April 22, 1941. J. E. McMILLAN 2,239,010

ASH REMOVER

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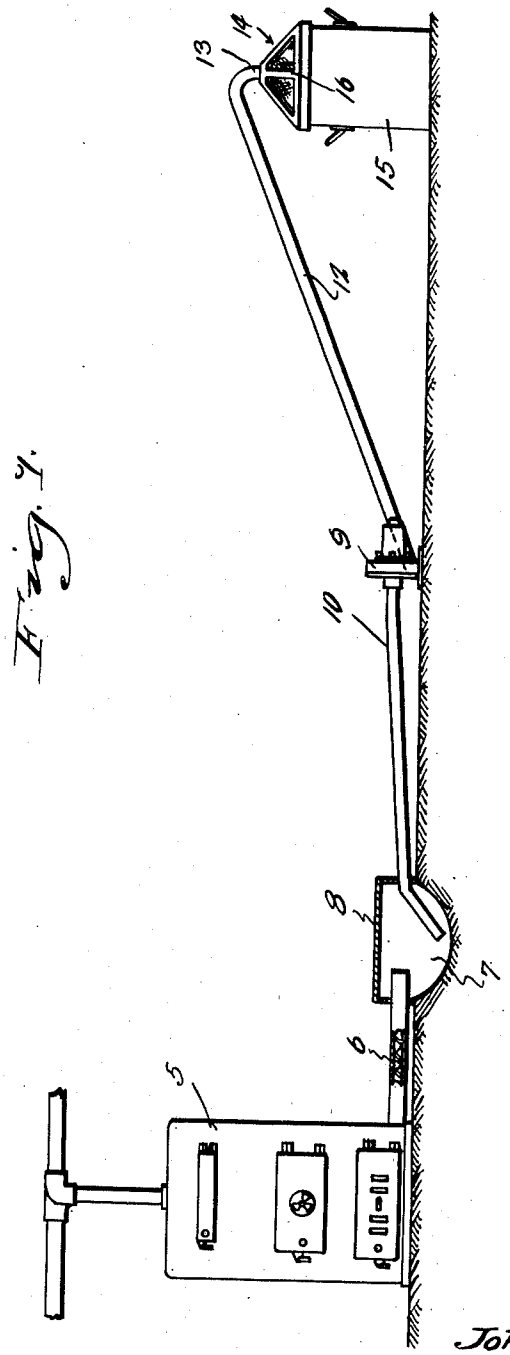


Fig. 1.

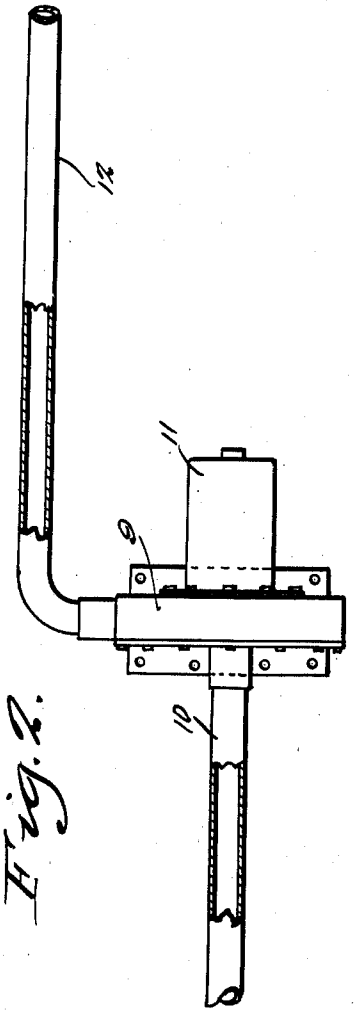


Fig. 2.

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Fig. 3.

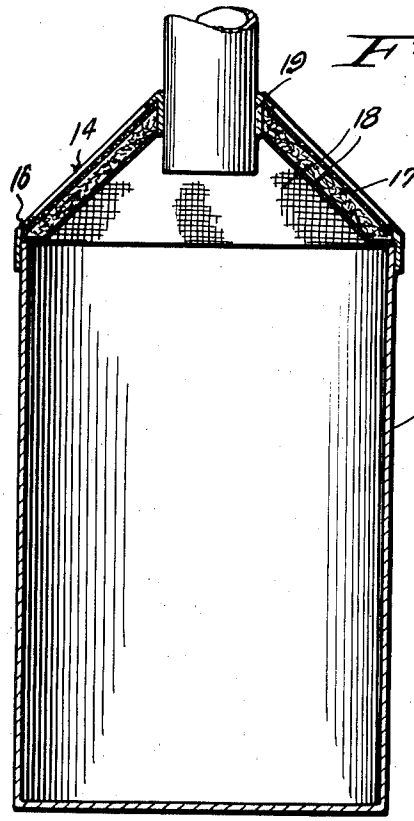


Fig. 5.

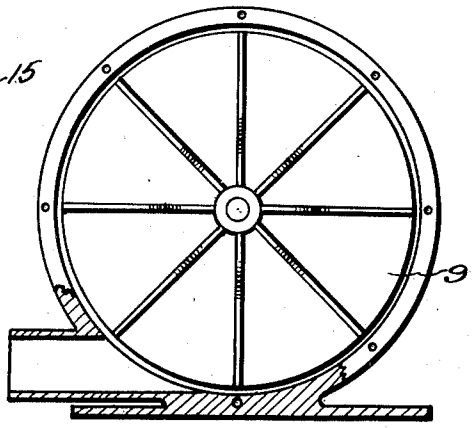
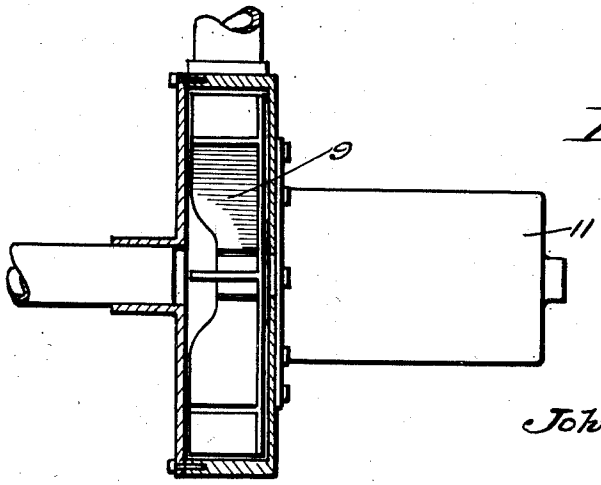


Fig. 4.



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UNITED STATES PATENT OFFICE

2,239,010

ASH REMOVER

John E. McMillan, Randolph, N. H.

Application March 23, 1939, Serial No. 263,783

1 Claim. (Cl. 302—21)

This invention relates to an ash remover for coal stokers of the character utilizing a conveyor for carrying ashes out of the furnace. The present invention has for the primary object the provision of a device of the above stated character which will take the ashes from the conveyor and deposit them into a receptacle or the like remotely located from the furnace and in such a way that the escape of ashes into the air will be prevented.

With these and other objects in view, the invention consists in certain novel features of construction, combination and arrangement of parts to be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawings, in which

Figure 1 is a side elevation, partly in section, illustrating an ash receiver constructed in accordance with my invention and showing the same connected with an ash discharge or conveyor of a furnace stoker.

Figure 2 is a fragmentary top plan view of the invention illustrating the motor driven suction fan.

Figure 3 is a vertical sectional view illustrating the ash receiving receptacle and a filter connected thereto.

Figure 4 is a fragmentary horizontal sectional view showing the suction fan.

Figure 5 is a vertical sectional view illustrating the suction fan.

Referring in detail to the drawings, the numeral 5 indicates a furnace of a conventional construction used for heating homes and like places and is shown as having extending therefrom a worm type conveyor 6 which forms a part of a mechanical stoker (not shown) for the furnace 5. The conveyor 6 is for the purpose of carrying ashes from the furnace and in this instance terminates in an ashpit 7 having a suitable cover 8 thereover. The ashpit is formed in the floor on which the furnace rests.

Mounted on the floor is a suction fan 9 having connected to its inlet port a pipe 10 which extends into the ashpit 7, as clearly shown in Figure 1. The suction fan is driven by an electric motor 11. The outlet of the fan has a pipe 12 connected thereto, the free end of which terminates in a gooseneck, as shown at 13. A combined filter and cover 14 is connected to the end 13 of the pipe 12 and is adapted to fit over a receptacle 15 of a conventional construction employed for the handling of ashes or if desired the cover 14 may be associated with a bin or like device. Through the use of this invention the receptacle 15 is located remotely to the furnace 5 such as adjacent an entrance to the room in which the furnace is located so that the receptacle when full of ashes may be easily removed from the room.

The cover 14 is of substantially conical shape and consists of a skeleton frame 16 which will readily fit onto the receptacle 15. The skeleton frame is closed by filter material 17 arranged between pieces of foraminous material 18. The smallest end of the cover 14 has an opening in the form of a flange or sleeve 19 to receive and frictionally fit the end 13 of the pipe 12. Thus it will be seen that the ashes discharged by the suction fan are deposited directly into the receptacle 15 by way of the pipe 12 and the air is allowed to escape by the hood including the foraminous material as well as the filtering material and preventing the ashes from escaping with the air thereby keeping the room in which the furnace is located free of ashes. While I have described the conveyor 6 as discharging the ashes into a pit, it will be understood that the pipe 10 may be directly connected to the conveyor if desired eliminating the necessity of the ashpit 7. When the pipe 10 is connected to the conveyor 6 the suction fan will take the ashes directly from the discharge end of the conveyor 6 and deposit them into the receptacle 15.

A device of the character described will be simple to construct and install and may be manufactured and sold at a low cost.

It is believed that the foregoing description, when taken in connection with the drawings will fully set forth the construction and advantages of this invention to those skilled in the art to which such a device relates, so that further detailed description will not be required.

What I claim is:

The combination with a cover to an ash receptacle, of means to convey ashes therefrom to a remote point comprising an ash can adapted for remote location relative to said receptacle and having a conical cover of filtering material for separating the air from solids, a fan located intermediate said receptacle and can and having suction and compression sides, respectively, a pipe line leading from the receptacle to the suction side of the fan and having an angular end extending through the cover of the receptacle to the bottom thereof, and a pipe line leading from the compression side of the fan and terminating in a goose neck extending downwardly into the top of said conical cover.

JOHN E. McMILLAN.