

No. 859,281.

PATENTED JULY 9, 1907.

J. R. BLUM.

MACHINE FOR REMOVING DUST BY SUCTION FROM CARPETS, FURNITURE,
CURTAINS, TAPESTRY, &c.

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FIG. 1.

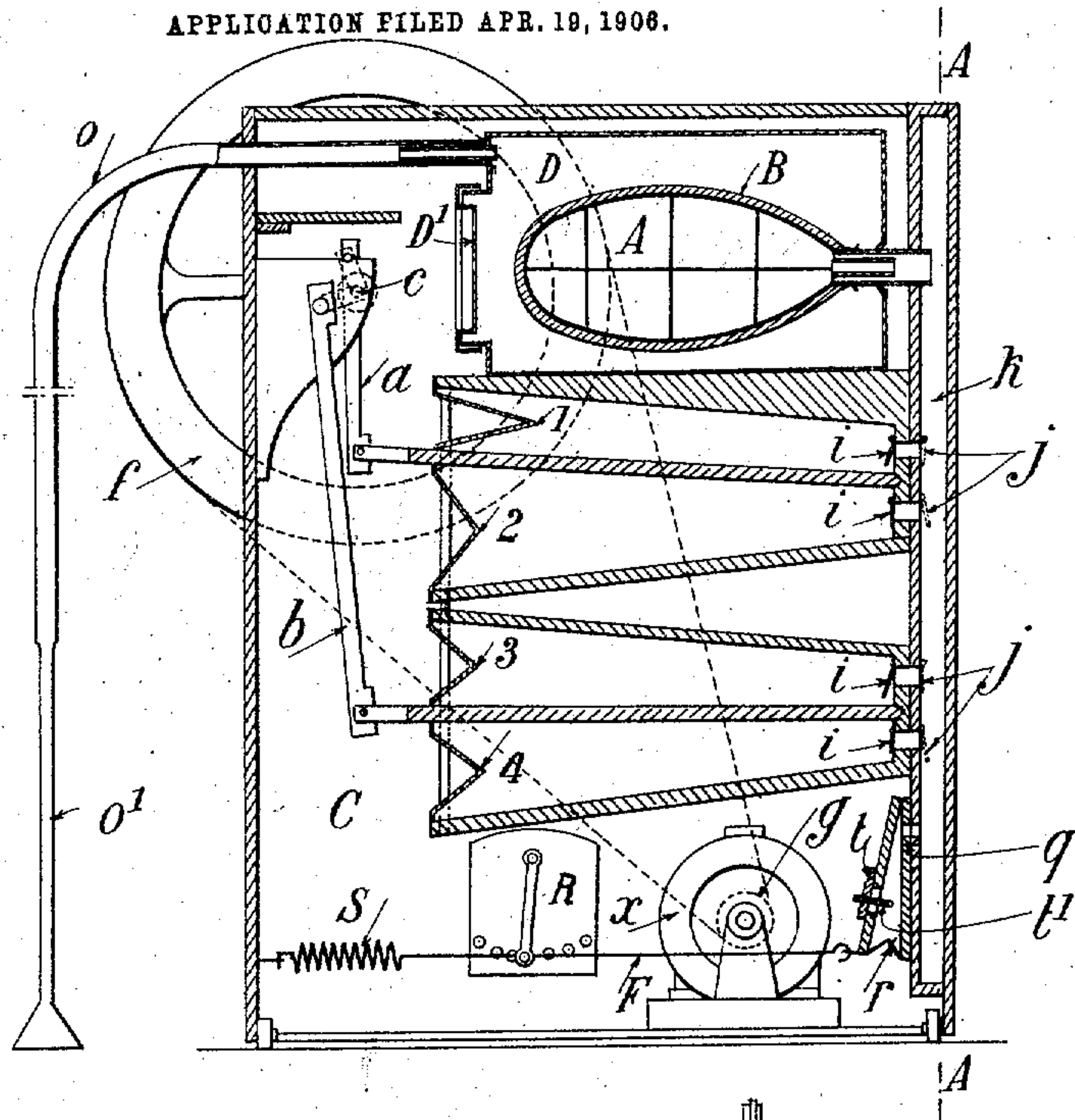
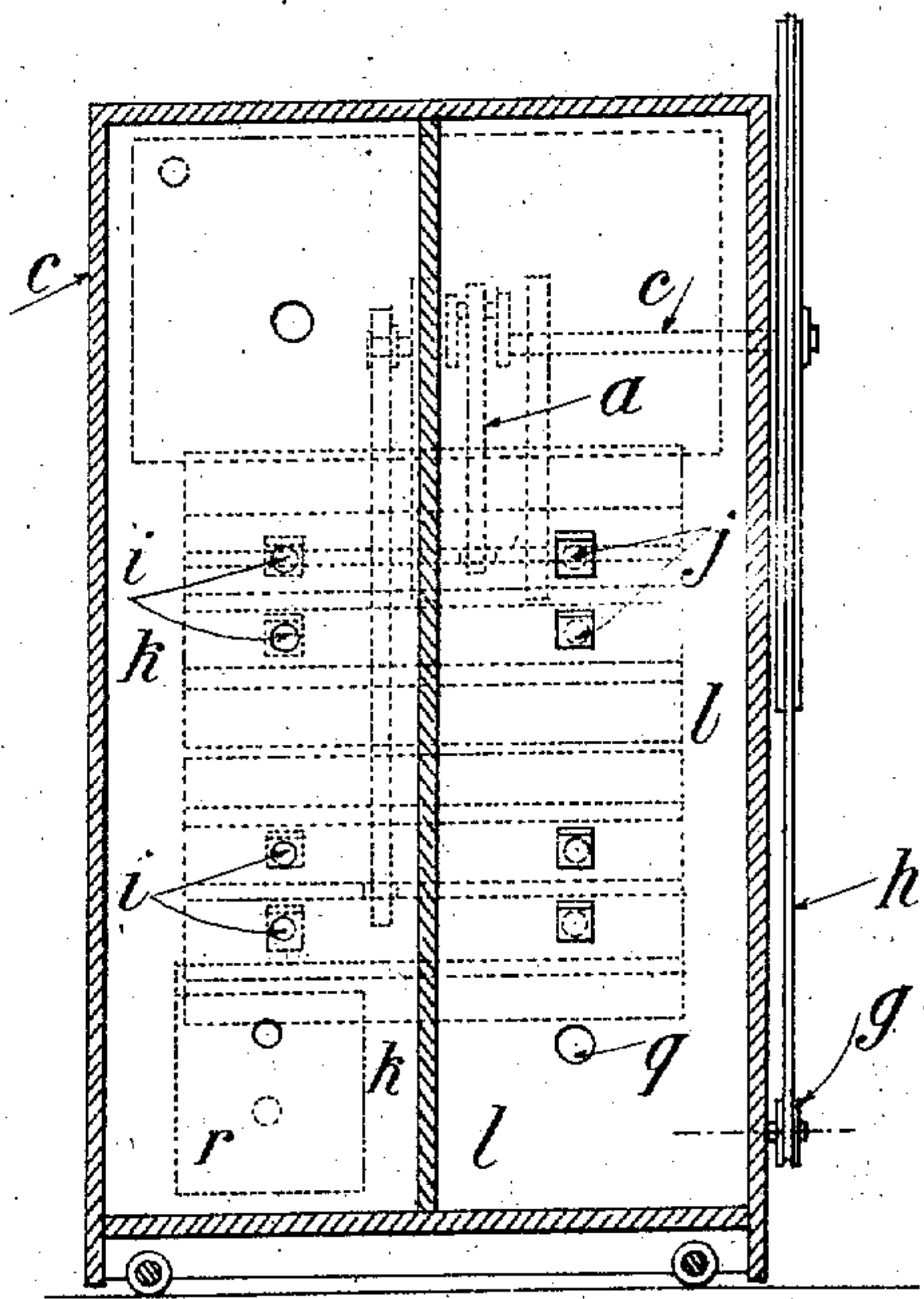


FIG. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

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MACHINE FOR REMOVING DUST BY SUCTION FROM CARPETS, FURNITURE, CURTAINS, TAPESTRY, &c.

No. 859,281.

Specification of Letters Patent.

Patented July 9, 1907.

Application filed April 19, 1906. Serial No. 312,672.

To all whom it may concern:

Be it known that I, JULES RENÉ BLUM, civil engineer, a citizen of France, residing at 49 Boulevard Péreire, Paris, France, have invented new and useful

5 Improvements in Machines for Removing Dust by Suction from Carpets, Furniture, Curtains, Tapestry, and the Like, of which the following is a specification.

This invention relates to an improved regulating device adapted to be used in connection with electrically

10 controlled machines for removing dust by suction from carpets, furniture, curtains, tapestry and the like.

The device consists essentially in small regulating bellows connected with the suction compartment of the machine and with the handle of the rheostat of the

15 electric motor in such a manner that the degree of vacuum is automatically regulated in accordance with the resistance offered to the passage of the dust-laden air by the fabric being cleaned. By this means, delicate fabrics such as tapestry and the like can be cleaned

20 without getting injured as would be the case where the same powerful vacuum was applied, as would for example be requisite for thick carpets.

In the accompanying drawing, Figure 1 is a vertical sectional view of a dust removing pneumatic machine

25 incorporating the improved regulating device, and Fig. 2 is a section taken on line A--A of Fig. 1 and looking towards the left.

The dust removing machine comprises the usual flexible aspiration tube *o* terminated in a metallic suction mouth *o'*, a filtering receptacle *A* the walls of which

30 consist of a frame of metallic hoops or shell *B* adapted to permit the air to pass therethrough and at the same time to filter the same, said receptacle being arranged within a hermetically closed box *D* which is immovably

35 secured upon the stationary flap of the upper bellows 1, and bellows 1, 2, 3, 4. Each bellows has a suction or inlet valve *i* and an expulsion or outlet valve *j*. All the suction valves open towards a single vertical compartment *k* and all the expulsion valves into a vertical

40 compartment *l*.

The bellows 1, 2, 3, 4 are operated by the depending links *a b* of a crank shaft *c* on which is fast a fly wheel *f* connected by means of a belt *h* with a small electric

motor *x* inclosed in the casing *C* of the machine.

45 The improved regulating device consists of small bellows *r* secured upon a wall of the suction compartment *k* and in constant communication with the interior of said compartment, in such a manner that the partial vacuum, or lowering of pressure, produced by the electrically operated main bellows 1, 2, 3, 4 always has an

50 effect within the bellows *r*. Upon the movable flap of

said bellows *r* is arranged a discharge valve *t* which carries an adjustable stop-screw *v*. Moreover, the movable flap of the bellows *r* is connected by a cord *F* with the handle or lever of the rheostat *R* of the electric motor, 55 and the handle of said rheostat is in turn connected with a spiral spring *S* secured to a fixed part of the casing of the apparatus. While at rest, this spring keeps the bellows *r* open and the handle of the rheostat on the second or third contact so that when the electric circuit is 60 closed the motor begins to run slowly.

As soon as the work has commenced, the resistance of the passage of air exerted by the article that is being cleaned, increases the vacuum in the compartment *k* and in the interior of the bellows *r*, so that the movable 65 flap of the latter is lowered, the spring *S* yields and the handle of the rheostat is advanced, cutting out the resistances and consequently increasing the speed of the motor. The result is that the greater the resistance to the passage of air offered by the article being cleaned 70 (and consequently making demands on power required for the cleaning), the greater are the collapse of the bellows and the speed of the motor, and consequently the power of the suction or lowering of pressure.

When the bellows is almost fully collapsed, the handle 75 of the rheostat stands at the last contact, corresponding with the maximum speed of the motor. If the resistance to the passage of air increases still further and tends to close altogether the bellows *r*, the discharge valve *t* is opened by the screw *v* abutting against the 80 fixed part of the bellows; the outer air enters the compartment *k* and after a few oscillations equilibrium is established, the motor maintaining its maximum speed.

Having now described my invention, what I claim as new and desire to secure by Letters Patent is: 85

In a machine for removing dust by suction from carpets, furniture, curtains, tapestry and the like, a regulating device comprising in combination small bellows *r* in constant communication with the suction devices of the machine, a discharge valve *t* provided for on the movable flap 90 of the bellows *r*, an adjustable stop-screw *v* carried by the discharge valve *t*, an electric motor *x* adapted to operate the suction devices of the machine, a rheostat *R* electrically connected to the electric motor *x*, a cord *F* connecting the handle of the rheostat to the movable flap of the bellows *r*, and a spring *S* secured to a fixed part of the machine and connected to the handle of the rheostat, substantially as described and for the purpose set forth. 95

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses. 100

JULES RENÉ BLUM.

Witnesses:

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HANSON C. COXE.