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G. SANFORD.

Improvement in Machine for Untwisting and Picking Hair Rope.

No. 122,285.

Fig. 1

Patented Dec. 26, 1871.

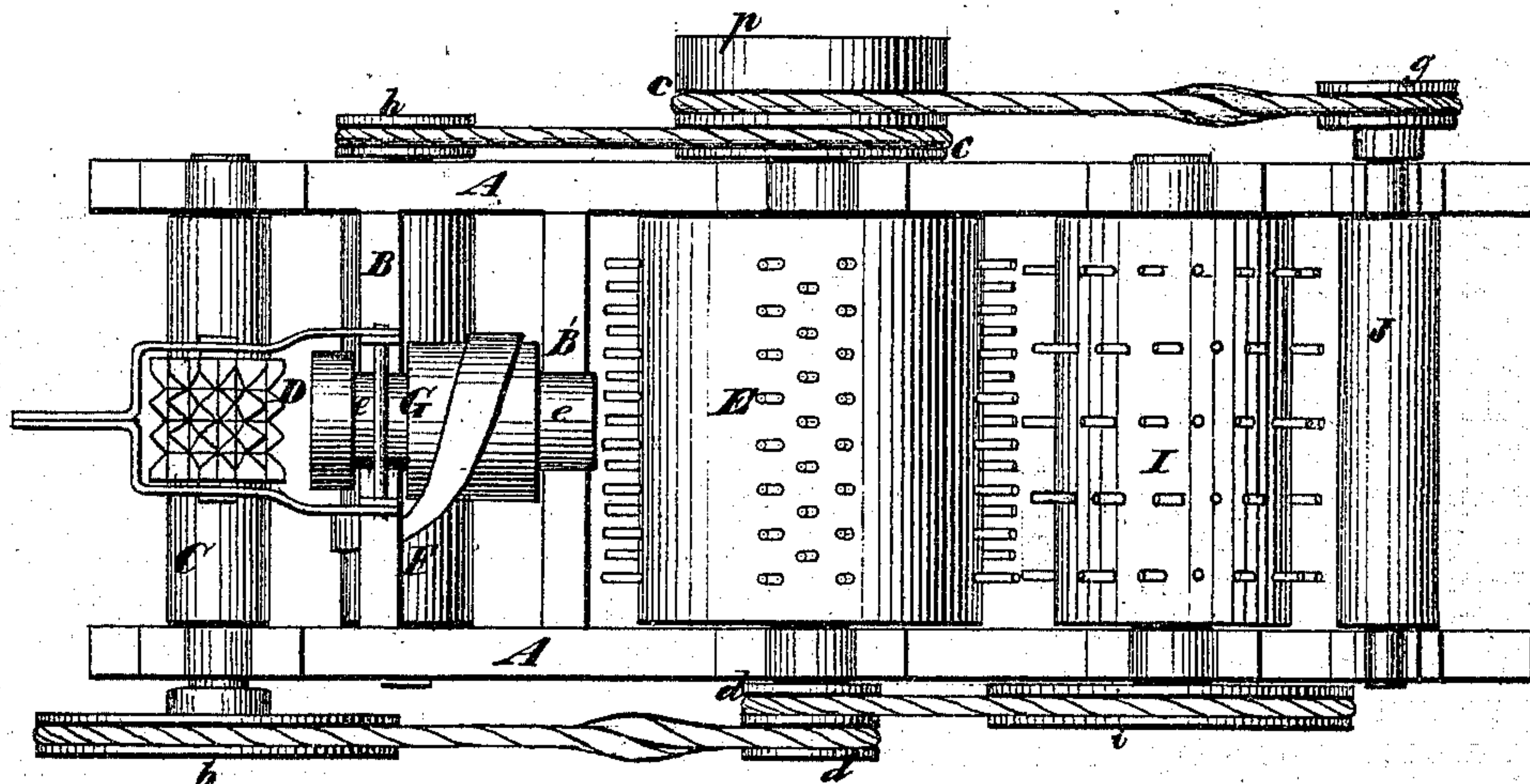
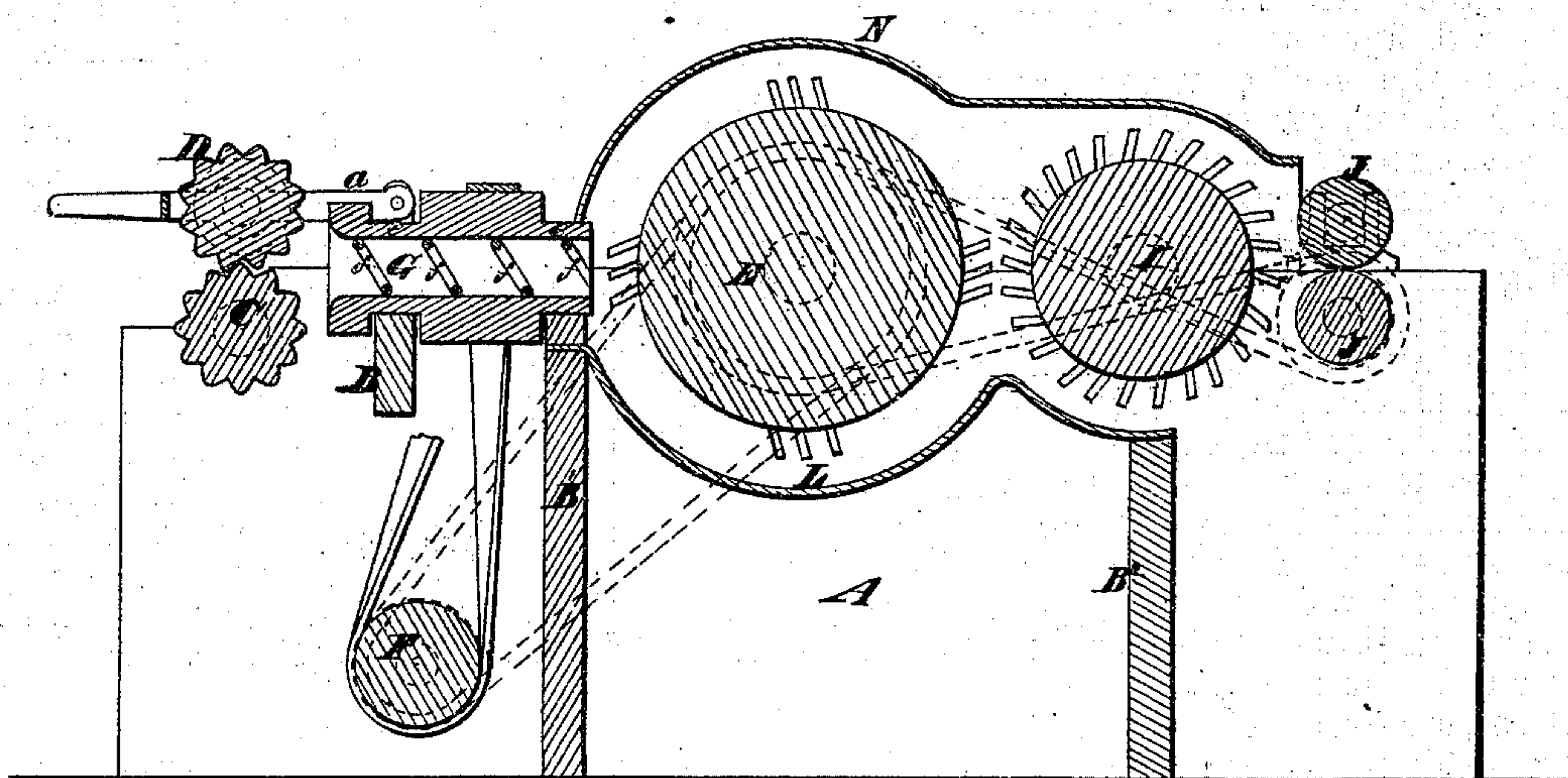


Fig. 2



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Witnesses:
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GELSTON SANFORD, OF BERGEN POINT, NEW JERSEY.

IMPROVEMENT IN MACHINES FOR UNTWISTING AND PICKING HAIR-ROPES.

Specification forming part of Letters Patent No. 122,285, dated December 26, 1871.

Specification describing a machine for Untwisting and Picking Hair-Rope, invented by GELSTON SANFORD, of Bergen Point, in the county of Hudson and State of New Jersey.

This machine is composed mainly of feed-rollers, a picker-cylinder, and an interposed rotating internally screw-threaded untwisting tube, whose axis is arranged perpendicularly to those of the feed-rollers and picker-cylinder. Hair-rope introduced between the feed-rollers is untwisted by the aforesaid tube and is afterward picked by the teeth of the picker-cylinder, removed by a doffer, and the picked hair is delivered in a condition ready for use for upholstery and other purposes for which curled hair is used.

In the accompanying drawing, Figure 1 is a plan of the machine, and Fig. 2 is a central longitudinal section of the same.

Similar letters of reference indicate corresponding parts in both figures.

The frame of the machine is composed of two side pieces, A A, and stretchers B B¹ B². Supported in bearings near the front of this frame is a roller, C, which is roughened or toothed at its middle portion to constitute a holding as well as a feeding-roller. D is another roller, which corresponds with the roughened portion of the roller C, and is kept in place over the latter by having its journals arranged in a frame, *a*, hinged to the stretcher B, the said frame allowing it to rest with its whole weight upon the material being fed between it and the lower roller C. E is the picker-cylinder, which is supported in bearings near the middle of the frame, and whose periphery is provided with series of teeth, which may be of similar nature to the teeth of pickers heretofore employed. Its shaft has provided on one end the driving-pulley *p*, through which the power is applied, and two pulleys, *c c*, and on the other end two small pulleys, *d d*. The machine is driven by a belt on the driving-pulley *p* on the picker-shaft, and power is communicated from one of the small pulleys *d d* on the other end of the picker-shaft, by a crossed belt, to a pulley, *b*, on the shaft of the roller C, and from one of the large pulleys *c c*, by another belt, to a pulley, *h*, on a shaft, F. By means of a belt connecting the shaft with the untwisting-tube G the latter is driven. This tube is interposed between the feed-rollers and the picker-cylinder,

with its axis at right angles to the axes of the said rollers and cylinder. It is provided with journals *e e*, that are supported in bearings in the two forward stretchers B B¹. The interior of this tube has a screw-thread or worm, *f*, within it, and is of a size to receive the hair-rope without its fitting tightly. A doffer-cylinder, I, is arranged in rear of the picker-cylinder, and is driven by a belt passing over one of the pulleys *d d* on the picker-shaft, and over a pulley, *i*, on its own shaft. Under the picker and doffer-cylinders there is a double concave, L, and the said cylinders are also covered by a removable hood, N, when in operation. In rear of the doffer-cylinder delivery-rollers J J are arranged; the lower one being driven by a crossed belt passing over a small pulley, *g*, on its shaft from one of the large pulleys *c c* on the picker-shaft. The upper roller is supported so as to be capable of adjusting itself in the ordinary manner relatively to the lower one.

The hair-rope to be prepared for use is introduced between the feed-rollers C D, which feed it into the tube, and at the same time hold its rear end while its forward portion is being untwisted by the rotation of the tube. This is effected, not by a rigid gripping of the rope in the tube, but simply by the friction of the screw-thread *f*; the rope is thus untwisted in so yielding a manner as to obviate all danger of breaking the hair. From this tube G the hair passes to the picker-cylinder E and is thoroughly picked, and it is removed therefrom by the doffer-cylinder I and delivered by the delivery-rollers in a suitable condition for upholsterers' use.

Claims.

1. The combination of the feed-rollers C D and rotating internally-threaded untwisting-tube G, substantially as and for the purpose herein set forth.
2. The combination of the feed-rollers C D, the picker-cylinder E, and the interposed rotating internally-threaded untwisting-tube G, substantially as and for the purpose herein described.

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