D. J. COGDILL.

VACUUM CLEANER.

APPLICATION FILED APR. 17, 1911.

1,025,864.

Patented May 7, 1912.

2 SHEETS—SHEET 1.

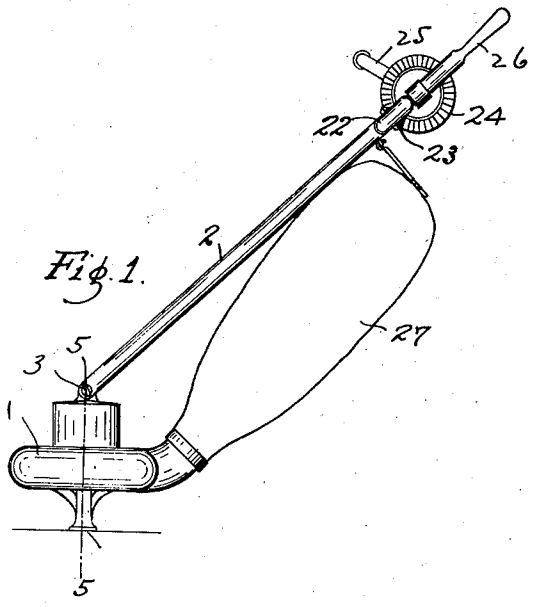

Fig. 1.

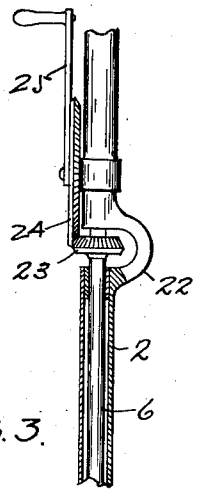

Fig. 3.

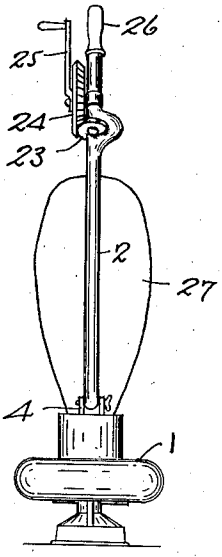

Fig. 2.

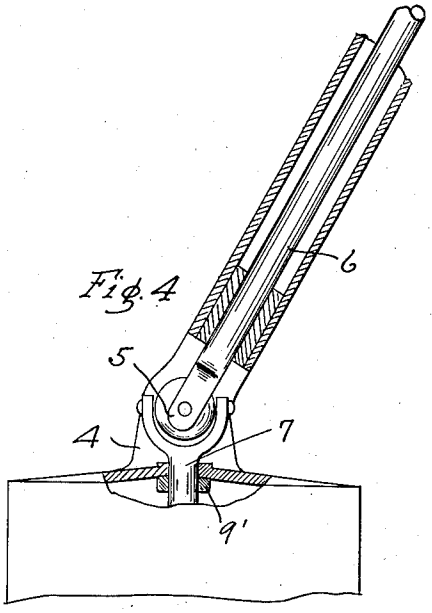

Fig. 4.

WITNESSES

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2 SHEETS—SHEET 2.

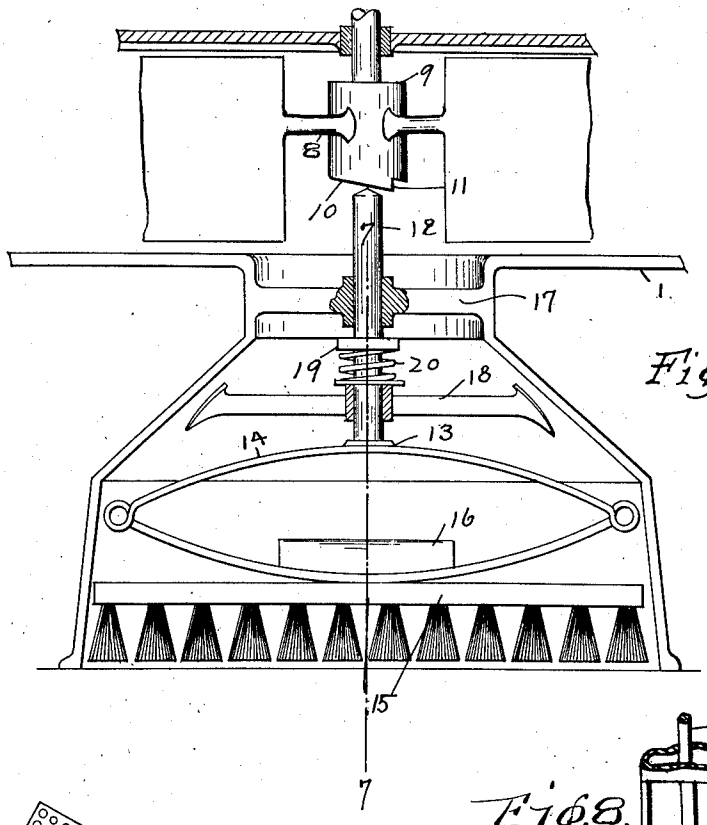

Fig. 5.

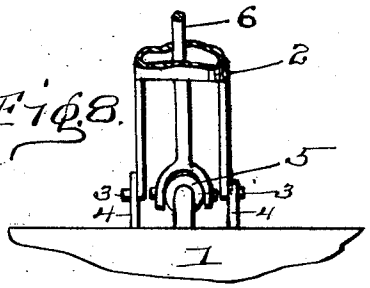

Fig. 8.

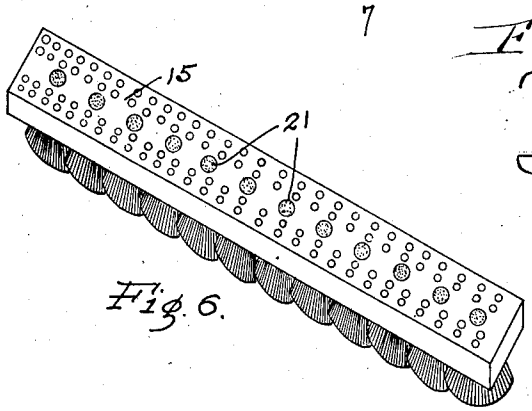

Fig. 6.

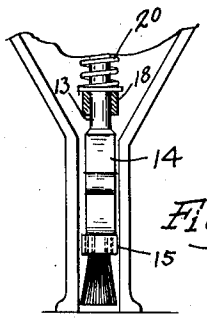

Fig. 7.

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UNITED STATES PATENT OFFICE.

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VACUUM-CLEANER.

1,025,864. Specification of Letters Patent. Patented May 7, 1912.

Application filed April 17, 1911. Serial No. 621,558.

To all whom it may concern:

Be it known that I, DALLAS J. COGDILL, a citizen of the United States, residing at Spokane, in the county of Spokane and State of Washington, have invented certain new and useful Improvements in Vacuum-Cleaners; 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.

This invention relates to improvements in vacuum cleaners, and particularly to hand operated cleaners.

The object in view is the arrangement of an improved cleaner designed to be operated manually and with improved means to permit the handle to be adjusted to the height of any person using the device without in any way disturbing the proper operation of the moving parts.

Another object of the invention is the arrangement in a vacuum cleaner of improved means for beating with a brush at the same time creating a suction so that the dirt may be drawn away as soon as loosened.

A still further object of the invention is the arrangement in a vacuum cleaner, of a brush connected with a reciprocating member and designed to act as a beater, with provision for passing the dirt through the brush body co-acting with a fan which draws the loosened dirt into a receptacle provided for the same.

With these and other objects in view the invention comprises certain novel constructions, combinations, and arrangement of parts as will be hereinafter more fully described and claimed.

In the accompanying drawings: Figure 1 is a side view of one embodiment of the invention. Fig. 2 is a front view. Fig. 3 is an enlarged front view, partially in section, of the driving mechanism and associated parts. Fig. 4 is an enlarged detail fragmentary sectional view of the connection between the handle and the moving parts of the device. Fig. 5 is an enlarged detail section approximately on line 5—5 of Fig. 1. Fig. 6 is an enlarged detail perspective view of the brush. Fig. 7 is a fragmentary sectional view through Fig. 5 on line 7—7. Fig. 8 is an enlarged detail view of the joint between the fan casing and the handle member, taken at right angles to that shown at Fig. 4.

In order that the invention may be more clearly understood an embodiment of the same is shown in the accompanying drawings in which—

1 indicates the housing or what might be called the body portion, and 2 the handle pivoted at 3 to housing 1. Preferably a pair of ears 4 are provided to which the handle 2 is connected by bolts or rivets as desired, but ample space is provided between the ears for accommodating a universal joint 5 which connects the power shaft 6 arranged in handle 2 and the fan shaft 7 which is connected rigidly to a fan 8. Fan 8 is of any desired kind which will provide suction in the usual manner when rotated. The fan 8 is provided with an enlarged hub 9 having a crown cam wheel on its lower end acting against a reciprocating brush operating shaft 12 for intermittently depressing the shaft. Rigidly secured to shaft 7 is a sleeve 9′ which bears against the top of housing 1 to limit the upward movement of the shaft but permits a free rotary movement. Plunger 12 is connected at 13 to a spring 14 which spring is connected rigidly to brush 15. A suitable weight 16 is provided for assisting in causing brush 15 to strike quickly in order to loosen the dirt. The housing 1 is provided with spiders 17 and 18 which guide plunger 12 in its reciprocatory movement. Surrounding plunger 12 and rigidly secured thereto is a collar 19 against which presses spring 20. Spring 20 is designed to press against collar 19, and also against spider 18 so as to raise plunger 12 whenever the end of plunger 12 has slipped into the depressions 11 of the cam wheel. It will be, of course, understood that any desired number of cam faces 10 may be provided on hub 9 so as to give any desired number of reciprocations to plunger 12 in respect to the number of revolutions of fan 8. Housing 1 is made to include all the mechanism just described, and is designed to rest against the floor or other object upon which the device is used. The brush 15 is provided with a plurality of apertures 21 through which the dust may pass when the device is in operation. Of course it will be understood that the dust will not only pass through apertures 21 but will pass upward around the brush wherever there is a space.

The handle 2 is formed hollow in order to

accommodate driving shaft 6, which driving shaft extends upward and past a substantially U-shaped fitting 22. A beveled pinion 23 is provided in U-shaped member 22, and is rigidly secured to shaft 6 in such a manner as to engage a beveled gear 24 which is pivoted to the upper part of handle 2. A suitable crank 25 is provided for gear wheel 24, and is designed to be operated by the hand of the person using the device. In operation one hand of the operator grasps grip portion 26, and the other hand grasps the end of crank 25, and the device is pushed along over the floor or other object, and operated at the same time. As the device is operated the fan draws up the dirt and dust and deposits the same in a receptacle 27 connected with housing 1.

What I claim is:

In a vacuum cleaning device, a nozzle, an exhaust mechanism disposed above the nozzle, a plunger mounted to reciprocate within the nozzle and to receive motion from the exhaust mechanism, a brush mounted in the nozzle nearly closing the same, resilient means connecting the brush and plunger, said brush being also provided with openings therethrough to permit the passage of air.

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

DALLAS J. COGDILL.

Witnesses:
H. E. SMITH,
NETTIE KING.