

(No Model.)

W. A. J. SCHMELZINGER.
CARPET CLEANER.

No. 577,115.

Patented Feb. 16, 1897.

Fig. 1.

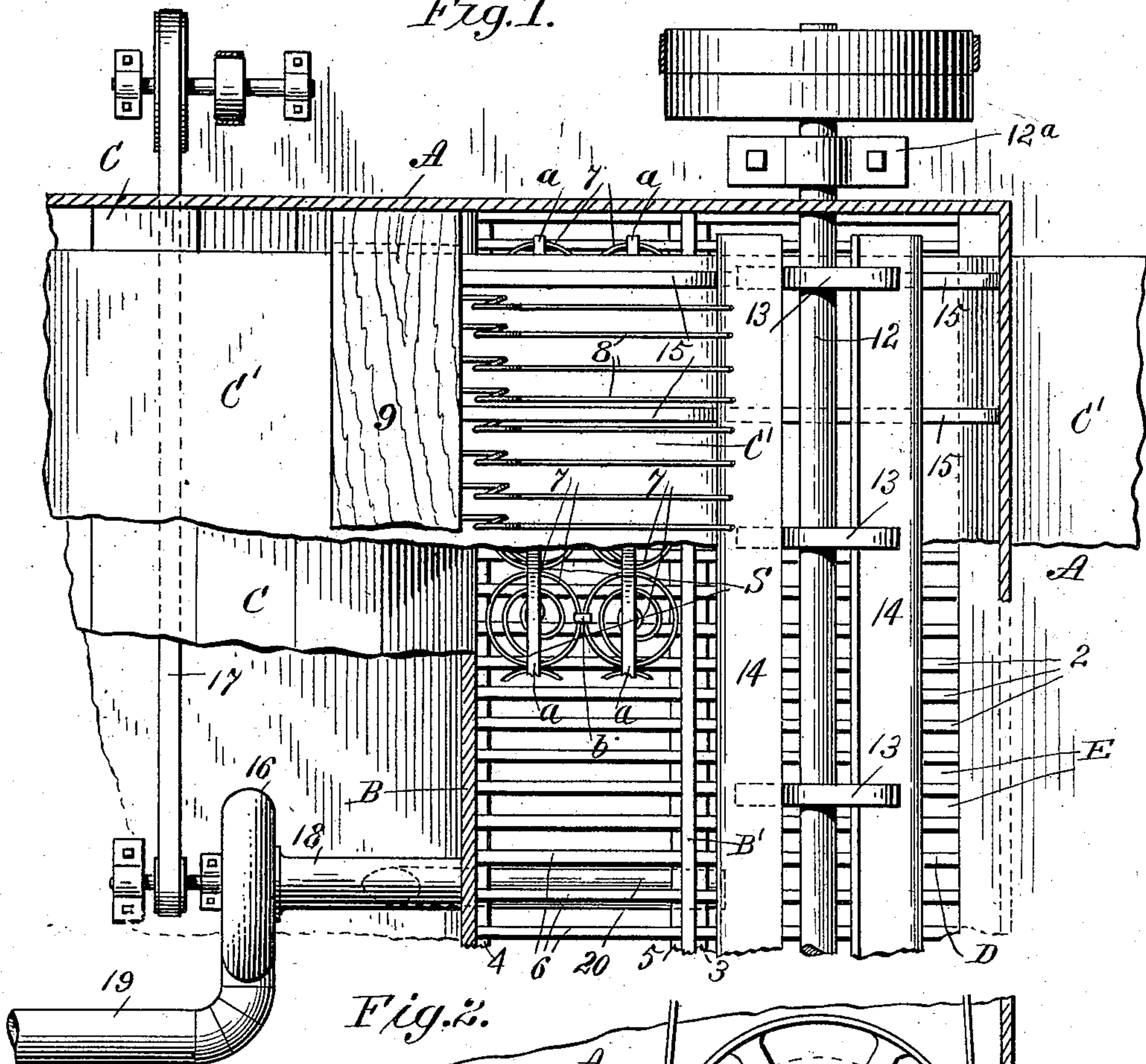
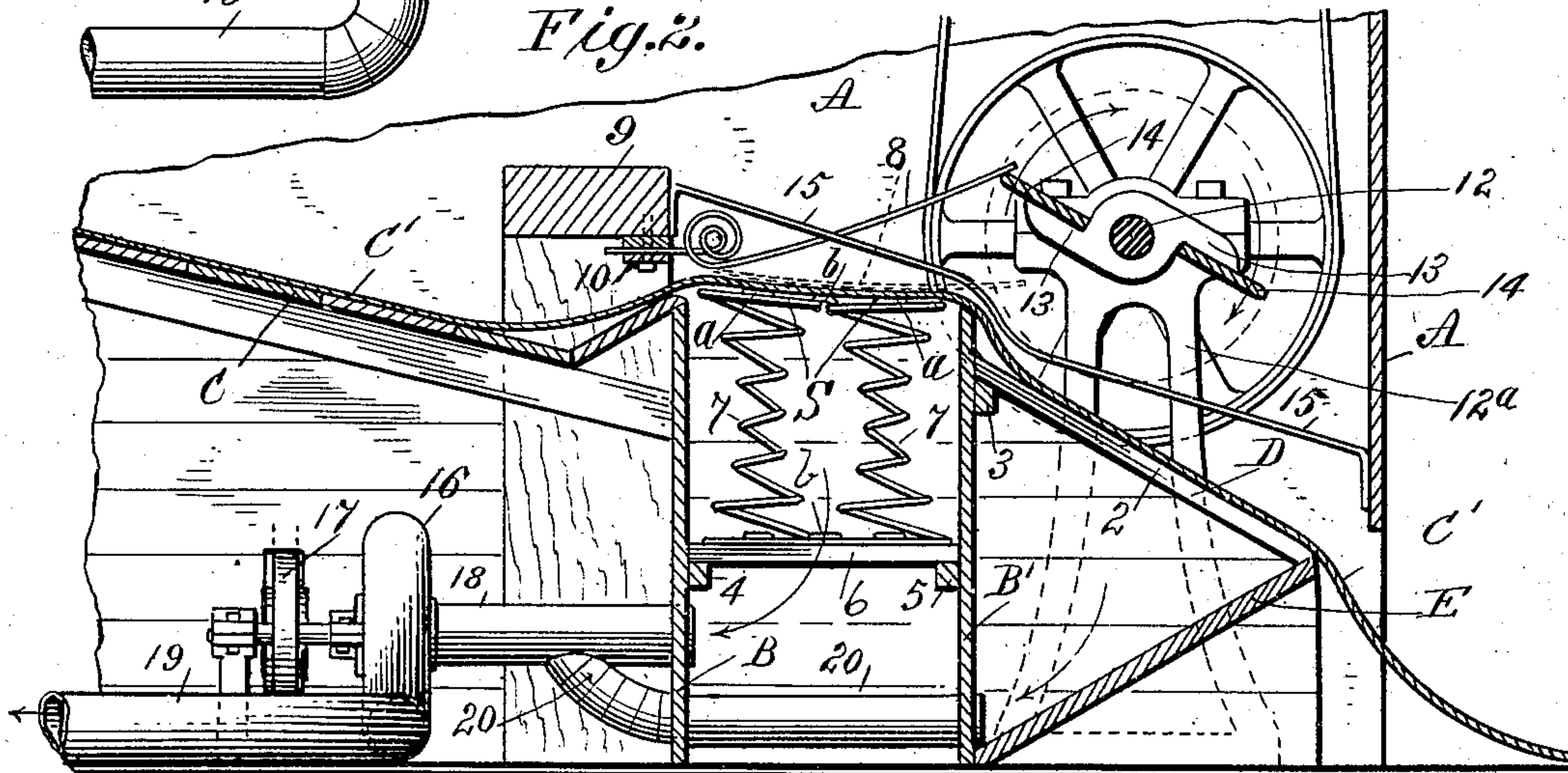
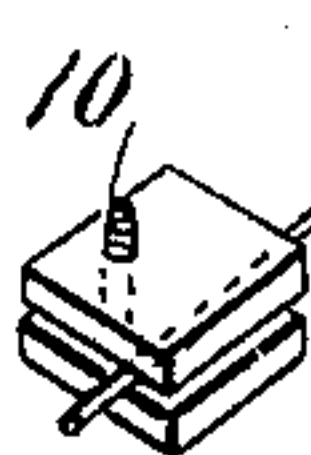


Fig. 2.



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Fig. 3.



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UNITED STATES PATENT OFFICE.

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CARPET-CLEANER.

SPECIFICATION forming part of Letters Patent No. 577,115, dated February 16, 1897.

Application filed June 4, 1896. Serial No. 594,305. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. J. SCHMELZINGER, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Machines for Beating and Cleaning Carpets and Like Fabrics, of which the following is a specification.

10 This invention relates to beating and cleaning machines, and particularly to machines of that class used in the beating and cleaning of carpets for removing the dust therefrom; and it consists in providing a construction for
15 the above-named purpose that will perform the work in an efficient manner without injuring the fabric, and means for forcibly removing the dust which has been disengaged from said fabric by the beaters, and in the
20 construction and arrangement of the parts, all as fully set forth in the following specification and claim.

In the drawings forming part of this specification, Figure 1 is a plan view of a portion
25 of a beating-machine constructed according to my invention, various parts being broken away to more clearly show the construction thereof. Fig. 2 is a vertical section of that part of the machine shown in Fig. 1. Fig. 3
30 is a perspective view of one of the spring beater-arms.

In the drawings only about one-half of the machine is shown and the boxing is broken away, but that part of said machine as illustrated contains all of the invention. A part
35 of the feed-table is also broken away. This disposition of the invention permits a much clearer illustration of the invention.

Referring to the drawings, A is the casing of
40 the machine, and running transversely thereacross are the two partitions B B'. Said casing, which incloses the entire machine, and said partitions are made of wood, preferably, and are built up from the floor. A downwardly-inclined table C, over which the carpet
45 or other fabric C' is fed into the machine, is provided, whose lower end terminates at the upper edge of the partition B. A slight rise of the lower end of said table just before it joins the top of said partition prevents
50 the too-rapid movement of the material through the machine.

From near the top of the partition B' a downwardly-inclined support D is provided, similar to table C, for the material passing through
55 the machine, the downward inclination of which support is somewhat more abrupt than that of said table. Said support is composed of suitably-spaced slats 2, preferably of wood, and supported by one end on a cleat 3 on said
60 partition B' and by their opposite ends on the edge of an upwardly-inclined partition E, which extends transversely across the machine and which forms the bottom of a trough-like structure, triangular in cross-section,
65 whose upper side is composed of the said slats, and the vertical side of which is formed by said partition B'. Said two transverse partitions B and B' and the casing A, only a part of which is shown in the drawings, form a box-like structure extending transversely across
70 the full width of the machine.

Two cleats 4 and 5 are fixed to the partitions B and B', respectively, opposite each other and in the same plane, and strips 6 are
75 secured to said cleats at proper intervals to form a support for the lower ends of the springs 7, which are fixed to said strips 6 in any suitable manner. Said springs 7 are
80 wound in spiral form, as shown, and are so disposed as regards their upper extremities that they form practically a yielding surface S between said partitions B B', over which the fabric to be beaten or cleaned of dust passes. Said springs are placed on said strips preferably
85 in two parallel rows, as shown in Fig. 1, and two metal straps *a a*, secured to the tops of each of said springs in each row, and metal clips *b* are used to secure together the top and bottom coils of said springs. The lower ends
90 of said springs are also secured to the strips 6 by small bolts or screws. A series of spring beater-rods 8 are arranged to operate on the surface of the carpet or other fabric as it passes across the said yielding surface of the
95 said springs 7. Said spring-rods are removably secured to the under side of the fixed wooden beam 9, which lies parallel with and near the upper edge of the partition B. Said
100 beam is secured to the casing A of the machine in the position shown in any suitable manner.

The clamps for the rods 8 are preferably made to secure one rod only to the under side

of the beam 9, but a single strip may be used, if desired, securing all of said rods thereto by screws, as 10, Fig. 3, passed through the said strip into the beam 9. Said beater-rods 5 are so located on their supporting-beam 9 and are so bent that they bear throughout their entire lengths upon the yielding surface S. This disposition of said rods is clearly shown in Fig. 2.

10 A shaft 12, supported on suitable standards 12^a, one on each side of the machine and provided with suitable driving-pulleys, extends transversely thereacross parallel with said partitions B B' and at right angles to said 15 beater-rods 8. On said shaft are fixed the arms 13, to which are secured the flat strips 14, made preferably of wood.

As shown in Fig. 2, the beater-rods 8 project a little beyond the edge of the partition 20 B', where the fabric passes over the latter, and beyond which partition it inclines sharply downward. The outer edges of the strips 14 in their revolution in the direction indicated by the arrows pass near said surface of the 25 fabric, and, engaging with the under side of the rods 8, lift them against the action of their spring-coils to a suitable distance above the surface of the carpet and then passing out from under their points allows them to 30 snap down onto said carpet or other fabric. As said blows are struck repeatedly the fabric works slowly through the machine by reason of the general downward inclination of the surfaces which support it, and no rolls are 35 necessary to carry it through. The action of said beaters on the carpet, by reason of the yielding surface S, which receives their blows, has no injurious effect on said carpet or other fabric, however weak said fabric may be.

40 Suitable guard-strips 15 are secured at intervals to the beam 9 by one end, and by their opposite ends to the casing A at the end of the machine. Said strips are so bent as to lie in proximity to the carpet at the point 45 where it passes over the upper edge of the partition B', to keep it from flying up under the blows of the beater-rods or the action of the springs 7, and thereby be injured by contact with the strips 14 as they revolve to op-

erate the said beater-rods. In order to carry 50 away the dust and fiber disengaged from the fabric being beaten, an exhaust-fan 16 is located near said machine and run by any suitable belt, as 17. A main exhaust-pipe 18 is run from said fan into the box-like structure 55 made by the two partitions and containing the springs 7. As the carpet or other fabric is passing through the machine the only open side of said box—viz., the top—is closed by said fabric and therefore there is more or less 60 movement of air through it, whereby the dust is prevented from escaping into the room, but is passed through said fan and its discharge-pipe 19 out of doors. Said main exhaust-pipe 18 is tapped by a smaller pipe 20, 65 which passes through said box formed by the partitions B B' into the space beyond the partition B' to gather any dust that may be disengaged from the fabric as it passes down over the slats of the incline D. 70

My machine is constructed to take the widest carpet that can be handled in one whole piece, and when smaller pieces are put through it for cleaning and beating if necessary that portion of the yielding surface S 75 not covered by said carpet may be covered by pieces of canvas or other substance to force the air to pass through the said fabric.

Having thus described my invention, what I claim, and desire to secure by Letters Pat- 80 ent, is—

A machine for beating carpets or other fabrics, consisting of a frame the downwardly-inclined supports C and D, and a yielding surface, as S, consisting of a plurality of ver- 85 tical spiral springs whose upper extremities are connected together and interposed between said inclined supports, the beater-rods 8, rigidly secured by one end to a fixed support, as 9, and a revolving shaft having means 90 thereon for raising the free ends of said beater-rods intermittently and the guard-strips 15, secured to the frame of the machine, substantially as set forth.

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Witnesses:

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