W. ADAMSON.

Feed Roller for Hair Pickers.

No. 28,447. Patented May 29, 1860.

FIG. 3

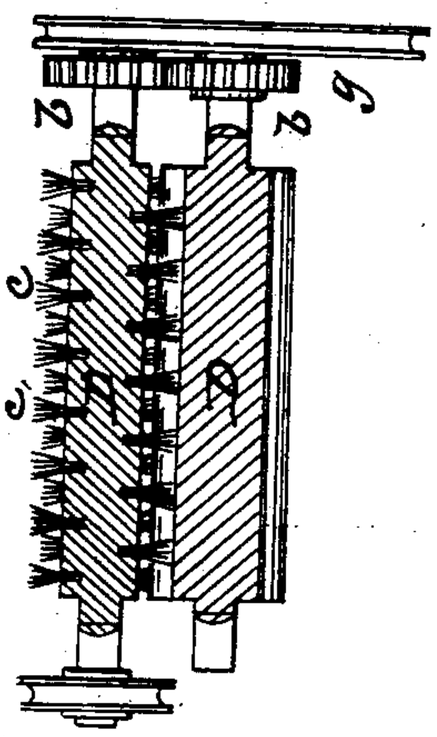


FIG. 4

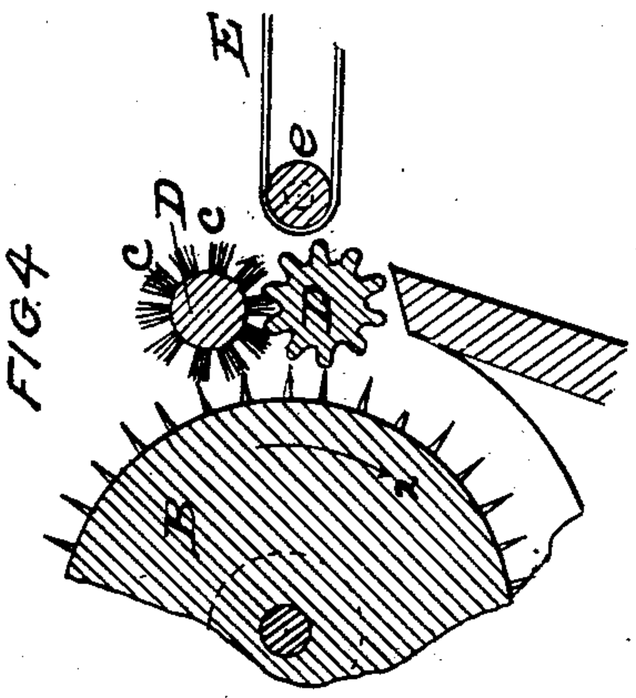


FIG. 1

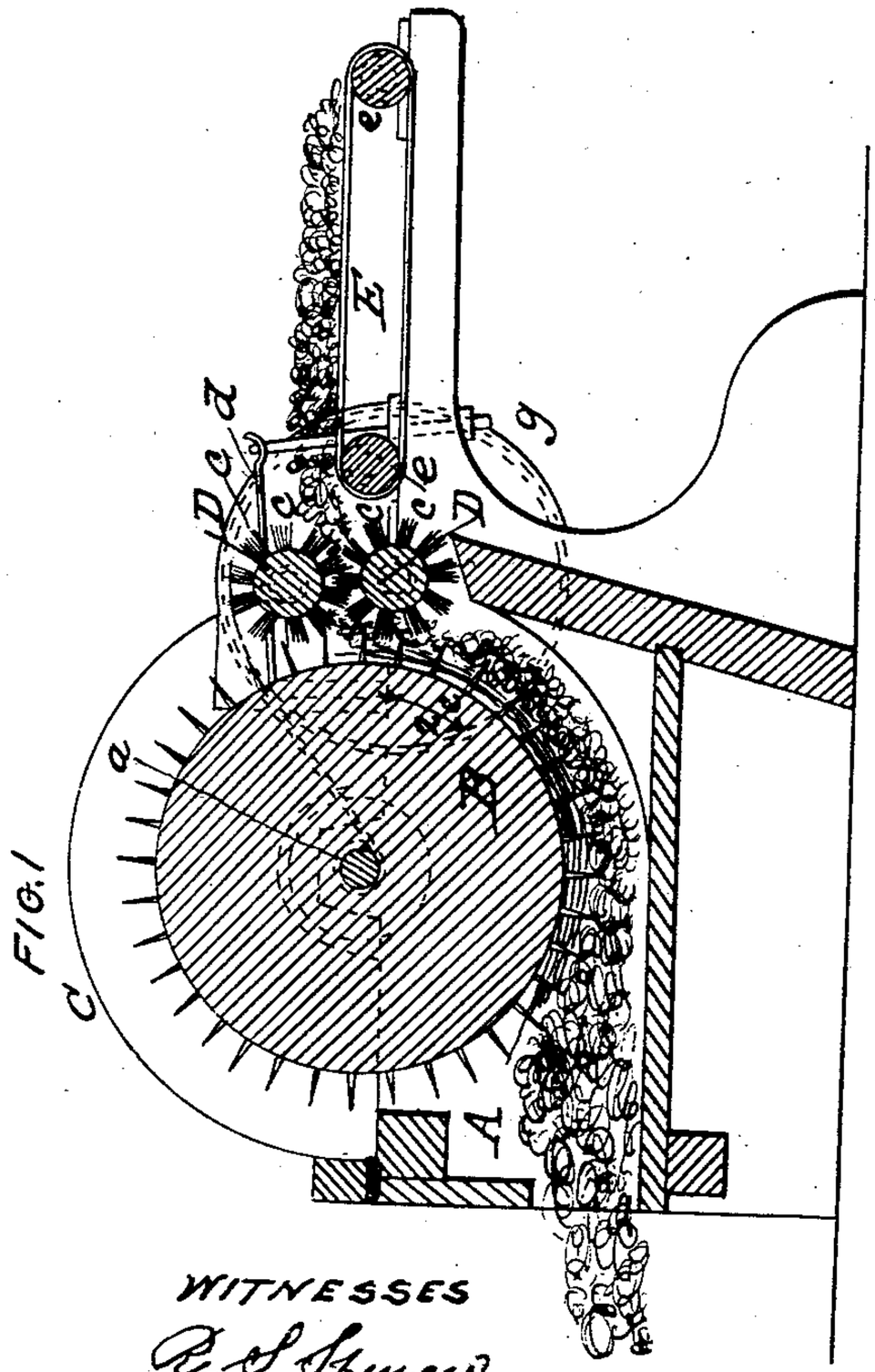
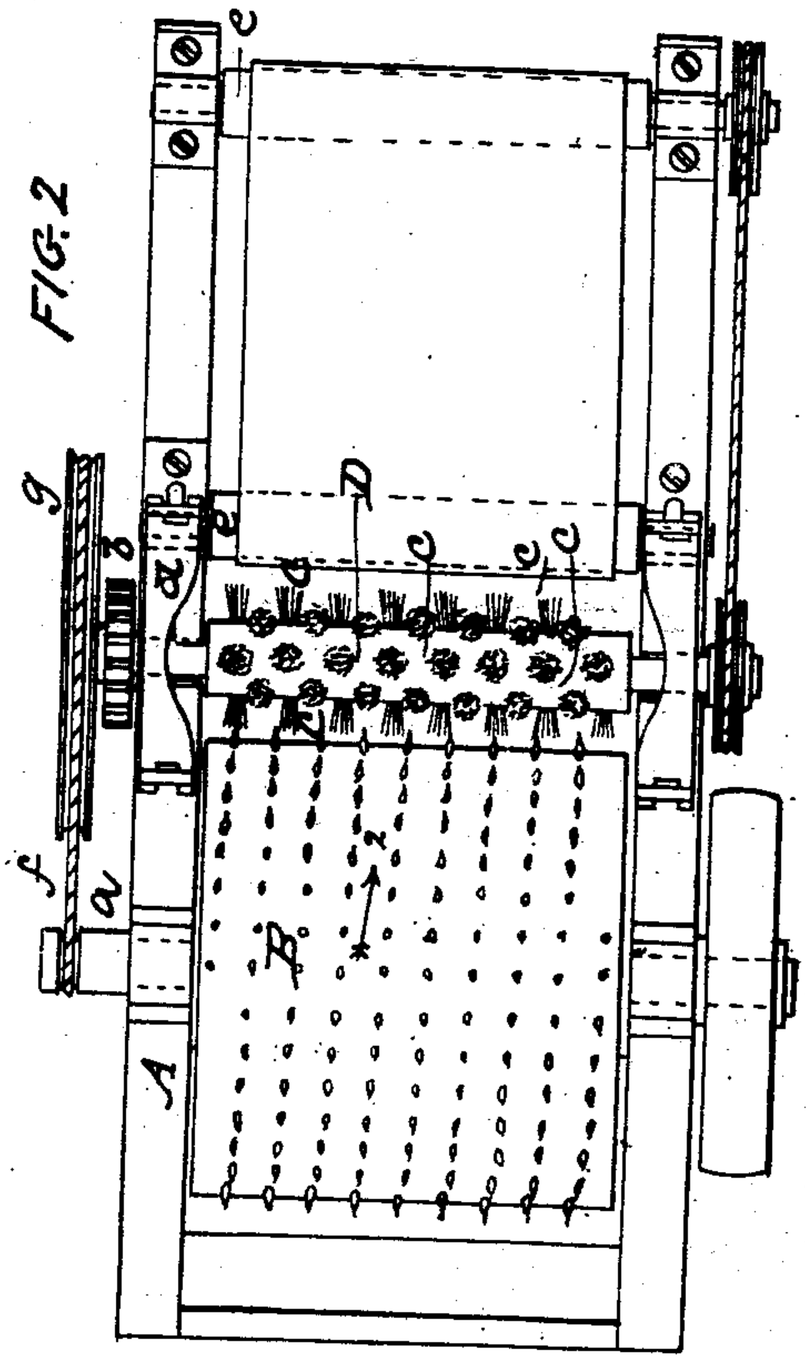


FIG. 2



WITNESSES

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IMPROVEMENT IN MACHINES FOR PICKING CURLED HAIR.

Specification forming part of Letters Patent No. **28,447**, dated May 29, 1860.

To all whom it may concern:

Be it known that I, W. ADAMSON, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Machines for Picking Hair and other Fibrous Substances; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a side sectional view of a hair-picking device with my invention applied to it. Fig. 2 is a plan or top view of the same with the cap or cover of the picker-cylinder removed. Fig. 3 is a detached face view of the feeding device which constitutes the invention. Fig. 4 is a side sectional view of the same.

Similar letters of reference indicate corresponding parts in the several figures.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a case or box, on the upper part of which the axis *a* of a picker-cylinder, B, has its bearings. This cylinder is of usual construction, and is covered by a cap, C. On the front part of the case or box A there are two cylinders, D D, placed one over the other in the same plane, and connected at one end by gears *b b*. These cylinders may both have radial brushes *c* attached to them, as shown in Fig. 1; or the upper cylinder alone may be thus provided, the lower one being fluted, as shown in Figs. 3 and 4; or the lower cylinder may have a plain periphery. When two cylinders or brushes are used, as shown in Fig. 1, the brushes of one cylinder are placed circumferentially in line with the spaces between those of the other, the brushes of one cylinder being nearly in contact with those of the other, as shown clearly in Fig. 1, the brushes of each cylinder being attached to the same in longitudinal rows, as shown in Fig. 2. In case a fluted lower cylinder be used, as shown in Figs. 3 and 4, the brushes of the upper cylinder extend down into the grooves of the lower one, as shown clearly in the above-named figures. In case a lower roller with a smooth periphery be used, the brushes of the upper cylinder bear on the periphery of the lower one. The journals of the upper cylinder have springs *d* bearing on them, said springs having a tendency to keep the rollers in a proper relative position with each other.

Directly in front of the cylinders D D an endless apron, E, is placed. This apron works over suitable rollers, *e e*, and its upper part is in line with the "bite" of the cylinders D D.

Power is applied to the axis or shaft of the picker-cylinder B, and motion is communicated therefrom to the cylinders D D by a cross-belt *f*, which passes around a pulley, *g*, on the axis of the lower cylinder, D, and motion is communicated to the endless apron E by a cross-belt, *h*, which passes around a pulley on the upper cylinder, D, and around a pulley on the outermost apron-roller. (See Fig. 2.)

The operation is as follows: Motion is given to the picker-cylinder B by any convenient power, and the hair or other substance to be picked is placed on the apron E, spread on said apron by hand, the apron E conveying the stock to the cylinders D D, which, as they rotate in the direction indicated by the arrows 1, draw the stock between them and present it to the picker-cylinder B, which rotates in the direction indicated by arrow 2. The picker-cylinder combs and draws the stock from between the cylinders D D, and thereby opens its fiber, the speed of the picker-cylinder B being much faster than that of the cylinders D D. The brushes *c* yield or give as the stock is drawn between the cylinders, and therefore do not break or snap the fiber, but comb or hatchel it out, the brushes yielding to a certain extent to the pull or draw of the picker-cylinder. Thus it will be seen that the stock is picked and combed or hatcheled out in a perfectly loose light state, and in a proper condition for the subsequent part of the process of manufacture.

The feed-rollers usually employed are both fluted longitudinally similar to the lower cylinder. (Shown in Figs. 2 and 3.) These fluted rollers grasp the stock firmly, and do not permit the picker-cylinder to draw the stock between them. The fiber of the stock is consequently much broken and deteriorated in value, especially if the stock be much "matted" together. By my improvement this difficulty is fully obviated, and the fiber of the stock is not only prevented from being broken, but is picked and combed out so as to be in a much more open and better condition than formerly.

I would remark that the brushes *c* may be made of bristles.

The employment of cylinders covered with wire teeth I do not claim. The latter, having no elasticity nor softness, would cut and break the fibers of the hair and greatly injure the stock. Said teeth would also soon bend down and become matted; and I am aware that wire as well as brush-feed rollers have been used in operating with soft fibers; but I have found them wholly improper to be used with curled hair, to the action upon which my invention is wholly limited.

I would also remark that one or more brush-feed cylinders may be used, as occasion may require. In many cases one brush-cylinder with a fluted cylinder would answer, as shown in Figs. 2 and 3, as one cylinder of brushes would allow the stock, if in pretty good condition, to pass between the cylinders without breaking. In other cases, one brush-cylinder with a smooth cylinder would answer equally well. I do not therefore confine myself to two brush-cylinders, nor to one brush-cylinder with a rigid fluted one, or with a smooth rigid one.

I do not claim the picker-cylinder B in connection with an endless apron, E, and feed-rollers or cylinders D D, irrespective of the construction of the feed-rollers or cylinders; but

What I claim as my invention, and desire to secure by Letters Patent, is—

The employment of a brush-feed roller made as herein shown and described, whether used in connection with another brush-cylinder or feed-roller, or in connection with plain or fluted rollers, for the purpose set forth.

WM. ADAMSON.

Witnesses:
J. W. COOMBS,
R. S. SPENCE.