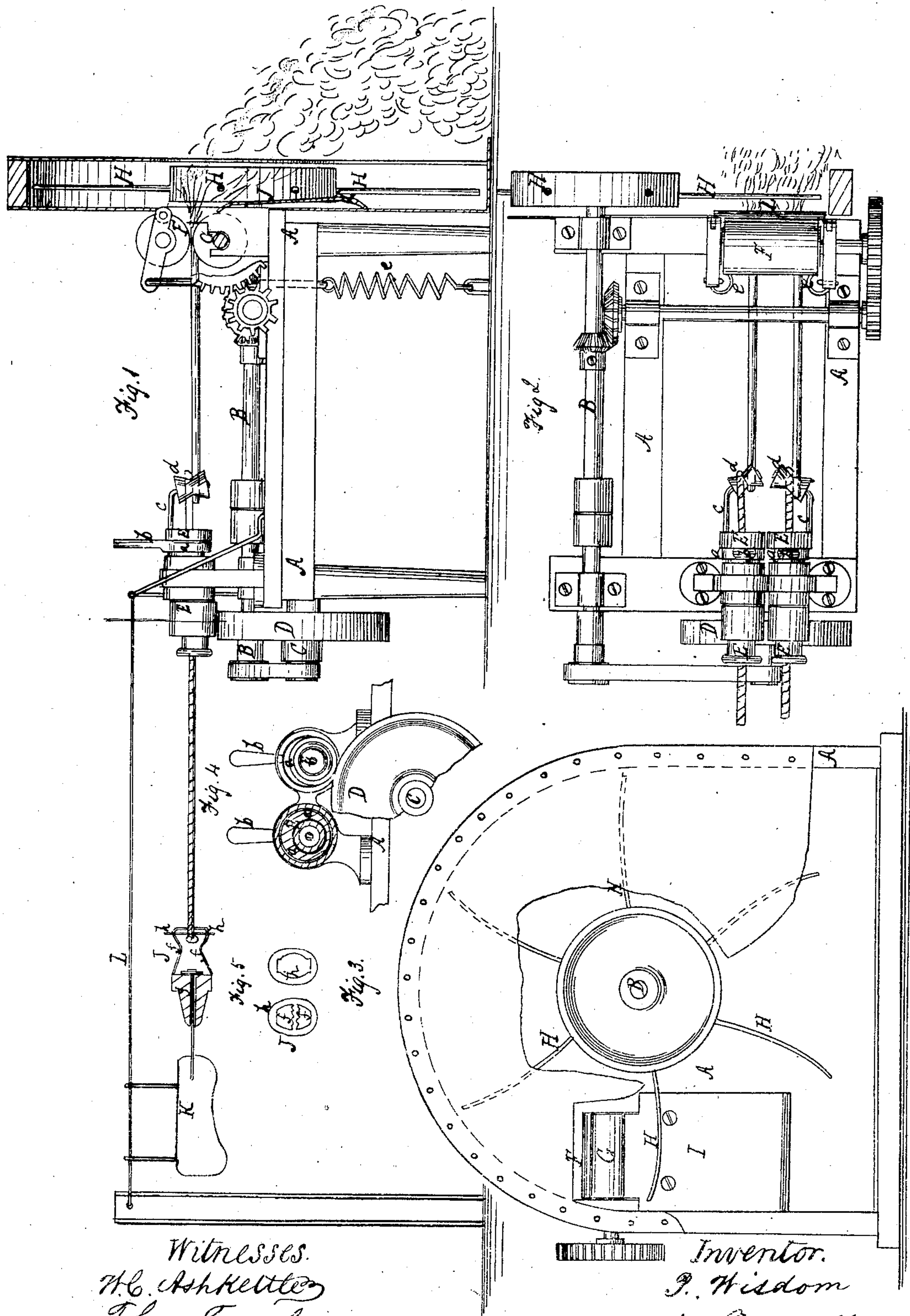


*P. Wisdom,  
Hair-Picking Machine.*

*Nº 76,024.*

*Patented Mar 24. 1868.*



*Witnesses.  
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# United States Patent Office.

PHILIP WISDOM, OF NEW YORK, N. Y.

*Letters Patent No. 76,024, dated March 24, 1868.*

## IMPROVEMENT IN MACHINE FOR OPENING HAIR ROPE.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, PHILIP WISDOM, of the city, county, and State of New York, have invented a new and improved Machine for Picking Curled Hair; and I 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 part of this specification, in which—

Figure 1 represents a side elevation, partly in section, of my improved hair-picking machine.

Figure 2 represents a plan or top view of the same.

Figure 3 is an end elevation of the same.

Figure 4 is a detail transverse section of the same.

Figure 5 is a detail end view of the swivel-hook holding the hair rope.

Similar letters of reference indicate corresponding parts.

This invention relates to a new machine for picking hair from hair ropes. The horse-hair to be used for upholstering and other purposes is twisted into a rope, so that it will become curled, which rope may, if desired, be turned into a coil, so as to increase the curls in the hair. The hair has then to be picked from the rope, so as to become perfectly separated and ready for the market. To pick the hair from such hair ropes is the object of my invention.

The invention consists, first, in the arrangement of the device for untwisting the rope. The same consists of a revolving tube, through which the rope passes, and of an arm projecting from one end of the tube, and carrying a spool, the axis of which is at about right angles with that of the tube. The rope is wound once around the spool, which revolves around the axis of the tube, and thus the twist is taken out of the rope as it is being drawn ahead. That end of the rope which is not being acted upon is attached to a swivel-hook, which is secured to a sliding block. The latter is guided on a wire or other rail, so as to move towards the machine as the rope becomes shorter.

The invention consists, secondly, in the construction of the aforesaid swivel-hook. The same is made of two spring-plates, the ends of which are bent towards each other, and are pointed, so as to grasp the rope between them. A sleeve sliding on the plate presses them together, so as to clamp the rope when the sleeve is on the front end of the plates. When the rope becomes so short that it cannot be held by the hook, the latter is drawn against the tube, and thereby the sleeve is pushed back on the plates, so as to release the rope.

The invention also consists in the construction of the beater for separating the fibres from the untwisted rope. These beaters are smooth bars, of circular, oval, or angular cross-section. They project from a revolving drum or cylinder, and strike the hair as they come out from between two elastic feed-rollers, and hang down over the rounded edge of a plate which is in front of the lower one of the two elastic feed-rollers.

I am aware that hair has already been picked by means of toothed cylinders, plates, or bars, and I wish to have it understood that I use smooth bars, plates, or cylinders.

A, in the drawing, represents the frame of my improved hair-picking machine. In the same are the bearings for a horizontal axle, B, which receives motion from any suitable mechanism. C is a horizontal axle, receiving its motion from the axle B, or otherwise, and carrying a disk, D, as shown. From this disk, motion is imparted by friction, or otherwise, to one or more horizontal tubes, E, each mounted eccentrically in a tube,  $\alpha$ , that has its bearings in the frame A. The tubes  $\alpha$  are provided with handles  $b$ , by means of which they can be turned, and thus, as the tubes  $\alpha$  are turned, the tubes E will be raised or lowered at will, and will thereby be thrown in or out of gear with the disk D, as may be desired. From one end of each tube E projects an arm,  $c$ , on which a roller,  $d$ , is mounted, so that its axis is at about right angles to that of the tube E, as shown. The position of these rollers  $d$  is such that a rope drawn through the tube E, and wound around the roller  $d$ , will remain in its proper direction, as indicated in fig. 1. The rollers  $d$  are between the tubes E and two horizontal feed-rollers; F G, which receive their motion from suitable mechanism. The two rollers F G are either made of or coated with India rubber or other suitable elastic material, and one of them is pressed against the other by means of springs  $e$ , as shown. From the shaft B projects a series of smooth, straight or bent bars; H, which, when the shaft revolves, sweep past the rollers F G, as indicated in fig. 3. Fastened to the frame



A, below the lower roller G, is a plate, I, having a rounded upper edge, which is about in line with the axis of the roller G, and close to the side of the roller, as indicated in fig. 1. One end of the hair rope to be untwisted and picked is held in a clamp, J, which consists of two spring-plates, *ff*, attached to a block, *g*, and having bent-down toothed ends, as shown. Upon them slides a perforated plate or sleeve, *h*, which, when it is moved to the outer ends of the plates *f*, as in fig. 1, locks their toothed ends together, so that they will firmly hold the rope, as shown. The block *g* is swivelled to a plate, H, which is suspended from and slides on a wire or other rail, L, of suitable length. To each tube E employed in the apparatus is arranged one rail, L, block, K, and swivel-clamp, J.

The operation of the apparatus is as follows: One end of the rope to be untwisted is fastened in the clamp J, and the rope is drawn through the tube E, wound around the roller *d*, and its other end inserted between the rollers F G. When, now, the machine is set in motion, the rope will be untwisted as it leaves the roller *d*, and will, when it leaves the rollers F G, be perfectly loose, so that the beaters, when they strike the protruding end of the rope, will separate the hairs from each other and from the rope, as indicated in figs. 1 and 2. As soon as the clamp J reaches the tube E, the plate *h* will be arrested by the edge of the tube E, against which it strikes, and thus the rope-end will be released and wholly used up. By means of the handles *b*, the tubes can be instantaneously thrown out of gear whenever desired.

Instead of having the beaters H H arranged as described, they may also be arranged directly in front of the rollers F G on the periphery of a cylinder whose axis is parallel with that of the rollers F G, or otherwise; and I do not confine myself to any particular mode of arranging the beaters, as long as they are smooth on their striking-edges.

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

1. The revolving tube E, operated by the disk D, and arranged eccentrically within the tube *a*, having the handle *b*, said tube E having eccentrically upon its face the arms *c*, bearing the roller *d*, whose revolutions are caused by the passage of the rope, as and for the purpose herein shown and described.
2. The smooth beaters H, in combination with the plate I, rollers F G, rollers *d*, tubes *a* E, and clamp J, as herein described for the purpose specified.
3. The loose conical roller *d*, when arranged in relation to and combined with tube E, in the manner and for the purpose described.
4. The swivel-clamp J, when made substantially as herein shown and described, and when provided with the sliding plate or sleeve *h*, in combination with the tube E, substantially as herein specified.
5. The plate I, having curved upper and lower edges, arranged and combined with the rollers F G, and with the beaters H, as herein described for the purpose specified.
6. The arrangement and combination, with each other, of the rail L, block K, swivel-clamp J, tube E, roller *d*, rollers F G, plate I, and beaters H, all made and operating substantially as herein shown and described.

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Witnesses:

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