

984,098.

2 SHEETS—SHEET 1.



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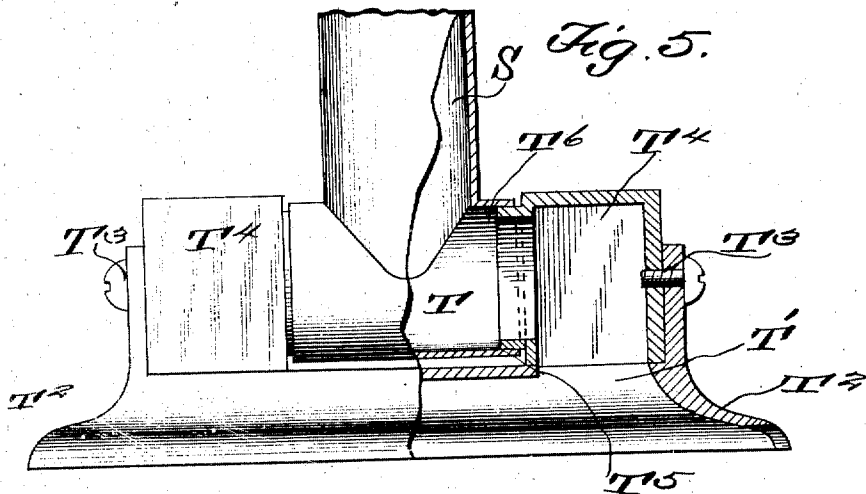
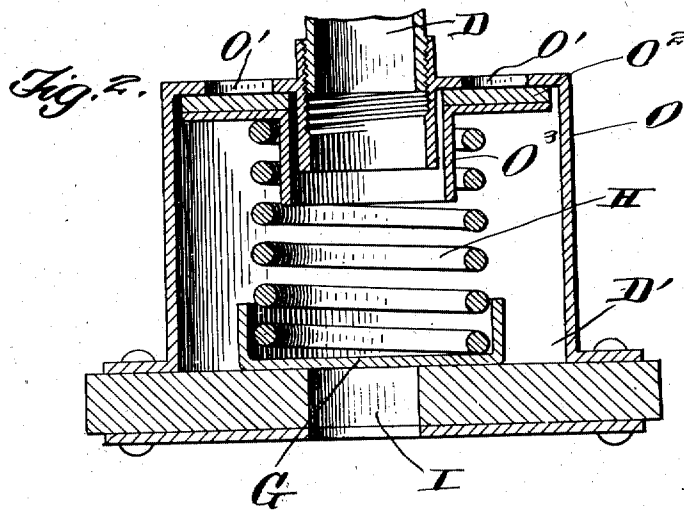
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VACUUM CARPET SWEEPER.
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Patented Feb. 14, 1911.

2 SHEETS—SHEET 2.



Witnesses

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UNITED STATES PATENT OFFICE.

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VACUUM CARPET-SWEEPER.

984,098.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CARL G. LUNDIN, a subject of the King of Sweden, residing at New York, in the county of Kings and State of New York, have invented certain new and useful Improvements in Vacuum Carpet-Sweepers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in vacuum carpet sweepers and comprises a simple and efficient device of this nature having various details of construction, combination and arrangements of parts, which will be hereinafter fully described and then specifically defined in the appended claims.

I illustrate my invention in the accompanying drawings, in which:—

Figure 1 is a vertical longitudinal section through a vacuum carpet sweeper embodying the features of my invention. Fig. 2 is an enlarged detail sectional view through the valve plunger. Fig. 3 is a cross sectional view on line 6—6 of Fig. 1. Fig. 4 is a detail sectional view through the pivotal suction receiver, Fig. 5 is a detail view through the receiver taken at right angles to the section shown in Fig. 4, and Fig. 6 is a section on line 3—3 of Fig. 1.

Reference now being had to the details of the drawings by letter, A designates a cylinder of any suitable size, having a threaded cap B fitted to one end thereof, which cap has a hollow stem C communicating with the opening therein.

D designates a hollow piston stem having a piston D' at one end working within the cylinder.

A handle, designated by letter E, comprising a hollow shell is fastened by means of screws F to the hollow stem D and has beaded ends E', said handle being provided with suitable means for reciprocating the hollow piston stem. Said piston has a valve G at one end against which a coil spring H bears and is adapted to normally hold the same seated over the opening I in said piston. Fixed to the upper surface of said piston is a flanged cylindrical shell O held to

the piston by means of bolts and provided with apertures O' in its outer end. A disk valve O² is adapted to normally close the openings O', being held against the under surface of the apertured top of the cylindrical member O by the spring H. A flanged shell O³ bears against the disk valve O², being engaged by direct contact with the coil H.

Mounted within the lower end of the cylinder is a shell J having an apertured top J' at its upper end over the apertures in which top a valve J² is positioned, normally closing said apertures. The valve J² opens upward, as shown clearly in Fig 1 of the drawings, and fastened to the under surface of the top J' is a coiled spring J⁴, bearing at its lower end in the bottom of an inverted conical shaped portion of the screen Q.

Hinged to the bottom of the cylinder is a conical shaped dust receiving chamber R to which a latch R' is pivotally connected and adapted to engage over a lug R² projecting from the outer circumference of the cylinder near its lower end. Said shell R has a conduit therein, open at its upper end and communicating at its lower end with a laterally extending chamber T, shown clearly in Fig. 5 of the drawings, which is preferably of cylindrical form. The lower portion of the conduit S has a T-shaped end T³, the lateral projections of which telescope over annular shoulders of the shells T⁴, which latter are fastened by the screws T⁵ to the walls of the casing T'. The lower end of said head is provided with oppositely curved flanges T², as shown in Fig. 1 of the drawings, and intermediate the same is a groove through which air, dust and other foreign matter may be drawn by suction through the conduit into the interior of the casing.

A passageway U communicates at its lower end with a chamber U² formed within the shell J and between which chamber U² and the interior of the shell J is a partition U³ provided with an opening controlled by an outwardly opening valve U. The upper end of the passageway U communicates through an opening U' with the space in the upper portion of the cylinder A.

The operation of the invention is as follows:—The receiver is adapted to be moved over the surface to be operated upon by the suction device and, as the piston is moved upward or from the receiver end of the device, suction is created and a current formed

through the passageway S, the foreign matter being caught by the screen Q and falling therefrom into the conical shaped portion R. As the piston moves toward the upper end of the cylinder, the suction within the latter will cause the valve J² to unseat and the valve U³ to be held to its seat. Upon the return inner throw of the piston, the valve G will unseat and allow the air which has been drawn by the valve J² to enter the shell O and make exit through the hollow piston D and out through the slot d formed in the shank portion of the handle, as shown in Fig. 1 of the drawings. Upon the inner throw of the piston, a suction will be formed behind the latter and air will be drawn through the passageway U, the valve U³ unseating and air will be drawn through the chamber J and conduit S. Upon the next outer throw of the piston, the valves O² will unseat, allowing any air which may accumulate within the upper portion of the cylinder incident to the inner throw of the piston thereof to pass within the shell O', thence making exit through the hollow piston, thus causing a continuous suction force upon the movement of the piston in opposite directions.

What I claim to be new is:—

1. In combination with the casing of a vacuum cleaner, suction means therein, a conduit extending through the lower end of

the casing and opening into the interior thereof, the lower end of said conduit being T-shaped, a receiving head having an inlet, shells mounted upon the walls of said receiving head and communicating with the interior of the head and with the inlet, the laterally projecting portions of the T-shaped end of said conduit telescoping over contracted portions of said shells and forming a continuous passage for the opening in the receiving head through said shell and conduit.

2. In combination with the casing of a vacuum cleaner, suction means therein, a conduit extending through the lower end of the casing and opening into the interior thereof, the lower end of said conduit being T-shaped, a receiving head having an inlet, shells mounted upon the end walls of said receiving head and having annular shoulders upon their adjacent ends over which shoulders the laterally projecting portions of said T-shaped conduit telescopes, said shells being in communication with the conduit and inlet.

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

CARL G. LUNDIN.

Witnesses:

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B. N. ROWELL.