A. C. FRANK.

DUST COLLECTING RECEPTACLE.

APPLICATION FILED APR. 7, 1919.

1,356,061. Patented Oct. 19, 1920.

Fig. 1.

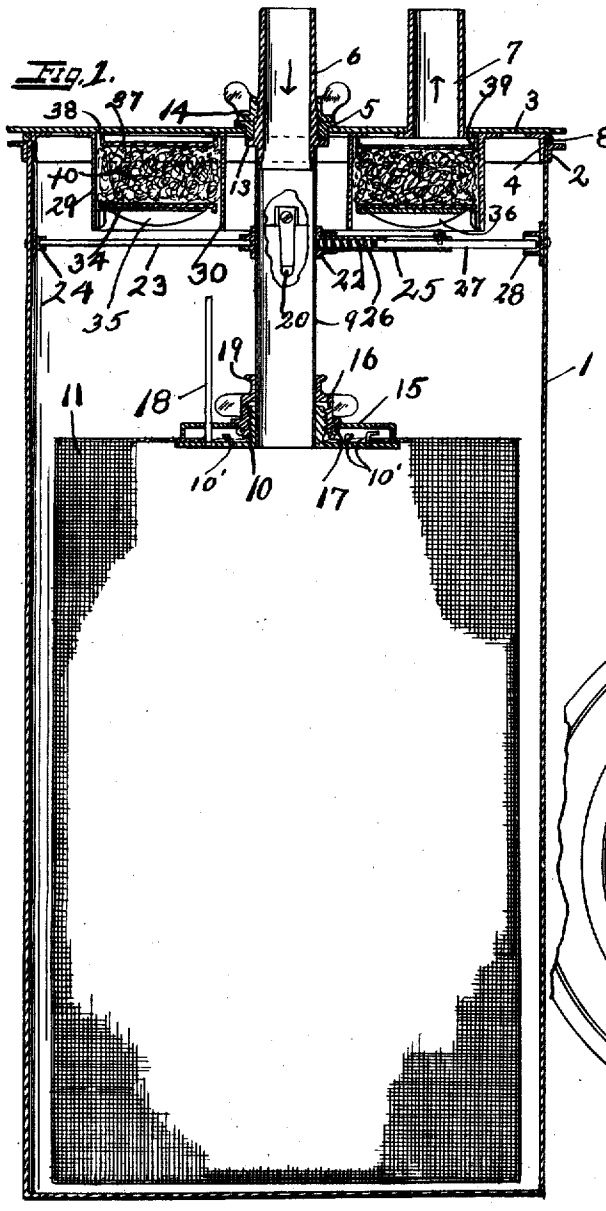
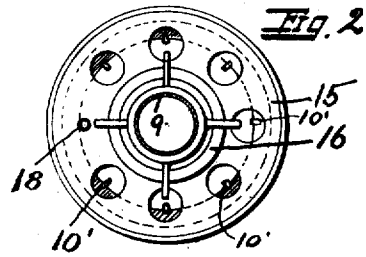


Fig. 2.



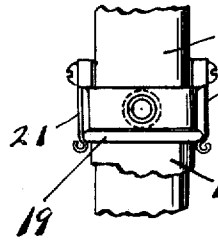


Fig. 3.

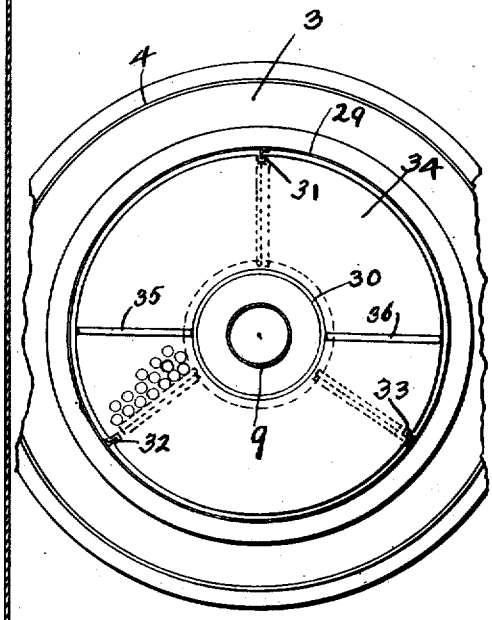


Fig. 4.

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DUST-COLLECTING RECEPTACLE.

1,356,061. Specification of Letters Patent. Patented Oct. 19, 1920.

Application filed April 7, 1919. Serial No. 288,174.

To all whom it may concern:

Be it known that I, AUGUST C. FRANK, citizen of the United States, residing at Hayward, in the county of Alameda, State of California, have invented a new and useful Dust-Collecting Receptacle, of which the following is a specification in such full and clear terms as will enable those skilled in the art to construct and use the same.

This invention relates to a dust collecting receptacle for use with vacuum cleaners, and its object is to produce a convenient portable receptacle which will retain the dust and dirt collected and prevent it from passing into the vacuum cleaner, thereby preventing injury to the motor or fan.

Another object of the invention is to provide a dust collecting receptacle which may be easily cleaned and which can be completely disassembled for cleaning purposes.

A special object of the apparatus is to make a collector that will be adaptable for use in cleaning stoves to prevent the soot from passing into the vacuum cleaner, a special bag being ordinarily used, which can be thrown away after each using, thereby avoiding direct contact with a mass of light soot, and also eliminates the necessity of scattering the soot, as is done when the bag is cleaned and used over again.

A specially treated clean bag may be used.

Other objects of the invention will appear as the description proceeds.

An embodiment of the invention is shown in the drawings in which the same reference numeral is applied to the same portion throughout, but I am aware that there may be modifications thereof.

In the drawings:—

Figure 1 is a vertical sectional view of the complete dust collecting receptacle,

Fig. 2 is a plan view of the coupling used for connecting the bag to the inlet pipe,

Fig. 3 is a side elevation of the snaps used on the inlet pipe for holding the bag coupler raised when the bag is removed, and

Fig. 4 is a bottom plan view of the cover for the receptacle as it appears detached therefrom.

The receptacle consists of a cylindrical vessel 1 of such size as may be deemed convenient to the particular vacuum cleaner used.

The receptacle has a flange as indicated at 2 to stiffen it, and is provided with the cover 3 which cover has an interior flange 4 fitting within the receptacle 1. At the center the cover is provided with a fixed ring 5 through which a flanged inlet pipe 6 passes. At one side of the center, the cover has an outlet pipe 7 secured thereto through which the air passes, to the vacuum cleaner a suitable hose with the ordinary cleaning tube being used on the inlet pipe 6 for cleaning purposes, but which forms no part of the invention.

A gasket 8 is used to produce a joint between the cover and top edge of the receptacle 1. The inlet pipe 6 is provided with, and has secured thereto a thinner pipe 9 which terminates in a flanged coupling 10 at its lower edge, said coupling being for the purpose of connecting the cylindrical bag 11 thereto.

The pipe 6 has a flange 13 and it is held tightly in engagement with the flange 5 of the cover by means of a wing nut 14 which screws on the inlet pipe 6. The bag 11 has a circular hole at its upper end, of a diameter such as to be smaller than the flange 10, and it is held in engagement therewith by means of a plate 15. Pins 10′ help to center the bag when it is being positioned. This plate is supported by the wing nut 16, the latter being held in engagement therewith by means of a spring 17 and being free to rotate without turning the plate 15. The plate 15 is held and is prevented from rotating by means of a rod 18 secured to the flange 10. The wing nut 16 is also provided with a flange 19, the object of which is to provide means whereby the plate 15 and wing nut may be held raised when it is desired to remove the bag 11. The means for accomplishing this consists of a pair of springs 20, 21, which are secured to the pipe 9 and which engage the flange 19 with sufficient friction to hold the wing nut and plate 15 raised when it is so desired. A ring 22 surrounds the pipe 9 and is provided with a fixed rod 23 which engages a detent 24 on one side of the wall of the receptacle while on the other side, the ring 22 is provided with a fixed tube 25 within which there is a spring 26 which holds a slidable rod 27 toward and in engagement with a detent 28 on the other side of the receptacle. The object of this is to hold the inlet pipes 6 and 9 in the proper position while the cover is being replaced on the receptacle and to assist in holding the cover in its proper place.

The cover of the receptacle is provided with two depending walls 29 and 30 forming an annular chamber including the outlet pipe 7.

The outer wall 29 is provided with three lugs 31, 32, 33 for the purpose of holding the screen 34 in place. Said screen has notches to pass the lugs 31 to 33 inclusive when in the proper position and is capable of being turned slightly to hold said screen when it has been pushed up into place. The screen 34 is provided with flanges 35 and 36 in order to stiffen it and to turn it to its proper position. In order to provide a free chamber around the entire circumference of the cover, a screen 37 similar to the screen 34, but with upwardly extending flanges 38 and 39 is first inserted in position above the screen 34. Any suitable fibrous material 40 is placed between said screens to detain whatever dirt may pass through the bag 11, and to protect the vacuum cleaner.

In operation the bag is assembled as shown in Fig. 1. The inlet pipe 9 and cover, to which is also connected the inlet pipe 6, are then placed and secured in that position by means of the slidable rod 27. Thereupon the cover 3 is placed on the receptacle 1, and the lock nut 14 is then used to secure the inlet pipe and cover together. Since there is a vacuum more or less perfect within the receptacle, the cover 3 is tightly drawn down by the gasket 8, thereby making it substantially air tight.

In order to insure the bag detaining as much dust and soot as possible it is wet thoroughly when it is put into place.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is as follows, express reservation being made of permissible modifications.

A dust collecting receptacle comprising a casing, a cover therefor, inlet and outlet pipes extending through said cover, radially extending rods, one of which is slidable for engaging the casing to hold the inlet pipe in a fixed position with respect thereto, a dust collecting receptacle detachably secured to the lower end of the inlet pipe, an annular receptacle carrying the fibrous material connected to the cover and including the outlet pipe, a removable screen for holding said annular receptacle in position and means to detachably connect the inlet pipe to the cover.

In testimony whereof I have hereunto set my hand this 31st day of March, A. D. 1919.

AUGUST C. FRANK.