W. F. PARKS & L. F. LANNAY.

Machine for Combing Dry Bristles.

No. 159,209. Patented Jan. 26, 1875.

FIG. 1.

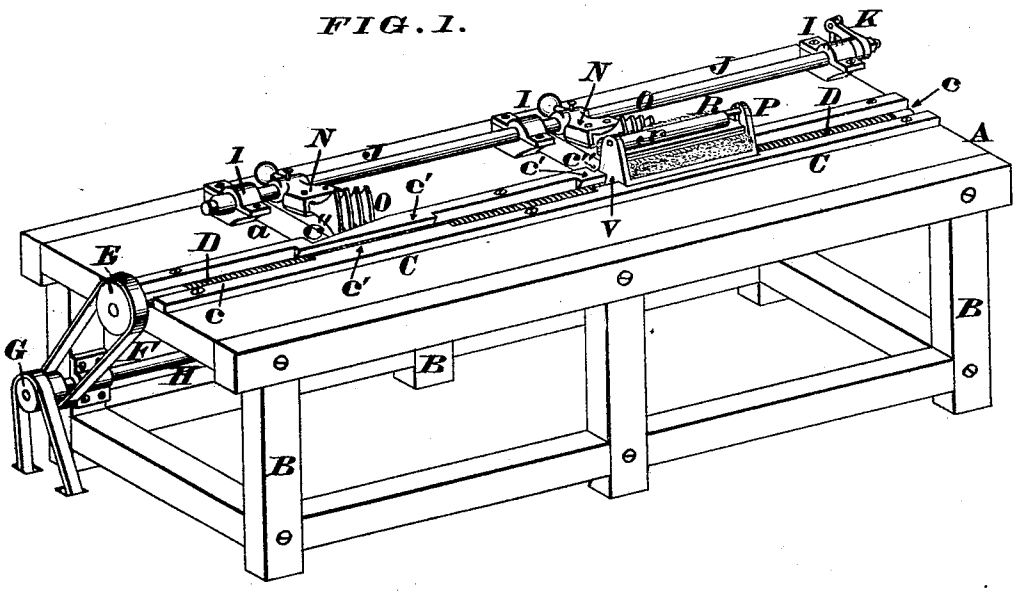


FIG. 2.

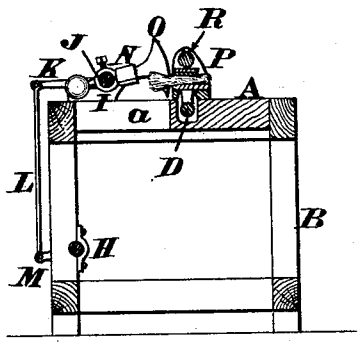


FIG. 3.

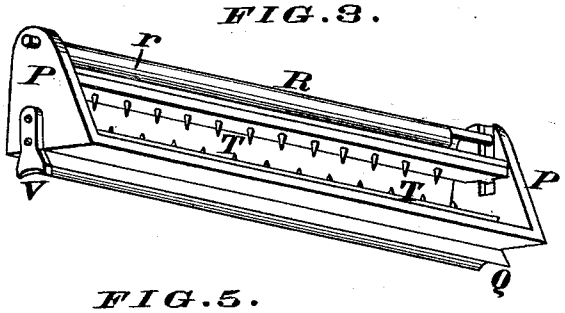


FIG. 4.

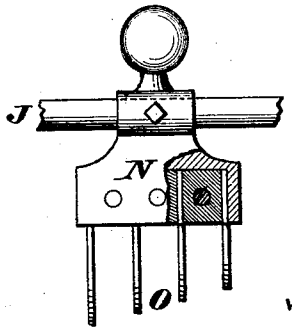
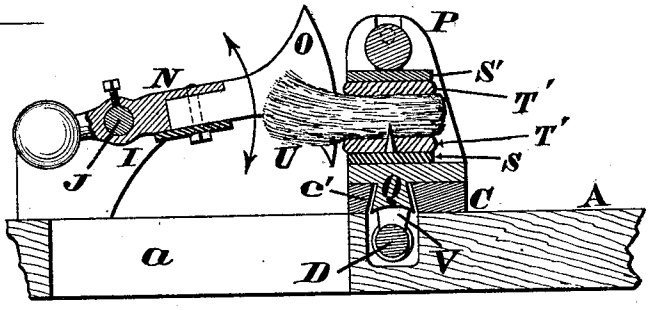


FIG. 5.



Attest.
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UNITED STATES PATENT OFFICE.

WILLIAM F. PARKS AND LOUIS F. LANNAY, OF CINCINNATI, OHIO.

IMPROVEMENT IN MACHINES FOR COMBING DRY BRISTLES.

Specification forming part of Letters Patent No. **159,209**, dated January 26, 1875; application filed September 22, 1874.

To all whom it may concern:

Be it known that we, WILLIAM F. PARKS and LOUIS F. LANNAY, both of Cincinnati, Hamilton county, Ohio, have invented a new and useful Machine for Combing Dry Bristles, of which the following is a specification:

Our invention relates to a device whereby dry bristles may be combed or hackled in the most complete and rapid manner by a comparatively unskilled person.

In the accompanying drawing, Figure 1 is a perspective view of a machine embodying our invention, one of the bristle-clamps being omitted. Fig. 2 is a transverse section of the same. Fig. 3 is a perspective view of one of the clamps. Fig. 4 is a partially-sectioned top view of one of our combs. Fig. 5 is a transverse section of a comb and clamp in working position.

A represents a bench supported by legs B, or otherwise, at a convenient elevation for manipulating the bristles and bristle-clamps. The top of said bench A is provided with a metallic slotted guide or way, C, arranged longitudinally of said bench. At suitable intervals the slot *c* of said way has opposing flanges *c'*, for a purpose that will presently appear. Journaled within slot *c*, and a little below the upper surface of the way C, is a screw, D, which extends from end to end of the bench A. This screw D is rotated by belt and pulley connection E F G, with driving-shaft H, or otherwise. Journaled in bearings I upon bench A is a rock-shaft, J, which may also derive motion from shaft H, said motion being transmitted by crank-and-pitman connection K L M, or otherwise. The shaft J is parallel to the way C, and in rear of the same, and at somewhat greater elevation. Keyed or otherwise fastened to the rock-shaft J, opposite the flanged portion *c'* of each slot *c*, is a head or stock, N, of a gang or series of knives or blades, O, preferably of the represented double-hooked form. Each of said gangs constitutes a comb or hackler. The blades O, while similar, one to another, in form, are of unequal length or projection from their heads, the blade in each head, nearest the receiving end of the bench, being shortest, and each succeeding blade being longer than its predecessor, and so on to the end of the series on each respective head. Apertures *a* in the bench, and oblique notches *c''* in that side of the ways nearest the combs N O, afford room for the vertical oscillation of the blades O, the said ways C at their portions opposite said blades discharging the functions of throats or mouthpieces, which sustain the bristles while being acted upon by said blades.

The bristles are held and presented for the combing action in clamps of the following construction: P is a housing, whose dovetail Q occupies the slot *c*, and engages under the flanges. Journaled in the upper part of said housing is an eccentric, R, having an orifice, *r*, for the insertion of a rod wherewith to turn it. S S' are jaws, having tusks T of steel, and lining-pads T' of india-rubber. A tongue, V, which projects downward from the head-stock or housing P, engages in the screw D when the dovetail Q occupies the slot *c*.

The operation of our bristle-comber is as follows: The bristles, in suitable sized bunches, are secured in the clamps by being inserted between the padded jaws S S', and tightly griped by partial rotation of the eccentric R; and, the machine being set in motion, a filled clamp is inserted with its tongue in mesh with screw D, the "flag" or thin ends of the bristles being presented for combing action. The rotation of the screw D operates to advance the clamp, whose dovetail Q, engaging under flange *c'*, operates to hold the clamp securely down to its proper bearings. The clamp still advancing, the comb begins to engage, by means of its shortest blade, in the bristles, and, as the clamp is drawn forward, the succeeding blades engage until all are in operation on different parts of the bunch, each succeeding longer blade rehackling, with deeper penetration, the portion already traversed by its shorter predecessor, and more completely ridding the bundle of "shorts" and "doubles." On reaching the next opening of the slot *c* the clamp is withdrawn, and temporarily unclamped, and having had its "butts" sufficiently protruded for combing, is reclamped and inserted end for end in the slot, upon which the work proceeds as before.

As many bunches may be simultaneously undergoing treatment as there are combs in the machine.

The motion of the operative parts may be derived by belt connection W with a steam-engine or other motor, or it may be operated by hand.

The above illustration of our invention may be varied in non-essential particulars; for example, an endless chain or a rack and pulley may take place of the screw D, and the bunches may be clamped by means of screw in place of eccentric.

We claim as new and of our invention—

1. The double-acting comb having the series of double-pointed blades O of unequal lengths, substantially as and for the purpose set forth.

2. The combination of comb N O, housing P Q, carrying the armed and padded clamp-jaws S S′, and eccentric R.

3. The described combination of double-acting combs N O, traveling clamps P Q, flanged and slotted way C *c c′ c″*, and screw D.

In testimony of which invention we hereunto set our hands.

WM. F. PARKS.
LOUIS F. LANNAY.

Attest:
GEO. H. KNIGHT,
JNO. J. DE HAN.