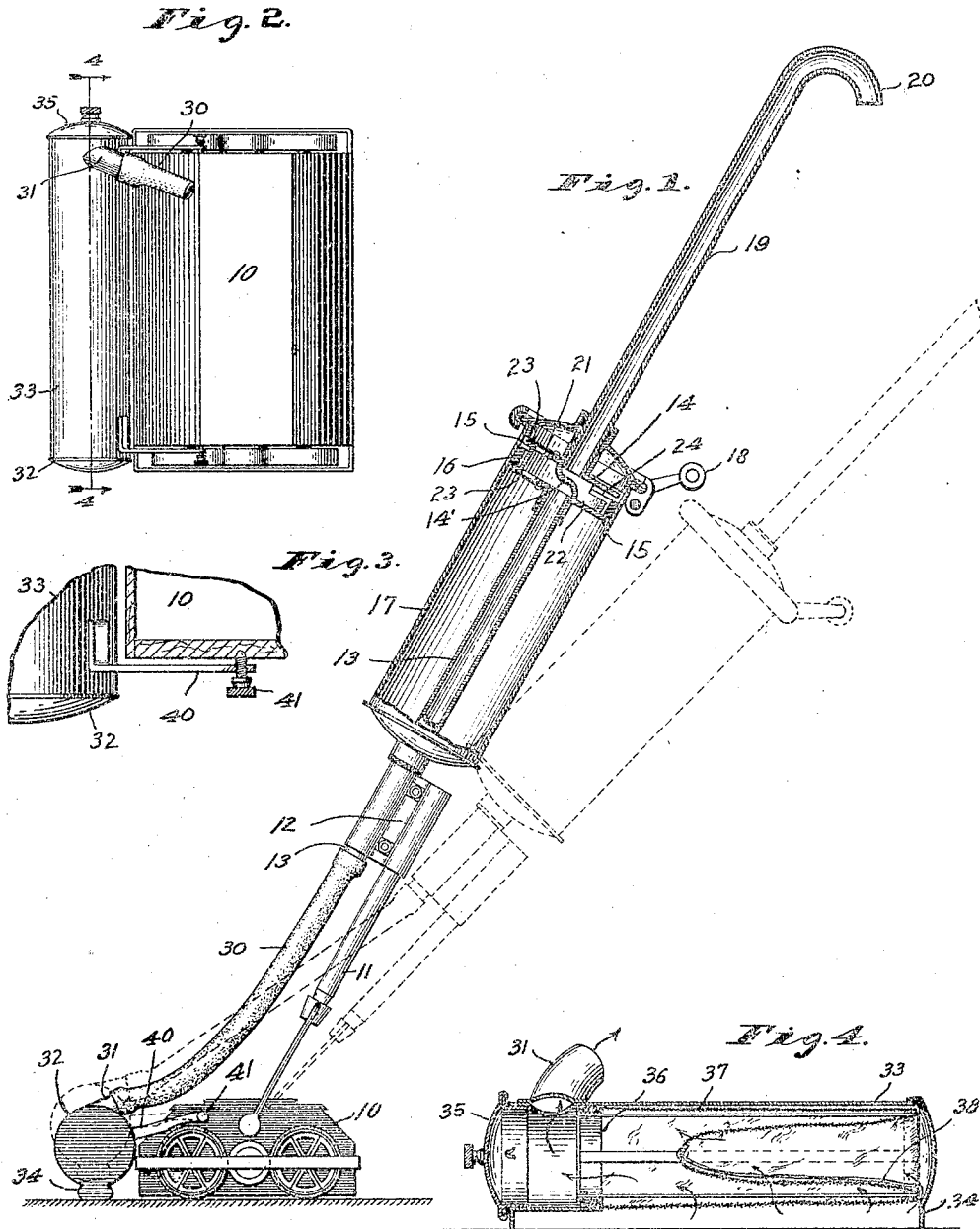


E. J. FEENY.
 VACUUM CLEANER ATTACHMENT FOR CARPET SWEEPERS.
 APPLICATION FILED JUNE 6, 1912.

1,101,488.

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Witnesses
 Frank A. Keller
 May Hayden

Inventor
 Edmund J. Feeny
 By Arthur M. Hood
 Attorney

UNITED STATES PATENT OFFICE.

EDMUND J. FEENY, OF MUNCIE, INDIANA, ASSIGNOR TO THE FEENY MANUFACTURING COMPANY, OF MUNCIE, INDIANA, A CORPORATION OF INDIANA.

VACUUM-CLEANER ATTACHMENT FOR CARPET-SWEEPERS.

1,101,488.

Specification of Letters Patent.

Patented June 23, 1914.

Application filed June 6, 1912. Serial No. 701,963.

To all whom it may concern:

Be it known that I, EDMUND J. FEENY, a citizen of the United States, residing at Muncie, in the county of Delaware and State of Indiana, have invented a new and useful Vacuum-Cleaner Attachment for Carpet-Sweepers, of which the following is a specification.

It is the object of my invention to provide a pneumatic cleaner which can be and is combined with an ordinary carpet sweeper of the rotary brush type. By this combination it is found that excellent results can be produced.

The accompanying drawing illustrates my invention.

Figure 1 is a side elevation, with some parts in section, of a pneumatic cleaner and carpet sweeper embodying my invention; Fig. 2 is a plan of the lower parts of such cleaner and carpet sweeper; Fig. 3 is a detail of the mounting of the pneumatic mouth-piece on the carpet sweeper; and Fig. 4 is a section on the line 4-4 of Fig. 2.

The carpet sweeper 10 may be of any common portable type. Either the upper end of the usual pivoted handle 11 of such carpet sweeper is sawed off or a short handle is provided, and on the upper end of such short handle the lower end of a tube 12 is fastened by a clamp 12. The upper end of this tube is connected to a hollow piston 14 having two flanges 15 between which a loose fitting packing ring 16, of less axial length than the distance between the flanges 15, is located. The ring 16 fits closely against the inside of a cylinder 17, movable by a handle 18 along the tube 13 and a co-axial metal tube 19 connected to the upper side of the hollow piston 14 and open at the upper end. The upper end of the tube 19 is preferably curved to form a handle 20. The space within the hollow piston 14 is divided by a wall 14' into two chambers 21 and 22. The chamber 21 communicates directly with the upper end of the tube 13 and by outwardly opening valves 23 with the spaces on the two sides of the piston 14 within the cylinder 17. The chamber 22 communicates directly with the lower end of the tube 19, and by an opening 24 in the piston wall and the space between the packing ring 16 and that one of the flanges 15 with which said ring is not in engagement with the space on one side or the

other of the piston 14. Thus the movement of the cylinder 17 along the tubes 13 and 19 produces a double-acting pump operation, drawing in air through the tube 13 and discharging it through the tube 19.

The lower end of the metal tube 13 is connected by a flexible tube 30 to the discharge tube 31 of the pneumatic mouth-piece 32. This mouth-piece comprises a horizontal substantially cylindrical casing 33 provided on its under side with floor-engaging extension 34 open at the bottom, as shown in Fig. 4. One end of the cylinder 33 is provided with a removable cap 35, which when removed allows the removal of a frame 36 which fits closely into the casing 33 and is covered with a fabric bag 37. The closed end of such bag is inverted within the frame 36, as shown in Fig. 4 and is provided with a strap 38 by which it may be pulled out for cleaning purposes.

The discharge tube 31 is near that end of the casing 33 which is provided with the cap 35, and the frame 36 is shorter than the casing 33 and when in place reaches from the other end of the casing 33 nearly to the discharge tube 31, the communicating opening between the floor-engaging extension 34 and the casing 33 extending only the length of the frame 36, as shown in Fig. 4. Thus any air drawn in through the floor-engaging extension 34 by reciprocating the cylinder 17 necessarily passes through the fabric 37, so that any dust carried by such air is removed by the filter action of the fabric.

The cylinder 33 is provided with a pair of arms 40 projecting transversely to the axis of the cylinder and provided at either end with pointed thumb screws 41. The arms 40 extend on either side of the carpet-sweeper 10, and the screws 41 may be screwed into the wood of the carpet sweeper casing, as shown in Fig. 3. The tube 30 is of such length that when the handle 20 is lowered and the tubes 12 and 19 brought to the position shown in dotted lines in Fig. 1, the pneumatic mouth-piece 32 will be raised from the floor, to allow the ready passing of obstacles.

I claim as my invention:

1. The combination of a wheeled carpet sweeper provided with a swinging handle pivoted on an axis substantially parallel to the axes of the carpet sweeper wheels, a

suction mouth-piece pivoted on the carpet sweeper on an axis substantially parallel to the axes of the carpet sweeper wheels and opening toward the floor, a suction-producing apparatus mounted on the carpet sweeper handle, and a flexible tube connecting said suction mouth-piece and said suction-producing apparatus, said tube being of such length that when the carpet sweeper handle is depressed to a predetermined point said tube is taut and passes above the pivotal axes of the handle and the suction mouth-piece, so that upon further depression of the handle the suction mouth-piece is lifted from the floor.

2. The combination of a wheeled carpet sweeper provided with a swinging handle pivoted on an axis substantially parallel to the axes of the carpet sweeper wheels, a suction mouth-piece pivoted on the carpet sweeper on an axis substantially parallel to the axes of the carpet sweeper wheels and opening toward the floor, and a suction-producing apparatus mounted on the carpet sweeper handle, said suction mouth-piece being pneumatically connected to said suction-producing apparatus and mechanically connected to said handle by means including a member which acts on depression of the handle below normal to swing the mouth-piece about its pivot and lift it from the floor.

3. The combination of a carpet sweeper provided with a movable handle, a suction mouth-piece movably attached to the front of the carpet sweeper and movable relatively to the carpet sweeper into and out of engagement with the floor, said suction mouth-piece being provided with an opening toward the floor, a suction-producing apparatus mounted on the carpet sweeper handle and pneumatically connected to said suction mouth-piece, and a connection between the suction mouth piece and the movable handle yielding in one direction of movement of the handle and capable of exerting a lifting force upon the mouth piece upon sufficient movement of the handle in the opposite direction, whereby a given movement of the handle in one direction relative to the carpet sweeper will raise the suction mouth piece from the floor.

4. The combination of a carpet sweeper provided with a movable handle, a suction mouth-piece movably attached to the front of the

carpet sweeper and movable relatively to the carpet sweeper into and out of engagement with the floor, said suction mouth-piece being provided with an opening toward the floor, a suction-producing apparatus pneumatically connected to said suction mouth-piece, and a connection between the suction mouth piece and the movable handle yielding in one direction of movement of the handle and capable of exerting a lifting force upon the mouth piece upon sufficient movement of the handle in the opposite direction, whereby a given movement of the handle in one direction relative to the carpet sweeper will raise the suction mouth piece from the floor.

5. A carpet sweeper comprising a casing provided with a handle pivoted to the casing and movable to different rearward inclinations thereto, a suction-producing apparatus mounted on said handle, a suction mouth-piece provided with rearwardly extending arms pivoted to the casing, and a tube connecting the suction mouth-piece and the suction-producing apparatus, said tube being of less length than the distance between its point of attachment to the suction mouth-piece with said suction mouth-piece in engagement with the floor and its point of attachment to the suction-producing apparatus when the handle is lowered, so that a lowering of the handle raises the suction mouth-piece from the floor.

6. An attachment for a carpet sweeper having a sweeper body and a handle, said attachment comprising a pneumatic suction apparatus provided with fastening means attachable to the handle of the carpet sweeper, a suction mouth-piece provided with a pivotal mounting by which it may be pivotally attached to the sweeper body, said mouth-piece comprising a casing having a downward floor-engaging projection open at the bottom, and a flexible tubular connection between the suction apparatus and the mouth-piece, substantially as and for the purpose set forth.

In witness whereof, I have hereunto set my hand and seal at Muncie, Indiana, this 31st day of May, A. D. one thousand nine hundred and twelve.

EDMUND J. FEENY. [L. S.]

Witnesses:

T. D. ROBSON,
H. H. WOLF.