

June 8, 1954

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2,680,569

SUCTION DISPOSAL ATTACHMENT FOR ASH RECEPTACLES

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2 Sheets-Sheet 1

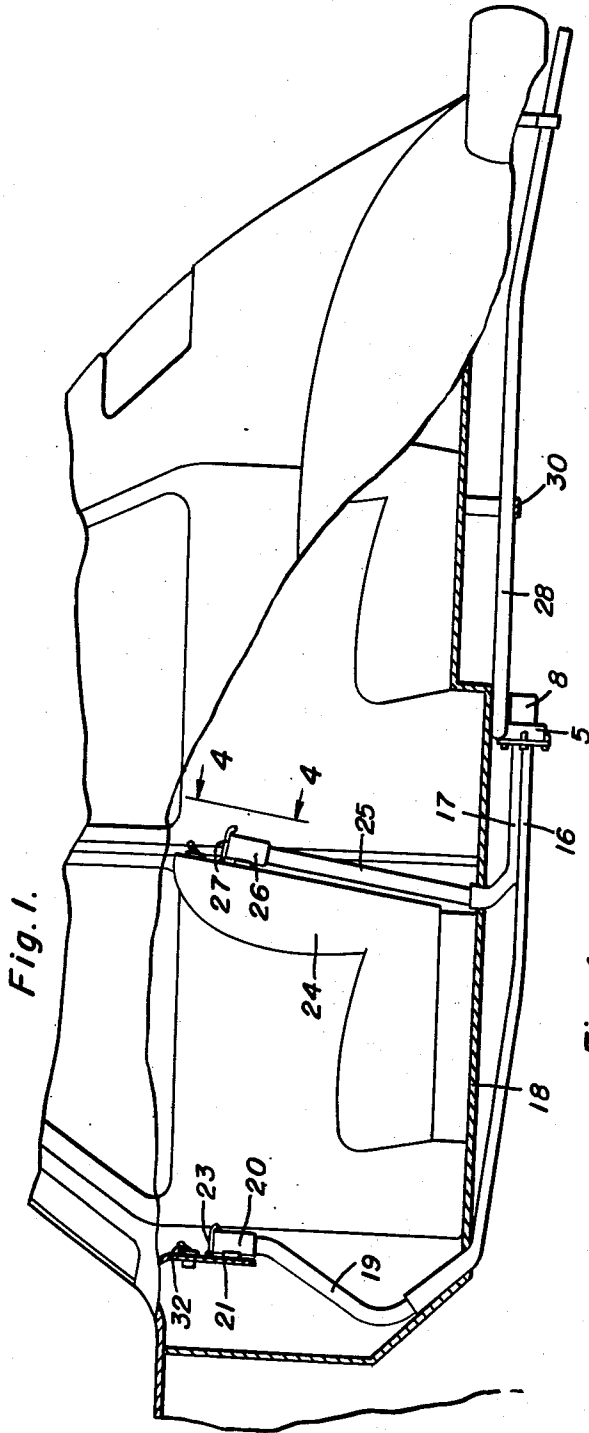


Fig. 1.

Fig. 5

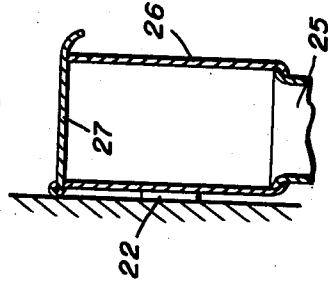


Fig. 7.

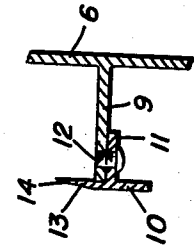
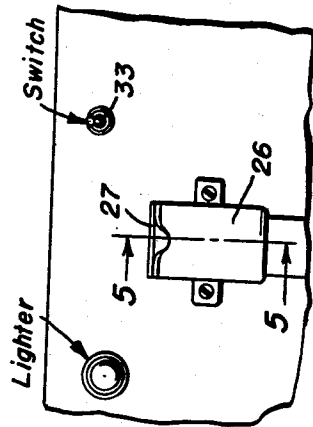


Fig. 4.



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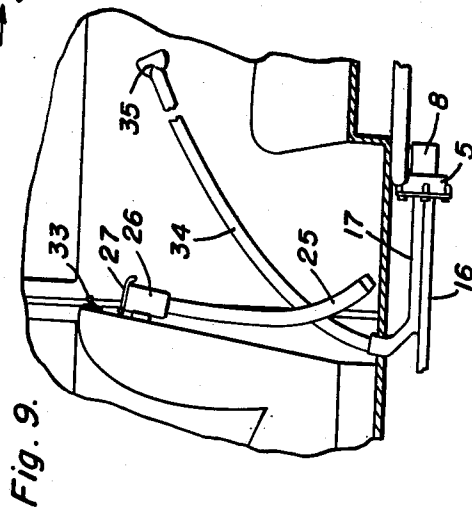
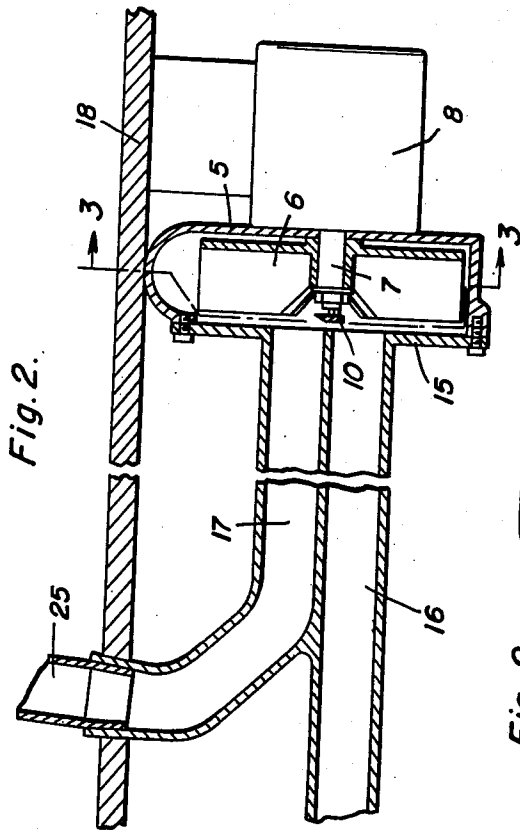
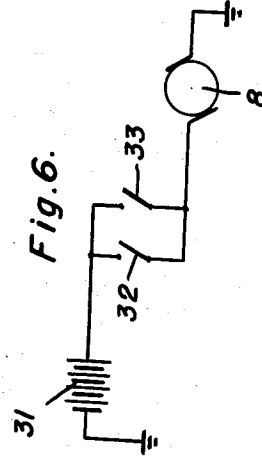
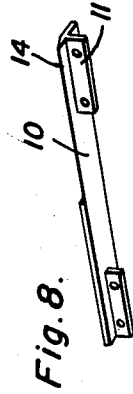
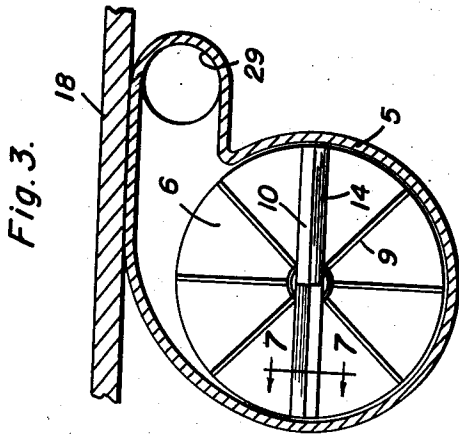
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SUCTION DISPOSAL ATTACHMENT FOR ASH RECEPTACLES

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2 Sheets-Sheet 2



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# UNITED STATES PATENT OFFICE

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## SUCTION DISPOSAL ATTACHMENT FOR ASH RECEPTACLES

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Application April 15, 1952, Serial No. 282,503

1 Claim. (Cl. 241-55)

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The present invention relates to new and useful improvements in ash and similar refuse receptacles for motor vehicles and more particularly to suction means for removing the ashes, burned cigarettes and other refuse from the receptacle and discharging the same under the vehicle.

An important object of this invention is to provide a suction fan connected to the ash receptacle together with a discharge pipe leading from the fan to the rear of the vehicle and constructing the suction fan to include a rotary cutter to chop and disintegrate cigarette stubs, match stems and other refuse before discharging the same from the vehicle.

Another object of this invention is to provide suction pipes leading from the suction fan to ash receptacles mounted in the front and rear portions of an automobile or other vehicle and wherein the ash receptacles may be easily and quickly disconnected from the suction pipes and a vacuum cleaner hose interchangeably connected to the suction pipes for cleaning the interior of the automobile.

A still further object is to provide a device of this character of simple and practical construction, which is efficient and reliable in operation, relatively inexpensive to manufacture and install in operative position on the vehicle and which is otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a fragmentary longitudinal sectional view of an automobile showing the ash disposal suction fan and pipes connected thereto;

Figure 2 is an enlarged vertical sectional view of the suction fan and the suction pipes for the front and rear ash receptacles connected thereto;

Figure 3 is a sectional view taken on the line 3-3 of Figure 2;

Figure 4 is a view in elevation of one of the ash receptacles and the control switch for the suction fan mounted adjacent thereto;

Figure 5 is an enlarged vertical sectional view taken on the line 5-5 of Figure 4;

Figure 6 is a diagram of the electric circuit for the suction fan;

Figure 7 is an enlarged transverse sectional view of the cutter attachment for the suction fan, taken on a line 7-7 of Figure 3;

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Figure 8 is a perspective view of the cutter; and

Figure 9 is a side elevational view showing one of the ash receptacles disconnected from the suction pipe and the vacuum cleaner hose connected thereto.

Referring now to the accompanying drawings in detail, wherein for the purpose of illustration I have disclosed a preferred embodiment of the invention the numeral 5 designates the fan housing for a suction fan 6 and which is suitably secured to the shaft 7 of an electric motor 8 mounted at the rear side of the fan housing and with the shaft of the motor projecting into the housing.

The suction fan 6 includes the plurality of radially extending blades 9 and to a pair of radially aligned blades 9 a cutter 10 is secured and which includes attaching plates 11 secured to a pair of the blades 9 by means of screws or the like 12. The cutter 10 includes a blade 13 having a bevelled or knife edge 14 at the leading edge of the blade and which projects forwardly with respect to the direction of travel of its connected blade 9 of the suction fan.

The front or intake side of the fan housing 5 is closed by a cover plate 15 having a pair of suction pipes 16 and 17 integrally formed therewith.

The suction pipe 16 leads forwardly under the floor 18 of an automobile or other motor vehicle to enter the front portion thereof and to which a hose 19 is attached leading from an ash receptacle 20 which is secured to the instrument panel 21 of the vehicle by attaching plates, or the like, 22. The ash receptacle is provided with a hinge lid 23.

The suction pipe 17 also extends forwardly from the fan housing 5 and upwardly through the floor 18 of the vehicle behind the front seat 24 thereof and to which the lower end of a flexible hose 25 is detachably connected and which leads from a second ash receptacle 26 suitably secured to the back of the front seat. The rear ash receptacle 26 is also provided with a hinge lid 27 for closing the top thereof.

A discharge pipe 28 is connected to the outlet side 29 of the fan housing 5 and is secured to the underside of the vehicle by hangers or the like 30 to extend longitudinally toward the rear end of the vehicle.

The motor 8 for the suction fan 6 is connected in a circuit with the battery 31 or other suitable source of current provided for the vehicle and the motor is selectively controlled by a front

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switch 32 mounted on the instrument panel 21 adjacent the ash receptacle 20 as well as by a switch 33 mounted at the back of the front seat 24 adjacent the rear ash receptacle 26 whereby the motor may be energized and the suction fan operated by the occupants of either of the front or rear seats of the vehicle. When the fan is operated ashes, partly consumed cigarettes or other refuse deposited in either of the receptacles 20 or 26 will be drawn through the suction pipes 16 and 17 and as the refuse enters the front of the fan housing 5 the blades 13 of the cutter will cut the refuse into small particles in a manner tending to extinguish burning cigarettes or the like and the disintegrated particles will then be blown rearwardly through the discharge pipe 23 to the rear of the vehicle.

Either the front hose 19 or the rear hose 25 for the front and rear ash receptacles may be detached from their suction pipes 16 and 17 respectively and the suction hose 34 of a conventional type of vacuum cleaner connected to either of the suction pipes 16 or 17 and the suction nozzle 35 of the vacuum cleaning hose 34 used to suction clean the upholstery at the interior of the vehicle.

In view of the foregoing description taken in conjunction with the accompanying drawings it is believed that a clear understanding of the device will be quite apparent to those skilled in the art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and the scope of the appended claim.

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Having described the invention, what is claimed as new is:

A suction attachment for motor vehicles comprising in combination a floor for the vehicle, a suction fan attached under the floor and including a fan housing having a cover plate disposed in spaced parallel relation to the front edges of the blades of the fan, a pair of inlet pipes leading to the cover plate and extending therefrom upwardly through the floor, one of said inlet pipes entering the front portion of the vehicle and the other of said inlet pipes entering the rear portion of the vehicle, and an ash receptacle connected to each of said inlet pipes, a cutter attached to the front edge of a blade of the fan and extending radially of the fan, said cutter having a cutting edge extending forwardly with respect to the direction of travel of the fan for rotation therewith directly behind the cover plate and across the delivery ends of the inlet pipes for comminuting material sucked from the interior of the vehicle.

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