R. TURNEAURE.

Machines for Heading-Hair.

No. 145,259. Patented Dec. 2, 1873.

Fig 1.

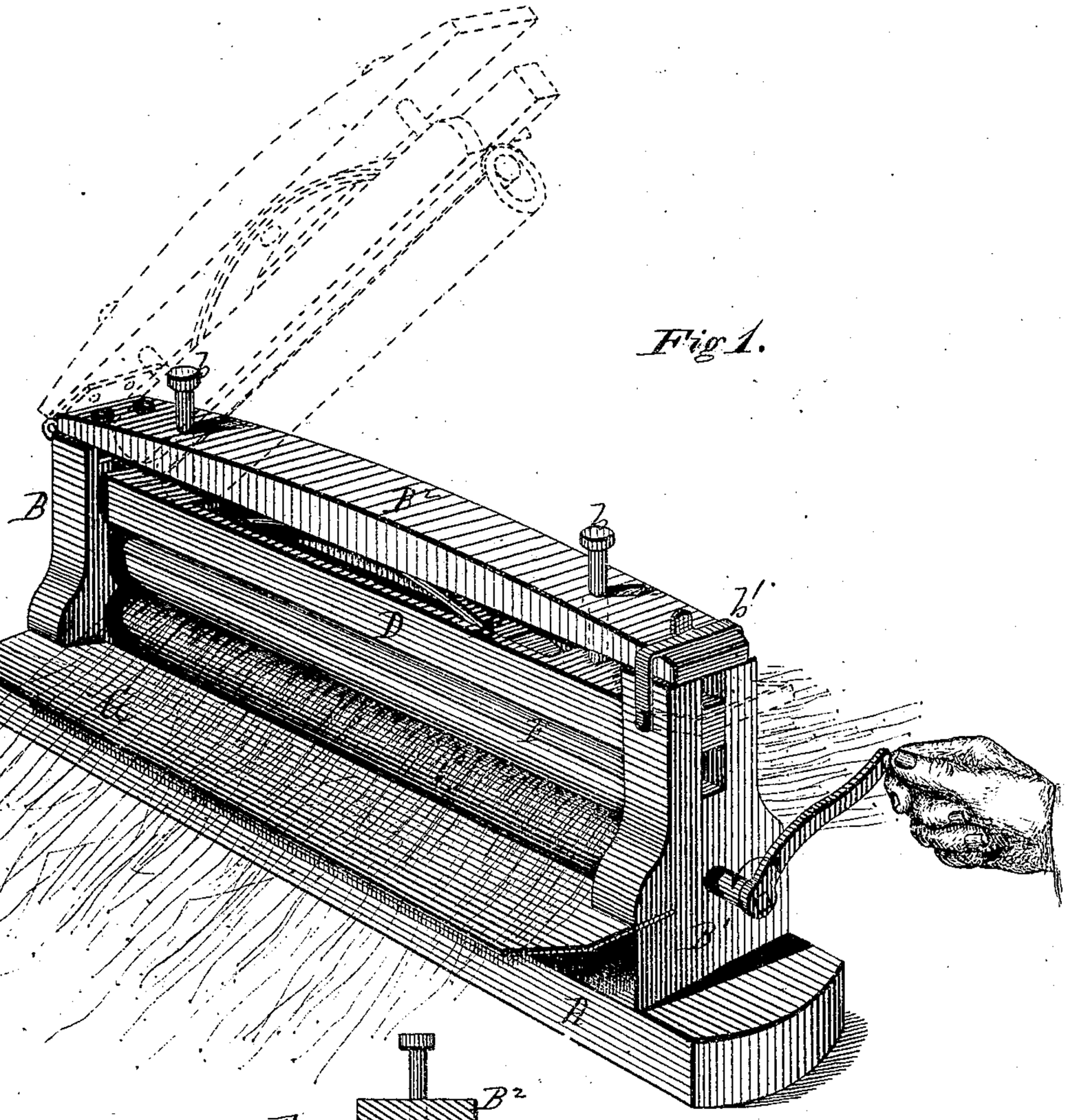
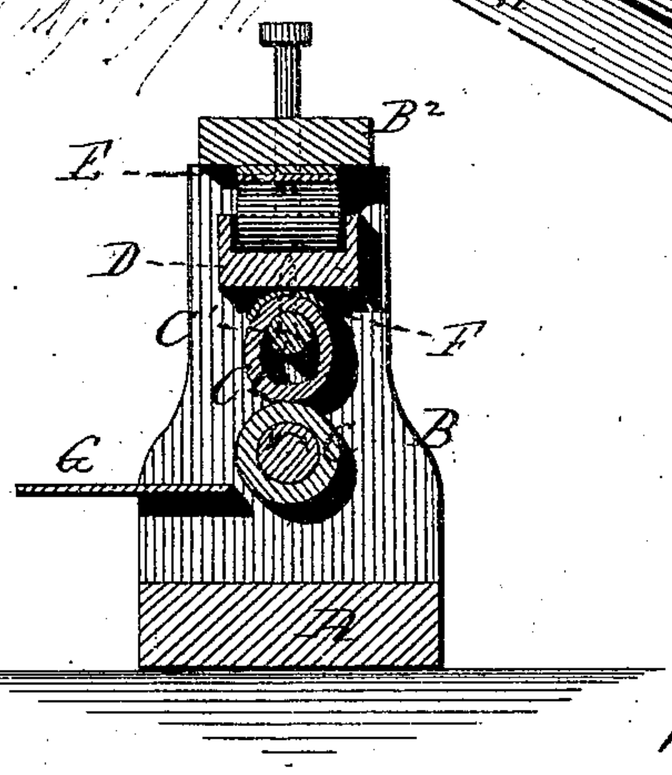


Fig 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

ROBERT TURNEAURE, OF ROCKFORD, ILLINOIS, ASSIGNOR TO HIMSELF AND BELINDA WILLIAMS, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR HEADING HAIR.

Specification forming part of Letters Patent No. **145,259**, dated December 2, 1873; application filed September 22, 1873.

To all whom it may concern:

Be it known that I, ROBERT TURNEAURE, of Rockford, in the county of Winnebago and State of Illinois, have invented a new and useful Improvement in Hair-Separating Machines; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

Figure 1 is a perspective view of my improved machine, and Fig. 2 is a vertical section through the same.

Similar letters of reference denote corresponding parts in both figures.

My invention relates to a novel construction of machine for separating the hair for making braids, or for assorting and turning the roots of the hair in the same direction.

It is a well-known fact that if a braid of hair is combed toward the roots more or less of it will break, and if combed toward the free ends the comb will run smooth. This is caused by the peculiar formation of the hair, which, if magnified, presents a barbed or scaled surface, with the barbs or scales pointing toward the free ends, so that a braid in which the hair runs in both directions is less valuable than one in which the roots are all at one end.

The separation has heretofore been accomplished by running the hair through the fingers, and the direction of the root thus ascertained, or by magnifying the hair.

My invention consists in a novel construction of machine provided with yielding rollers, arranged one above the other, the lower one being supported in uprights and allowed to revolve, and the other being supported by, and swinging with, a frame-piece hinged to one of the uprights, these rollers, when in working position, coming in contact with each other and operating together, as hereinafter described.

In the accompanying drawings, A represents a base-plate, provided with two upright posts, B B^1, one at each end. Between these posts a roller, C, is placed, which has a coating of rubber or other yielding material. This roller turns freely in these standards, and its shaft projects through the post B^1, and has a crank attached for turning it. The post B has hinged to it an arm, B^2, about the width of the posts at the top, and reaching from one post to the other and resting upon them, said arm being held in place at its free end by a strap, which is secured to the upright B. D is a frame-piece or slide extending across from one post to the other, and tenoned at both ends, said tenons fitting in vertical slots cut in the posts, and of such length as to permit the frame-piece to rise and fall freely in said slots. Between this frame-piece D and the arm B^2 is secured a spring, E, for a purpose hereinafter explained. C^1 is a rod arranged above roller C, and inclosed by a rubber tubing of the same, or nearly the same, diameter as the tubing on roller C, and shown in this instance as rigidly secured to the frame-piece D, but which may, if desired, be also made to rotate the same as and in the same direction with the roller C, in such manner as to cause the opposing faces to move in opposite directions, for a purpose which will be explained. F is a concave metal plate, which extends about halfway around the rubber tubing C^2 on the top, and along its entire length, for regulating the spring or give to the rubber tubing while being acted against by the roller C. The frame-piece is secured to the swing-arm B^2 by means of bolts or pins *b*, one at each end, rigidly secured to it, but working freely through perforations in the arm B^2. These bolts are provided with heads upon their upper ends to prevent them from being drawn through the arm B^2. The spring E, being placed between the arm and frame-piece, regulates the pressure of the upper roller upon the lower one. G is a metal plate or table fastened to the two posts, and extending in nearly to the roller C, for straightening the tangled hair before being subjected to the action of the roller, and receiving the same after being acted upon by it. One of these plates may be arranged upon each side of the roller, if desired.

It will be seen that frame-piece D and rod or roller C^1 swing with the arm B^2; but when the arm B^2 is secured in position for operation, they have a vertical movement independent of said arm.

The operation is as follows: Supposing the swinging arm and the devices connected thereto be in the position represented in dotted lines,

Fig. 1, the hair to be operated upon is distributed across the roller C, and the swinging arm is brought down to the position shown in full lines, and the strap *b'* is clasped around it. The operator then turns the handle a half-turn in one direction, which causes the roller C to act against the scales upon the hairs which point against it, and push them out and away from the others which point in the opposite direction, and, being smooth, cause no resistance to the roller, and are also prevented from traveling with it by the resistance offered to them by the upper roller, against which the barbs or scales of the hairs lying in the reverse direction come in contact, but when the movement is reversed the roller acts upon this hair and pushes it out in turn. Where a roller is employed in place of the stationary rod C^1 with its elastic cover, and made to rotate in the same direction with roller C, with the opposing faces moving in contrary directions, the hair will be separated by a continuous rotation, instead of the vibratory or rocking motion described, as it will be moved or drawn out by that one of the rollers which moves against the barbs or scales, as explained, one of the elastic surfaces serving to hold or move the hair in one direction, while the other serves to hold or move the reversed hair in the opposite direction. In either case a rapid and effectual separation and straightening of the hair are attained.

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

1. In a machine for separating hair, the roller C and rod C^1, both provided with elastic covers, and adapted to separate the hair by frictional resistance, substantially as and for the purpose set forth.

2. The rod C^1, in combination with the frame-piece D, spring E, and swinging arm B^2, arranged and operating substantially as described.

3. The rod C^1 and yielding covering C^2, in combination with concave plate F and frame-piece D, constructed and operating substantially as described.

4. The standards B B^1, in combination with the swinging arm B^2, frame-piece D, and bolts *b*, arranged and operating substantially as described.

This specification signed and witnessed this 2d day of September, 1873.

ROBT. TURNEAURE.

Witnesses:

G. W. FORD,

K. L. DRAKE.