No. 646,265. Patented Mar. 27, 1900.

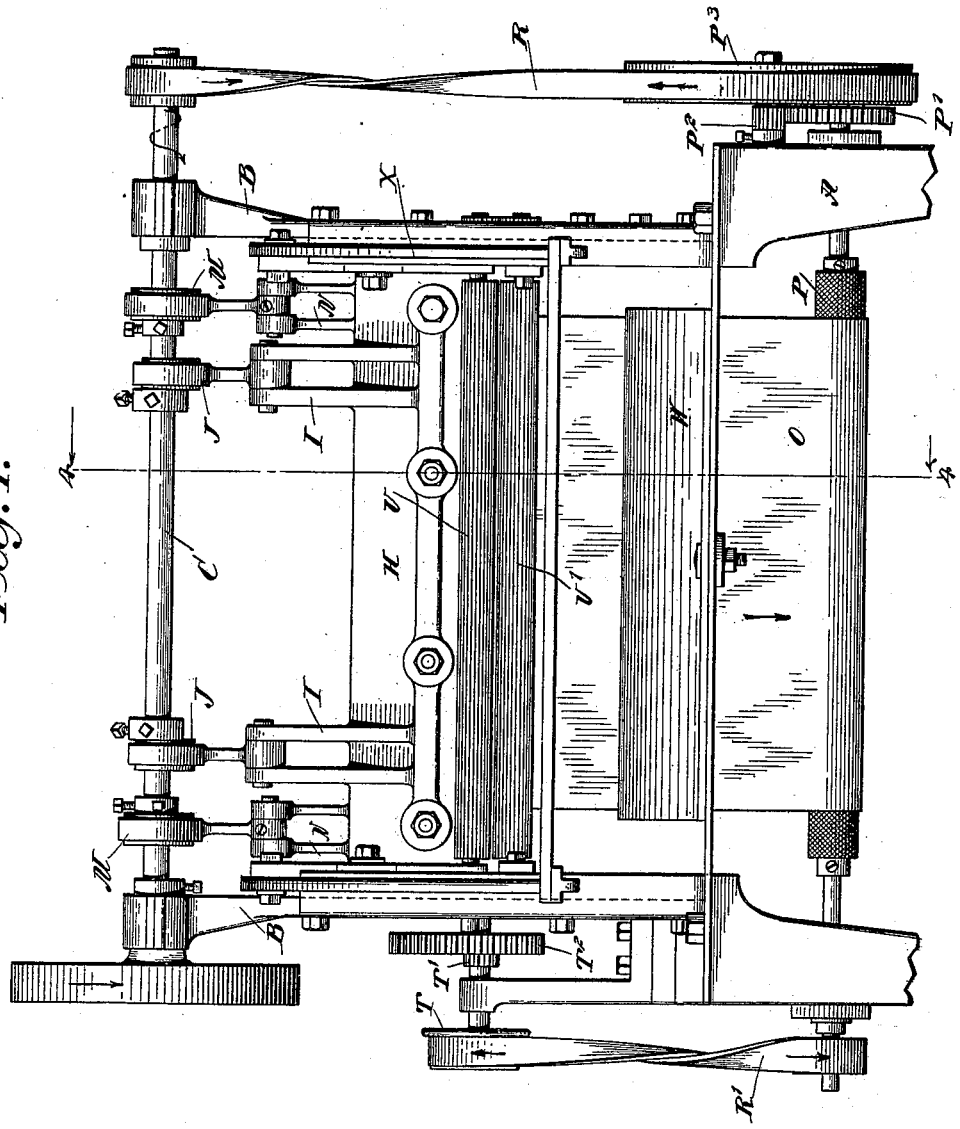
J. DERBOHLAW.

FUR CUTTING MACHINE.

(Application filed July 19, 1899.)

(No Model.) 4 Sheets—Sheet 1.

Fig. 1.



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(No Model.) 4 Sheets—Sheet 2

Fig. 3.

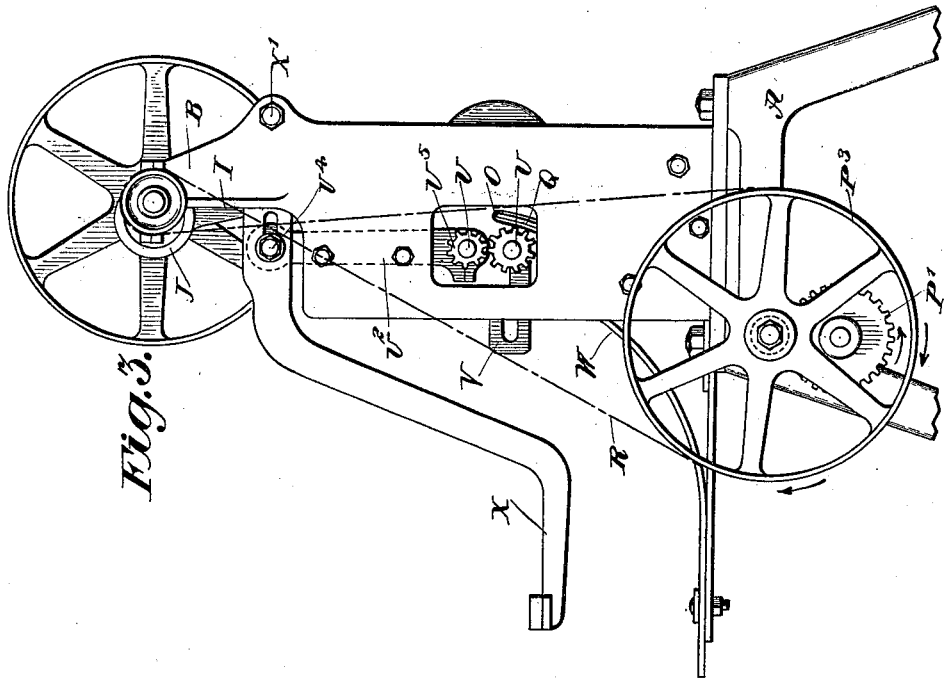

Fig. 2.

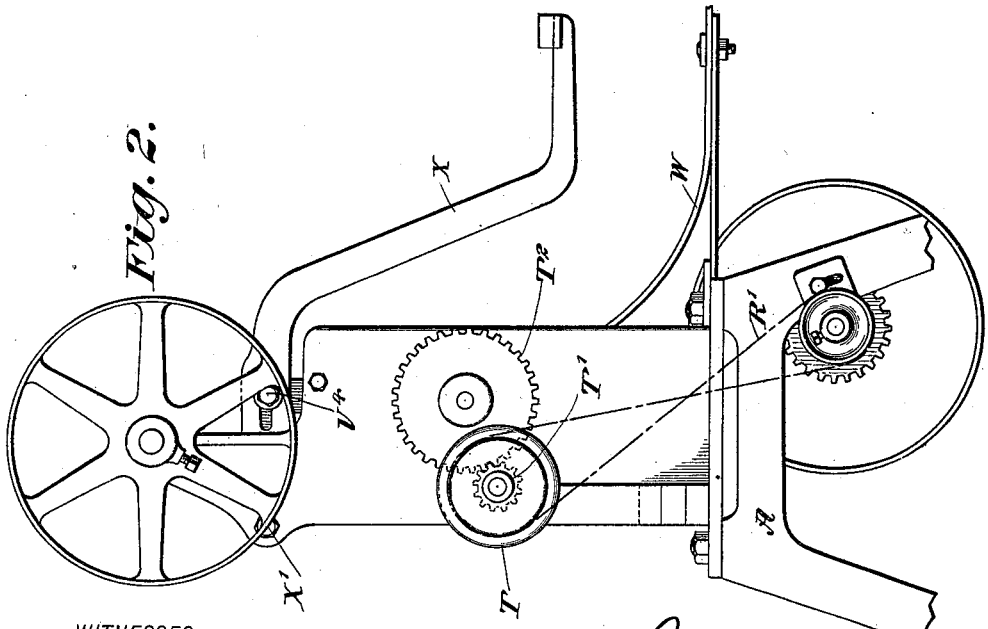

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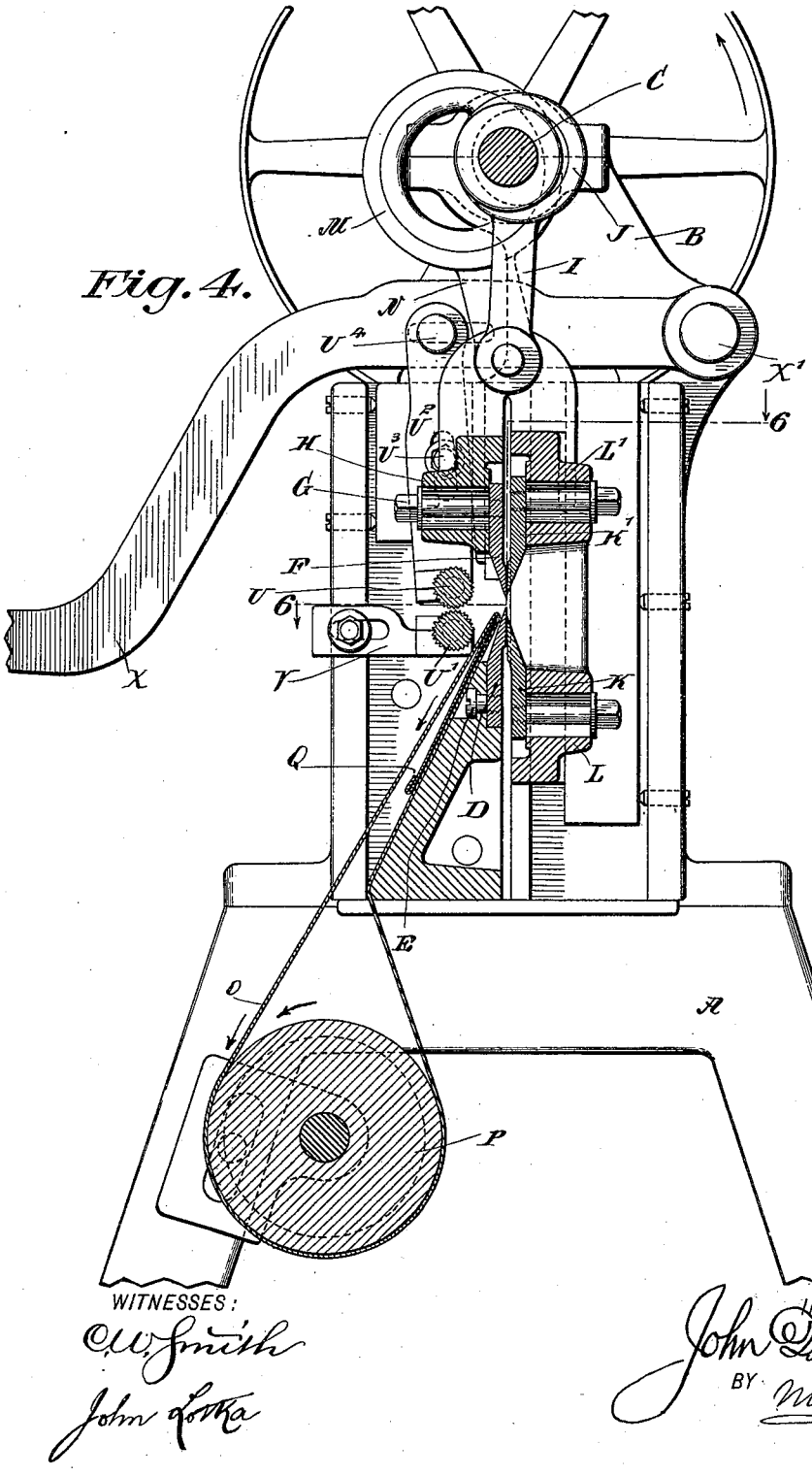
Fig. 4.



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(No Model.) 4 Sheets—Sheet 4.

Fig. 5.

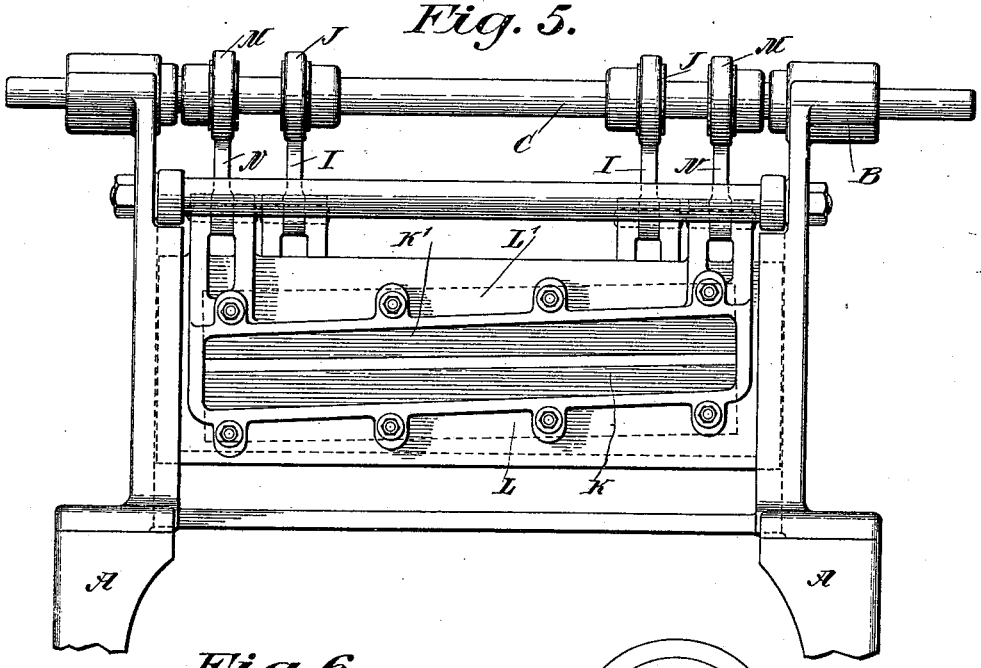


Fig. 6.

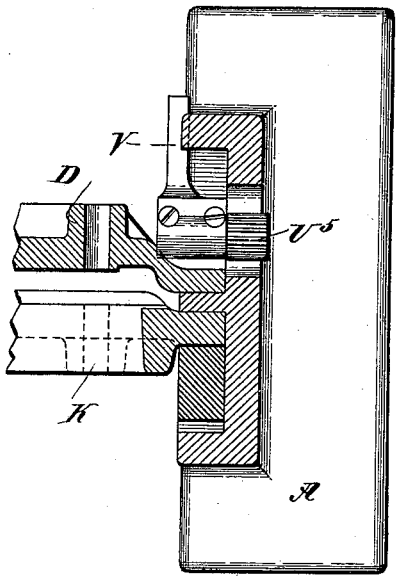
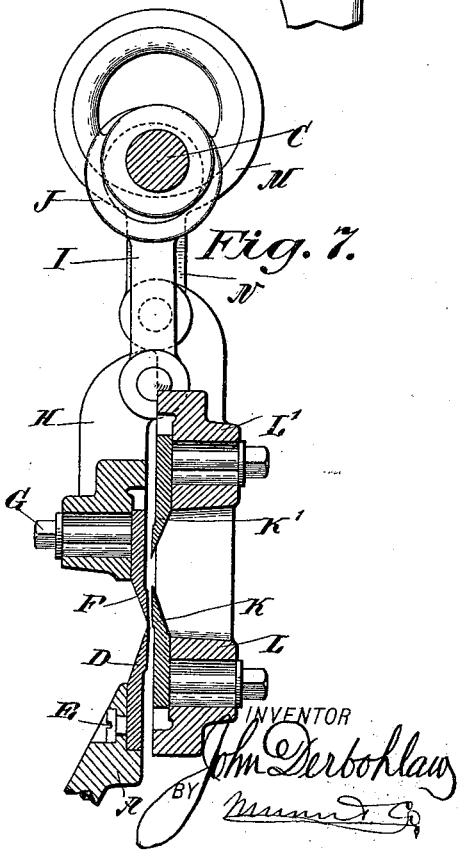


Fig. 7.



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UNITED STATES PATENT OFFICE.

JOHN DERBOHLAW, OF NEW YORK, N. Y.

FUR-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 646,265, dated March 27, 1900.

Application filed July 19, 1899. Serial No. 724,389. (No model.)

To all whom it may concern:

Be it known that I, JOHN DERBOHLAW, of the city of New York, borough of Brooklyn, county of Kings, and State of New York, have invented a new and Improved Fur-Cutting Machine, of which the following is a full, clear, and exact description.

My invention relates to a machine for cutting heavy material, such as fur, and is particularly adapted for the use of hatters.

The object of my invention is to provide a comparatively-simple machine for the above-indicated purpose in which provision is made for avoiding injury to the nap of the fur.

The invention will be fully described hereinafter and the features of novelty pointed out in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a front view of the machine. Figs. 2 and 3 are end views thereof from opposite directions. Fig. 4 is a cross-sectional elevation, drawn upon an enlarged scale, substantially on the line 4 4 of Fig. 1. Fig. 5 is a rear view of the machine. Fig. 6 is a detail sectional plan on the line 6 6 of Fig. 4, and Fig. 7 is a detail sectional elevation of the knives in a different position from that shown in Fig. 4.

The machine comprises a suitable frame A, carrying bearings B, in which is journaled the main shaft C. The frame also carries a stationary holder or blade D, removably secured by means of a screw E. Above said blade D, and in vertical alinement therewith, is adapted to reciprocate the movable holder F, the fixed holder D as well as the movable holder F being beveled upon their front surfaces, as shown. The movable holder F is secured by a screw G to a head H, mounted to reciprocate in suitable guideways of the frame A and connected by arms I with an eccentric-strap J, operated from the shaft C.

Adjacent to the holders D F and in the rear thereof are located the reciprocating knives K K′, secured to the heads L L′ and in a similar manner to the holder F, said knives being beveled upon their rear faces. The heads L L′ are connected so as to move in unison and are operated by means of an eccentric-strap M and an eccentric-rod N, driven from the shaft C. In front of the lower stationary holder D extends a nap-supporting belt O, which at the bottom passes over a roller P and at the top over a stationary sheet-metal guide Q, which is rounded at its upper end. The roller P, which is roughened on its periphery, is driven by means of gear-wheels P′ P^2 and a pulley P^3, receiving its motion from the shaft C by means of a cross-belt R. From the shaft of the roller P a cross-belt R′ extends up to a pulley T, which by means of a pinion T′ and gear-wheel T^2 drives the shaft of the upper feed-roller U, arranged in front of the point at which the knives K K′ are adapted to operate. Below the said roller U is arranged a similar feed-roller U′, carried upon an arm V, which is adjustable longitudinally, as will be seen best in Fig. 4. The feed-roller U′ is adapted to be rotated by engagement with the upper roller U, as indicated at U^5 in Fig. 3. The upper roller U is journaled in an arm U^2, guided by means of a stationary screw U^3, engaging a slot of the said arm and connected at its top by a pin U^4 with a lever X, pivoted to the frame A at X′. By this means the feed-roller U may be adjusted toward and from the feed-roller U′, and after adjustment the nut on the screw U^3 will lock the parts in their position. The material is directed between the feed-rollers by means of an inclined table W, which for the sake of clearness is not shown in Fig. 4.

The operation is as follows: The material being fed between the rollers U U′ and hanging down upon the table W passes over the upper edge of the belt O and is clasped between the holders D F, which by reason of their beveled front surface push back the fur, so that the reciprocating knives K K′ will make a clean cut without cutting any of the hair. It will be understood that the cut is a double one, as the upper and lower knives operate in succession in conjunction with the holders D F. The beveling of the rear surfaces of the knives K K′ also facilitates the cutting of the skin. The inclined belt O also

contributes to push or brush back the hairs of the fur, particularly as said belt moves downward on that run which faces the feed mechanism. It will be understood that the fur is fed with the hair downward—that is, with the hair adapted to engage the belt O. It is to be remembered that the object of my machine is not only to cut the fur, but to preserve all the hair intact, so that it will be available for the manufacture of felt and the like. Therefore, as the fur is fed comparatively slowly, the hair is brushed back and the rapidly-reciprocating knives cut the fur alternately without injuring the hair, the distance between two succeeding cuts being very small, so that the hide is cut by narrow strips (until the desired point is reached) and the hair is removed intact from what otherwise would be waste. The hair partly slides down the inclined belt and partly is carried down by the movement of the belt.

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

1. The combination of the feed-rolls, the inclined belt arranged in the rear of the feed-rolls, the cutting mechanism arranged adjacent to the upper end of the belt, and means for operating the feed-rolls, belt and cutting mechanism.

2. The combination of the feed-rolls, the inclined belt arranged in the rear of the same, the stationary guide arranged at the upper end of the belt to form a sharp angle therein, and the cutting mechanism adjacent to the upper end of the belt.

3. The combination of the cutting mechanism, the movable nap or hair support arranged on the feed side thereof to carry the hair away from the cutting mechanism and an operative connection between the cutting mechanism and the hair-support, so that both will move in unison.

4. The combination of the cutting mechanism, the belt arranged immediately adjacent to the cutting mechanism on the feed side thereof, and means for moving the belt to carry the hair away from the cutting mechanism while the fur is being fed thereto.

5. The combination with the feed mechanism, of a stationary holder adjacent thereto, a movable holder adapted to reciprocate in registry with the stationary holder, and connected upper and lower knives arranged to reciprocate in unison adjacent to the holders.

6. The combination with the feed mechanism, of a stationary holder adjacent thereto, a movable holder adapted to reciprocate in registry with the stationary holder, and connected upper and lower knives arranged to reciprocate in unison adjacent to the holders, the movable holder and the knives being beveled on their opposite surfaces.

7. The combination of the feed-rollers, the inclined table adjacent thereto, the inclined belt projecting in the rear of the feed-rollers, the stationary holder in the rear of the said belt, a reciprocating holder arranged in registry with the stationary holder, and the reciprocating knives in the rear of the holders.

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