

June 28, 1932.

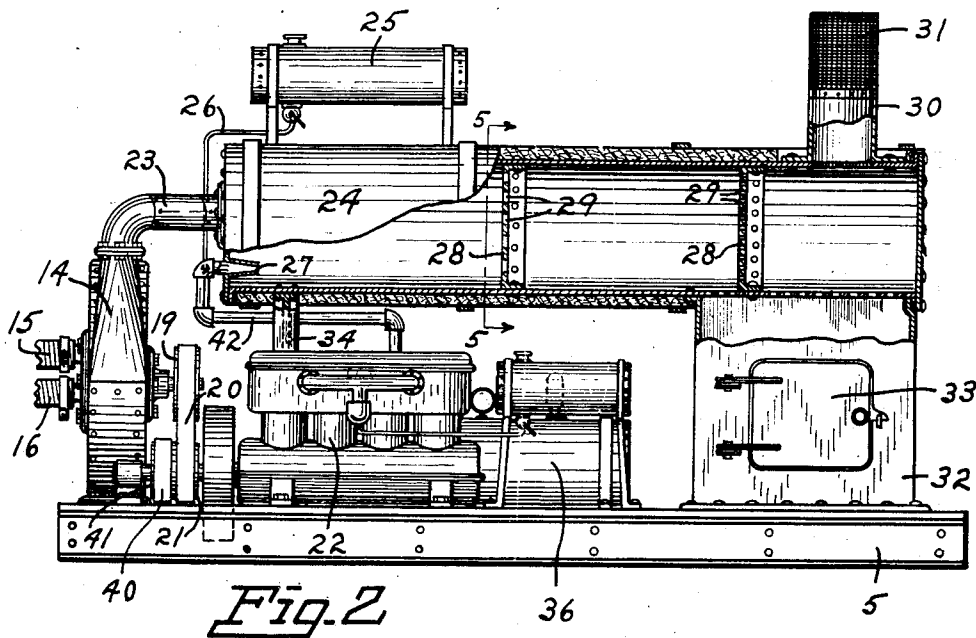
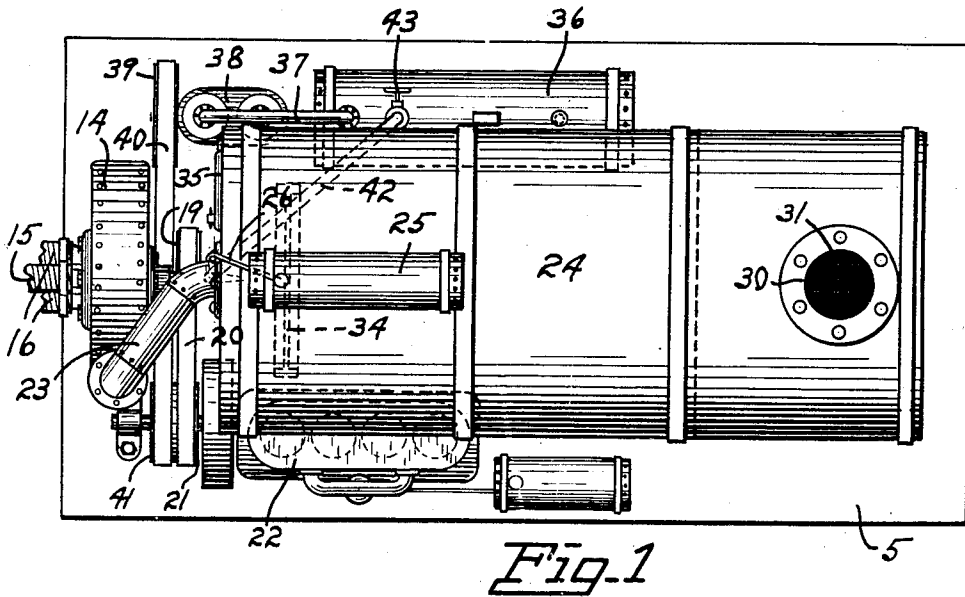
J. S. BESSENT

1,864,633

COMBINATION VACUUM CLEANER AND BURNER

Filed July 2, 1929

2 Sheets-Sheet 1



INVENTOR.
John Sidney Bessent
BY *Glenn L. Fish*
ATTORNEYS.

June 28, 1932.

J. S. BESSANT

1,864,633

COMBINATION VACUUM CLEANER AND BURNER

Filed July 2, 1929

2 Sheets-Sheet 2

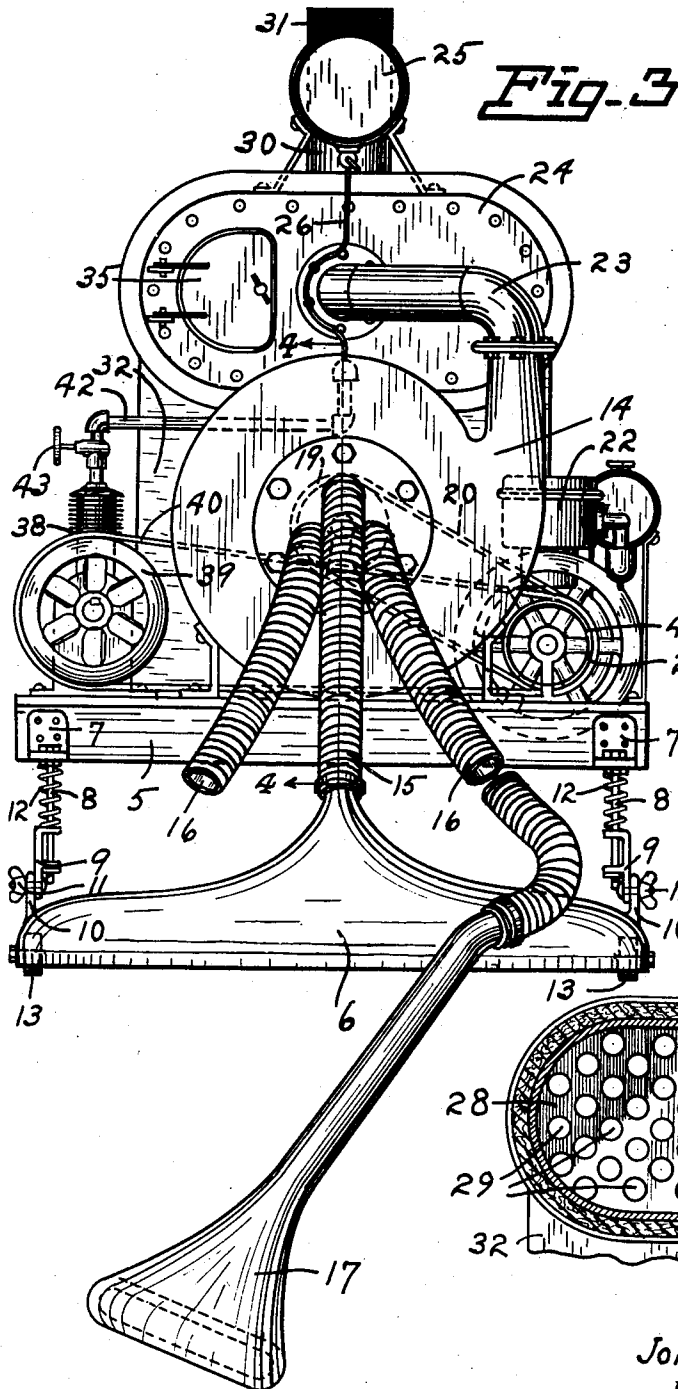


Fig. 4

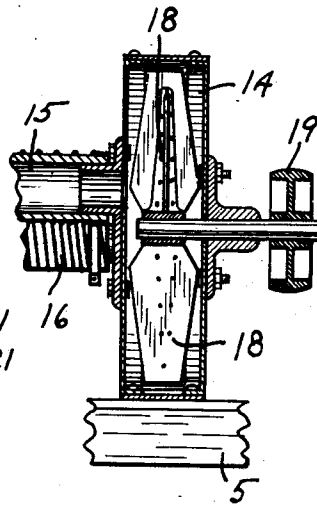
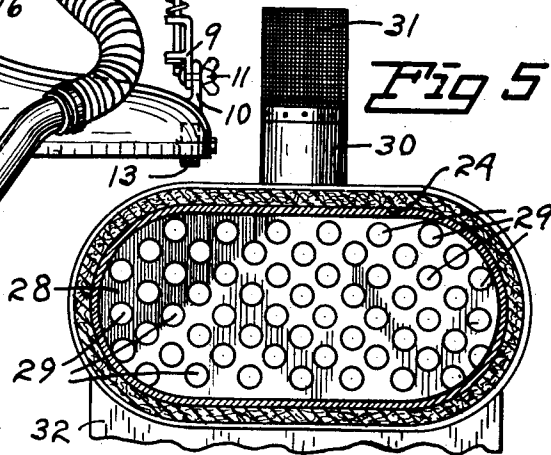


Fig. 5



INVENTOR.
John Sidney Bessant
BY *Glenn L. Fish*
ATTORNEYS.

UNITED STATES PATENT OFFICE

JOHN SIDNEY BESSANT, OF BIGFORK, MONTANA

COMBINATION VACUUM CLEANER AND BURNER

Application filed July 2, 1929. Serial No. 375,512.

My invention relates to combination vacuum cleaners and burners and more particularly to a vacuum cleaner and burner that is adapted for use in cleaning streets. Certain objects of the invention are to provide a cleaner and burner that is preferably operated by an internal combustion engine which supplies the power for actuating suction elements that draw the street refuse, such as dead leaves and the like, into a burner tank where it is consumed. Further objects are to provide adjustable means for the main suction or cleaner element and means for supplying compressed air to the ignition or burner nozzle. Still further objects are to supply auxiliary cleaner elements for removing the refuse from sidewalks and other places adjacent the streets and also to provide means for retarding the passage of the refuse through the burner tank.

With the above and other objects in view which will appear as the description proceeds, the invention consists of the novel construction, adaptation, combination and arrangement of parts hereinafter described and claimed. These objects are accomplished by devices illustrated in the accompanying drawings; wherein:

Figure 1 is a top plan view of the device;

Fig. 2 is a view in side elevation of the same with parts broken away;

Fig. 3 is a view in end elevation of the same;

Fig. 4 is a detail view in vertical section of the fan and associated parts; and

Fig. 5 is a view in transverse vertical section of the burner tank and showing one of the baffle plates in elevation.

Referring to the drawings throughout which like reference numerals designate like parts, the numeral 5 indicates a base platform on which the entire device is mounted and whereby the device may be placed on a truck or other conveyance when in use and removed therefrom when not in use as will be understood.

The numeral 6 designates a main cleaner element which is disposed in alignment with the base platform 5 and which is adapted to clean the driveway portion of the street as

more fully hereinafter set forth. Each end portion of said cleaner element is supported from the base platform by bracket plates 7 secured to end corners thereof and having rods 8 extending downwardly therefrom that are slidably disposed through brackets 9. Said brackets are pivotally connected to lugs 10 formed on the ends of said cleaner element by thumb screws 11 which may be loosened and the cleaner element pivotally raised out of the way when not in use. Springs 12 are interposed between the plates 7 and brackets 9 which retain the cleaner element in a normally downward position so that it will ride on its rollers 13 and at the same time have sufficient flexibility of movement whereby it will ride over uneven places in the street.

The main cleaner element 6 is connected with a rotary fan casing 14 by means of a flexible suction hose 15. Auxiliary hose 16 are likewise connected with said fan casing and smaller cleaner elements, such as shown at 17 in Fig. 3, are connected to said hose. These auxiliary cleaners are adapted to be manipulated by hand and are used for removing the leaves and other refuse from the sidewalks, parking strips and the like on either side of the street as will be understood.

The fan casing 14 has a fan 18 mounted for rotation therein by means of a pulley 19 keyed to the outer end of its shaft and driven by a belt 20 from a wheel 21 mounted on the shaft of an internal combustion engine 22. A conduit 23 extends from the fan casing to a relatively large burner tank 24 into which the leaves and other refuse are blown when the fan is set in motion to create a suction draft.

An oil tank 25 is mounted on top of the burner tank 24 and a supply pipe 26 leads from said oil tank to a burner nozzle 27 which projects through an end wall into said burner tank. The refuse is thus burned while it is being projected through said burner tank. A plurality of baffle plates such as shown at 28 are disposed in spaced relation transversely of the burner tank thus dividing same into several compartments.

Each of the baffle plates 28 is provided with

perforations 29 extending over its entire surface and I prefer to make these perforations for each plate of different diameters. Thus the perforations through the plate nearest the fan are larger than those through the next plate. These baffle plates are for the purpose of retarding the refuse in its passage through the burner tank so that it will be completely consumed therein as will be understood.

From the burner tank 24 the products of combustion pass out through a stack 30 whose outlet is provided with a fine mesh screen 31 for the purpose of preventing diffusion of the sparks and the consequent danger of fire. The ashes drop down into an ash pit 32 from which they are removed through a clean-out 33. Said ash pit serves as a support for the discharge end of the burner tank and a standard 34 serves as a support for the other or intake end of said tank. A clean-out 35 is provided for the intake tank end.

For the purpose of providing a forced air mixture with the fuel oil I have provided a compressor tank 36 that is supplied with compressed air through a pipe 37 from a compressor 38 of the usual internal construction. Said compressor is actuated by a pulley 39 keyed to its shaft and driven by a belt 40 from a wheel 41 keyed to the shaft of the engine 22. A pipe 42 extends from said tank to the burner nozzle 27 and is provided with a control valve 43. Compressed air may thus be released through said nozzle and mixed with the fuel oil to increase the efficiency of ignition as will be understood.

It will now be apparent that I have provided an effective means for removing refuse from streets whereby they may be kept clean and sanitary. Having thus described my invention, it being understood that minor changes may be resorted to in its construction without departing from its scope and spirit, what I claim and desire to secure by Letters Patent of the United States is:—

1. A combination vacuum cleaner and burner comprising a rotary fan, nozzles connected to the intake side of the fan, a burner tank, a conduit for the forward end of said tank communicating with the discharge side of the fan, perforated baffle plates disposed in spaced apart relation within the tank, and ignition means for the forward end of the tank located directly below the point of entry of the conduit leading from the fan.

2. A combination vacuum cleaner and burner comprising a platform base, a rotary suction fan mounted on the forward end of said platform, a plurality of cleaner nozzles connected to the intake side of the fan, a burner tank having an outlet at its rear end, a plurality of baffle plates disposed in spaced apart relation within the tank, said plates having perforations that successively decrease in size from the foremost to the rearmost

plate, a conduit for the forward end of said burner tank communicating with the discharge end of the fan whereby air is projected through the perforated plates and outwardly through the rear outlet of the tank, and ignition means for the forward end of the tank adjacent the point of entry of the conduit leading from the fan whereby the draft therefrom creates a blast for the ignition means.

In testimony whereof I affix my signature.
JOHN SIDNEY BESSENT.

70

75

80

85

90

95

100

105

110

115

120

125

130