

No. 788,416.

PATENTED APR. 25, 1905.

E. MEUNIER.  
CIRCULAR COMBING MACHINE.

APPLICATION FILED SEPT. 1, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

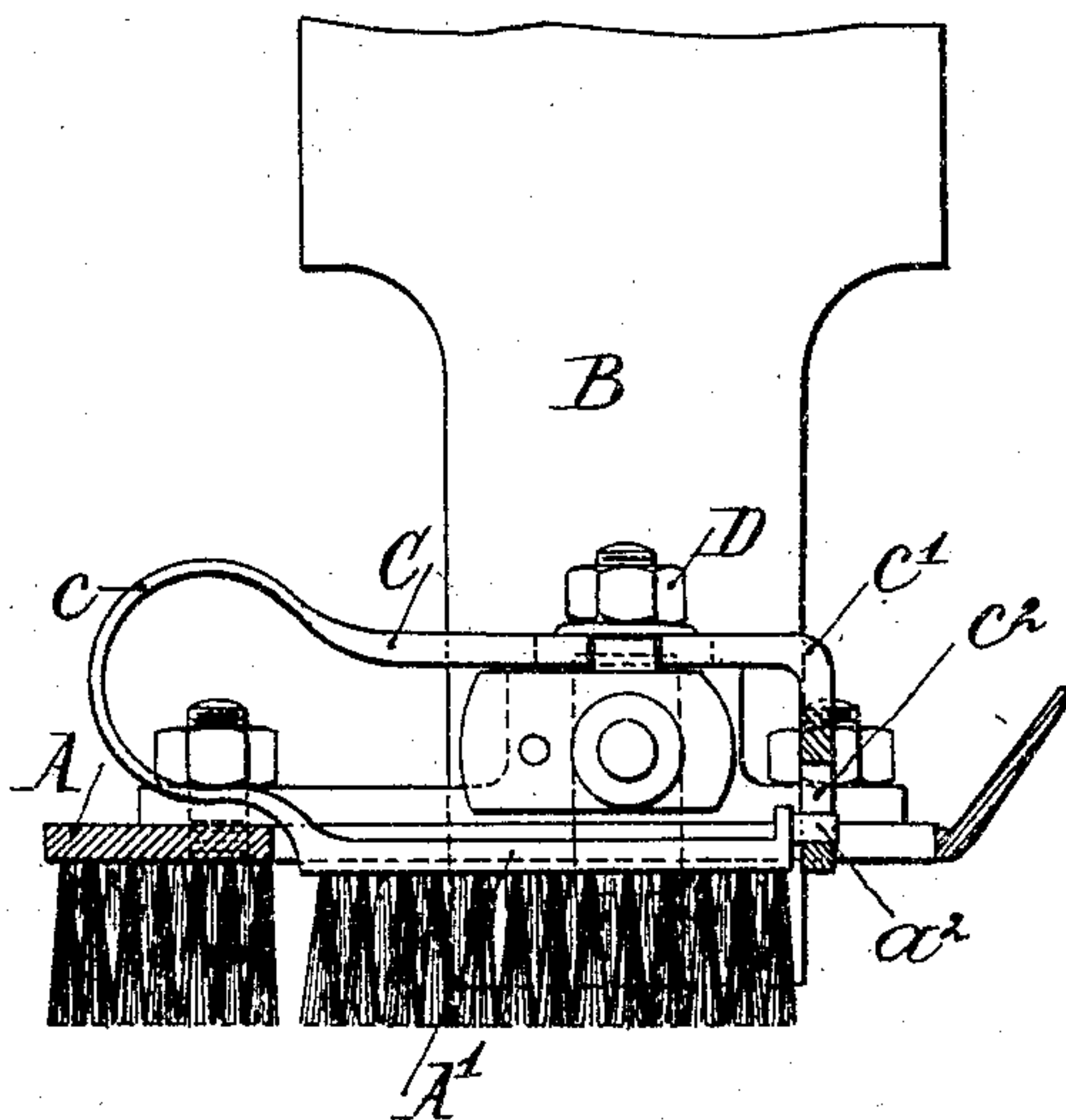


Fig. 3.

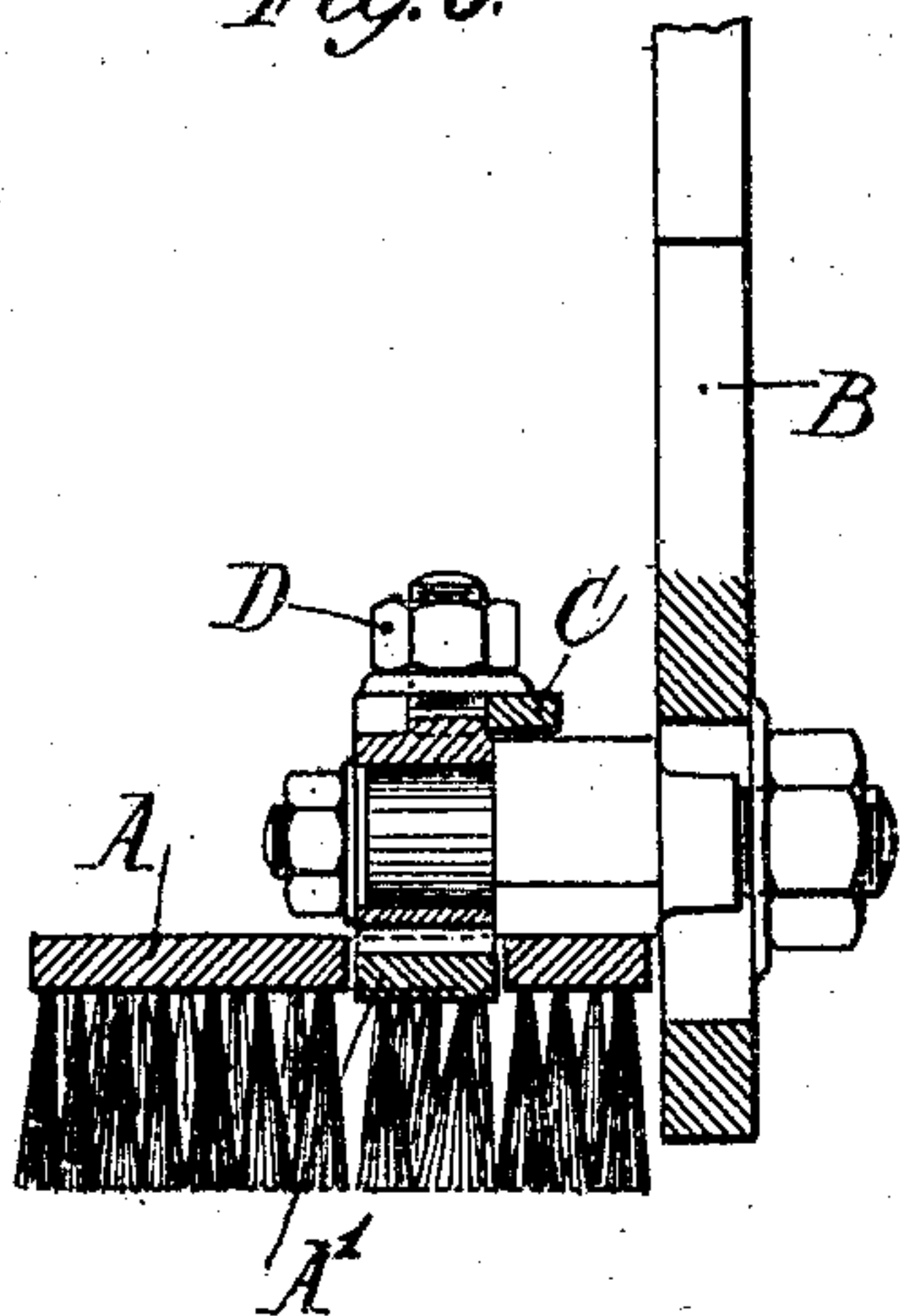


Fig. 2.

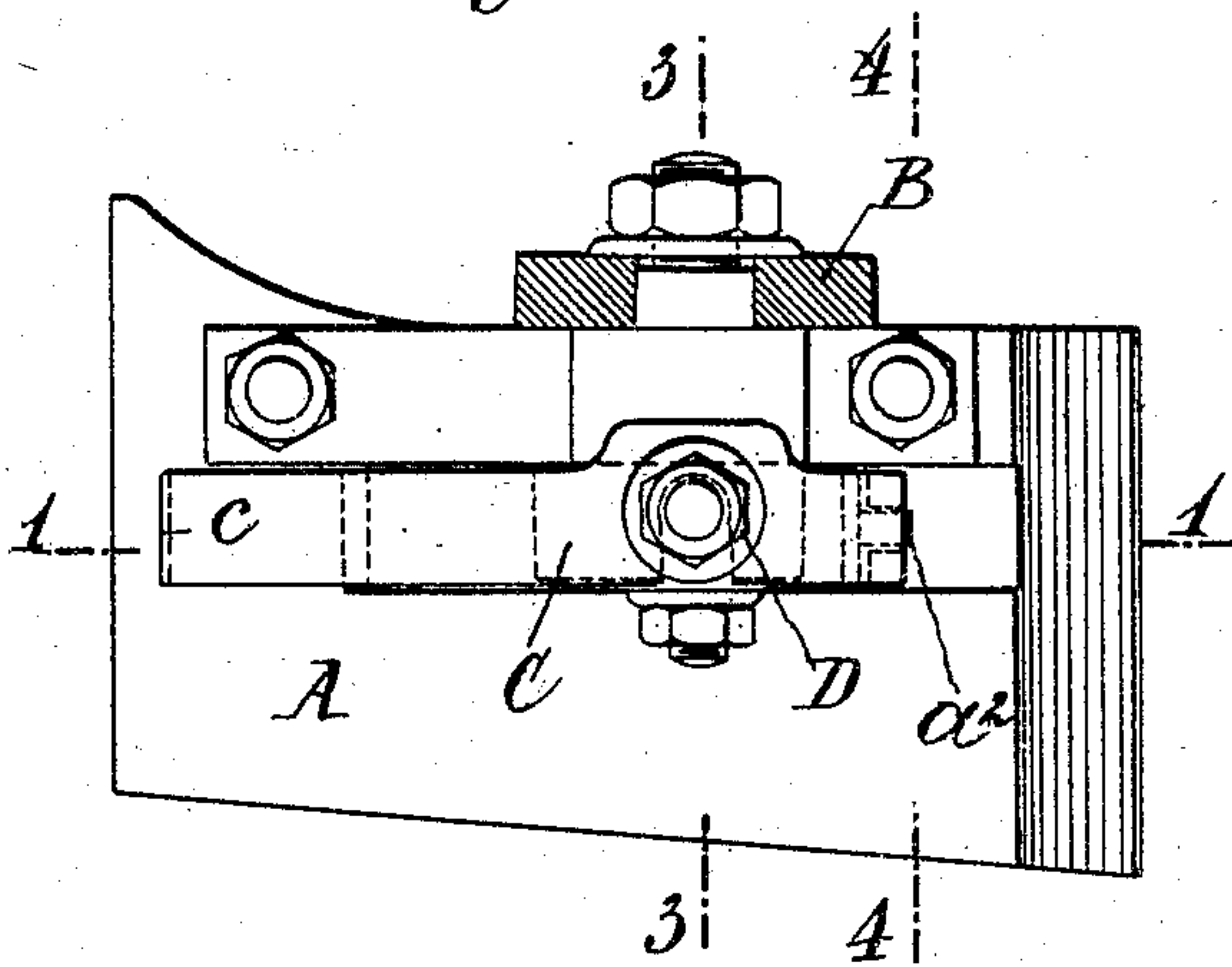
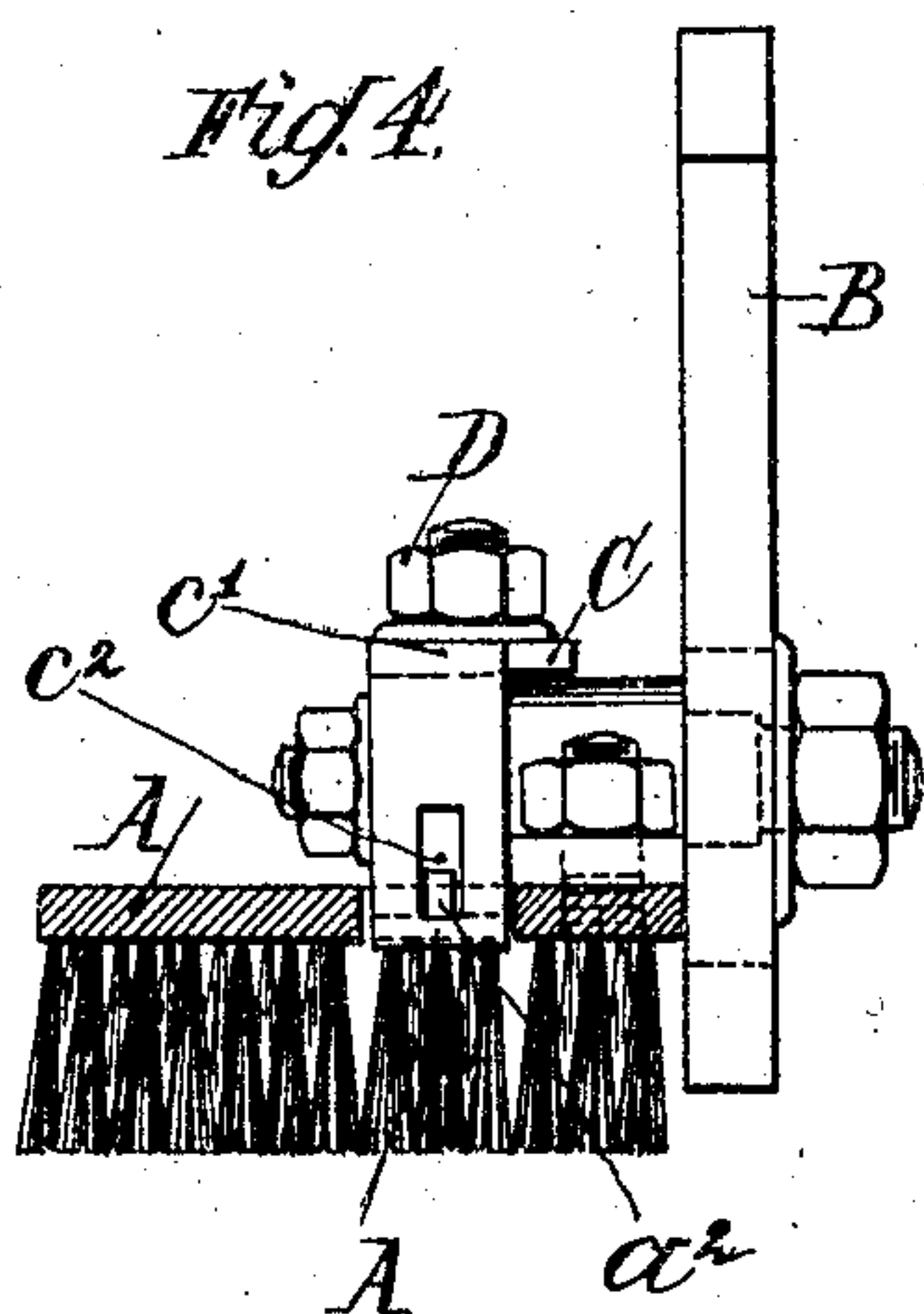


Fig. 4.



WITNESSES

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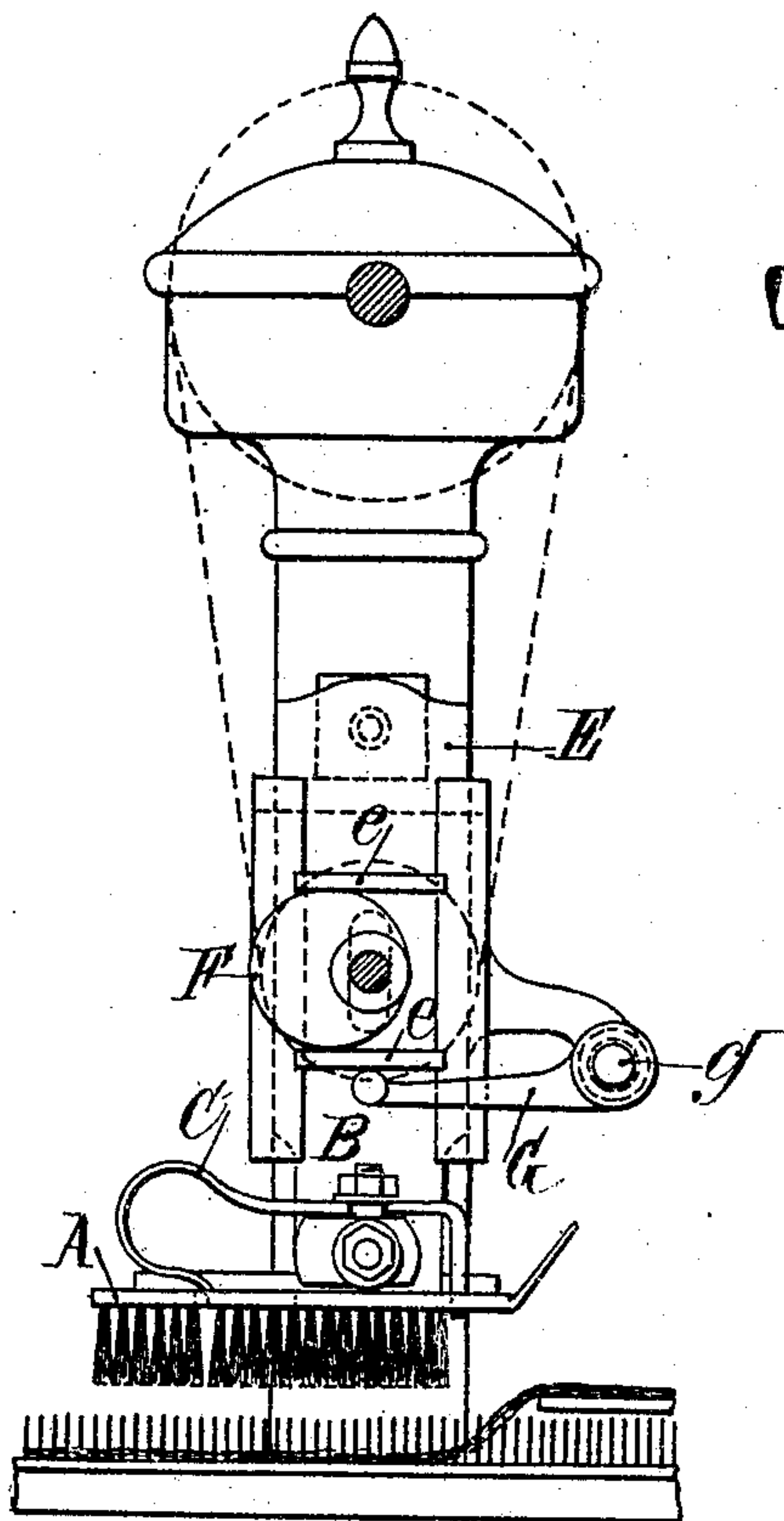
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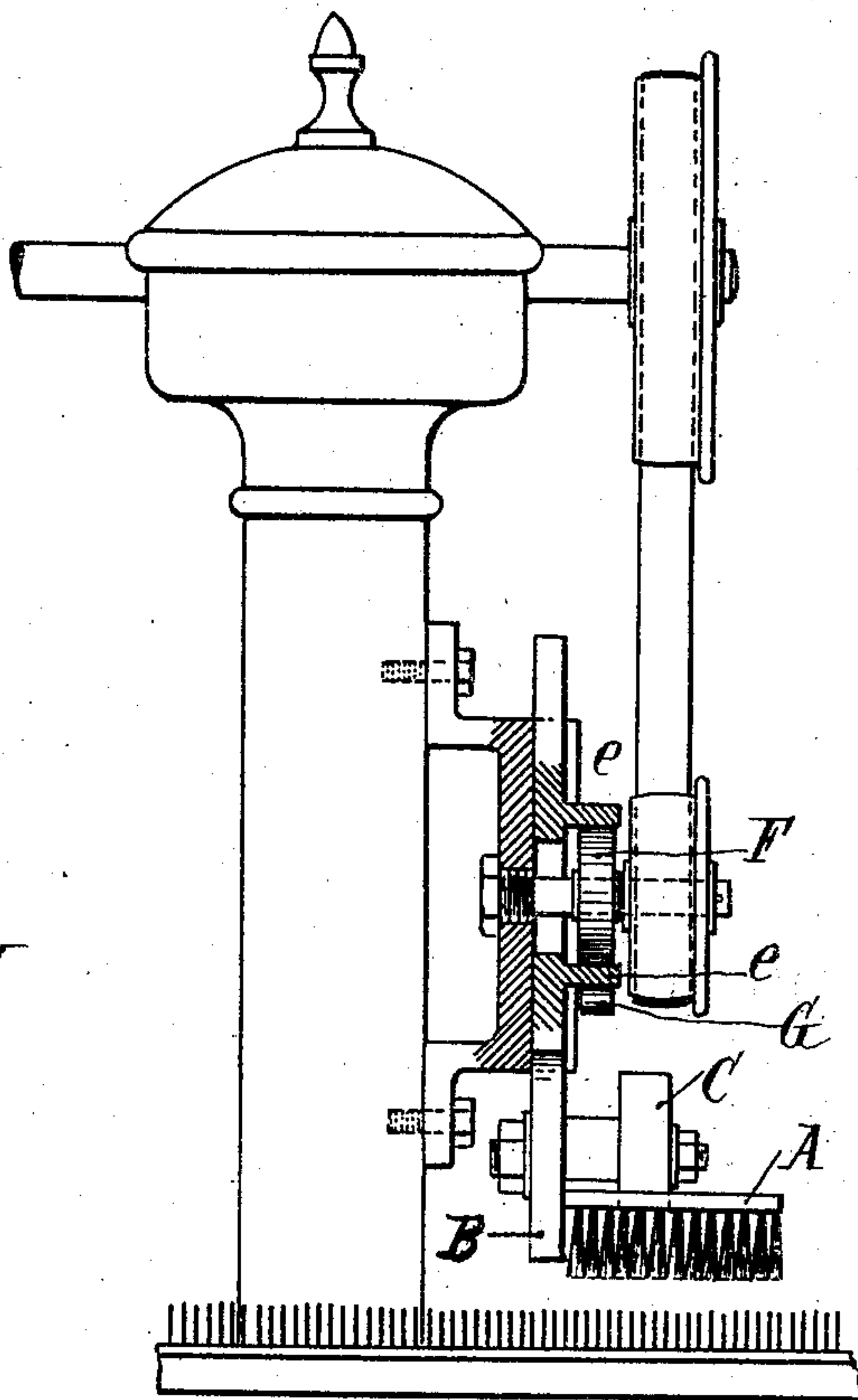
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2 SHEETS—SHEET 2.

*Fig. 5*



*Fig. 6.*



WITNESSES

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# UNITED STATES PATENT OFFICE.

EMILE MEUNIER, OF ROUBAIX, FRANCE.

## CIRCULAR COMBING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 788,416, dated April 25, 1905.

Application filed September 1, 1904. Serial No. 222,988.

*To all whom it may concern:*

Be it known that I, EMILE MEUNIER, a citizen of the French Republic, and a resident of Roubaix, in the Republic of France, have invented a certain new and useful Improvement in Circular Combing-Machines, of which the following is a full, clear, and exact description.

This invention relates to an improvement in circular combing-machines which enables the length of service of the dabbing-brushes to be increased.

It consists in mounting elastically the brush or the part thereof which is the most exposed to wear in such a manner as to diminish the violence of the shock when the brush reaches the combs.

Circular combing-machines of the Noble and similar types comprise flat or cylindrical brushes to which is imparted a very rapid dabbing movement, these brushes causing the textile material to extend down to the base of the needles at the point of contact with the circular combs. After a short time of working the bristles of these brushes are cut by the fine rows of needles in the circular combs and the material being no longer held at the point of contact by the bristles of the brush remains above the needles and is dabbed in on only the second or third stroke of the brush—that is to say, beyond the point of contact. The result is that the sliver or combed product is lumpy and that for the work of fine wools the working of the machine is imperfect. As a matter of fact, by reason of the violence of the shock of the brush upon the textile material the bristles in lieu of penetrating with the textile material well into the needles of the circular combs become folded and deflected in every direction, which actually facilitates the cutting of the brush-bristles by the fine rows of needles, the brush dragging in the combs which move relatively to the brush.

The present invention consists in mounting the dabbing-brush by the intermediary of a spring in order to lessen the too abrupt shock of the bristles upon the textile material. This construction can be effected by mount-

ing in this manner either the whole brush or, what is sufficient, only a part of the brush.

In the flat and other brushes employed for the Noble combing-machines it is in reality to be remarked that the bristles are always cut by the fine rows of needles at the point of contact of the circular combs. The other parts of the brush suffer much less in consideration of their working in needles arranged much farther apart. It therefore is sufficient to mount elastically that portion of the brush which is most exposed to wear, and this arrangement is shown on the accompanying drawings, in which—

Figure 1 is a view in longitudinal section of a flat brush so constructed, the section being on line 1 1 of Fig. 2. Fig. 2 is a plan view. Figs. 3 and 4 are two cross-sections on lines 3 3 and 4 4 of Fig. 2. Fig. 5 is a view of the brush in the position of Fig. 1 and its operating mechanism. Fig. 6 is an elevation at right angles to Fig. 5 with guide and slide in section.

This brush consists of a body or back A of the usual shape fixed to the support B, by which it is fitted, as usual, to the reciprocating mechanism of the dabbing apparatus. In the back A is provided a space which is generally rectangular and corresponds to the rapidly-wearing part referred to above. This space is occupied by a small independent brush A', which completes the brush-surface. The brush A' is fitted to the support B by the intermediary of a strip C, looped around at c and forming a spring. The plate or backing of this movable brush A' is guided at its free end by a finger  $a^2$ , engaged in a vertical groove  $c^2$  of the spring C, extended for this purpose and folded at  $c'$  beyond the bolt and nut D, by which it is fixed to the support B. With such a brush when the shock takes place at the time of the descent it is cushioned by the small brush A', which yields by reason of its rise permitted by the plate-spring C until its finger  $a^2$ , which was at the bottom of the groove  $c^2$ , rises to the top of the latter, and the abruptness of the shock being thus diminished the small brush A' continues to descend with the main brush A and in a regular manner



dabs its bristles, with the textile material, into the needles of the circular combs. The result is that the bristles of the small brush A' penetrate quite perpendicularly into the needles, and this prevents their cutting, and as this brush A is easily repairable and renewable and can always be kept in perfect condition the textile material is always well dabbed at the point of contact of the needles of the combs, and this insures a proper working of the combing-machine. Although this arrangement is the most favorable in the generality of cases, the invention is not limited thereto, and it also relates to every arrangement which would consist in elastically mounting the entire brush, whatever be the type of brush. The interposition of an elastic device can be effected either in the connection of the brush to the dabbing mechanism or in this mechanism itself. It is to be noted also that the nature, the arrangement, and the number of springs can be varied, the arrangement shown on the annexed drawings being given only by way of example.

In Figs. 5 and 6 I have shown a suitable mechanism by which rapid reciprocating motion is imparted to the brush—that is, by means of an eccentric F rotating between two

flanges *ee* on a vertical reciprocatory slide E, to the lower end B of which the brush is connected. An arm G, pivoted at *g* and pressed in an upward direction by a spring, (shown by dotted lines,) tends to press the brush to the lifted position when the eccentric-driving mechanism is stopped.

I claim as my invention—

1. A Noble or similar circular combing-machine, provided with an elastically-mounted dabbing-brush.

2. A dabbing-brush for combing-machines, comprising a reciprocatory support, a brush mounted thereon, and a spring between said support and brush.

3. A dabbing-brush for combing-machines, comprising a reciprocatory support, a brush mounted thereon, said brush being in two parts, one rigidly secured to said support, and a spring securing the other part of said brush to the support.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EMILE MEUNIER.

Witnesses:

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