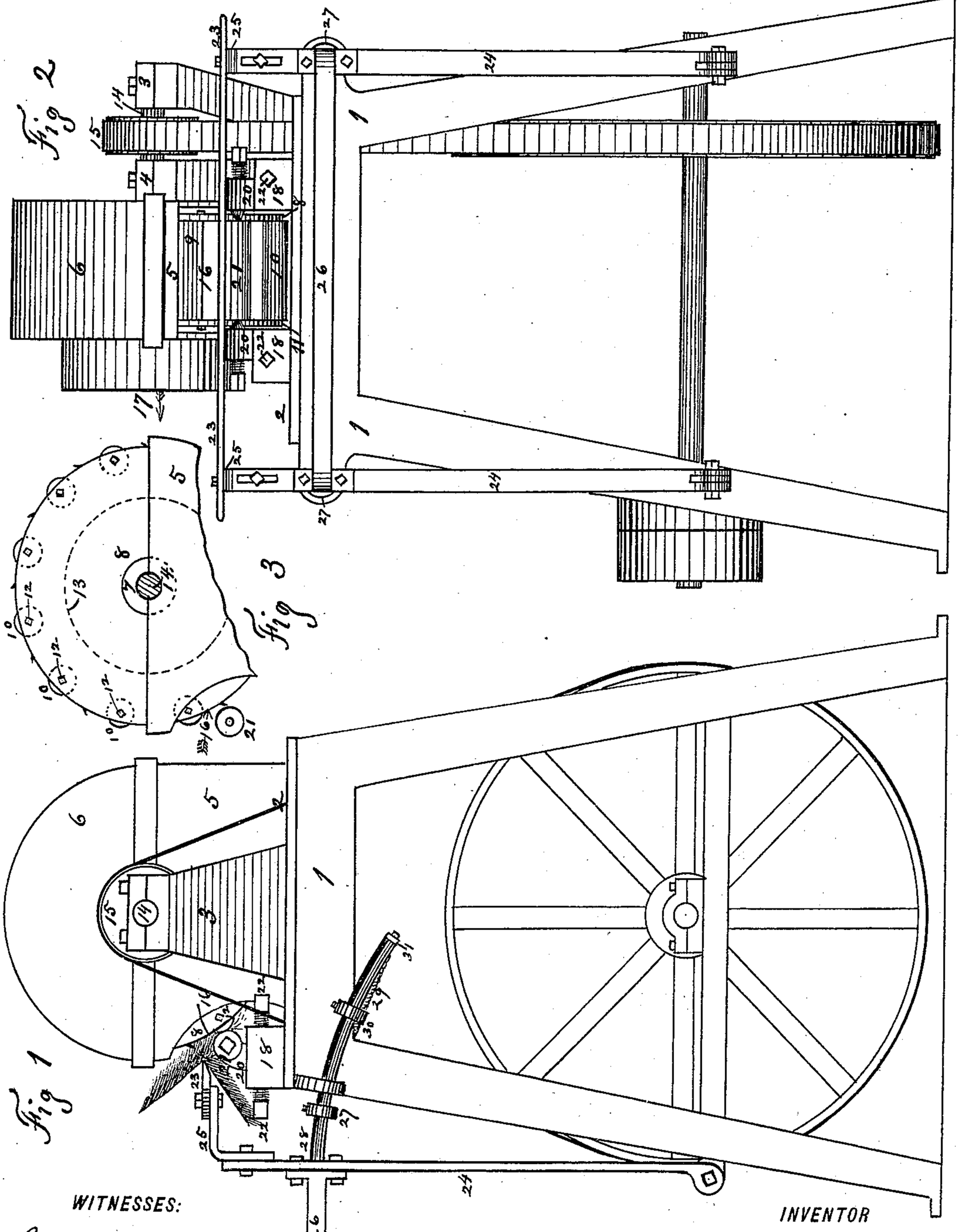

Fig 3

Fig 1

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(No Model.) 2 Sheets—Sheet 2.

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Fig 6

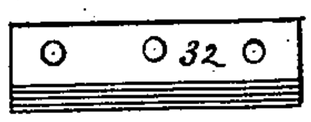


Fig 7

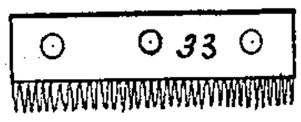
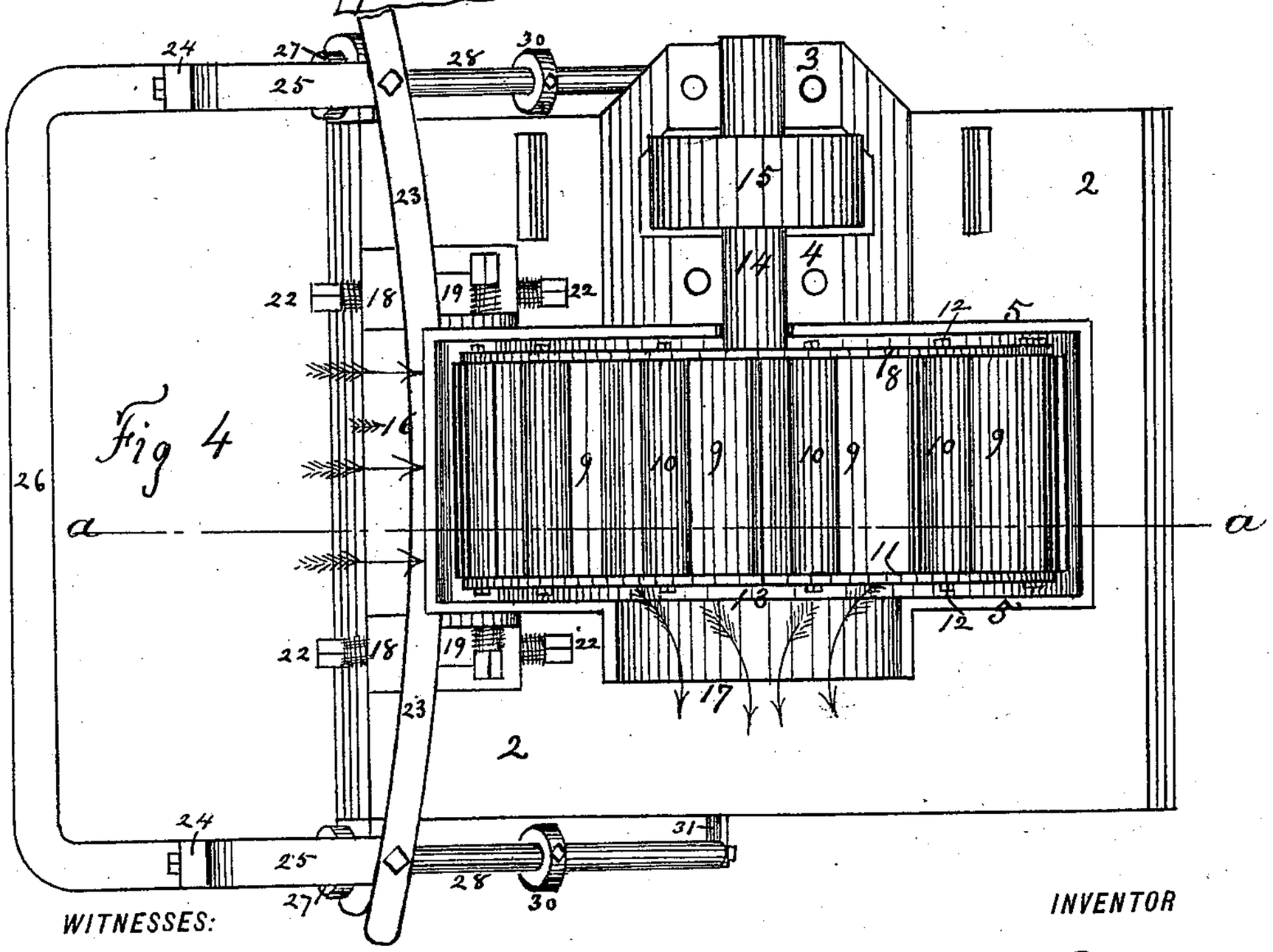


Fig 5

Fig 4



WITNESSES:

George M. Ball

Frederic J. Ball

INVENTOR

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UNITED STATES PATENT OFFICE.

CHARLES E. SACKETT, OF DANBURY, CONNECTICUT.

MACHINE FOR PLUCKING HAIR FROM FURRED PELTS.

SPECIFICATION forming part of Letters Patent No. 557,236, dated March 31, 1896.

Application filed May 3, 1895. Serial No. 548,055. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. SACKETT, a citizen of the United States, residing in Danbury, in the county of Fairfield and State of Connecticut, have invented a new and useful Improvement in Machines for Plucking Hair from Furred Pelts; and I do hereby declare that the following specification, in connection with the accompanying drawings, is a full, clear, and exact description of the same.

Numerous machines have been devised for this purpose; but all of those operating at all successfully require the assistance of an exhaust-fan attached to the machine to suck the hair in between the pulling devices and to carry it away to some convenient receptacle.

The object of my invention is to do away with the auxiliary fan, to cause the plucking mechanism to generate its own wind-current, and to improve and simplify the plucking devices.

In the accompanying drawings like figures relate to like parts.

Figure 1 is a side elevation. Fig. 2 is a front elevation. Fig. 3 is a portion of the machine, the cap removed. Fig. 4 is an enlarged plan view of the plucking devices. Fig. 5 is a section through the same on dotted line A, Fig. 4. Fig. 6 is a blade-scraper attachment. Fig. 7 is a blade-comb attachment.

1 is a suitable frame, to which is attached the bed-plate 2 carrying the pillow-blocks 3 4 and the lower half of a case 5, which incloses a fan. 6 is the removable upper half of the same case. The fan so inclosed is constructed of a hub 7, a solid disk 8 attached to one side of the hub and a series of vanes 9 9 9 projecting from the disk near its periphery in the direction of the hub and so placed that in their revolution they will act to suck in air at the periphery or outer end of the vanes and discharge it at their inner end toward the center of the disk. This construction is clearly shown in Fig. 5 and is in accordance with well-known principles in the construction of fans. Between the blades and close to the periphery of the disk 8, so that their circumferences may project beyond it, I place a series of fixed rolls 10 10 10. These rolls are preferably covered with some elastic substance, such as india-rubber or soft leather. The wind-vanes are made as wide as is desirable and the rolls are made the same width as the vanes. A ring of metal 11, of the same outer diameter as the disk 8 and the same inner diameter as the inner ends of the vanes, forms the other support for the ends of the rolls and vanes. The rolls are pierced for central bolts 12 12 12. These pass through the disk 8, the rolls 10 and the ring 11, and when all bolted up hold the rolls and the vanes firmly between the disk and the ring. The central orifice in the ring forms the necessary air-outlet 13. This construction is clearly shown in Fig. 3. The fan and appurtenances thus built up are supported by the shaft 14, journaled in the hub 7, to which it is keyed, and revolves in the pillow-blocks 3 4, both placed on the disk side of the hub, so as to offer no obstruction to the wind-outlet. The pillow-blocks 3 4 are placed far enough apart to allow of a pulley-wheel 15 being fixed on the shaft between them. This pulley-wheel is preferably driven from a counter-shaft attached to the lower part of the machine, provided with a large driving-pulley and the usual fast and loose pulleys, as shown in Fig. 2. The fan thus supported and journaled revolves within the lower half 5 of the case. This is cut away at the front lower portion of its periphery to form a wind-inlet 16, and the case is continued out on one side at a reduced diameter to form the wind-outlet 17, as shown in Figs. 2 and 4. The removable cap 6 is made to match the lower half and when dropped in position completes the inclosure of the fan and wind-outlet.

At the front of the bed-plate 2, on either side of the fan-case and opposite its wind-inlet 16, are placed recessed blocks 18 18. In these recesses is placed a plate 19, having curved upper arms 20 20, between which a cylindrical roll 21 is carried, either by journaling it in the arms or on end centers projecting through the arms or in any suitable way. The plate carrying the roll 21 must have a limited movement to and from the fan, and this is provided for by making the recesses in the blocks considerably wider than the plate and then providing the front and back push-screws 22 22, which admit of setting the plate and thereby the roll 21 rigidly at any point within the limit of the block-

recesses. The object of this is to bring the roll 21 within the action of the series of rolls 10 10 10 placed between the vanes of the fan, so that they may in revolving impinge upon and firmly press against the roll 21 as they pass it. As the fan must be run at high speed to generate suction the action of the rolls 10 against the roll 21 will be almost continuous, with brief intermissions, thus creating the pulling action desired.

It is purposed that the rolls 10 10 shall drive the roll 21 by their friction, it being desirable that both rolls move absolutely together and in the same circumferential direction; but I do not limit myself to this construction, as the roll 21 may be driven in any independent way desirable. The roll 21 may be covered with elastic material or not. The object of this invention is to pull hairs by the friction of the series of fixed rolls 10 10 impinging upon the roll 21 to create a grip and then revolving together to create a pull. To this end the series of rolls 10 10 may be elastic and the roll 21 solid, or the roll 21 elastic and the rolls 10 10 solid, or both may be elastic or solid. Wear on the roll 21 may be taken up by its adjusting-screws. Wear on the rolls 10 10 is taken up, whenever the impinging surfaces get worn away, by loosening all the bolts 12 12 and slightly turning each roll until a fresh surface is brought into position. Then by tightening all the bolts the new surface comes into action, and so on throughout the entire circumference of the rolls.

It is found in practice that a great many pelts have the hair matted together by dirt and grease, and wind action is not sufficient alone to separate and raise such hairs. To accomplish this, I attach to the ends of the wind-vanes blade-scrapers 32 or combs 33, as may be most desirable, and as shown in Figs. 6 and 7. These, by sweeping through the hair immediately in advance of the rolls, assist materially in clearing it from dirt, loosening it up, and aid the pulling operation by acting as pulling-knives do in the operation of pulling hair by hand, wherein a knife-blade is brought in contact with an elastic roll attached to the thumb of the operator and the hair is caught and pulled between them. The blades or knives 32 32, attached to the vanes 9 9, may be set so as to sink slightly into the elastic roll 21, so as to revolve it as they pass it or just to clear it. They are designed to work either in combination with the fixed rolls 10 10 or without them, as may be desired. Equally the rolls may be used without the blades.

In front of the roll 21 and parallel with it is placed a movable bar 23. Over this bar the pelt is drawn that is to be operated upon. The bar has a movement to and from the pulling devices by means of the upright levers 24 24, the brackets 25 25, attached thereto, which support the bar, and the body push-bar 26. The forward action of the bar 23 is regulated by the stop-collars 27 27 on the collar-rods 28 28. Its return action is governed by a spring 29 beneath the bed-plate attached to the connecting-bar 31 and is regulated by the stop-collars 30 30. This mechanism for moving the bar 23 is not new, and any means to that end may be used.

The action of the machine is very simple, a pelt being placed over the bar 23 and drawn tight by the hands. The operator pushes the body-bar 26 by means of his body toward the pulling devices. As soon as the pelt reaches the roll 21 its action tends to raise the fur and hair and distribute it over its upper surface, the hair always in advance. The wind-suction which is taking place at this point draws the hair ends beyond the roll, so that they come between it and the series of rolls which are descending and impinging upon it. The hairs are thus caught in a revolving vise which pulls them out. As the operator is moving the skin over the bar with his hands and the rolls are continually revolving the action is continuous all over the pelt, which is also moved from side to side along the bar 23. By setting the stop-collar 27 27 only a certain length of hair is exposed to the action of the pulling mechanism and none of the fur is reached. By regulating the adjusting-screws 22 22 the degree of pressure on the hair-tips between the rolls is also controlled.

The discharged hair or air from the fan may be delivered through the back of the case in place of through the side of the case, if found more convenient.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a fur-plucking machine the combination of a fan consisting of a hub and vanes connected therewith, a series of fixed rolls placed between said vanes, parallel to their axis and at equal distances from the same, a case surrounding said fan having inlet and outlet air-passages and a cylindrical roll placed without the case whose circumference comes in contact with the series of rolls within the case at the air-inlet to said case, for the purposes set forth and substantially as described and shown.

2. In a fur-plucking machine the combination of a fan consisting of a hub and vanes connected therewith, a case surrounding the same having inlet and outlet air-passages, blades attached to the outer extremities of said vanes, and a cylindrical roll placed without the case, for the purposes set forth and substantially as described and shown.

3. In a fur-plucking machine the combination of a fan consisting of a hub and vanes connected therewith, a series of fixed rolls placed between said vanes, a case surrounding the same having inlet and outlet openings, a cylindrical roll placed without said case at its inlet-opening, and means for adjusting said roll to and from the rolls revolving within the case substantially as described and shown.

4. In a fur-plucking machine the combination of a fan consisting of a hub and vanes connected therewith a series of fixed rolls placed between said vanes, blades attached to said vanes a case surrounding the same, an outer cylindrical roll having contact with the series of rolls within the case, a bar substantially parallel with said rolls and means for moving said bar to and from said rolls for the purposes set forth and substantially as described and shown.

5. In a fur-plucking machine the combination of a fan consisting of a hub and vanes connected therewith, a series of fixed rolls placed between the vanes of said fan, means for adjusting said rolls circumferentially, a case surrounding the same, an outer roll having contact therewith, means for revolving the inner series of rolls from a common center, thereby revolving the outer roll on its own center, substantially as described and shown.

6. In a fur-plucking machine the combination of a bar 23 supporting a pelt, a roll 21 substantially parallel and adjacent thereto revolving on its own center, a fixed roll 10 brought into periodic contact therewith, a central axis 14 with which roll 10 is connected and about which it is revolved, means for taking up wear on roll 10, and means for adjusting the degree of contact between the rolls, for the purposes set forth and substantially as described and shown.

CHAS. E. SACKETT.

Witnesses:
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