Feb. 20, 1923.

W. R. BARRINGER.

VACUUM CLEANER.

FILED MAR. 9, 1921.

1,445,930.

2 SHEETS—SHEET 1.

Fig. 1.

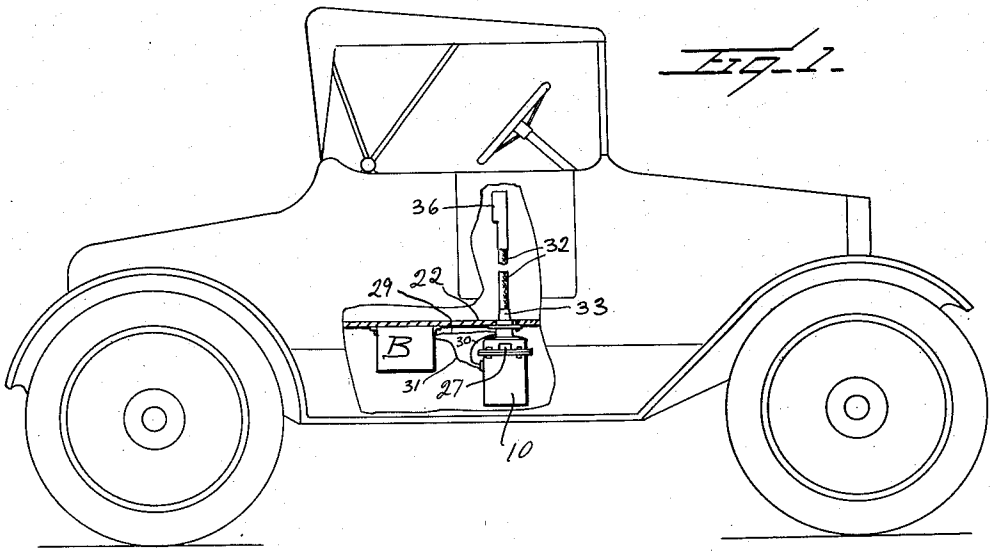


Fig. 5.

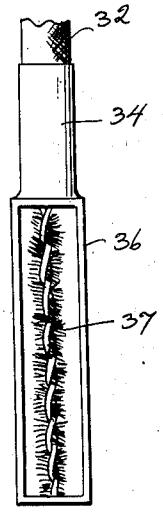


Fig. 7.

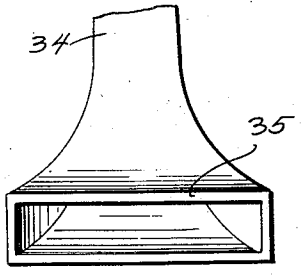
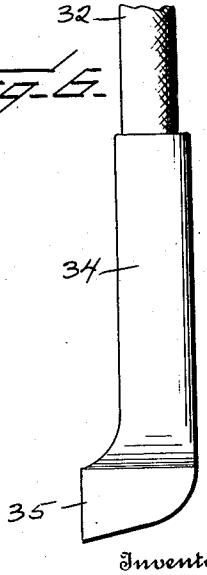


Fig. 6.



Inventor

W. R. Barringer

By Watson E. Coleman

Attorney

Feb. 20, 1923. 1,445,930.

W. R. BARRINGER.

VACUUM CLEANER.

FILED MAR. 9, 1921. 2 SHEETS—SHEET 2.

Fig. 2.

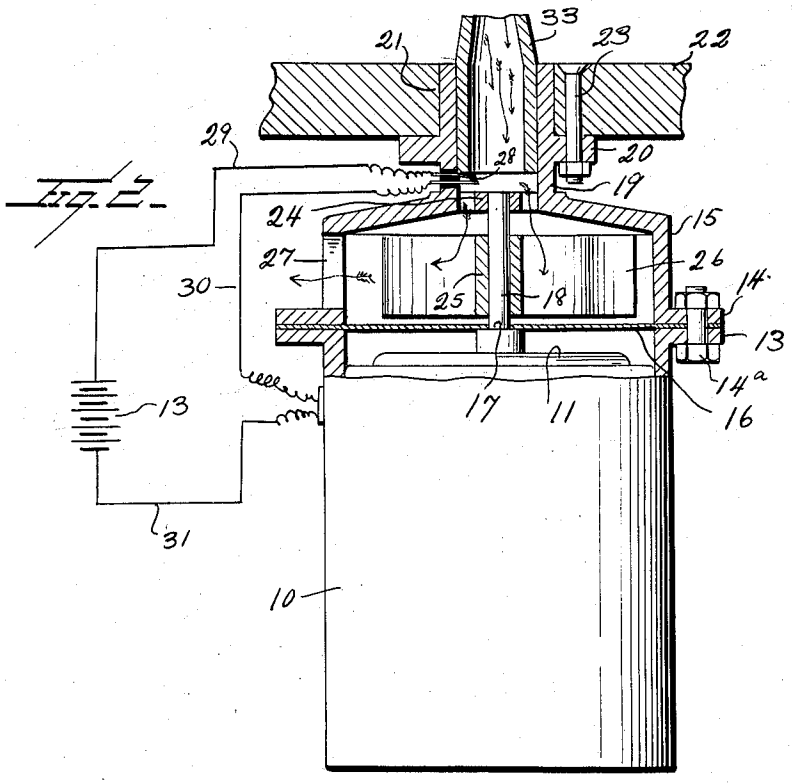


Fig. 4.

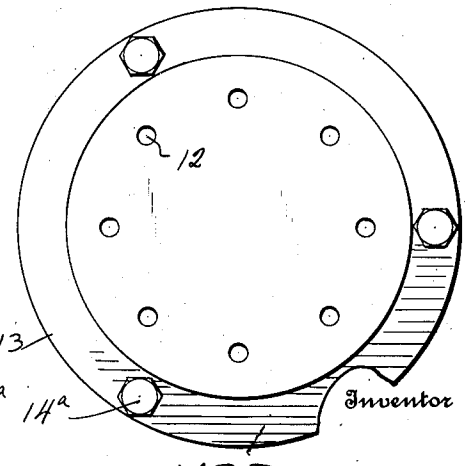
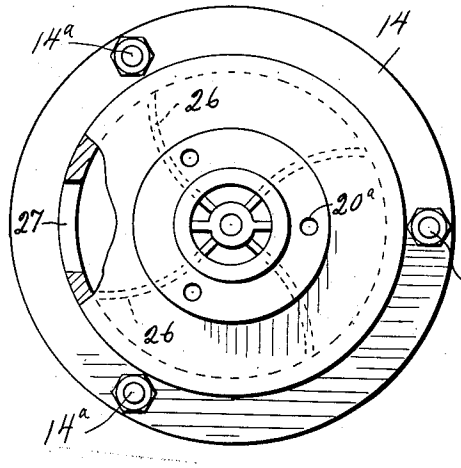


Fig. 3.



Inventor

W. R. Barringer

By Watson E. Coleman

Attorney

Patented Feb. 20, 1923. 1,445,930

UNITED STATES PATENT OFFICE.

WORTH R. BARRINGER, OF GRAND JUNCTION, COLORADO, ASSIGNOR TO THE AUTO-MAID MANUFACTURING COMPANY.

VACUUM CLEANER.

Application filed March 9, 1921. Serial No. 450,958.

To all whom it may concern:

Be it known that I, WORTH R. BARRINGER, a citizen of the United States, residing at Grand Junction, in the county of Mesa and State of Colorado, have invented certain new and useful Improvements in Vacuum Cleaners, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in vacuum cleaners and more particularly to a vacuum cleaner adapted for use in connection with an automobile, street car or similar vehicle.

An important object of the invention is to provide a compact and efficient unit for use in the connection described which may be mounted in the automobile or car by bolting the same beneath the floor, the floor having previously been provided with an aperture whereby the suction hose may be attached.

A further object of the invention is to provide a device of this character in which the connection or insertion of the suction hose automatically energizes the device to cause the same to operate.

Other objects and advantages of the invention will become apparent throughout the source of the following description.

In the accompanying drawings wherein for the purpose of illustration is shown a preferred embodiment of my invention and wherein like reference characters designate like parts throughout,

Figure 1 is a side elevation partially in section showing an automobile having a vacuum cleaning unit constructed in accordance with my invention applied thereto,

Figure 2 is a side elevation partially in section and partially diagrammatic of the unit,

Figure 3 is a top plan view thereof partially in section,

Figure 4 is a bottom plan view thereof, and Figures 5, 6 and 7 are views of suction nozzles employed with the device.

Referring now more particularly to the drawings, the numeral 10 indicates a casing having its lower end closed and having mounted therein a motor 11, the bottom of the casing being provided with air circulation openings 12 for the admission of air to the motor. The upper end of the casing 10 is provided with an outstanding flange 13 adapted to coact with a similar flange 14 formed upon a head 15 for the reception of retaining bolts 14ª whereby the head may be secured to the casing. A copper gasket 16 is disposed intermediate the head 15 of the casing 10 and is provided centrally with an aperture 17 through which the armature shaft 18 of the motor 11 extends.

The head 15 is provided with a reduced upward extension 19 having formed thereon intermediate its ends an outstanding flange 20. The upper end of the extension is adapted to extend through an opening 21 formed in the floor boards of the automobile or in the flooring of a car, the casing being held in position by means of bolts 23 extending through the floor boards and through the flange 20. The upper end of the armature shaft is rotatably mounted in a spider 24 formed in the lower end of the upward extension 19, and the shaft 18 has secured thereto, intermediate the gasket 16 and the spider 24, a suction fan 25, the blades 26 of which are longitudinally curved and adapted when rotated to draw air through the bore of the reduced extension 19 and discharge the same through an opening 27 formed in the side wall of the head.

The numeral 18 indicates a pair of contacts insulated from one another and from the casing and extending into the bore of the reduced extension 19, at least one of the contacts being formed of resilient material. One of these contacts is connected by a wire 29 with one terminal of a battery B, this battery where the device is employed upon an automobile being the storage battery usually employed for lighting and starting. The other contact 28 is connected by a wire 30 with one terminal of the motor 11, and the other terminal of the motor is connected by a wire 31 with the remaining terminal of the battery. The contacts 28 by reason of the resiliency of one of the contacts are normally held separated so that the circuit is broken.

The numeral 32 indicates a suction hose provided at its lower end with the male member 33 of a slip joint coupling, of which the female member. When the member 33 is inserted into the bore of the extension 19 it engages the contacts 28 forcing them into engagement and completing the circuit so that the motor 11 is energized and the fan 25 set into operation.

Any suitable cleaner or suction head may be employed with my device of the usual type such as shown in Figures 6 and 7 in which the body 34 of the head has the nozzle thereof substantially rectangular in form and set transversely of the head 34, as indicated at 35. I, however, prefer to employ a cleaner head such as disclosed in Figure 5, in which the nozzle 36 is disposed longitudinally of the head 34 and is provided centrally with a spiral brush 37, as I have found this construction to be particularly advantageous upon automobiles where a large percentage of the dust is held in position by grease or oil, or is partially saturated with oil and accordingly very difficult to pick up with the ordinary vacuum cleaner. It is to be noted that the dirt drawn from the interior of the car or automobile is discharged beneath the flooring thereof so that the provision of a storage receptacle therefor is unnecessary.

From the foregoing it is believed to be obvious that I have constructed a vacuum cleaner which is particularly well adapted for use by reason of the facility with which it may be adapted to a vehicle and by reason of the fact that the automatic closure of the normally open circuit thereof renders the operation of the device extremely simple, and it will furthermore be obvious that the construction of the same as hereinabove set forth is capable of some change in modification without departing from the spirit of my invention. I accordingly do not limit myself to the specific structure as hereinabove set forth except as hereinafter claimed.

What I claim is:

1. In a vacuum cleaner for floored vehicles, a casing, a hollow head therefor embodying a vertical tubular extension, said tubular extension being adapted for engagement in an opening formed in the floor of the car, a flange forming a means for attaching the head and casing thereto, a spider formed in the lower end of said tubular extension and provided centrally with a bearing, a gasket disposed intermediate said head and casing and having the armature shaft thereof projecting through the opening of said gasket and engaging in the bearing of said spider, an opening formed in the side wall of said head, a fan secured to the armature shaft within the head and adapted to discharge air through the opening formed in the side wall thereof, and a suction hose adapted for insertion in the bore of said tubular extension from the interior of the vehicle.

2. In a vacuum cleaner for floored vehicles, a suction chamber adapted to be disposed beneath the floor of the vehicle, said chamber having a discharge opening and an extension having a bore forming a suction opening, said extension being adapted for engagement in an opening formed in the floor of the vehicle and being provided with an attaching flange for engagement in the under surface of the floor.

In testimony whereof I hereunto affix my signature.

WORTH R. BARRINGER.