

No. 847,278.

PATENTED MAR. 12, 1907.

W. W. CONOVER.  
PNEUMATIC CLEANER.  
APPLICATION FILED APR. 26, 1905.

2 SHEETS—SHEET 1.

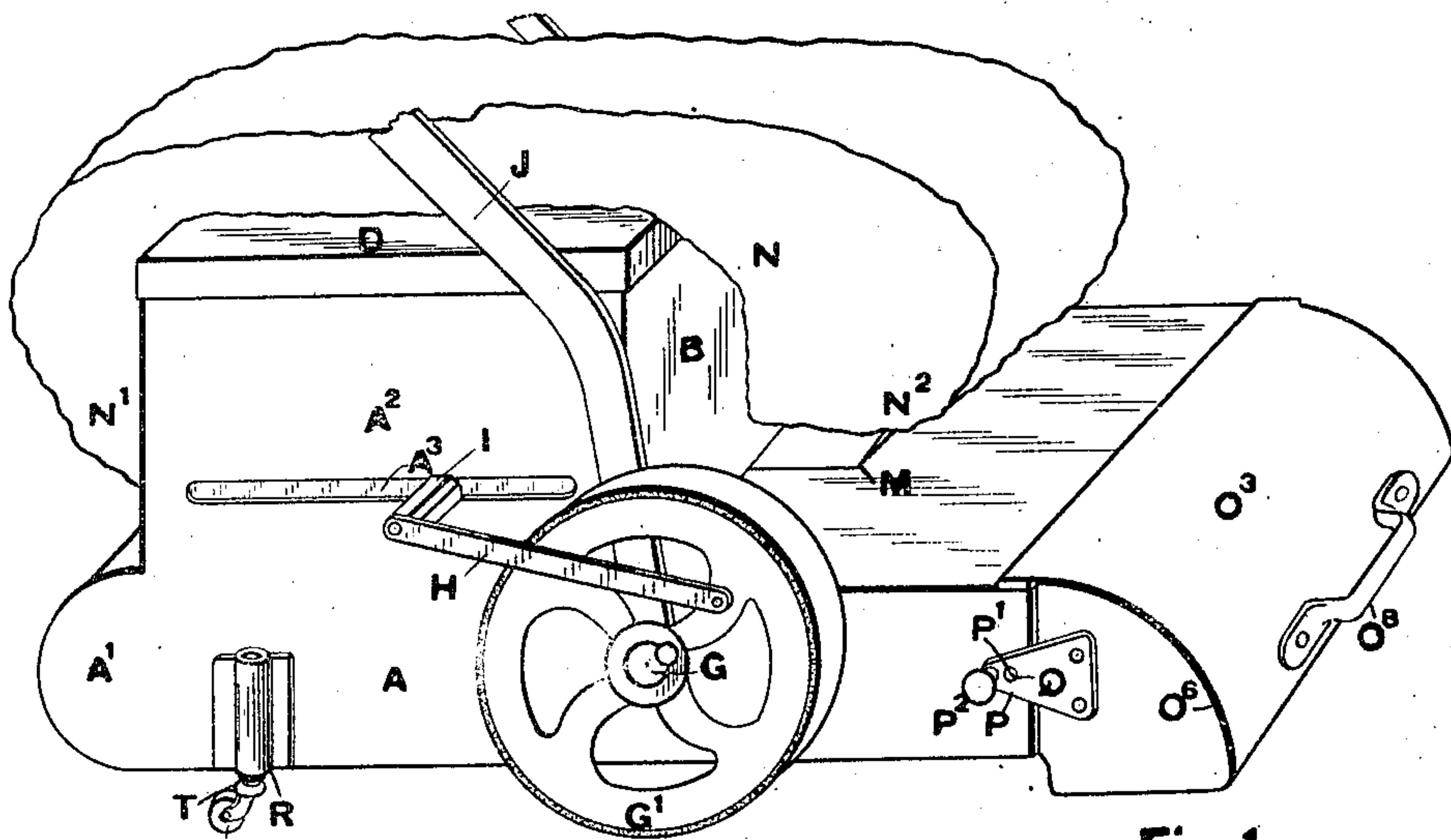


Fig. 1.

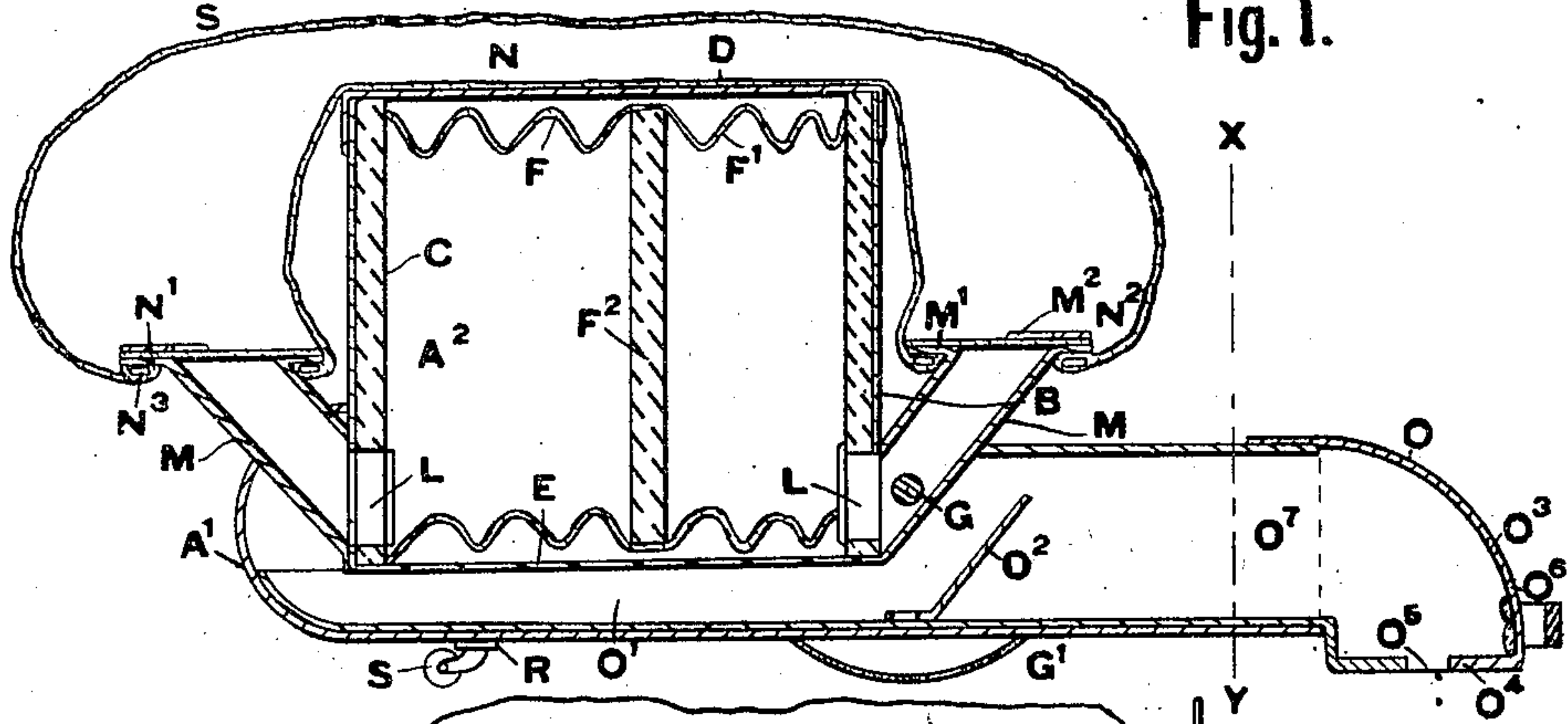


Fig. 2.

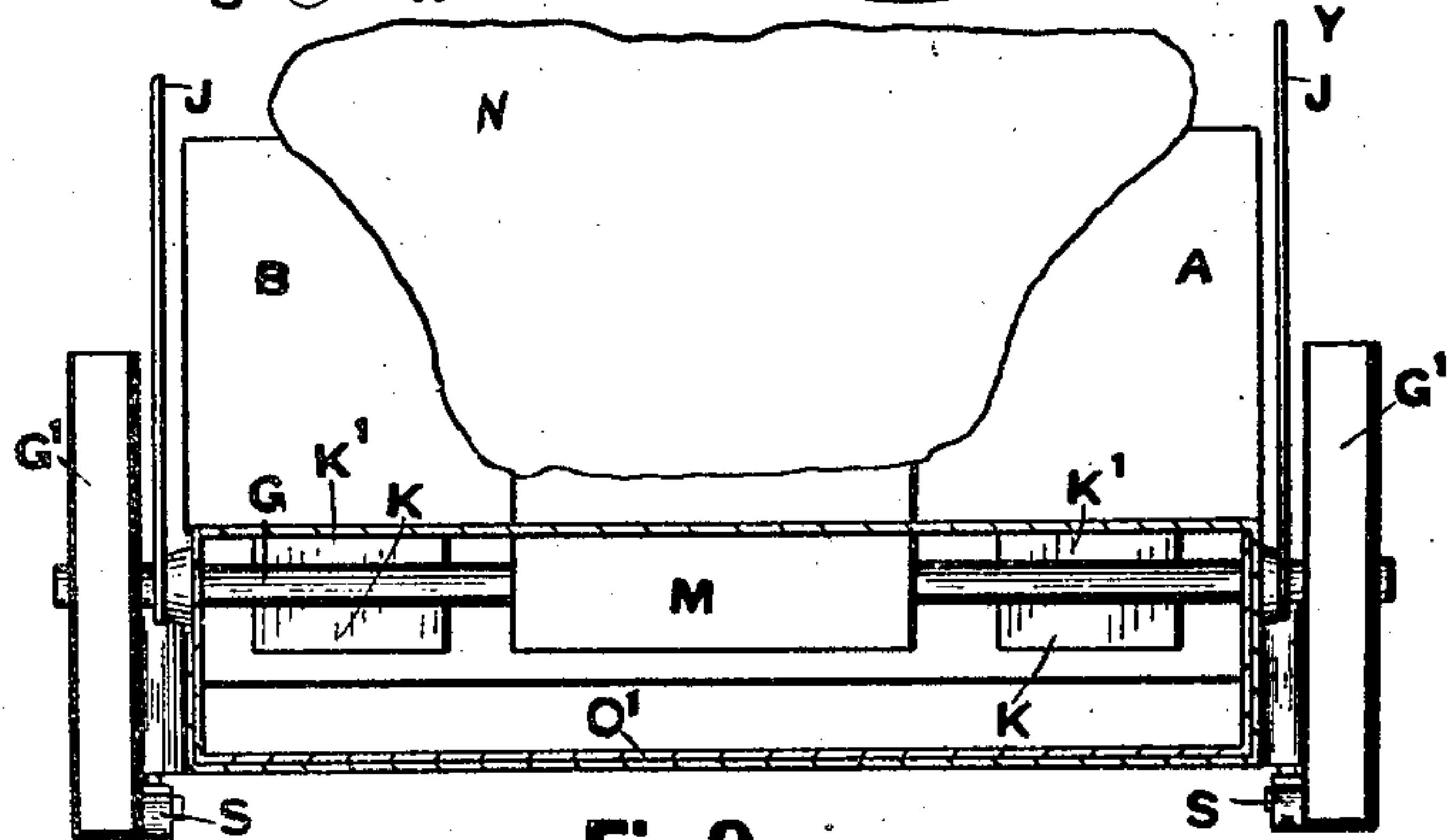


Fig. 3.

Witnesses.

*C. Lawless*  
*Edgar Shepard*

Inventor

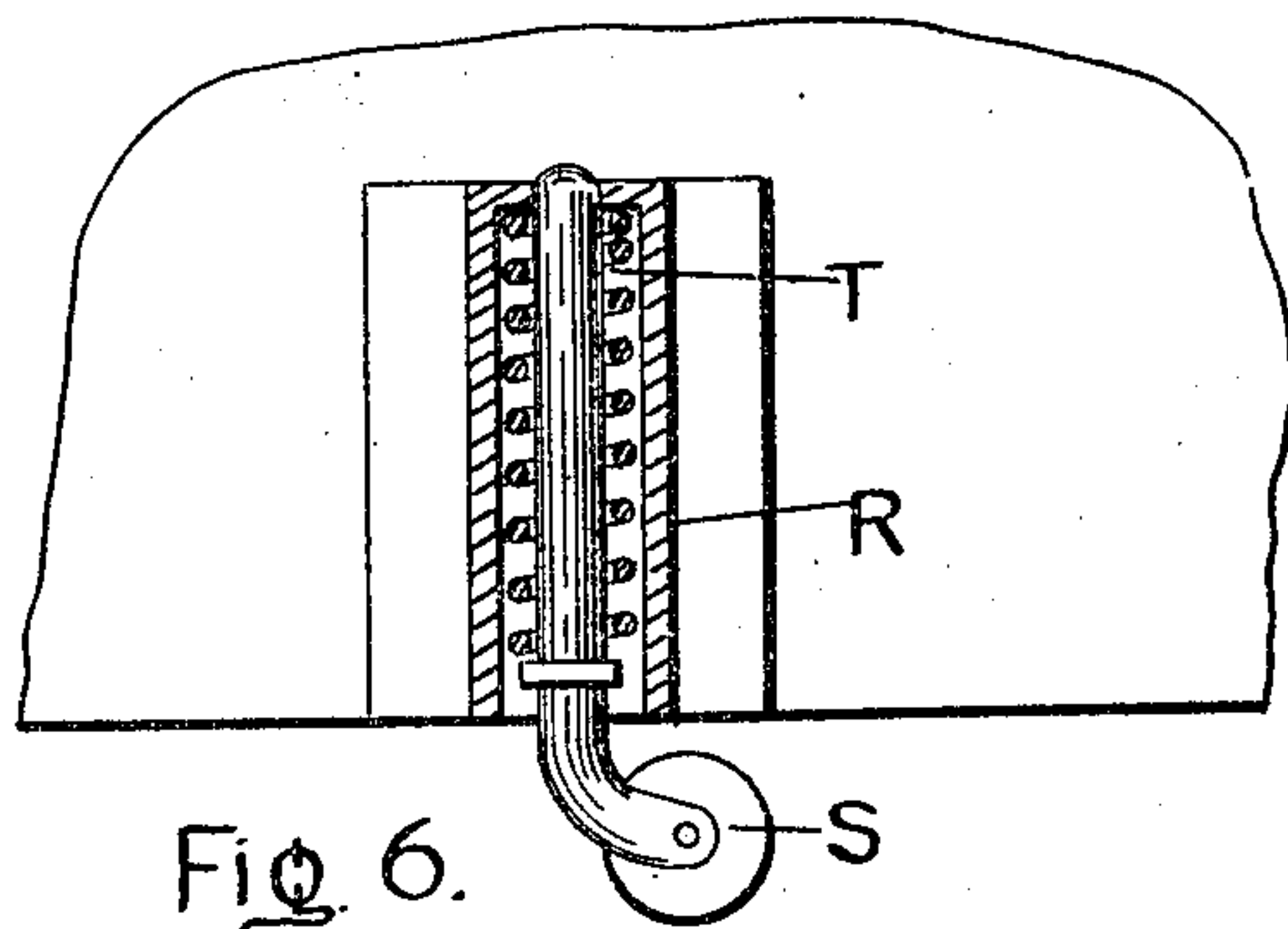
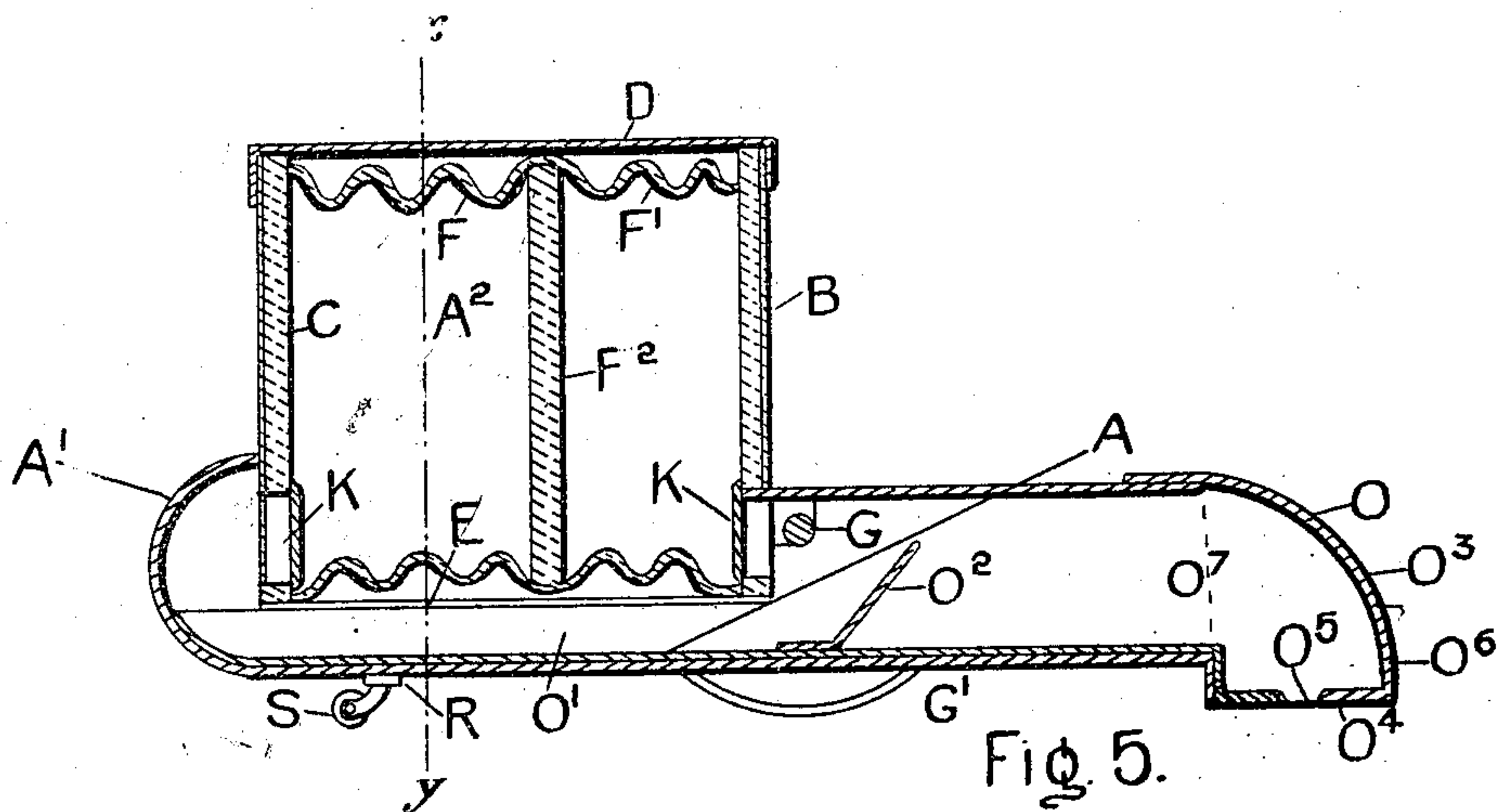
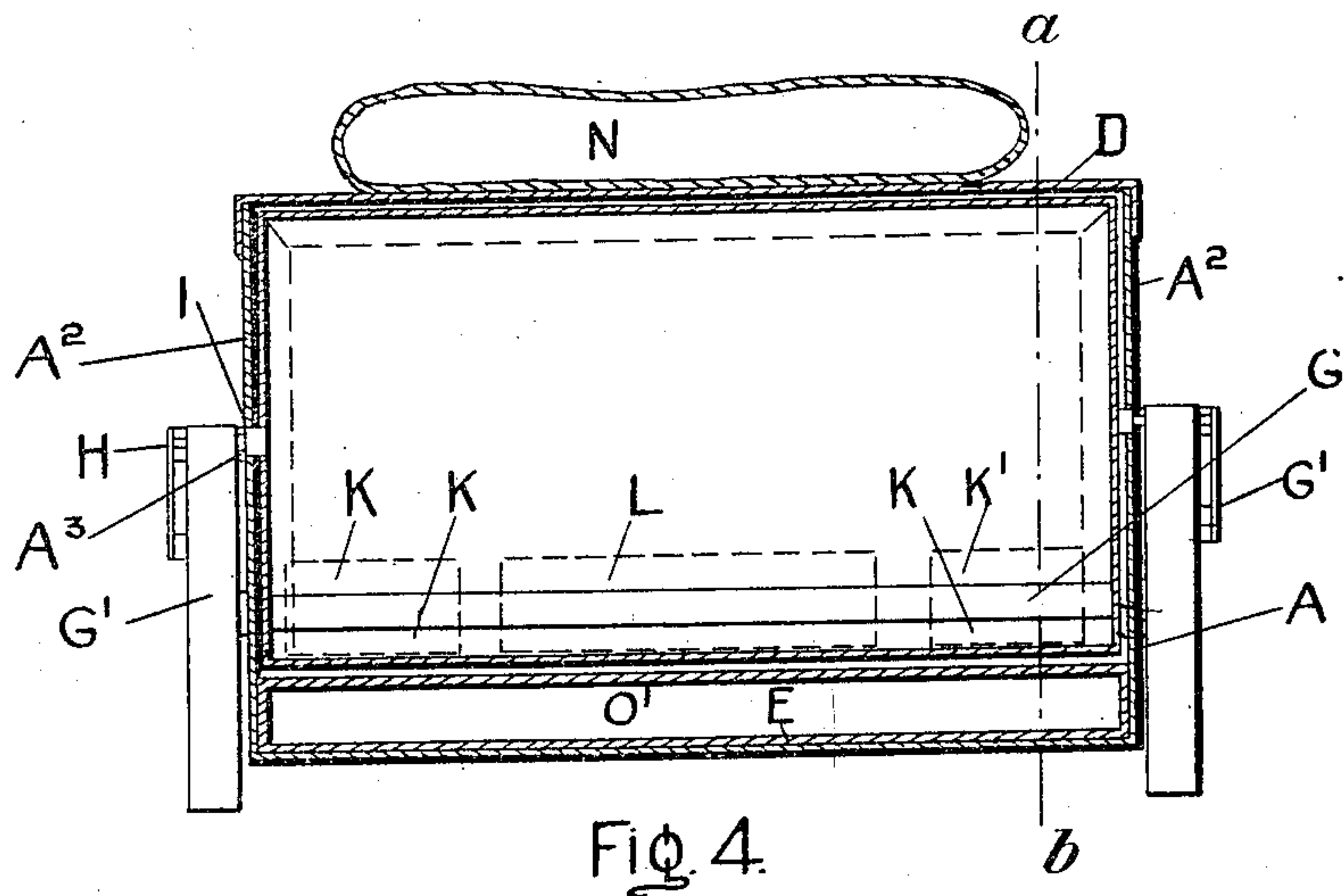
*W. W. Conover*  
by *Frank S. Talbot*  
Att'y.

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2 SHEETS—SHEET 2.



Witnesses.  
*H. G. Young*  
*J. H. Young*

Inventor.  
W. W. Conover.  
By *Fred B. Fitts*  
*att.*



# UNITED STATES PATENT OFFICE.

WILLIAM WALLACE CONOVER, OF TORONTO, ONTARIO, CANADA, ASSIGNOR  
TO SANITARY CARPET CLEANER CO., A COMPANY OF NEW YORK.

## PNEUMATIC CLEANER

No. 847,278.

Specification of Letters Patent.

Patented March 12, 1907.

Application filed April 26, 1905. Serial No. 257,547.

*To all whom it may concern:*

Be it known that I, WILLIAM WALLACE CONOVER, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Pneumatic Cleaners, of which the following is the specification.

My invention relates to improvements in pneumatic cleaners; and the object of the invention is to devise a machine of this class which may be manipulated as readily as the ordinary type of carpet-sweeper and by which the dust or dirt may be thoroughly drawn out and removed from the carpet or dust-laden surface and collected with but a minimum amount of power and afterward readily discharged.

The invention includes the various features of construction and arrangement and combination of parts hereinafter described, and particularly pointed out in the appended claims.

I have illustrated the invention in the accompanying drawings, in which—

Figure 1 is a perspective view of my improved pneumatic cleaner. Fig. 2 is a longitudinal section through the cleaner. Fig. 3 is a vertical section through the line  $x y$ , Fig. 2, with the baffle-plate removed. Fig. 4 is a cross-section. Fig. 5 is a longitudinal section. Fig. 6 is a detail view of one of the casters and sockets therefor.

In the drawings like letters of reference indicate corresponding parts in each figure.

A is the main casing, which is substantially rectangular in form and having a rounded rear end  $A'$ .

B and C are the front and back boards of the bellows-casing, secured to the inside of the front and back portions of the main casing, the sides of such main casing being formed of upward extensions  $A''$ . The front and back B and C of the bellows-casing are arranged as indicated, and D and E are the top and bottom of the bellows-casing.

F and F' are the front and back portions of the bellows, formed by the front and back board B and C<sup>2</sup> and the central board F<sup>2</sup> and the collapsible material surrounding the boards.

G is the axle, on the ends of which are secured the wheels G', the axle being journaled in suitable bearings in the main casing.

H are pitmen connected at one end to

crank-pins on the wheels G' and at the opposite end to the pins I, secured in the ends of the division-board and extending through slots  $A^3$  in the side  $A^2$ .

J are the handles, which are suitably connected to the axle and are of any suitable form, such handles being designed to impart a backward-and-forward movement to the machine.

K K are openings provided with suitable valves K', such openings being located toward each side of the bellows-casing in the front and back, as indicated.

L are openings located in the front and back of the bellows-casing. The openings L are approximately double the area of the openings K, or both openings K at each side equal in area the opening L.

M are inclined conduits extending from the openings L in the bellows-casing upwardly, as indicated, through the main casing and beyond the top of the same. The conduits M are provided with flanges M' of any suitable form and outwardly-opening valves M<sup>2</sup>.

N is a bag of any suitable fabric which will allow the air but not the dust to pass through. Such bag N is provided with two mouths N' and N<sup>2</sup>, having elastic bands N<sup>3</sup>, which may be expanded so that they may be drawn over the flanges M' and then contracted so that they will hug closely the conduits M and prevent the escape of dust.

O is a drawer, which is provided with a shallow rear portion O', extending beneath the bellows-casing to the rear, such rear portion being curved at the end to fit the curve of the end of the casing. The drawer O is provided with an inclined baffle-plate O<sup>3</sup>, as indicated, located at a short distance in front of the bellows-casing. The drawer O is also provided with a depending front O<sup>3</sup>, having a flat bottom O<sup>4</sup>, provided with a cross-orifice O<sup>5</sup>. The drawer has a curved front O<sup>6</sup>, which extends over the front edge of the casing, as shown. The drawer is also preferably provided with sides O<sup>7</sup>.

O<sup>8</sup> is a handle by which the drawer may be readily drawn out, and P are spring-catches secured to the front portion of the drawer and provided with holes P' and knobs P<sup>2</sup>, whereby the holes P' may be brought over the pins Q in the sides of the casing, so as to secure the drawer in position.



R are sockets secured to the sides of the casing near the rear end, and S are ordinary caster-wheels, the spindles of which extend into the sockets, and T are springs designed to exert a downward pressure on the caster-wheels, so as to tilt the machine on its axle G, and hence cause a downward pressure of the mouth of the machine against the floor, such springs being located on the stem of the 10 caster-wheel between a collar on such stem and the socket. There is preferably a caster-wheel on each side of the machine.

Having now described the principal parts involved in my invention I shall briefly describe its operation and utility.

By drawing backwardly and forwardly on the machine, the mouth O<sup>4</sup> of the drawer being held downwardly close to the carpet or dust-laden surface by the spring-pressed 20 caster-wheels, the double bellows acting will cause a suction through the slot O<sup>5</sup> and drawer and casing, and thereby draw out the dust up into the drawer in front of the baffle-plate O<sup>2</sup>, the air being drawn in through the 25 openings K and ejected through the openings L and valved conduits M. Any fine dust which would still be in the air would pass into the bag N, the air passing out into the room and the dust remaining in the bag, from 30 which it may be readily removed from time to time. The heavier dust particles will remain in the drawer in front of the baffle-plate, while the lighter particles will pass into and be caught by the bag.

35 What I claim as my invention is—

1. A pneumatic cleaner comprising a casing open at its front end, and having a suction-chamber located toward the back of the casing and leaving a passage underneath the 40 same, said passage communicating at opposite ends by valved inlet-openings with the suction-chamber, a double-acting suction-

creating device located in the chamber, a drawer extending into the casing through the open front end and beyond the rear of the suction-chamber and having a deflecting-plate located thereon in front of the forward inlet-opening and a depending front mouth-piece, and valved outlet-conduits for the suction-chamber extending upwardly from 50 the front and rear of the suction-chamber beyond the top of the casing.

2. A pneumatic cleaner comprising a casing open at its front end and having a suction-chamber located toward the back of the casing and leaving a passage underneath the same, said passage communicating at opposite ends by valved inlet-openings with the suction-chamber, a double-acting suction-creating device located in the chamber, a 60 suitable mouthpiece in the front of the casing and valved outlet-conduits for the suction-chamber extending upwardly from the front and rear beyond the top of the casing, as specified. 65

3. A pneumatic cleaner comprising a casing open at its front end and having a suction-chamber located toward the back of the casing and leaving a passage underneath the same, said passage communicating at opposite ends by valved inlet-openings with the suction-chamber, a double-acting suction-creating device located in the chamber, a deflecting-plate located in the casing in front of the forward inlet-opening, a suitable mouth-piece in the front of the casing and valved outlet-conduits for the suction-chamber extending upwardly from the front and rear beyond 75 the top of the casing, as specified.

WILLIAM WALLACE CONOVER.

Witnesses:

B. BOYD,

G. R. BROWN.