June 9, 1931. H. B. HALL 1,809,337

AUTOMOTIVE VACUUM CLEANER

Filed May 13, 1929 2 Sheets-Sheet 1

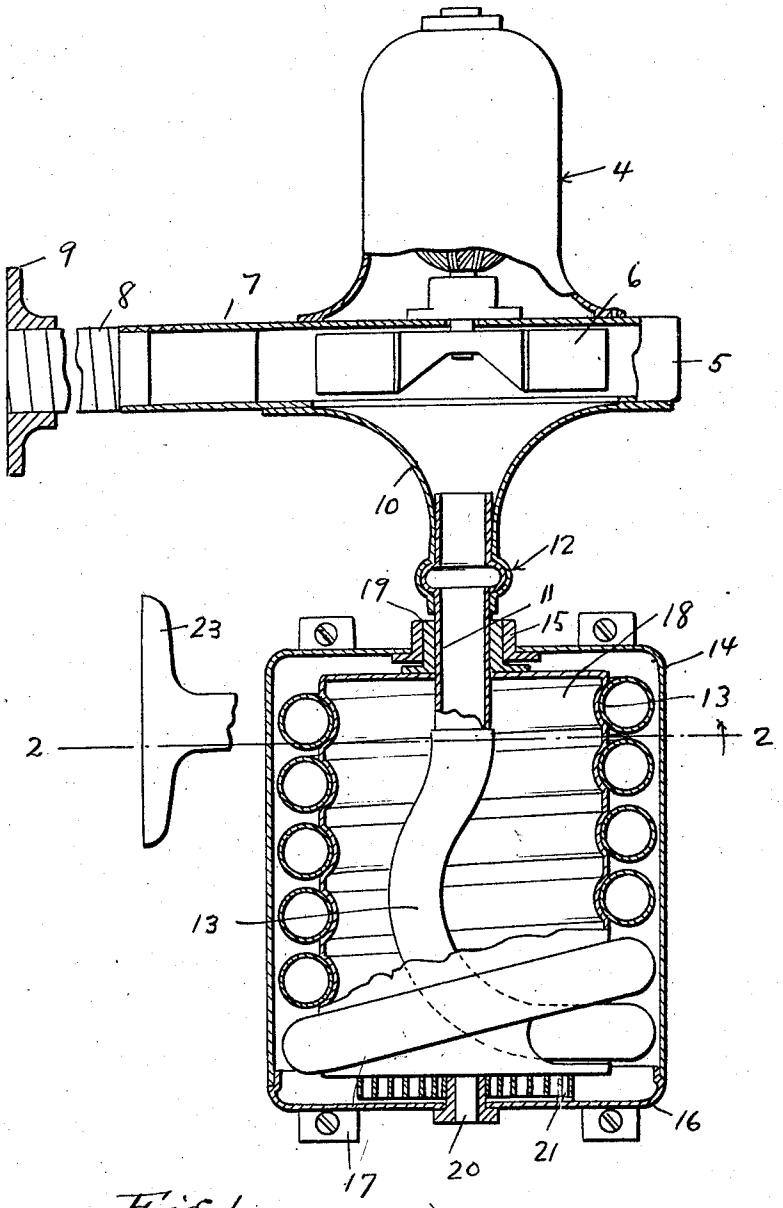


Fig. 1.

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Fig. 2.

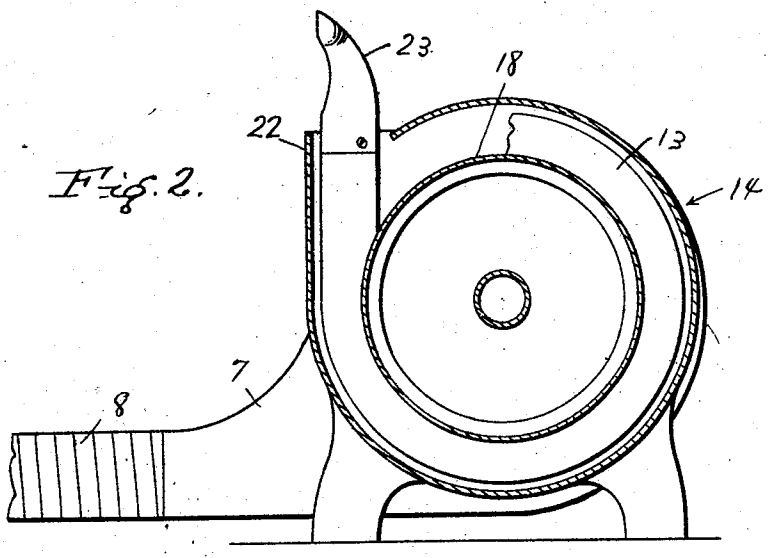
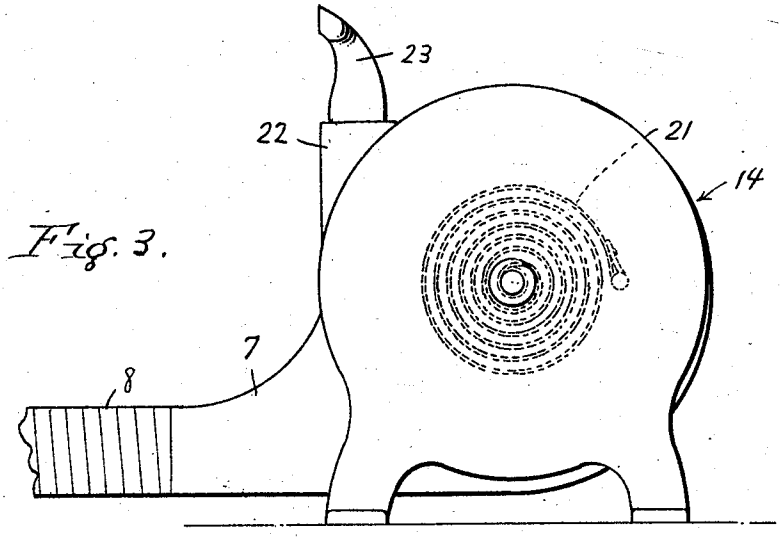


Fig. 3.



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UNITED STATES PATENT OFFICE

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AUTOMOTIVE VACUUM CLEANER

Application filed May 13, 1929. Serial No. 362,629.

This invention relates to that class of appliances generally referred to in the art as automotive accessories, and it has more particular reference to a characteristic form of vacuum cleaner such as is especially useful for cleansing the upholstery and interior of the tonneau of an automobile or the like.

In carrying the invention into actual practice I have found it expedient and practicable to utilize an electric motor driven fan which is cooperable with a suction hose and a refuse and dirt conducting pipe in a maner somewhat similar to an ordinary household vacuum cleaner.

The specific details and their particular association and arrangement will become more readily apparent from the following description and drawings.

In the drawings:

Figure 1 is a top plan view of the complete structural arrangement made in accordance with the present invention and showing the details in section and elevation.

Figure 2 is a transverse vertical section taken approximately upon the plane of the line 2—2 of Figure 1.

Figure 3 is an end elevational view of the suction hose casing.

Referring now to the drawings and especially to Figure 1 it will be observed that the electric motor and its casing is generally designated by the reference character 4. This may be of any appropriate construction. It is provided with a housing 5 of general cylindrical form accommodating the suction and exhaust fan 6. Connected to the lower end portion of this housing as seen in Figures 2 and 3 is an exhaust connection 7 with which a flexible pipe or tube 8 is connected. This is provided at its discharge end with a bracket 9 which is adapted to be attached to the floor or other portion of the car to discharge the dirt and refuse. This peripheral arrangement of exhaust is similar to that in an ordinary vacuum cleaner. The housing here is provided with a central outstanding neck 10 with which a metallic nipple 11 is swivelly connected as at 12. This nipple is in turn connected to the intake end of a flexible suction hose 13. In accordance with the present invention this hose is confined in an appropriately constructed casing generally designated by the reference character 14. This casing is provided at its opposite end with bearings, one of which is provided with a bushing 15, and the other one of which is formed with a simple bearing hole. This casing is formed with a removable end plate or head 16 to permit access to the interior thereof, and is also provided with suitable attaching brackets 17 whereby it may be connected to the instrument board or other part of the automobile in a concealed position.

Mounted for rotation in this casing is a spring wound drum 18 of general cylindrical form having its peripheral portion provided with corrugations. At one end the drum is provided with a hollow bearing sleeve 19 rotatable in the bushing 15. The opposite end is provided with a flanged bearing spindle 20 mounted for rotation in the bearing hole in the head 16. The reference character 21 designates a return spring suitably anchored and cooperating to wind the hose onto the peripheral corrugated portion of the drum 18. The casing as seen in Figure 2 is provided with a hose outlet 22 and the intake end of the suction hose is provided with an appropriate nozzle 23.

The fan is confined in an appropriately constructed housing whereby to produce suction through the hose and to discharge the dirt through the flexible pipe and to a suitable point of deposit. The hose is wound on a spring returned drum in a coiled fashion. Therefore, whenever the operator desires to clean the interior of the body of the car it is necessary only to grasp the nozzle 23 and to pull it outwardly away from the casing 14. This unwinds the hose from the spring wound drum. The nozzle is utilized in the customary manner and the suction produced by the fan draws in the dirt particles through the hose into the fan housing 5 where they are discharged through the pipe 8.

It is believed that the reader in considering the description in conjunction with the drawings will be able to obtain a clear understanding of the construction and arrangement of parts as well as the features and ad-

vantages of the invention. Therefore, a more lengthy description is regarded unnecessary.

Minor changes in shape, size, and rearrangement of details coming within the field of invention claimed may be resorted to in actual practice if desired.

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

1. In a vacuum cleaner, a drum having a peripheral opening, a reel within said drum having spindles rotatably connected to the drum, a flexible hose trained about said reel movable through the opening and having a portion thereof extended centrally through the reel, a rigid nipple extending through one of said spindles and connected to the centrally disposed portion of said hose, and suction creating means having a casing rotatably receiving said nipple, said casing and the nipple being formed with an interfitting annular tongue and groove connection permitting rotation of the nipple with respect to the casing.

2. In a vacuum cleaner, a relatively fixed drum, a reel arranged within the drum and having spindles rotatably connected to the drum, a flexible hose trained about said reel and having one end portion arranged axially internally of the reel, a nipple engaged with said one end portion of the hose, said nipple extending through one of said spindles, the other end portion of said hose being movable through an opening provided therefor in the periphery of said drum, and a suction device operatively connected with said nipple exteriorly of said drum.

In testimony whereof I affix my signature.

HOLLIS B. HALL.