

A. L. FRAME.
PUMPING MECHANISM FOR VACUUM CLEANERS.
APPLICATION FILED NOV. 15, 1910.

987,870.

Patented Mar. 28, 1911.

FIG. 1.

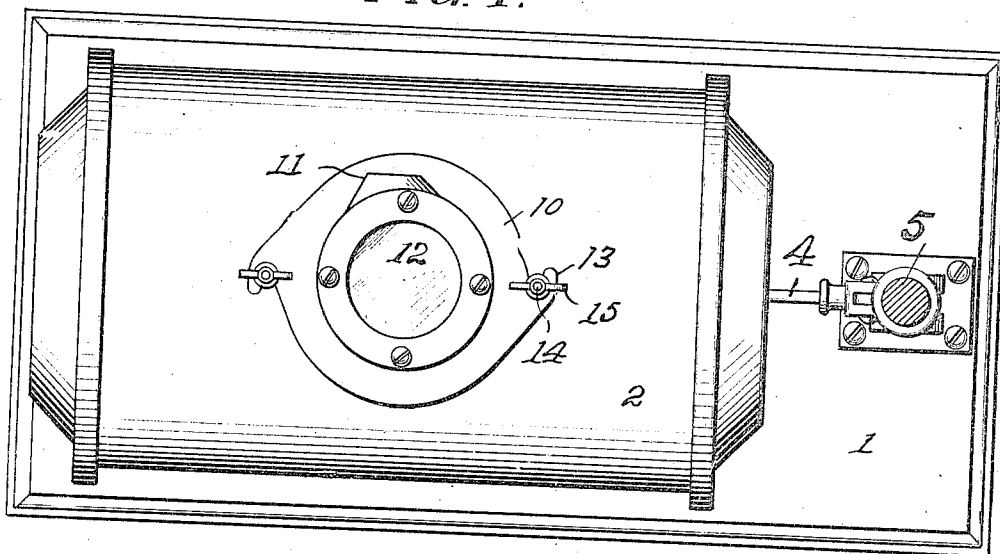


FIG. 2.

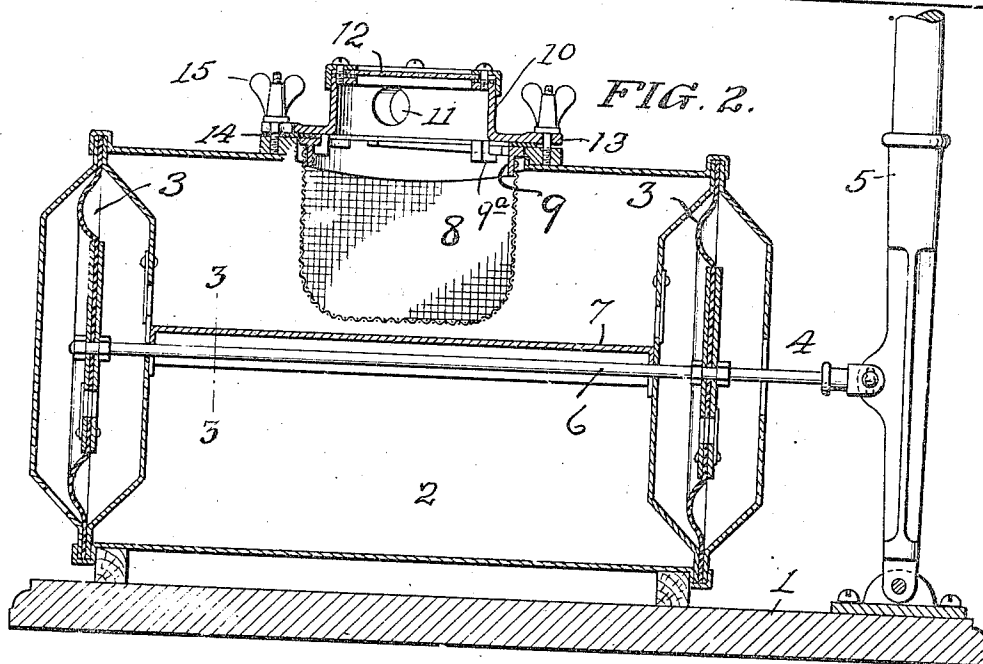


FIG. 3. A. L. Frame, Inventor

Witnesses

Daniel Webster, Jr.
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By

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PUMPING MECHANISM FOR VACUUM-CLEANERS.

987,870.

Specification of Letters Patent. Patented Mar. 28, 1911.

Application filed November 15, 1910. Serial No. 592,469.

To all whom it may concern:

Be it known that I, ABRAHAM LINCOLN FRAME, a citizen of the United States, residing at Reading, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in Pumping Mechanism for Vacuum-Cleaners, of which the following is a specification.

This invention relates to improvements in suction pumps for vacuum cleaners and the object is to provide a portable device of simple construction and effective operation.

The invention consists of a horizontal suction casing adapted to inclose the usual strainer and having a pair of suction diaphragms located therein, one near each end, both of which are operated by the same handle, and they are connected together on the inside of the casing so that not any of the operating parts of the device are exposed. My particular object being to construct a device in which the danger of injury to such operating parts is reduced to a minimum.

Another feature is the novel means of securing the dust strainer in the casing.

The invention is more fully described in the following specification and clearly illustrated in the accompanying drawing, in which:—

Figure 1 is a longitudinal central sectional view of my device. Fig. 2 is a plan view.

The numeral 1 designates a suitable base, to which the device is secured and 2 designates the cylindrical casing horizontally mounted thereon. This casing contains the entire operating mechanism of the device, save only the handle from which they receive the power; the suction pumps and dust strainer being located within the casing, secure against accidental injury.

The pump comprises a pair of diaphragms 3, one located at each end of the casing, and capable of being operated by the rod 4 through the operating handle 5. The rod 4 enters the casing at one end and is connected to the diaphragm at that end. The diaphragms 3 are connected together by a rod 6, inside the casing, and this rod is further protected by a metal protector in the form of a shed 7 so that all danger of bending this rod is eliminated, thus insuring the uniform movement of the diaphragms, which, in devices of this character is most essential. The casing has an air outlet at

each end, and also a central opening at its top in which I secure the dust strainer 8. This strainer is secured to a metal ring 9 and the ring is locked by means of the lugs 9^a to a closure plate 10. This plate 10 is formed with an inlet 11, to which the nozzle connection is made, and it is also provided with a removable transparent top plate 12. The outer edge of the plate 10 is formed with a pair of locking ears 13 adapted to engage pins 14 on the top of the casing and these pins are provided with set screws 15 for securing the plate when in position.

It is evident that in my present construction I have produced a device in which the working parts are all protected, being located in the casing. The connecting rod between the diaphragms being especially guarded against accidental injury. In this manner I assure the perfect operation of my device for a long time as the element of accidental injury is greatly reduced.

Having thus fully described my invention, what I claim and desire to secure by Letters Patent is:—

In a suction pump for vacuum cleaners the combination of a support; a tubular horizontal casing, having a central opening in its top and an air outlet at each end, secured to the support; a suction pump formed in each end of the casing, the end walls of the casing forming one-half of each pump; a rod connecting the diaphragms of the pumps together; a protector for said rod, which protector serves to properly brace the pumps; an operating rod connected to one of the diaphragms; an operating handle secured to the support and connected to the operating rod; a closure plate for the central opening in the casing, said plate having an inlet opening at its side and a dome-like central portion provided with a removable, transparent top plate; a pair of locking ears on the outer edge of the plate at diametrically opposite points; and upright pins on the casing adapted to be engaged by the ears, and set screws for holding the plate in position.

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

ABRAHAM LINCOLN FRAME.

Witnesses:

CLARA E. YOUNG,
ED. A. KELLY.