(No Model.)

# G. O. REYNOLDS.

## MACHINE FOR CUTTING UP SKINS OR PELTS.

No. 372,088. Patented Oct. 25, 1887.

Fig. 1.

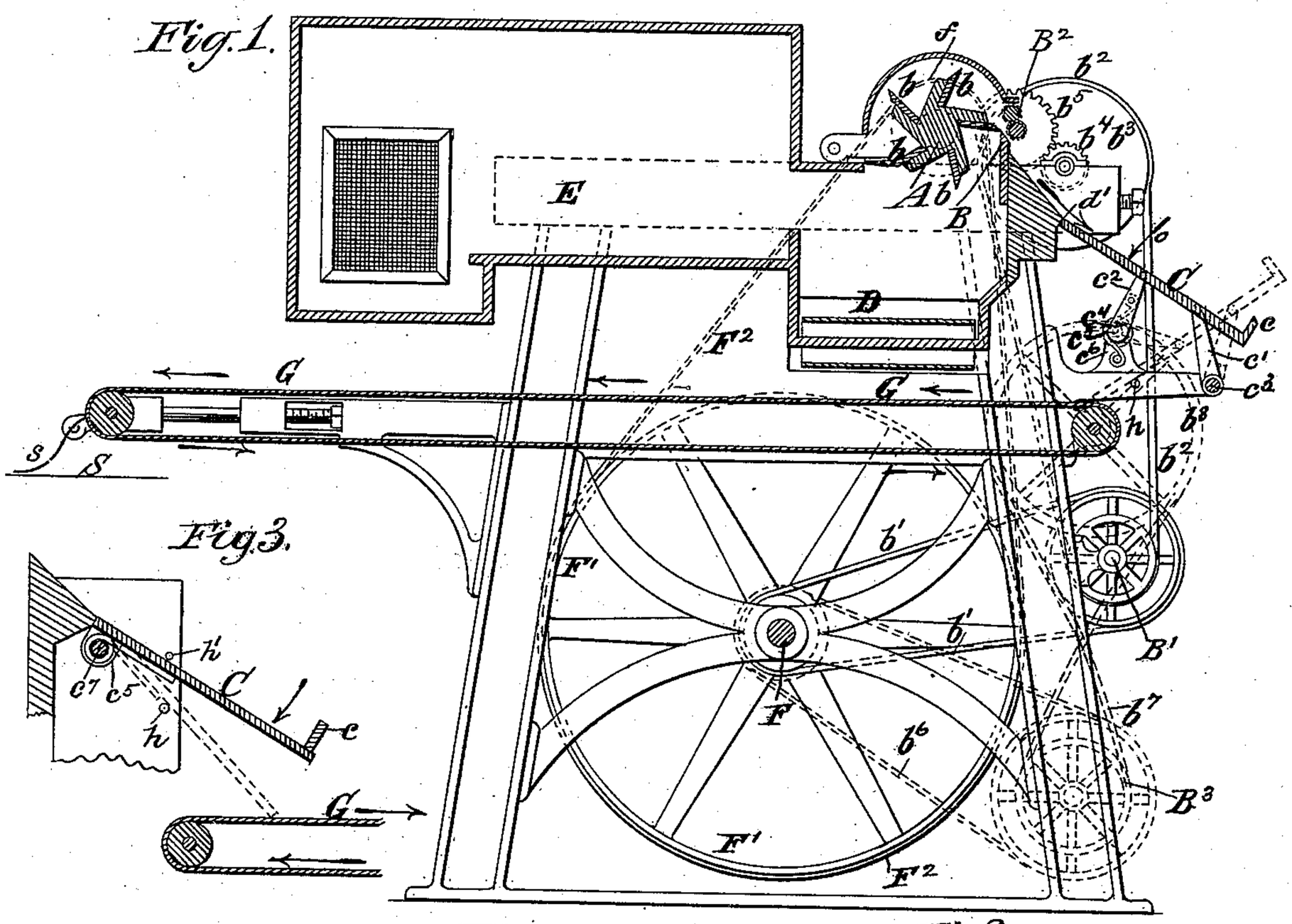
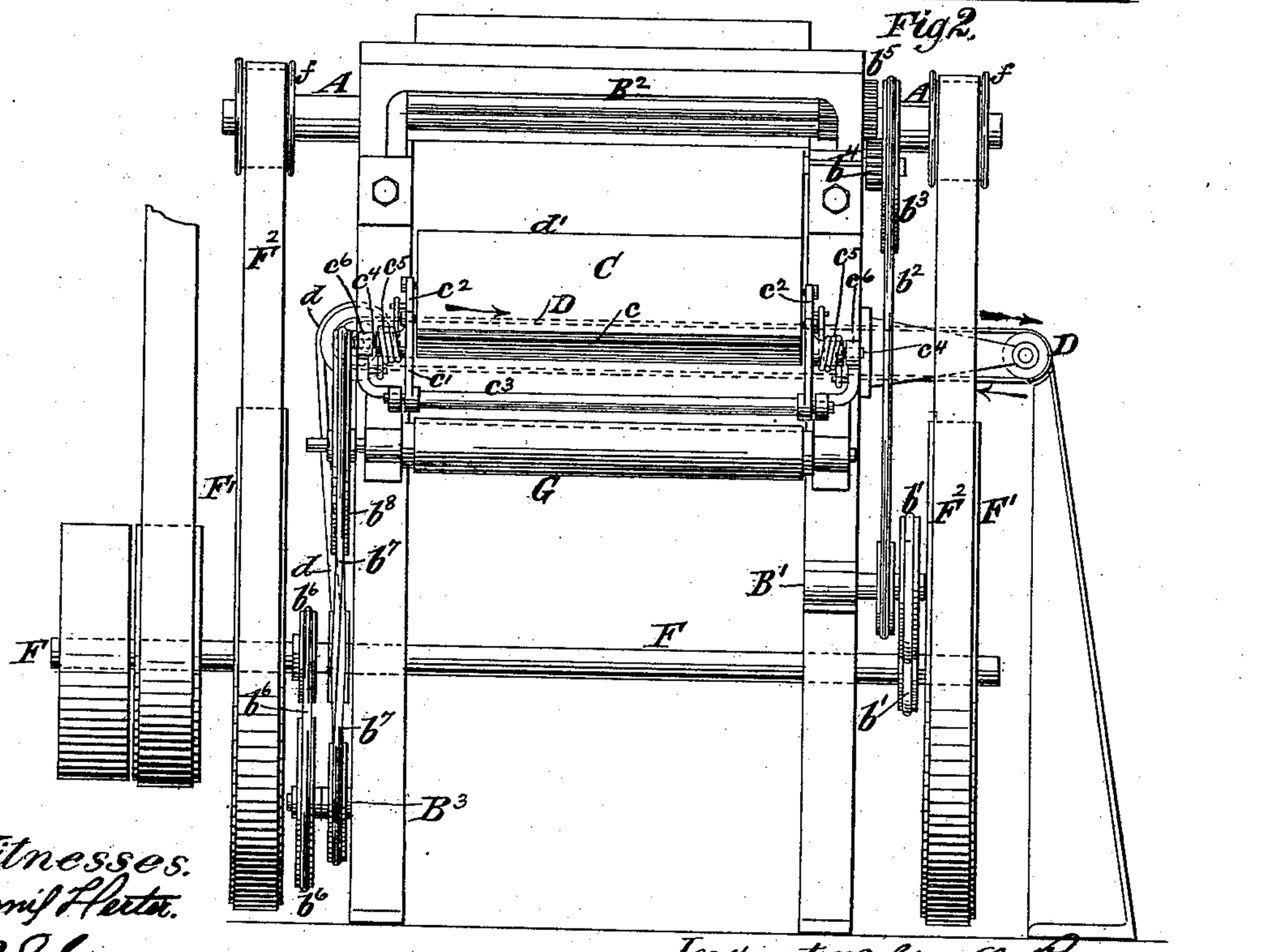



Fig. 3.




Fig. 2.

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# UNITED STATES PATENT OFFICE.

GEORGE OSMAR REYNOLDS, OF BROOKLYN, NEW YORK.

## MACHINE FOR CUTTING UP SKINS OR PELTS.

SPECIFICATION forming part of Letters Patent No. 372,088, dated October 25, 1887.

Application filed January 13, 1887. Serial No. 224,250. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE OSMAR REYNOLDS, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Machines for Cutting up Skins or Pelts, of which the following is a specification.

My invention relates to machines for cutting up pelts or skins of animals which have the fur or hair on them in order that the fur or hair may be properly collected for felting or other purposes. In such machines there has been employed a rotary cutter-head provided with a number of knives which act successively in connection with a fixed blade or cutter to cut off the skin, leaving the fur or fleece in a comparatively-close condition. In one form of machine heretofore employed for the purpose the fleece is delivered from the cutters upon an inclined board or slide, and from that passes to a board or slide inclined in a reverse direction, and is delivered upon an apron having a progressive movement. By this combination of inclined boards or slides the fleece is reversed in position when it is delivered upon the apron, so that the tips of the fur are downward or next the apron, while the roots are presented upward. An advantage has been supposed to exist in this method of delivery, because, the roots being presented upward, any visible particles of skin which remain attached to them may be snipped off by scissors; but it has one important disadvantage, and that is that in order to properly sort the fur the fleece must be reversed in position, so that the tips will be upward. Those portions of the fur of an animal which are upon the legs and belly are inferior to the portions of the fur upon the back, and are usually of a different shade or color, and although attempts are made to sort the fur by removing portions of the fleece when the roots are presented upward it is a very uncertain method and the operator is liable to remove more or less of the superior quality of fur with the inferior, or to leave more or less of the inferior with the superior fur, necessitating the further sorting after the fleece is reversed in position.

The object of my invention is to provide a machine in which the fleece will be delivered upon an endless apron with the tips of the fur upward, so as to afford the greatest facility for accurately sorting the fur, and to also provide for the holding of the entire fleece upon an inclined board or slide during the operation of cutting up with blades, and then delivering the fleece as one piece upon the endless apron in the condition before described.

In carrying out my invention I combine with the feed-rolls and cutters of a skin or pelt cutting machine an apron for conveying the cut fur or fleece to a point of delivery, and a tilting tray which is supported to swing in a vertical plane, and by which the fur or fleece is received from the cutters and delivered upon the apron.

In machines of the character above described it is usual to have the endless apron arranged beneath the cutters and extending forward beneath the cutters and remaining portions of the machine from the feeding side thereof, and when the apron is thus arranged I provide a tray for receiving the fleece and supports which provide for swinging or tilting it from a downward inclination in a rearward direction to a downward inclination in a forward or reverse direction. The tray may be depressed by hand, or by any other suitable means, to bring it to a position for delivering the fleece upon the apron, and I may employ a spring or other returning device for raising the tray automatically from its delivery to its receiving position.

The invention will be hereinafter more fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a vertical section of a machine embodying my invention and in a plane lengthwise of the apron on which the fleece is delivered. Fig. 2 is a front elevation of the machine looking from the right hand of Fig. 1; and Fig. 3 is a diagram in a plane parallel with the plane of Fig. 1, and illustrating my improvements as applied for delivering the fleece to an apron which extends in the opposite direction to the apron shown in Fig. 1.

Similar letters of reference designate corresponding parts in the several figures.

The machine which I have chosen to illustrate my invention is very similar in its several parts, other than those employed in delivering the fleece to the endless apron, to the machine which forms the subject of Letters Patent No. 257,314, granted May 2, 1882, to

Gibson and Armstrong. I have only shown in the drawings such parts of that machine as are necessary to a clear understanding of my invention, and the construction and operation of the other parts of the machine which I have not clearly shown and described will be understood by reference to that patent.

The cutting of the skin or pelt is performed by a rotary cutter-head, A, provided with a number of knives, *b*, which successively act in conjunction with the stationary blade B to cut the skin in strips from the fur, and the fur or fleece passes in the direction of the arrow upon the outer or front side of the stationary blade B and onto a tray, C. In this example of my invention the strips or portions of skin drop upon the inner side of the stationary blade B and fall upon the apron D, which has a progressive travel in a direction indicated by the arrows in Fig. 2. Any fine or loose hair which drops down with the skin upon the apron D is, by the blast of air induced by the rapid rotation of the cutter-head A, blown into a dust chamber or receptacle, E.

F designates a main shaft on which are pulleys F′, from which belts F² drive onto pulleys *f* on the shaft of the cutter-head. By means of a quarter-twist belt, *d*, passing over suitable pulleys, motion is imparted from the main shaft F to one of the drums or rollers which support the apron D.

B′ designates a stud carrying pulleys which receive power by a belt, *b′*, from the shaft F and transmit the motion by a belt, $b^2$, to a pulley, $b^3$, which, by suitable pinions or gears, $b^4$ $b^5$, transmits motion to the feed-rolls B², whereby the pelt, with the fur upon it, is moved forward gradually to the action of the cutters.

Near the lower part of the machine is a second stud, B³, on which are pulleys which receive motion by a belt, $b^6$, from the main shaft F, and transmit such motion by a belt, $b^7$, to a pulley upon one of the drums or cylinders $b^8$, which carries and supports an endless belt, G. This belt G moves in a direction transverse to the axis of the cutter-head A, and, as shown in Fig. 1, extends from the front or feeding side of the machine forward beneath the upper portions of the machine or through the machine to the other side and delivers the fleece over a slide, *s*, upon a table or other supporting-surface, S.

As shown in Fig. 1, the tray C has at its lower edge a ledge or projecting flange, *c*, which prevents the fleece from sliding off from it, and is provided with pairs of arms $c'$ $c^2$, which are fixed to suitable rock-shafts, $c^3$ $c^4$. These rock-shafts are mounted in bearings attached to the machine, and the said shafts and their arms support the tray in a manner which provides for tilting it from the position shown in Fig. 1 by full lines, where it has an inclination downward in a rearward direction, to a downward inclination in a forward or reverse direction, as shown by dotted lines in Fig. 1. I also provide a returning device, which may consist of a spring so arranged that it is put under tension when the tray C is depressed from the position shown by full lines in Fig. 1 to the position shown by dotted lines therein, and will, after the pressure on the tray is removed, automatically return it to the position shown by full lines in said figure. This returning device may advantageously consist of springs $c^5$, coiled around the rock-shaft $c^4$, and each attached at one end to one of the bearings $c^6$ of said rock-shaft and at the other end to the shaft itself. When in receiving position, the upper end of the tray comes against the portion of the frame *d′* which forms a stock-piece or back to the stationary blade or knife B, and the fur or fleece, delivered in one piece from the cutters, slides down the frame portion *d′* upon the tray C. After the fleece is all delivered the tray may, by a slight pressure of the hand in the direction indicated by the arrow *o* in Fig. 1, be pressed down to the position shown by dotted lines in Fig. 1, and the fleece will then slide off the tray upon the apron G, and by the movement of the apron G in the direction of the arrows thereon in Fig. 1 the fleece will be conducted to the point of delivery.

It will be understood that the fleece is received upon the tray with its tips or the outermost extremities of the fur upward, and said fleece is delivered in the same position upon the apron G, and by the apron to the table S or other receiving-surface; hence the greatest convenience is afforded for sorting the fur, because the tips of the fur are presented upward when delivered and the gradations in color and quality can be at once seen.

A stop-pin, *h*, may be provided on the frame of the machine, against which the tray C comes when it is pressed downward to the position shown by dotted lines in Fig. 1, to prevent a pressure of the tray directly upon the apron G.

In the example of my invention shown in Fig. 3 the cutters and other parts are arranged substantially in the manner before described, save that the apron G, instead of being continued under the upper portions of the machine or through the machine from the feeding side forward, as is shown in Fig. 1, is extended rearward from the feeding side of the machine. In this example of the invention the tray C is pivoted at its upper or forward edge, $c^7$, so that its lower and rearward edge may swing in the direction of the arrow, and it has a ledge or stopper, *c*, which arrests the sliding movement of the fleece downward or along the tray.

I have in Fig. 3 shown the tray C in its receiving position by full lines, and it is supported in such position by the spring $c^5$. The ledge or stopper may consist of a fixed crossbar, against the under side of which the tray comes when in its receiving position, and after an entire fleece has been received upon the tray C it is pushed downward, by hand or otherwise, to the position shown by dotted lines in Fig. 3, away from the stopper and against a stop-pin, *h*, and the entire fleece will slide off the tray upon the apron G, and will

be by it carried in the direction of the arrows, with the tips of the fur upward, to a point of delivery. As soon as the fleece is delivered from the tray upon the apron, the tray will be returned by its spring $c^5$ to a receiving position against the stop $h'$ and stopper $c$.

In Fig. 1 I have represented the stud $B^3$ and the pulley $b^8$ and belts $b^6$ $b^7$ as in dotted outline, as they are upon the side of the machine which is removed in the sectional view, Fig. 1; but they are shown in Fig. 2. These details of driving mechanism and other parts of the machine which are shown in the aforesaid patent to Gibson and Armstrong may, however, all of them, be varied as desired, as they form no part of my invention, which relates only to the tilting tray C and its supports, as said tray may be used to be depressed by hand or machinery.

I have described a rock-shaft, $c^4$, which supports the arms $c^2$; but it will be understood that inasmuch as the tray C must be free to move below the axis of said shaft the shaft cannot be continuous across the tray, but consists simply of two pivots or trunnions in line with each other at opposite sides of the tray.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with the feed-rolls and cutters of a skin or pelt cutting machine, of an apron for conveying the cut fur or fleece to a point of delivery, and a tilting tray supported to swing in a vertical plane and by which the fur or fleece is received from the cutters and delivered upon the apron, substantially as herein described.

2. The combination, with the feed-rolls and cutters of a skin or pelt cutting machine, of an apron for conveying the cut fur or fleece to a point of delivery, a tray for receiving the cut fur or fleece from the cutters, and supports for the tray, which provide for swinging or tilting it from a downward inclination in a rearward direction to a downward inclination in a forward or reverse direction, substantially as herein described.

3. The combination, with the feed-rolls and cutters of a skin or pelt cutting machine, of an apron for conveying the cut fur or fleece to a point of delivery, a tilting tray for receiving the cut fur or fleece from the cutters and delivering it upon the apron, and a returning device for raising the tray automatically from its delivery to its receiving position, substantially as herein described.

4. The combination, with the feed-rolls and cutters of a skin or pelt cutting machine, of an endless delivery-apron, a tilting tray, C, and swinging arms supporting the tray and providing for its movement, substantially as and for the purpose herein described.

GEORGE OSMAR REYNOLDS.

Witnesses:
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FREDK. HAYNES.