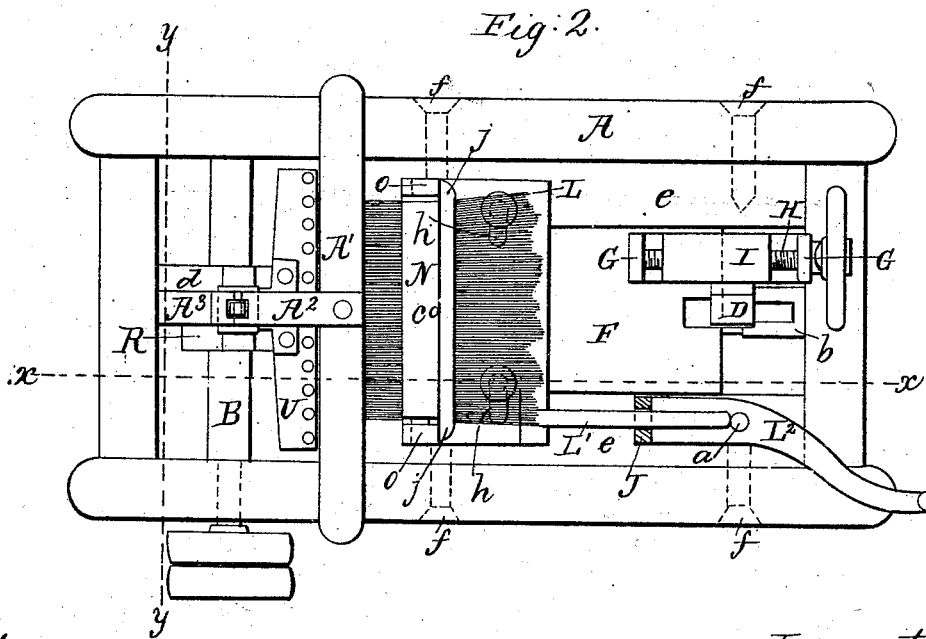
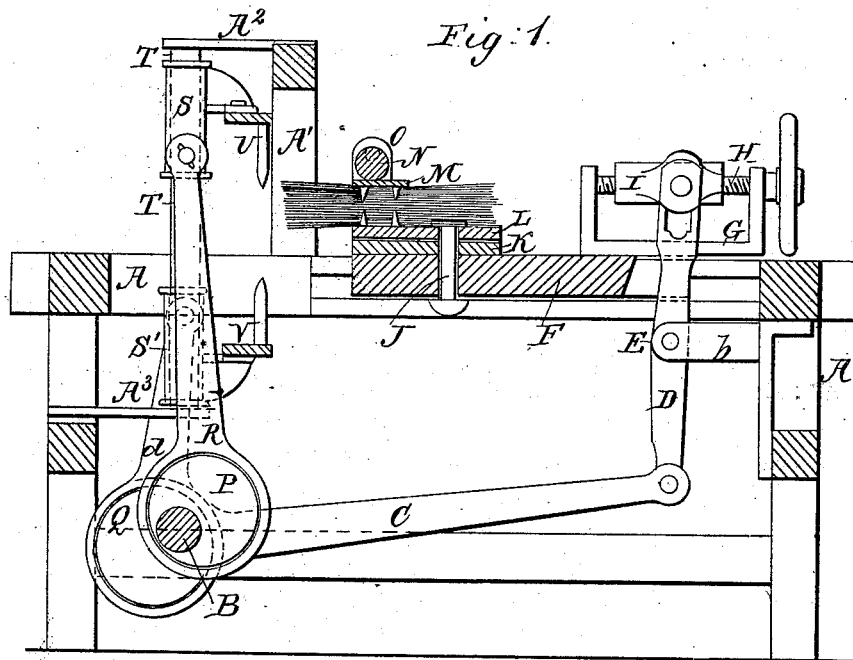


LANNAY & PARKS.  
Machine for Combing Bristles.

2 Sheets—Sheet 1.

No. 54,564.

Patented May 8, 1866.



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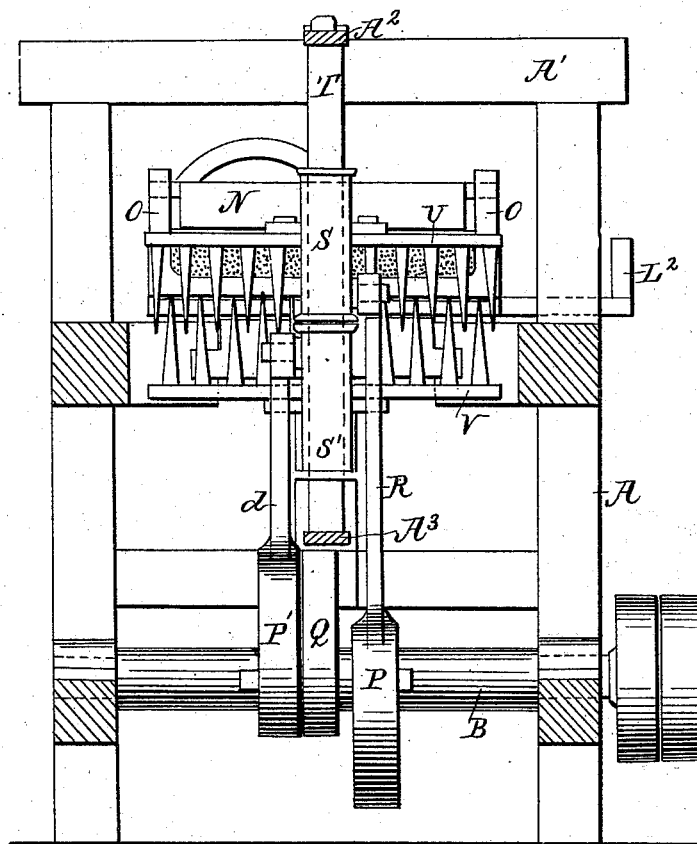
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Fig. 3.



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# UNITED STATES PATENT OFFICE.

LOUIS F. LANNAY, OF INDIANAPOLIS, INDIANA, AND WILLIAM F. PARKS,  
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## IMPROVED MACHINE FOR COMBING BRISTLES.

Specification forming part of Letters Patent No. 54,564, dated May 8, 1866.

### *To all whom it may concern:*

Be it known that we, LOUIS F. LANNAY, of Indianapolis, in the county of Marion and State of Indiana, and WILLIAM F. PARKS, of Baltimore, in the county of Baltimore and State of Maryland, have invented a new and useful Improvement in Combing Bristles; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1, Sheet 1, is a vertical longitudinal section of a machine for combing bristles made according to our invention, the plane of section being seen at *x*, Fig. 2. Fig. 2 is a plan. Fig. 3, Sheet 2, is a vertical transverse section on the line *y* of Fig. 2.

Similar letters of reference indicate like parts.

The object of this invention is to prepare a machine for combing bristles and hogs' hair. The bristles or hair are clamped in a frame which is reciprocated in a horizontal plane, so as alternately to approach and recede from reciprocating combs which operate on the bristles and straighten and clean them. The frame that holds the bristles is also capable of being moved to and fro transversely to its regular reciprocating motion in order to change the position of the mass with respect to the combs. The extent of the regular reciprocations of the frame can be changed by an adjusting-screw without stopping the working of the machine. The combs are two in number, and are set opposite to each other in the same vertical plane, being made to approach and recede from each other by means of eccentrics placed on the same shaft that drives the frame in which the bristles are held. The bristles are clamped to their frame by means of an eccentric roller and a movable plate that rests on them.

The letter A designates the main frame, which supports the mechanism about to be described. Between its sides is a sliding table, F, that carries the bristles to be operated upon. The side edges of the table are supported by and slide in ways *e e*, that are attached to the inner sides of the top part of the main frame, the said ways being connected to said frame

by screws *f*, which both hold the ways and operate to move them in lateral directions in order to compensate for any wear that has taken place.

The table F carries a bed-plate, K, which is fixed to it, and whose ends reach over or partly over the ways *e*. Upon this bed-plate we place a clamping-frame consisting of a plate, L, of about the same area as the bed-plate, and having standards O O at its ends, which furnish bearings for the journals of an eccentric roller or cam, N.

The plate L is connected to the bed-plate by screw-bolts J, (one of which is seen in the sectional view, Fig. 1,) that pass up through the table F, bed plate K, and plate L, the latter being provided with oblong slots *h h*, which are indicated, as are also the heads of the bolts, in the plan view, Fig. 2. These slots allow the plate L to be moved in transverse directions, such motion being effected by means of a lever, L<sup>2</sup>, pivoted at *a* to one of the ways *e*, and having a lug, *g*, at its inner end, through a hole in which the straight arm L' of plate L passes loosely.

The standards O O of plate L are placed at its front corners, and the cam or eccentric roller N is free to swing down by its own weight, so as to rest on the clamping-plate M, between which and plate L the bristles are confined. That part of the surface of plate L which is beneath the roller is armed with a series of pins, *i*, which penetrate the mass of bristles.

The plate M is a loose plate, whose width is about equal to the diameter of the roller, so as to allow its front edge to come forward about in line with the front side of the roller, in which position it is retained by its short arms *j j*, which come up against the standards O O when the plate M is in place. The under side of said plate is also provided with a series of pins, *i*, which penetrate the mass of bristles.

When a mass of bristles is laid upon the upper plate, L, the loose plate M is laid on top of the mass in the position shown in the drawings, and the cam or eccentric roller N is forced down to bring the side of the greater radius vertically beneath its center of motion by placing the end of a sharp-pointed lever in the hole *c* of the roller. The pins *i* of the plates L M are so placed as to penetrate the mass of the bris-

ties in the interspaces of the pins, thereby more effectually holding the bristles between the plates and aiding the roller N in holding them in place.

The table F, with the mass of bristles held thereon, as aforesaid, is reciprocated from the shaft B by means of an eccentric, Q, and a connecting-rod, C, which is pivoted to the lower end of a lever, D, whose upper end is connected by a slot and pin with a sleeve or nut, I, which is placed on a horizontal screw, H, whose ends are journaled in the upright ends of a frame, G, which is secured on the top of table F at its rear end. A hand-wheel is fixed on one end of the screw in order to turn it, and so move the sleeve or nut forward or backward, according to the extent of the movement it is desired to give to the table F.

The lever D vibrates on a pin at the ends of a forked bracket, b, that extends from the rear end of the main frame.

From the forward part of the main frame rises a transverse frame, A', from the top of which projects a bracket, A<sup>2</sup>, the office of which is to hold in place the upper end of a square post, T, whose lower end rests on a bracket, A<sup>3</sup>, which extends backward from the lower front of the main frame. This post is made to guide the movements of two reciprocating combs, U V, whose stocks or frames are connected with and sustained by the post T, by means of sleeves S S' placed thereon at different heights. The sleeves S S' are severally connected with eccentrics P P', fixed on shaft B on either side of the eccentric Q, the said eccentrics P P' being attached by rods R d, respectively, to the sleeves S S'. The combs U V are in the same vertical plane, their teeth pointing toward each other, and the throw of their eccentrics being such that their teeth pass each other when the upper comb is in its lowest position and the lower comb is in its highest position. The eccentrics P P' Q are so placed on the shaft B with respect to each other that the table F is moved forward just

before the combs approach each other, thereby bringing the forward ends of the bristles directly beneath the two combs, which immediately enter them, when the table K is moved back, drawing the bristles away from the combs, thereby imitating the motion or act of combing, although the combs are reciprocated in a vertical line. The shaft B is driven by any convenient power, the end of said shaft being here shown provided with the usual fast and loose pulley.

The bristles are fed farther forward toward the path of the combs as the work proceeds by means of the screw H and nut I, which are operated without disturbing or stopping the working of the machine, while the frame which holds the bristles is also from time to time moved transversely by means of the lever L<sup>2</sup>.

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

1. The reciprocating table F, for carrying the bristles or hogs' hair to be operated, in combination with the eccentric Q, and the nut and screw which regulate the extent of the reciprocations produced by the eccentric, substantially as described.

2. The devices for holding the bristles, arranged and combined as shown—to wit, the plates L, the loose plate M, both having pins i, as shown, and the eccentric roller N, for clamping the bristles between said plates, substantially as described.

3. So making and arranging the plate L as that it is capable of being moved transversely by lever L<sup>2</sup>, substantially as described.

4. The reciprocating combs U V, moved from the same shaft, in combination with the reciprocating table F, substantially as described.

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