

C. W. COUILLARD.

Improvement in Hair-Picking Machines.

No. 131,853.

Patented Oct. 1, 1872.

Fig. 1.

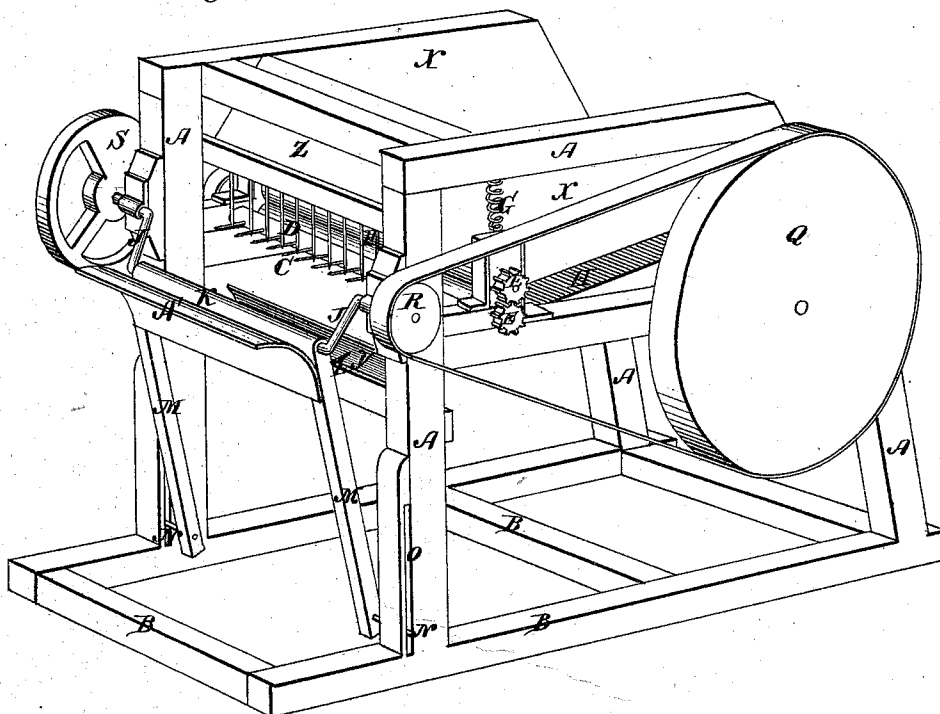
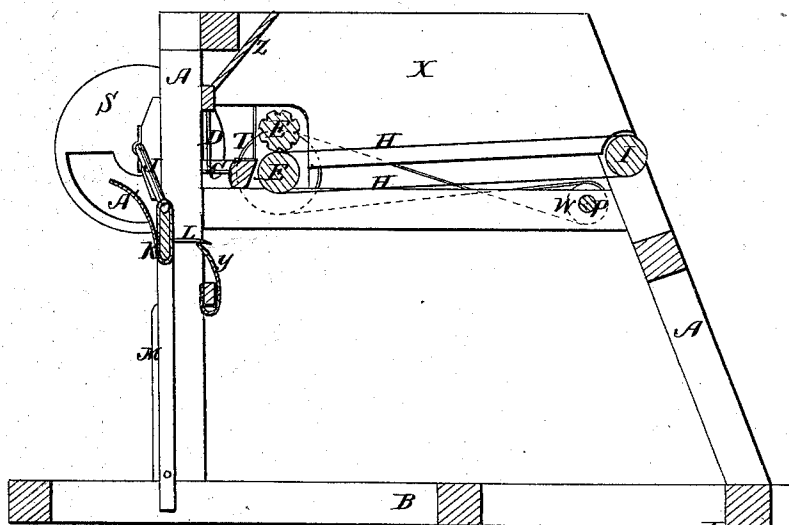


Fig. 2.



Witnesses.

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# UNITED STATES PATENT OFFICE.

CHARLES W. COUILLARD, OF BATH, MAINE.

## IMPROVEMENT IN HAIR-PICKING MACHINES.

Specification forming part of Letters Patent No. 131,853, dated October 1, 1872.

*To all whom it may concern:*

Be it known that I, CHARLES W. COUILLARD, of Bath, in the county of Sagadahoc, and State of Maine, have invented a new and useful Improved Hair-Picker; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a perspective view of my improved machine, and Fig. 2 is a sectional elevation of the same.

Similar letters of reference in the accompanying drawing indicate same parts.

My invention has for its object to improve the construction and operation of machines which are employed for separating or picking hair and other fibrous substances used in upholstery. To this end the invention consists primarily in a toothed picker adapted to move in a circle at the front of the machine, combined with the fixed set of vertical teeth and a fixed set of horizontal teeth approached to each other, so as to form an angle within the path of the picker. The hair or other substance to be picked is fed by suitable means to the angle formed by the fixed teeth, where it is caught by the picker-teeth, which pass between the others, and drawn downward. Part of the hair clings to the fixed teeth, and is separated and pulled out by the action of the picker, and finally deposited beneath the frame of the machine. It consists, secondly, in the combination of a spring-scraper with the picker, whereby the teeth of the latter are cleared of hair after each stroke. It consists, finally, in the construction and combination of various parts of the machine, as I will now proceed to describe.

The accompanying drawing shows the frame of the machine, composed of suitable uprights A mounted upon the sills B, and connected by suitable side and cross bars. C is a row of horizontal teeth or pins affixed to a cross-bar at the front of the machine, and D is a row of vertical teeth or pins affixed to a cross-bar slightly in front of and above the first, so that the points of the teeth C D shall approach each other at right angles, or nearly so. The teeth D are made adjustable by set-screws, or other suitable means, to regulate the distance between them and the teeth C. E are geared

feed-rollers journaled in the side pieces of the frame, and over the other immediately in rear of the cross-bar carrying the horizontal teeth C. The rollers are held in contact with a yielding pressure by means of spiral springs G interposed between the top pieces of the frame and the journals of the upper roller E, as shown in Fig. 1, or arranged in any other suitable manner. H is an endless apron passing around the lower feed-roller, and around a roller, I, at the rear of the frame. J is a crank-shaft, having its bearings in the front uprights of the frame, in line, or nearly so, with the fixed teeth C; and K is the picker-bar, mounted upon said shaft and provided with the horizontal row of teeth L projecting from its inner face. M are guide-bars depending from the ends of the picker, and provided with lateral arms N at their lower ends which enter vertical slots O in the front uprights of the frame. When the picker is operated the arms N reciprocate within the slots and preserve the horizontal position of the picker-teeth by preventing the rotation of the picker-bar upon its crank-shaft. P is the main driving-shaft mounted transversely of the frame beneath the roller I, and provided with a drum or large pulley, Q, from which motion is communicated to the crank-shaft by a belt and pulley, R. S is a balance-wheel mounted upon the opposite end of the crank-shaft, and weighted upon one side to counterbalance the weight of the picker. Motion is communicated to the feed-apron by means of a belt, T, passing around pulleys V W, mounted, respectively, upon the ends of the lower feed-roller E and the end of the driving shaft opposite the large pulley Q, as shown by dotted lines, Fig. 2.

The operation is as follows: The machine being set in motion by the application of any suitable power to the driving-shaft, the hair or other substance to be picked is placed upon the apron between the side pieces of the frame. The apron carries it forward between the rollers E, which feed it gradually into the angle formed by the fixed teeth, the rollers yielding readily for the passage of matted bunches and other inequalities. At this point the material is subjected to the action of the picker-teeth, which play freely between the fixed teeth, and draw down a portion of such

material at every stroke, combing and separating it evenly. The hair is held back partly by the feed-rollers and partly by the fixed teeth, so that the picker operates more effectually to draw out and separate the fibers. As the picker passes downward after leaving the fixed teeth, it strikes the edge of a yielding scraper, Y, affixed to a cross-bar at the front of the frame, which frees the hair from the teeth L and permits it to drop beneath the frame, or into a suitable receptacle placed therein. If desired, the scraper may be dispensed with, as the teeth of the picker would probably free themselves from the hair at their outward movement. I preferably employ the scraper, however, to prevent the possibility of clogging the picker-teeth.

Z is an inclined board arranged over the feed-rollers to guide the hair against the fixed teeth and prevent it from falling over the front of the machine. A' is a curved plate affixed to the rear of the picker in a horizontal position to prevent the hair from flying over the picker-bar in front of the machine, as will be readily understood.

Having thus described my invention, what I claim is—

1. In a machine for picking hair, a toothed picker moving in a circle at the front of the machine, combined with a fixed set of horizon-

tal and a fixed set of vertical teeth, arranged with respect to each other so as to form an angle within the path of the picker, substantially as described, for the purpose specified.

2. In combination with a picker mounted upon a crank-shaft, so as to move in a circle, I claim the reciprocating guide-arms to preserve the horizontal position of the picker-teeth when in operation, substantially as described.

3. The picker, consisting of the horizontal teeth L affixed to the cross-bar of the guide-arms M, and mounted upon the crank-shaft J at the front of the machine, substantially as described, for the purpose specified.

4. In combination with the picker, I claim the spring scraper Y, substantially as described, for the purpose specified.

5. In combination with the fixed teeth C D, I claim the yielding feed-rollers E and the endless apron H, substantially as described, for the purpose specified.

6. The curved guard A', in combination with the picker, substantially as described, for the purpose specified.

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Witnesses:

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CYRUS W. LANGLEY.