

C. F. BARRETT.  
PORTABLE VACUUM CLEANER.  
APPLICATION FILED FEB. 10, 1909.

930,125.

Patented Aug. 3, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

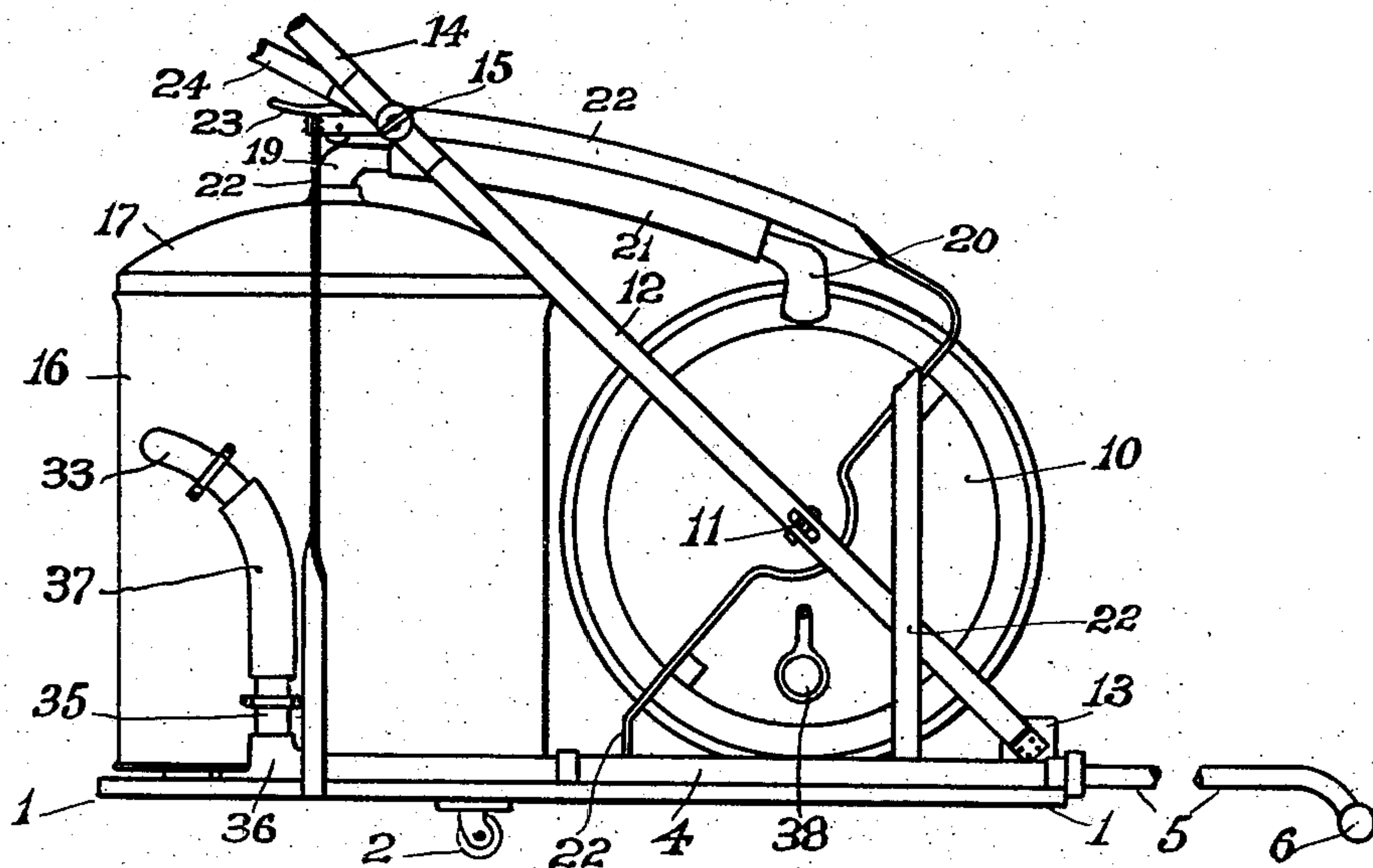
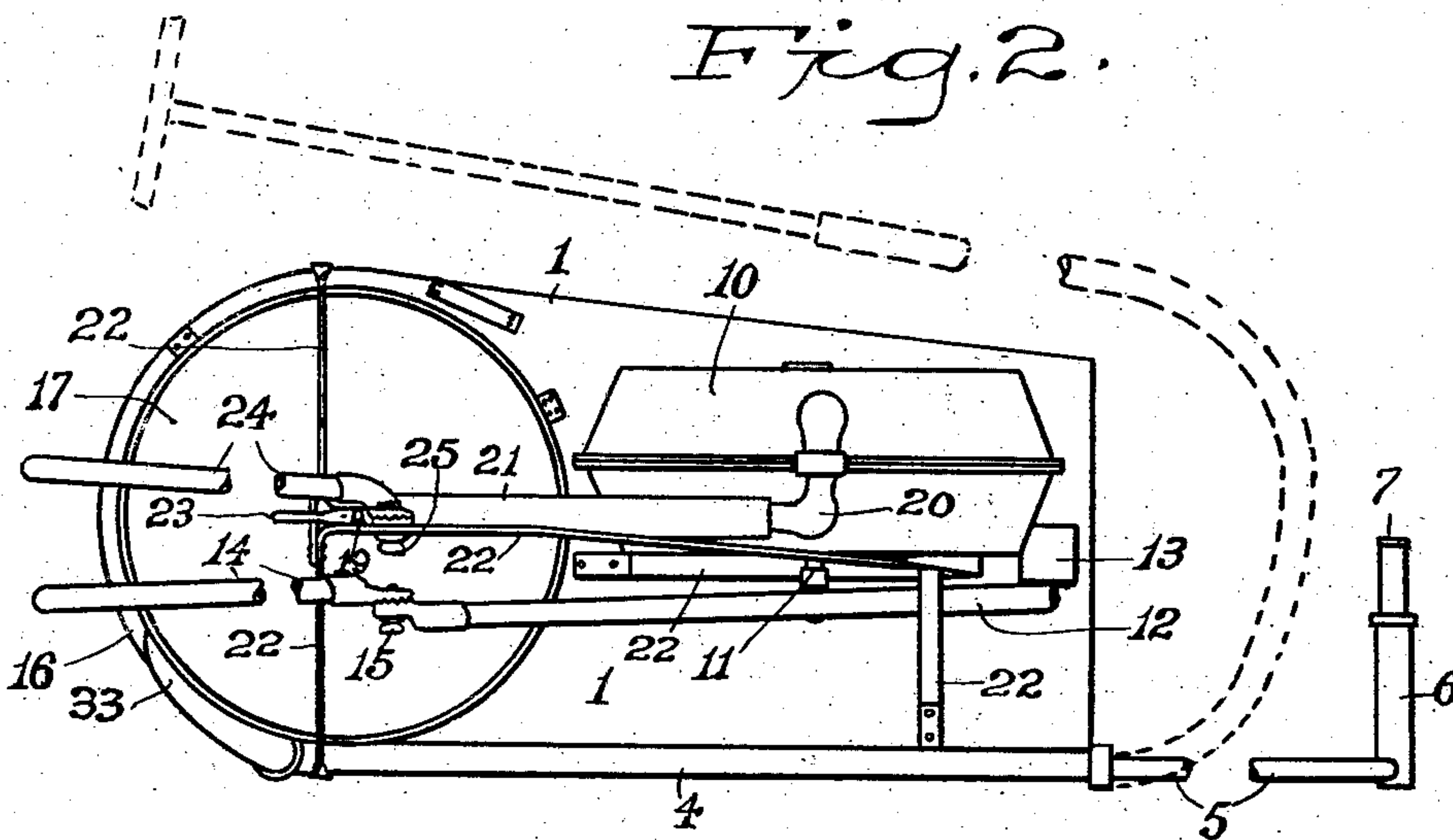


Fig. 2.



WITNESSES

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2 SHEETS—SHEET 2.

Fig. 3.

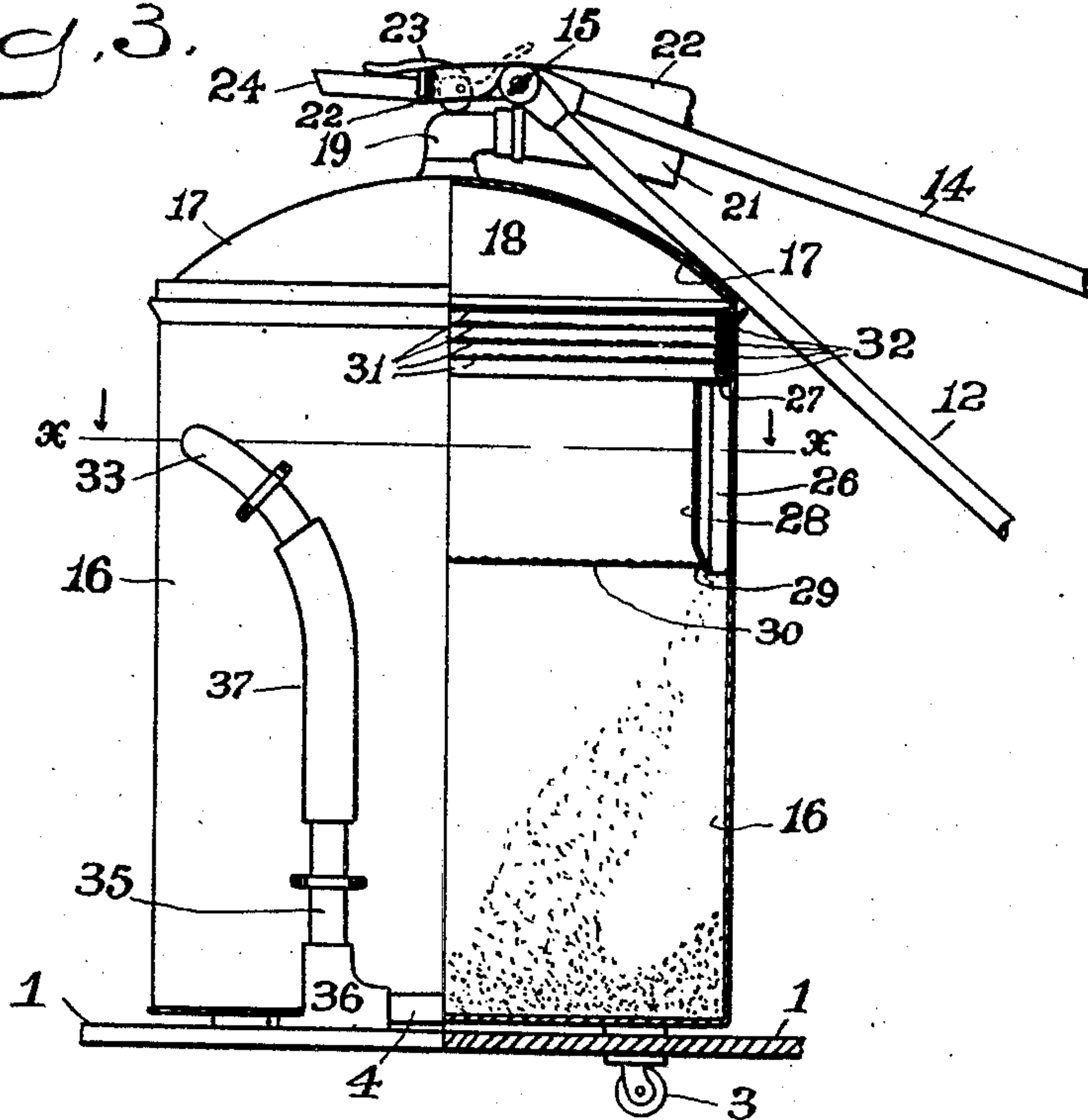


Fig. 4.

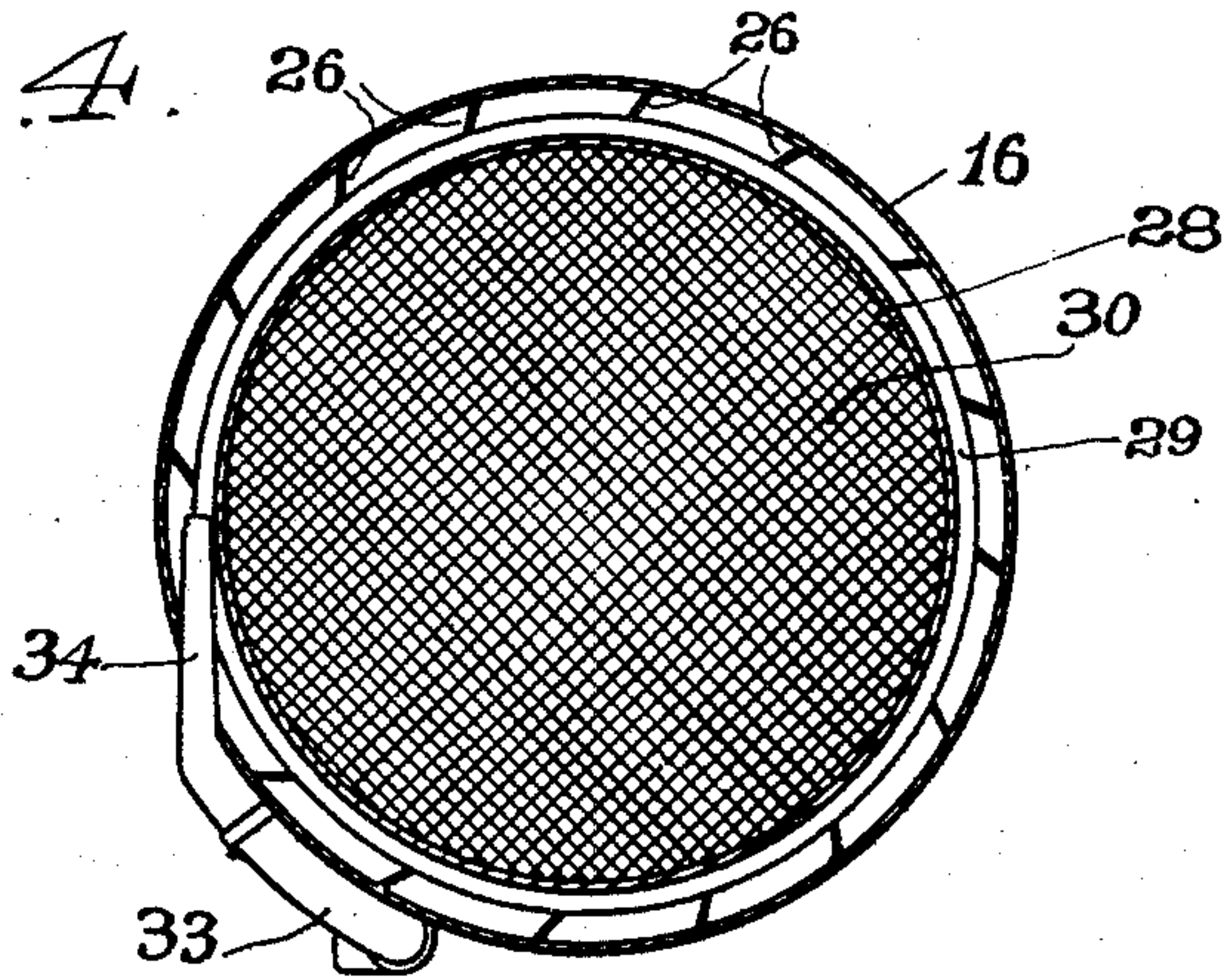
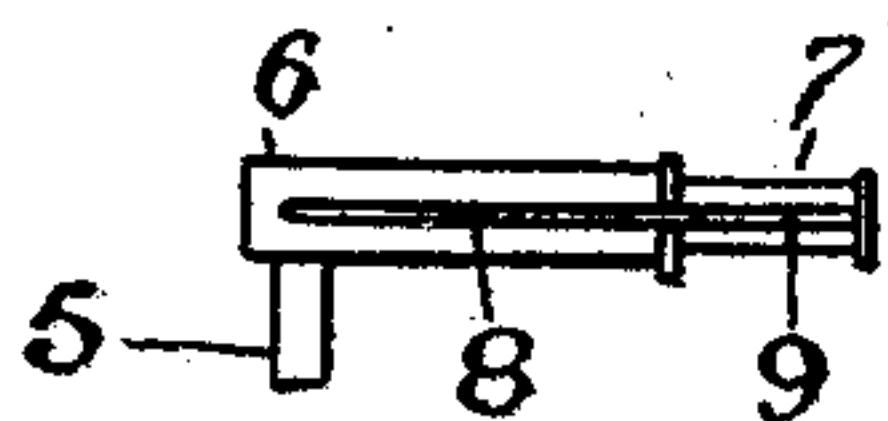


Fig. 5.



WITNESSES

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# UNITED STATES PATENT OFFICE.

CHARLES F. BARRETT, OF BRIDGEPORT, CONNECTICUT.

## PORTABLE VACUUM-CLEANER.

No. 930,125.

Specification of Letters Patent.

Patented Aug. 3, 1909.

Application filed February 10, 1909. Serial No. 477,090.

*To all whom it may concern:*

Be it known that I, CHARLES F. BARRETT, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Portable 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.

My invention relates to vacuum cleaners, such as are used for removing dust and other foreign substances from carpets, rugs, furniture, and the like, but more particularly has reference to machines of this description which may be readily moved about and directed by the hands of the operator and which therefore may be classed as portable vacuum cleaners.

The object of my improvement is to provide a simple machine of this nature, economical as to cost and readily operated.

With these ends in view my invention consists in the construction and arrangement of parts hereinafter fully described and then particularly pointed out in the claims which conclude this description.

In the accompanying drawing Figure 1 is a side elevation of my improvement—Fig. 2 a plan view—Fig. 3 a detail sectional elevation of the chamber for separating the dust and air—Fig. 4 a section at the line *x, x*, of Fig. 3, and Fig. 5 a detail bottom view of the nozzle.

Similar numerals of reference denote like parts in the several figures of the drawing.

In machines of this description an air pump is employed for creating a suction through the dust removing pipe and nozzle, whereby the dust or other foreign substance is abstracted from carpets, rugs, furniture and the like, and drawn within a chamber where the dust &c., is separated from the air, the dust or other refuse falling by gravity to the bottom of said chamber, while the air, after purification, is drawn into the pump and then discharged through suitable valves into the atmosphere.

My improvement has nothing to do with the pump itself since I can use any ordinary suction pump, and therefore I have not illustrated the internal construction of the pump but have merely shown the hand operating lever connected to the piston of a pump so that when said lever is operated, the piston will be reciprocated to create an air suction.

My machine is directed all over a room, and simultaneously operated by direct and positive instrumentalities, by a single person, the dust removing nozzle being at all times in operation, all of which will be clear from the following description.

1 is a platform or truck provided with oppositely disposed casters 2, 3, and 4 is a suction pipe supported on said truck and having an extension 5, at the free end of which latter is a nozzle 6 having an extension 7. At the bottoms of this nozzle 6 and section 7 are coinciding elongated slots 8, 9, which constitute the mouth of the nozzle, the object of the telescoping feature being to enable the slot of the nozzle to be contracted more or less thereby intensifying the suction to a greater or lesser degree, as may be desired, all of which will be more clearly understood by the description hereafter to follow. This nozzle is deflected downwardly from the plane of the section 5 so as to be on the same horizontal plane with the tread of the casters 2, 3, and therefore it will be clearly understood that the truck 1 has three points of support, namely the casters and the nozzle.

10 is any suitable vacuum creating pump supported on the truck in any ordinary manner and provided with an actuating piston 11, and 12 is a lever hinged at its lower end to any suitable block 13 rising from the truck and operatively connected to the piston 11, whereby outwardly and inwardly swinging motions of said lever will actuate the piston and operate the pump. I prefer to make the handle 14 of this lever separate from the latter and to secure them together by means of a set screw 15 so that their angular disposition with respect to each other may be changed to suit the convenience of the operator, but of course the lever and handle may be made integral if desired.

16 is the separating chamber where the air is freed from the particles of dust or other foreign matter, which chamber rests by its gravity upon the truck 1. 17 is the cover of this chamber, which cover is preferably dome shaped so as to provide a space within the same.

19, 20, are nipples communicating respectively with the cover 17 and pump 10, and 21 is a rubber hose or other flexible tube connecting said nipples, so that it will be clearly understood that said nipples and hose form a continuous connection between said pump and cover.



22 is a metal frame suitably secured to the truck 1 and extending immediately above the cover 17, and to this frame is pivoted a cam lever 23 which is operated directly  
5 against the nipple 19 so as to bind the cover 17 tightly to the chamber 16 and thereby hold the latter in position upon the truck.

24 is a handle which is secured to the frame 22 preferably by means of a set screw  
10 25 so that said handle may have an angular adjustment to suit the operator.

Within the upper portion of the chamber 16 and secured to the inner periphery thereof so as to extend therefrom at an angle are  
15 elongated blades 26, and supported on top of these blades is the flange 27 of a broad ring 28, the lower portion or mouth of said ring being preferably expanded as seen at 29, so as to be substantially in contact with the  
20 inner edges of said blades. Secured within the mouth or lower part of this ring 28 is any suitable perforate material which, in the drawing, is illustrated in the form of a riddle 30.

31 are screens one above the other, the frames 32 of which screens are supported by the flange 27 and closely fit against the inner wall of the chamber 16. Within the ring 28 and between the riddle 30 and the lowermost  
30 screen 31, are preferably placed pieces of cloth, waste, or other suitable material (not shown) and within the dome-like cover 17 is preferably placed any suitable de-odorizing or disinfecting material (not shown).

33 is a nipple suitably secured to the outside of the chamber 16 and terminating at its inner end in a nozzle 34 which extends within the chamber 16 substantially tangential to the outer perimeter of the ring and  
40 directed immediately beneath the flange 27 toward the blades 26. 35 is likewise a nipple secured within one end of a suitable union 36, the suction pipe 4 being secured within the other end of said union.

37 is a flexible hose secured to the nipples 33, 35, so as to connect the same, whereby it will be clearly understood that a continuous passage will be provided from the nozzle 6  
50 into the separating chamber and thence out through the cover thereof into the pump.

The operation of my improvement is as follows:—In the first place, the operator adjusts the handles 14, 24, to suit his convenience, and then, utilizing the rigid handle  
55 24, he propels the cleaner in any desired direction, and this is rendered very simple by reason of the fact that I have provided three points of support, two of which are the casters above noted while the third is the  
60 nozzle itself, and this arrangement I believe to be entirely novel and it contributes greatly to the ease and practicability with which my improvement may be managed by a single person. As the operator propels  
65 the device he simultaneously swings the

handle 14 inwardly and outwardly thereby operating the pump.

The device may be tilted or lifted at either end in order to pass over obstructions, and in order to conveniently operate beneath heavy  
70 articles of furniture the telescoping section 5 within the pipe 4 may be extended more or less, as may be desired, and also the nozzle itself may be contracted or extended as  
75 above set forth, in order to intensify or weaken the suction produced by the pump.

As the air laden with dust and other foreign particles is sucked by the action of the pump through the passage formed by the pipe 4, union 36, nipples 33, 35, and hose 37,  
80 it will be driven within the annular space between the chamber 16 and ring 28 against the blades 26 and a whirling action will thus be imparted to the air and dirt. The greater part of the dirt or other foreign material being  
85 arrested in its speed, owing to impingement against said blades, will become pocketed, so to speak, and will then drop by gravity to the bottom of the tank. The air, thus partially freed from foreign matter, will  
90 pass spirally down the outside of the ring 28 and thence upwardly through the riddle 30, screens 31, and cover 17, into the pump and will be discharged into the atmosphere through any suitable and ordinary valve 38.  
95 As the air passes upwardly through the inside of the ring 28 a considerable amount of the dirt or other foreign matter which remains in the air, will be deposited upon the waste, cloth or other material contained  
100 within the ring, and the continued passage of the air through the series of screens 31 will completely free it from foreign matter, while the deodorizing or disinfecting agents within the cover will relieve the air of any bad  
105 odors and will purify it so that it will be discharged into the atmosphere under the most sanitary conditions.

Of course it will be understood that the presence of deodorizing or disinfecting  
110 agents is not essential to the successful operation of my improvement, and it will likewise be clear that I can utilize any desired number of screens 31 and thus do away with the advisability of utilizing any dust catching material within the ring 28.  
115

By throwing up the cam lever 23 and removing the flexible connections 21, 37, the separating chamber 16 may be removed from the truck so that the dirt and dust therein  
120 may be dumped and the screens and other dust catching material thoroughly cleaned.

In operating my improvement within cramped places the handles 14, 24, may be adjusted to a vertical position or to such  
125 other position as may be found necessary, or such handles may be folded forwardly, as is shown in the instance of the handle 14 at Fig. 3, this folded position of the handles being very convenient when the apparatus  
130



is to be bodily transported or shipped from one place to another.

In cleaning walls, casings, curtains, or other objects located above the plane of the floor, the extension 5 may be unshipped and an ordinary flexible hose secured to the pipe 4, as shown in dotted lines at Fig. 2.

The blades 26 serve as baffle plates to arrest the current of dust laden air, and therefore any suitable appliances of this description may be employed, or, these blades may be fastened directly to the ring itself and the latter would be secured in any suitable manner within the chamber, since it is merely necessary that the blades or other baffle plate devices shall be located in the space between this ring and the wall of the dust separating chamber.

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

1. A portable vacuum cleaner, comprising a truck, a pump and dust chamber carried by said truck, a pipe connecting said pump and chamber, a suction pipe carried by said truck and leading into said dust chamber, a suction nozzle connected to the free end of said pipe, and two handles carried by said truck and said pump one of which handles is rigid with the truck while the other is operatively connected with the pump.

2. A portable vacuum cleaner, comprising a truck supported near its rear end by oppositely disposed casters, a pump and dust separating chamber carried by said truck, a pipe which connects said pump and chamber, a suction pipe carried by said truck and leading into said chamber, a suction nozzle connected to the free end of said pipe and depending below the plane of the truck and constituting the forward support of the latter, and suitable handles carried by said truck and said pump whereby the truck may be propelled and the pump operated.

3. A portable vacuum cleaner, comprising the truck having three points of support two of which are casters beneath opposite sides of the rear portion of the truck while the third is the vacuum suction nozzle itself beyond the forward portion of the truck, a pump and a dust separating chamber carried by said truck, tubular connections between said nozzle, chamber and pump, and the two handles one of which is rigid with the truck while the other is operatively connected with said pump.

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

CHARLES F. BARRETT.

Witnesses:

F. W. SMITH, Jr.,  
M. T. LONGDEN.