

C. I. MATSON.  
 OPERATING MEANS FOR VACUUM CLEANERS.  
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1,011,467.

Patented Dec. 12, 1911.

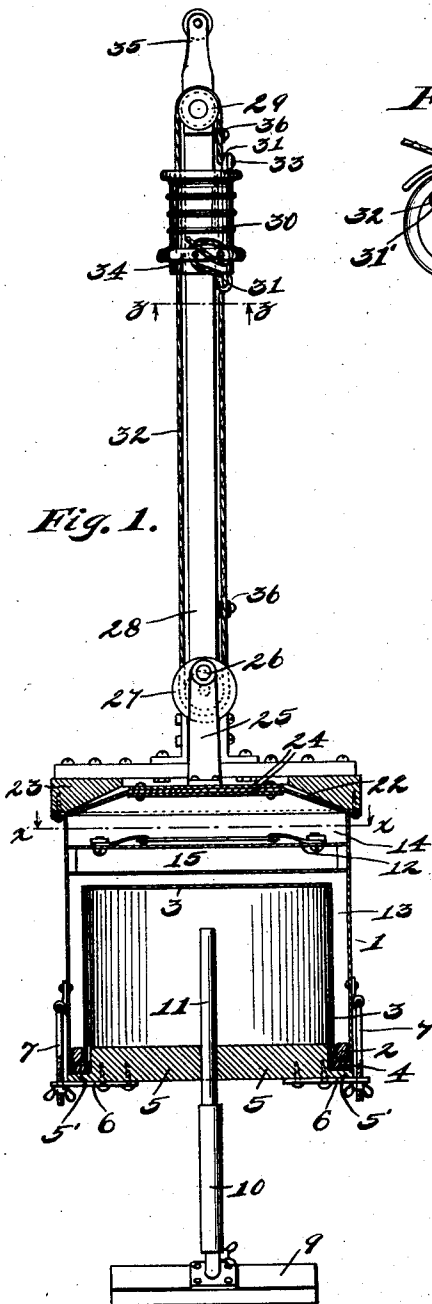


Fig. 1.

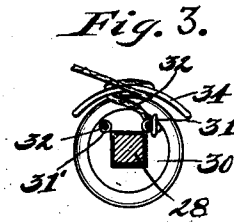


Fig. 3.

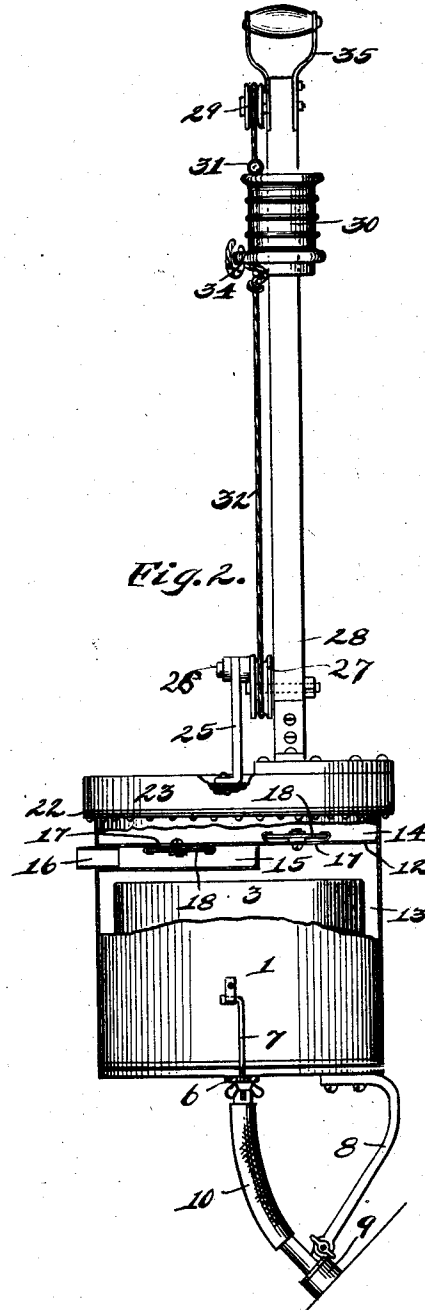


Fig. 2.

WITNESSES:

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# UNITED STATES PATENT OFFICE.

CHARLES IVER MATSON, OF CHICAGO, ILLINOIS.

OPERATING MEANS FOR VACUUM-CLEANERS.

1,011,467.

Specification of Letters Patent.

Patented Dec. 12, 1911.

Application filed August 29, 1910. Serial No. 579,571.

*To all whom it may concern:*

Be it known that I, CHARLES I. MATSON, a citizen of the United States, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Operating Means for Vacuum-Cleaners, of which the following is a specification.

My invention relates to improvements in operating means especially adapted for use on vacuum cleaners and has for its object the provision of a hand-operated means which is of simple construction and efficient in operation.

My invention consists in the combination and arrangement of parts hereinafter described and claimed.

My invention will be best understood by reference to the accompanying drawing forming a part of this specification, and in which,

Figure 1 is a sectional elevation of a vacuum cleaner embodying my invention, Fig. 2 is a sectional elevation of the same at right angles to Fig. 1, and Fig. 3 is a section on line  $z-z$  of Fig. 1.

The preferred form of construction as illustrated in the accompanying drawing comprises a suitable casing 1 of sheet metal formed into cylindrical form and having an annular wooden ring 2 secured within the lower end thereof near the bottom. A strainer bag 3 has its edges placed over ring 2 being imprisoned thereon by a rubber ring 4 which is held in position by bottom piece 5. Bottom piece 5 has an annular flange 5' in its outer and lower edge taking over rubber ring 4 and also carries slotted bars 6 adapted to receive bolts 7 pivoted to the sides of casing 1 and serving to removably secure bottom piece 5 in position, as shown. Secured to bottom piece 5 is a bracket 8 carrying a vacuum cleaner floor piece 9 pivoted to the outer end thereof. Floor piece 9 is connected by means of a rubber hose 10 with a brass tube 11 extending upwardly into bag 3 through bottom piece 5. A partition 12 is secured in casing 1 separating the same into a lower dust chamber 13 containing the strainer bag 3 and an upper diaphragm chamber 14, as shown. Formed on the under side of diaphragm 12 is a discharge chamber 15 having a discharge pipe 16 communicating with the outside air. Partition 12 is provided with two sets of perforations 17,

one set connecting chambers 13 and 14 and the other connecting chambers 14 and 15, as shown. Each of these sets of openings is covered by a leather valve 18. A leather diaphragm 22 is secured to the upper edge of casing 1 by means of an annular wooden ring 23, as shown. Diaphragm 22 carries at its central portion two metallic plates 24 to which is riveted a post or stud 25 pivoted at its upper end to crank pin 26 on pulley 27. Pulley 27 is rotatably mounted at the bottom of an upwardly extending square handle bar 28 which carries another pulley 29 at its upper end, said pulleys being mounted on the same side of handle bar 28 and arranged coplanar, as shown. A hand piece 30 is slidably mounted on handle bar 28 and is provided at its opposite ends with eyes 31 which are in alinement with each other and with the corresponding sides of pulleys 27 and 29, as shown. On its other side hand piece 30 is provided with a perforation 31' parallel with the line of eyes 31 and coplanar with pulleys 27 and 29. A cord or cable 32 is passed over pulleys 27 and 29 through the perforation 31' and has one of its ends 23 passed through the upper eye 31 and knotted to secure it in position and its other end passed through the lower eye 31 and secured to a cleat 34 secured to a lower end of hand piece 30 adjacent said eye. The handle bar 28 also carries a handle 35 at its upper end for convenience in manipulating the device.

In use, floor piece 9 is run over a floor or carpet and hand piece 30 reciprocated on handle bar 28. This causes reciprocations of diaphragm 22 which, by the coöperation of valves 18, causes intermittent upward currents of air through floor piece 9. The dust collected by these intermittent currents of air is drawn into bag 3 where it is strained out of the air and retained, the purified air passing out through discharge pipe 16.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation or modification without departing from the spirit of the invention. I therefore do not wish to be limited to the exact details of construction set forth but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

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

1. A device of the class described comprising a handle bar; a hand piece slidable on said bar; pulleys at the upper and lower ends of said bar; a cable having its ends secured to said hand piece and passing over said pulleys; operative means carried by the lower end of said handle bar; and an operative connection between the lower of said pulleys and said operative means, substantially as described.

2. A device of the class described comprising a rectangular bar; a hand piece slidable on said hand bar; coplanar pulleys at the upper and lower ends of said bar; a cable having its ends secured to said hand piece and passing over said pulleys; operative means carried by the lower end of said handle bar; and an operative connection between the lower of said pulleys and said operative means, substantially as described.

3. A device of the class described comprising a rectangular handle bar; a hand

piece slidable on said bar and provided with alining eyes secured to opposite ends thereof on one side and with a perforation in its other side parallel with the line of said eyes; coplanar pulleys at the upper and lower ends of said bar and in the plane of said eyes and perforation; a cleat secured to said hand piece adjacent one of said eyes; a cable passing over said pulleys through said perforation and having one end knotted through one of said eyes and the other end passed through the other of said eyes and secured to said cleat; operative means carried by the lower end of said handle bar; and an operative connection between the lower of said pulleys and said operative means, substantially as described.

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

CHARLES IVER MATSON.

Witnesses:

FLORENCE E. LILLIS,  
JOSHUA R. H. POTTS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."