T. B. DOWNEY.

PUMP FOR CARPET CLEANERS.

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990,037.

Patented Apr. 18, 1911.

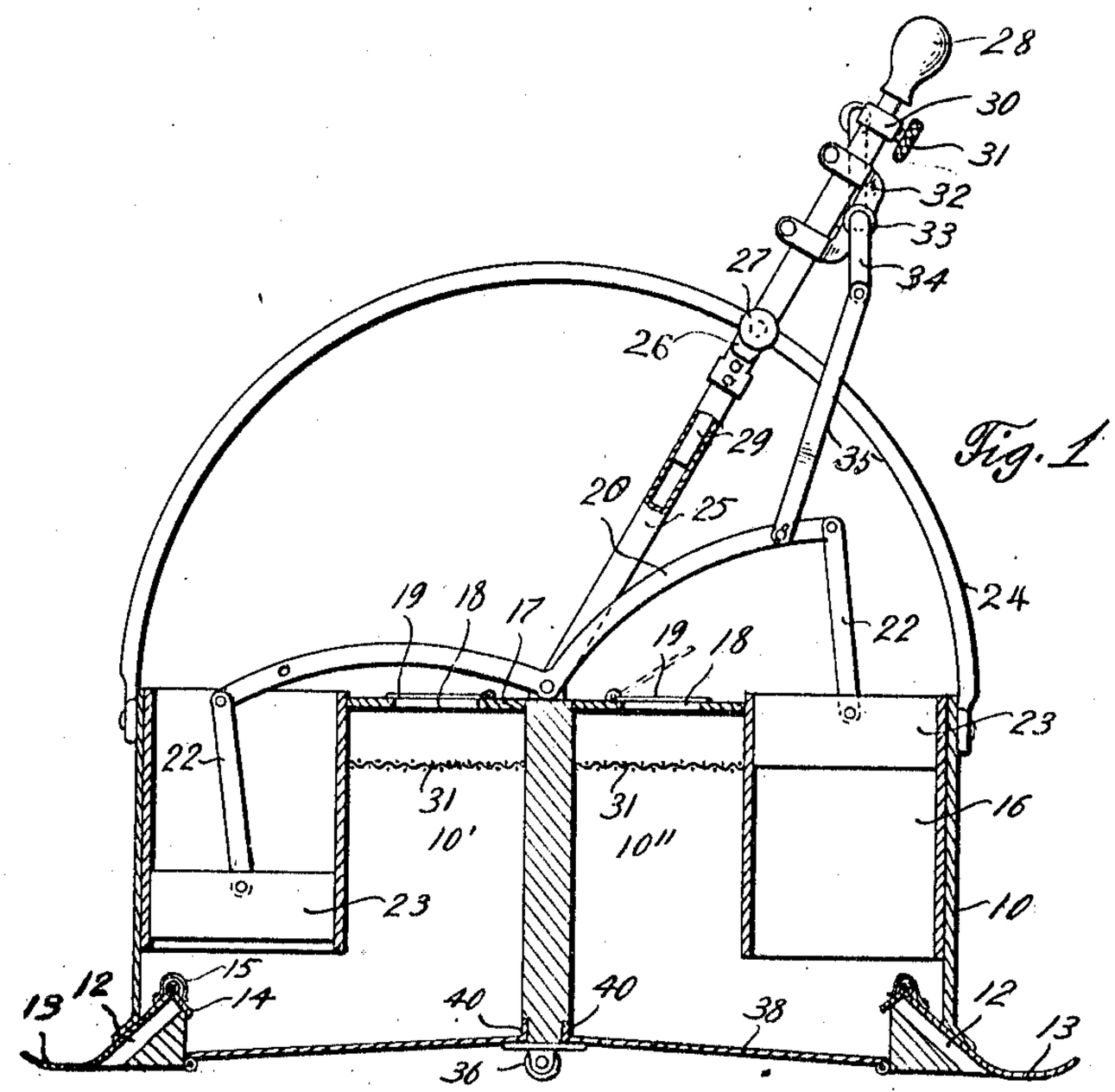

Fig. 1

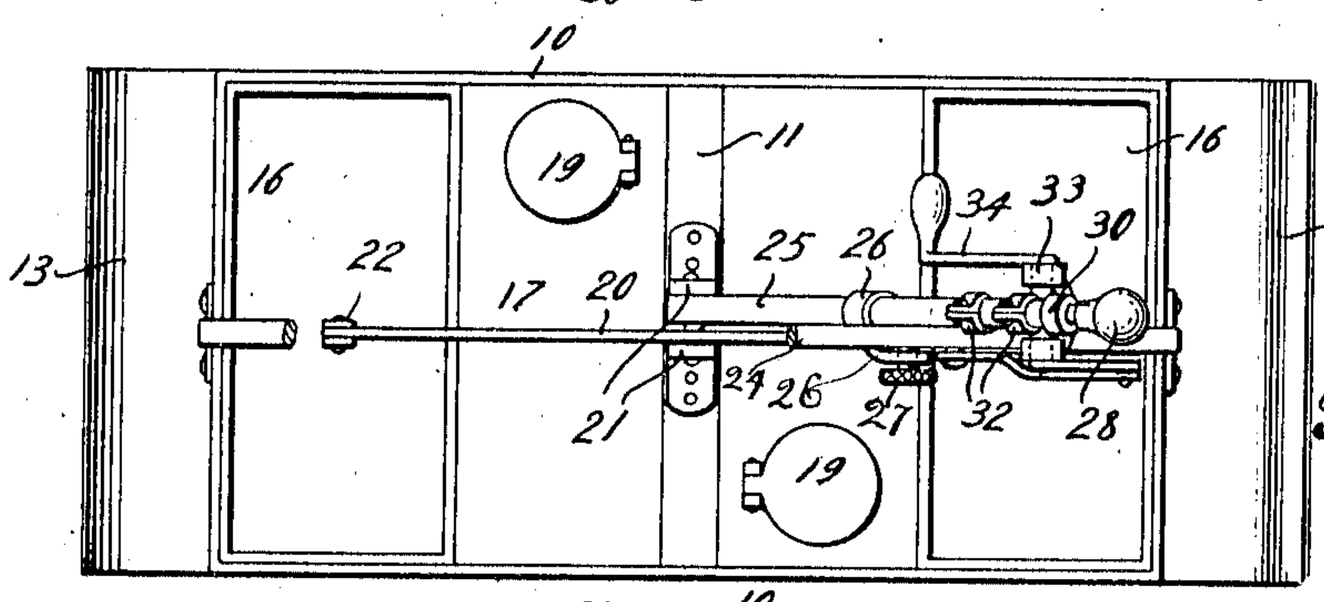

Fig. 2

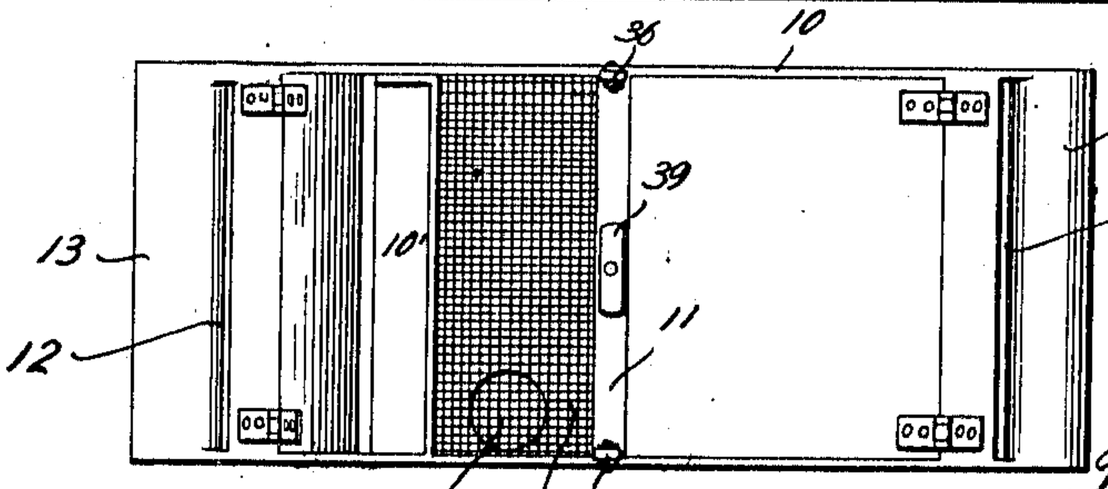

Fig. 3

Witnesses

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UNITED STATES PATENT OFFICE.

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PUMP FOR CARPET-CLEANERS.

990,037. Specification of Letters Patent. Patented Apr. 18, 1911.

Application filed June 28, 1910. Serial No. 569,381.

To all whom it may concern:

Be it known that I, THOMAS B. DOWNEY, a citizen of the United States, residing at Springtown, in the county of Benton and State of Arkansas, have invented certain new and useful Improvements in Pumps for Carpet-Cleaners, of which the following is a specification.

This invention relates to carpet cleaners, and particularly to that class of carpet cleaners known as vacuum cleaners, wherein the dirt is removed from the carpet through the instrumentality of a suction created within the carpet cleaner.

Another object of this invention is to provide an improved means whereby the carpet cleaner may be adjusted to various sized people and also a means whereby the dirt may be separated from the air as the same escapes or passes from the carpet cleaner.

With the above and other objects in view, this invention consists in the construction, combination, and arrangement of parts, all as hereinafter more fully described, claimed, and illustrated in the accompanying drawings, wherein—

Figure 1 is a central vertical section of a carpet cleaner constructed in accordance with the present invention; Fig. 2 is a top plan view of the present invention, parts thereof being broken away; Fig. 3 is a bottom plan view showing one of the emptying doors partially open.

In carrying out the present invention a casing 10 is provided which may be either rectangular or of other formation, shown rectangularly for the purposes of illustration, said casing being divided into two compartments 10′ and 10″ by the central vertical partition 11. At each transverse end of the casing is an opening 12 which extends the entire width of said casing, thereby providing one opening for each compartment 10′ and 10″, said opening having on the upper side thereof the plate 13 of resilient material which extends outwardly and is adapted to normally rest upon the surface being cleaned. Each of the plates 13 has pivoted thereto at the inner terminal thereof the plate 14 which is adapted to normally entirely close the opening 12 being held in this position by the spring 15. This plate is readily moved by any suction within the chambers 10′ and 10″, but prevents the returning of any dirt to the carpet after the same has passed through the opening 12.

In each compartment 10′ and 10″ is mounted a rectangular cylinder 16 which is carried by the transverse ends of the casing 10 and has the lower end thereof located approximately directly over the inner terminal of the opening or passage 12. A top 17 is carried by the central vertical partition 11 and is interposed between the rectangular cylinders 16. This top is provided with an opening 18 over each of the compartments 10′ and 10″, said openings being adapted to normally be closed by the gravity valves 19.

A walking beam 20 is pivoted between the brackets 21 mounted on the upper edge of the partition 11 and has secured at each terminal thereof the link 22. Each of the links 22 has secured thereto a piston or plunger 23 which reciprocates within one of the rectangular cylinders 16 upon the movement of the walking beam. From this construction it will readily be understood that as the walking beam is operated the pistons 23 will reciprocate in the rectangular cylinders 16, one piston moving downwardly while the opposite piston moves upwardly. By this movement it will be understood that as one of the pistons moves downwardly an air pressure will be created in the compartment coöperating therewith, thereby forcing the dirt which has accumulated in the compartment away from the opening 12, the air passing upwardly through the compartment and out the opening 18. When the piston moves upwardly a suction is created in the chamber with which it coöperates, said suction causing air to be drawn through the passage 12, thereby raising the plate and permitting the dirt to pass therethrough, said dirt being drawn therein by the suction.

A semi-circular rod 24 is secured at each terminal thereof centrally to each transverse end of the casing 10. A tubular rod 25 is pivoted between the brackets 21 adjacent to the walking beam 20 and extends upwardly adjacent to the rod 24. An angular bracket 26 is carried by the tubular rod 25 adjacent to the rod 24 and is adapted to clamp the latter between the arm of said bracket and the rod 25 through the instrumentality of a set screw 27. Thus it will

be understood that the tubular rod 25 may be retained in any position with respect to the longitudinal dimension of the rod 24. A handle 28 is carried by the rod 25 through the instrumentality of a shank 29 reciprocating in said tubular rod, said shank being retained in various positions in said tubular rod through the instrumentality of an enlargement 30 at the upper terminal of said tubular rod having a set screw 31 projecting therethrough and bearing against said shank.

A bracket 32 is detachably carried by the tubular rod 25 adjacent to the enlargement 30 and has a transverse bearing 33 formed therein, in which rotates the crank 34, said crank being connected to the walking beam 20 by a detachable link 35. Thus it will be understood that as movement is imparted to the casing by the handle 28 through the instrumentality of the rod 25 a rotary motion is imparted to the crank 34 which causes the link 35 to reciprocate, thereby oscillating the walking beam. In order that the movement of the casing over the floor may be comparatively easy a roller or wheel 36 is mounted at each extremity of the lower end of the partition 11. A fine gauze or fabric 37 is located below the top 17 and is adapted to filter the dirt from the air previous to the latter passing through the opening 18.

The dirt which accumulates in the compartments 10′ and 10″ is removed therefrom through the bottom thereof, said bottoms comprising the hinged members 38 which are retained in a closed position by the plate 39 pivoted to the partition. Each plate is provided with an upwardly extending flange 40 which is adapted to bear against each side of the partition 11, thereby preventing any dirt from sifting through the bottom of the compartments.

Having thus fully described my invention, what is claimed as new is:

1. In a device of the class described, the combination with a casing, having a plurality of compartments formed therein, each compartment having an inlet opening therein, a cylinder located in each compartment, a piston adapted to be reciprocated in said cylinder, a walking beam carried by said casing and pivotally connected to said piston, an adjustable handle carried adjacent to said walking beam, means whereby the angle of said handle may be adjusted, and means carried by said handle whereby said walking beam may be oscillated imparting a reciprocating movement to the pistons.

2. In a device of the class described, the combination with a casing, of a plurality of compartments formed therein, an inlet opening located in each compartment, a cylinder located in each compartment, a piston mounted for movement in each of said cylinders, a walking beam coöperating with said pistons, an adjustable handle located adjacent said walking beam, means whereby the angle of said handle may be adjusted, and a crank rotatably mounted on said handle adapted to oscillate said walking beam, thereby reciprocating said pistons.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS B. DOWNEY.

Witnesses:
S. P. GRIFFITH,
M. R. STEELE.