(No Model.) 3 Sheets—Sheet 1.

A. PATERSON.

REMOVING STAGY HAIRS FROM FUR SEAL AND OTHER SKINS.

No. 331,538. Patented Dec. 1, 1885.

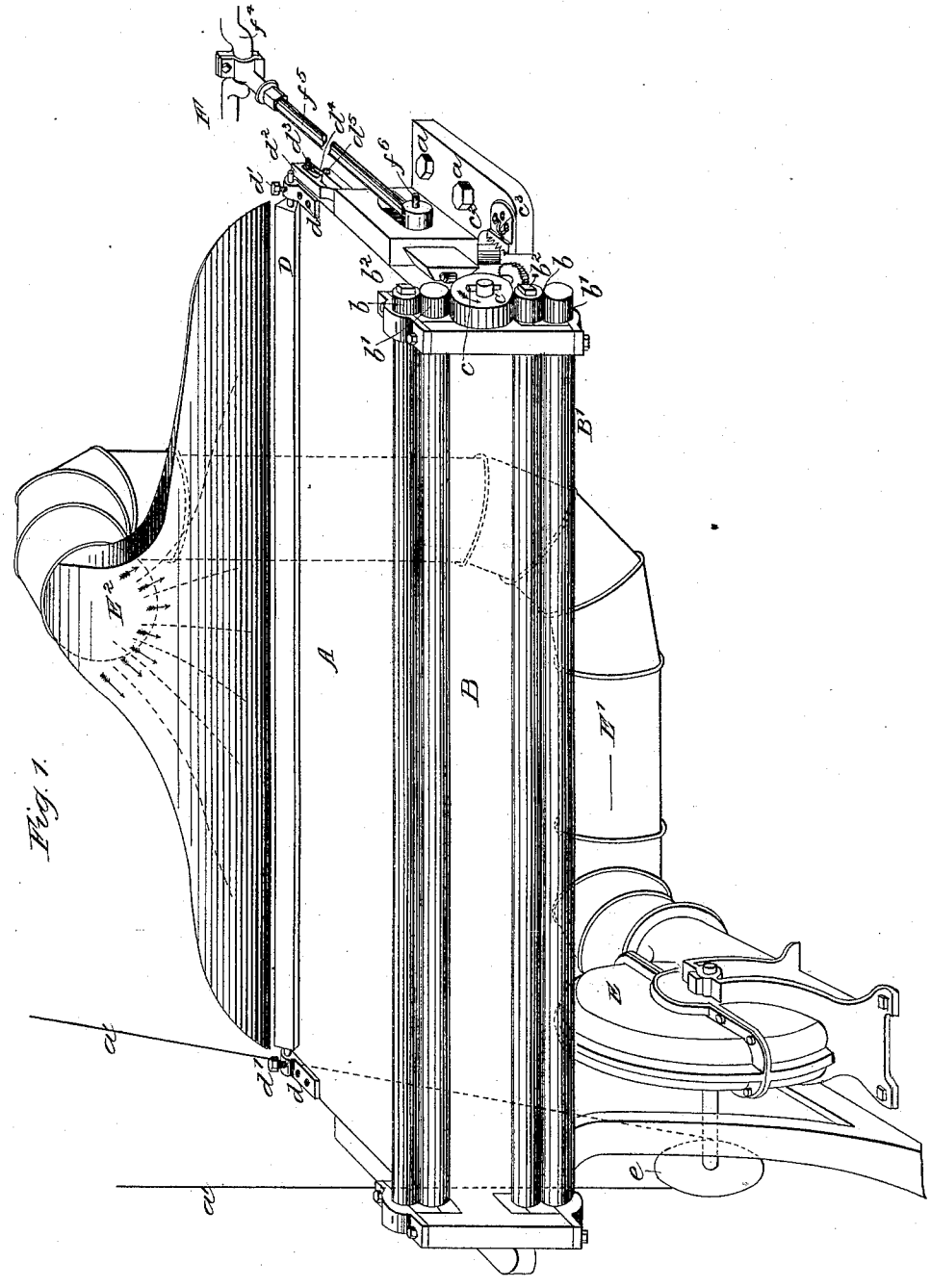


Fig. 1.

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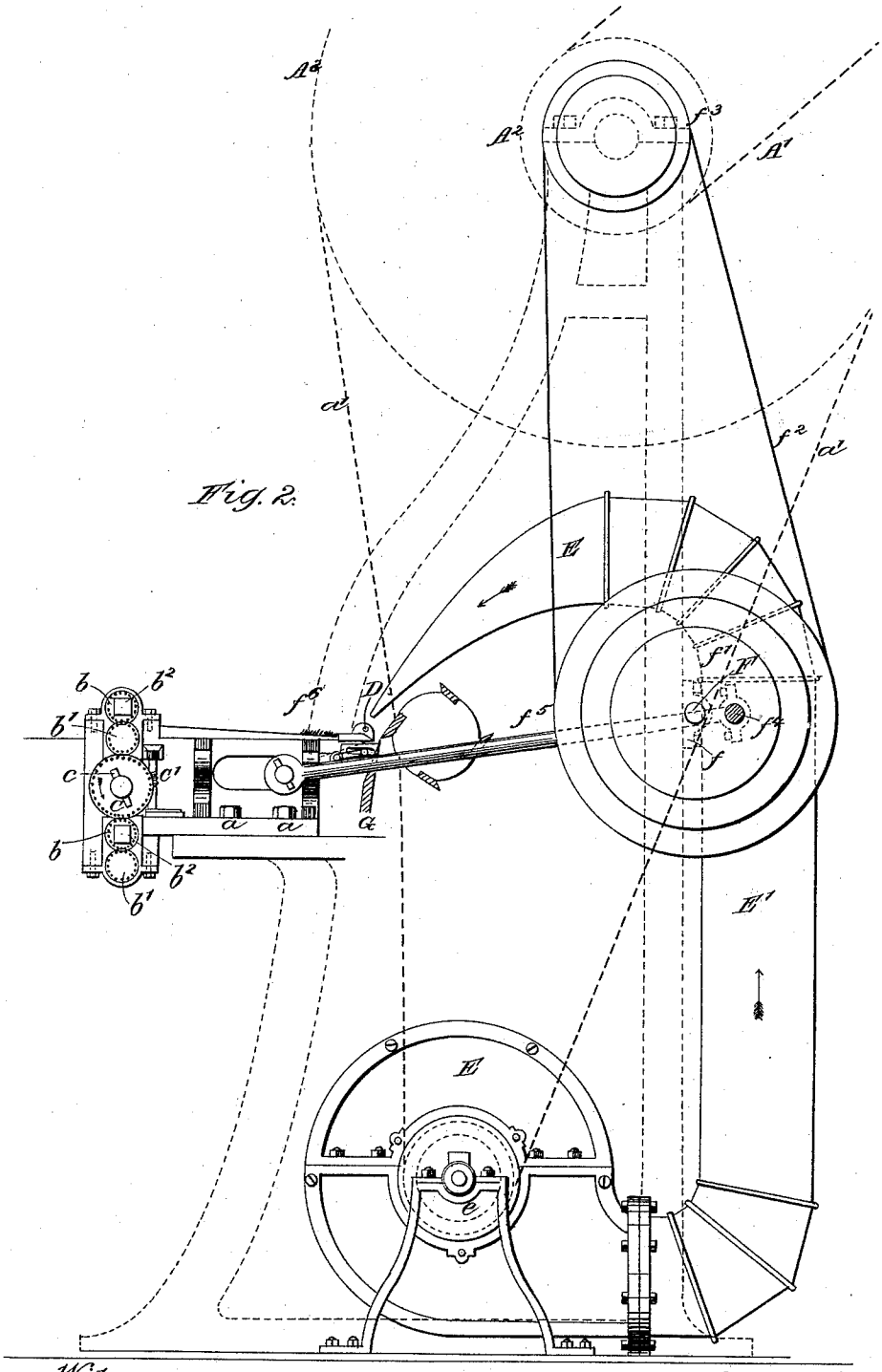
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Fig. 2.



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A. PATERSON.

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Fig. 3.

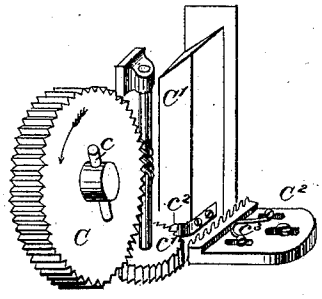


Fig. 4.

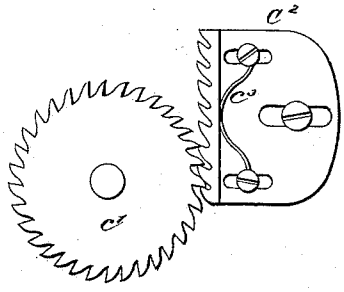


Fig. 5.

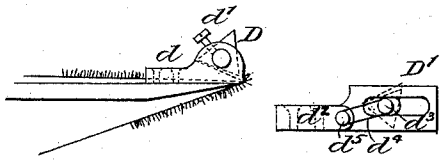
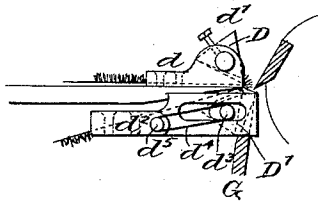


Fig. 6.



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UNITED STATES PATENT OFFICE.

AMBROSE PATERSON, OF LONDON, ENGLAND.

REMOVING STAGY HAIRS FROM FUR-SEAL AND OTHER SKINS.

SPECIFICATION forming part of Letters Patent No. 331,538, dated December 1, 1885.

Application filed December 27, 1884. Serial No. 151,353. (No model.) Patented in England February 16, 1884, No. 3,429; in France December 10, 1884, No. 165,853, and in Canada December 26, 1884, No. 20,796.

To all whom it may concern:

Be it known that I, AMBROSE PATERSON, a subject of the Queen of Great Britain, residing at London, England, have invented new and useful Improvements in Removing Stagy Hairs from Fur-Seal and other Skins, and Apparatus Therefor, of which the following is a specification.

A certain class of skins—such as fur-seals, otters and the like are greatly improved by the removal of the hairs that form the outer covering of the skin. These hairs are removed either in the process of "dressing" or after the skin is "dressed" by an operation known as "pulling" or "plucking;" but by these processes only those hairs which extend beyond the surface of the wool are removed, while those of immature growth and technically termed "stagy hairs" are left in the skin and greatly disfigure it.

My apparatus is designed with the object of removing the stagy hairs, and is in the form of an attachment to an enlarged fur-cutting machine.

In order to enable my invention to be fully understood, I will proceed to describe the same by reference to the accompanying drawings, in which—

Figure 1 represents a perspective view of an apparatus for removing the stagy hairs from fur-seal and other skins, according to my invention. Fig. 2 is a lateral or end view, and shows the method of attaching the apparatus to the frame of a fur-cutting machine, the latter being indicated by dotted lines. Figs. 3, 4, 5, and 6 are detached views of parts of the apparatus drawn to a larger scale.

Similar letters of reference indicate corresponding parts.

The skin to be operated upon is first passed between the upper pair of grooved rollers, B, thence over the straight edge of the oscillating frame A and between the lower pair of grooved rollers, B′.

To secure the necessary tension while the extremes are passing over the straight edge of the oscillating frame A, pieces of cloth or canvas of requisite length are attached to the ends of the skin.

To facilitate placing the skin in the apparatus, the upper grooved rollers of each pair have squared heads b^2 projecting beyond the pinions b, to which a key can be attached and either pair of rollers be made to revolve with rapidity, the geared wheel C being previously removed by withdrawing the pin c. By this operation also the skin is drawn tightly over the straight edge of the oscillating frame A, and while it is held fast the geared wheel C is replaced and the tension maintained until the skin is finished.

On one side of the oscillating frame A the spindles of the grooved rollers B and B′ project beyond the bearings, and have pinions b and b' attached. The lower pinion, b', of the upper pair of grooved rollers, B, and the upper pinion, b, of the lower pair of grooved rollers, B′, work in the geared wheel C. As the oscillating frame A moves back from the cutters of the fur-cutting machine, the pinion c' on the endless screw C′ comes in contact with the rack C^2, causing the endless screw C′ to revolve. This sets the geared wheel C and the pinions b and b' in motion. The skin stretched over the straight edge of the oscillating frame A is thus moved forward a short distance. As the oscillating frame A returns toward the cutters, the pinion c' is prevented from moving by the pawl c^2, and the rack C^2 is forced back by the pinion c', and allows it to pass over. When the pinion c' has cleared the rack C^2, the spring c^3 forces it into position again ready to engage the pinion c' as the oscillating frame A moves back. This part of the apparatus is clearly shown in the detached perspective view at Fig. 3, and in plan at Fig. 4, which represents the rack and pinion.

The apparatus is set in motion by the belt A′ passing over the pulley A^2 on the main shaft of the fur-cutting machine. The fly-wheel A^3 at the end of the shaft carries a gut band, a', which passes round the pulley at the end of the cylinder to which the cutters of the fur-cutting machine are attached, and round the pulley e of the rotary fan E, in the place of the usual tension-pulley of the fur-cutting machine.

To the fan E is attached a pipe, E′, which is flattened and expands at E^2, where it is divided into chambers, as shown by the dotted

lines, to equally distribute the current of air, and terminates in a long narrow nozzle from which the air issues.

At the back of the fur-cutting machine is a double-crank shaft, F, working in suitable bearings, *f*, screwed to the frame of the fur-cutting machine and driven by a pulley, *f'*, and gut band f^2, and pulley f^3 on the end of the main shaft of the fur-cutting machine opposite to that on which the fly-wheel A^3 is fixed.

To the cranks f^4, which are near the ends of the crank-shaft F inside of the bearings *f*, are fitted the crank-arms f^5, and these being attached to the pins f^6, fixed to the sides of the frame A, cause it to oscillate.

On the top of the oscillating frame A and near to the straight edge is placed a guard-rod, D, having the side adjacent to the skin covered with india-rubber, that it may press uniformly on the fur. This works in bearings *d d*, but is prevented from revolving by the edge coming in contact with the frame A. It is held in position by the set-screws *d' d'*, as shown in the detached enlarged views at Figs. 5 and 6, which show different positions of the guard-rod during the operation of removing the stagy hairs. The guard-rod D protects the fur on the top side of the oscillating frame from injury by the cutters of the fur-cutting machine while the stagy hairs are being cut off. A slotted bearing, d^2, (shown clearly in the said Figs. 5 and 6,) is screwed to the fur-cutting machine near each end of the bed-knife G, and carries a lower guard-rod, D'. This is similar to the guard-rod D, but the ends of the spindles d^3 thereof are squared, so that they may work freely backward and forward in the slotted bearings d^2 without revolving. The ends of the spindles d^3 project beyond the slotted bearings, and carry a small india-rubber ring, d^4, in a groove cut to receive it, and which prevents it slipping off. The india-rubber ring d^4 also passes over a pin, d^5, fixed in the bearings d^2, and thus acts as a spring, and holds the guard-rod D', as shown in Fig. 5. As the oscillating frame A moves forward and meets the lower guard-rod, D', the india-rubber rings d^4 draw the edge firmly on the under side of the straight edge of the frame A, at the same time allowing it to move forward with the frame.

During the forward movement of the oscillating frame A the part of the skin immediately over the straight edge of the frame meets the current of air issuing from the blowing apparatus. The yielding fur is blown downward and away from the stagy hairs, and is caught by the lower guard-rod, D', and held firmly against the lower side of the oscillating frame A. The rigid stagy hairs thus left protruding are cut off on reaching the cutters of the fur-cutting machine.

Having now described my said invention, and in what manner the same is to be performed, what I claim is—

1. In an apparatus to be attached to an enlarged fur-cutting machine, for the removal of stagy hairs from seal and other skins, the combination, with an oscillating frame, A, of a double-crank shaft, F f^4, and its crank-arms for working said frame, and the grooved rollers B B', for passing the skin over the straight edge, all substantially as shown and described.

2. In an apparatus to be attached to an enlarged fur-cutting machine for removing stagy hairs from skins, the combination of an oscillating frame worked by a double-crank shaft and crank-arms, with the grooved rollers B B', for passing the skin over the straight edge, and with mechanism, substantially as described, serving to actuate the geared wheel C, to cause the grooved rollers to move intermittently, substantially as shown and described.

3. The combination, with a rotary blower, and with the oscillating frame, of the straight edge on the oscillating frame, substantially as set forth.

4. In combination, the rotary blower, as set forth, the straight edge on the oscillating frame, guard-rod D on the frame, and its bearings *d*, and guard-rod D' and its slotted bearing d^2, substantially as and for the purposes set forth.

AMBROSE PATERSON.

Witnesses:
A. ALBUTT,
B. BRADY.