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DISPLAY DEVICE FOR AIR CLEANERS

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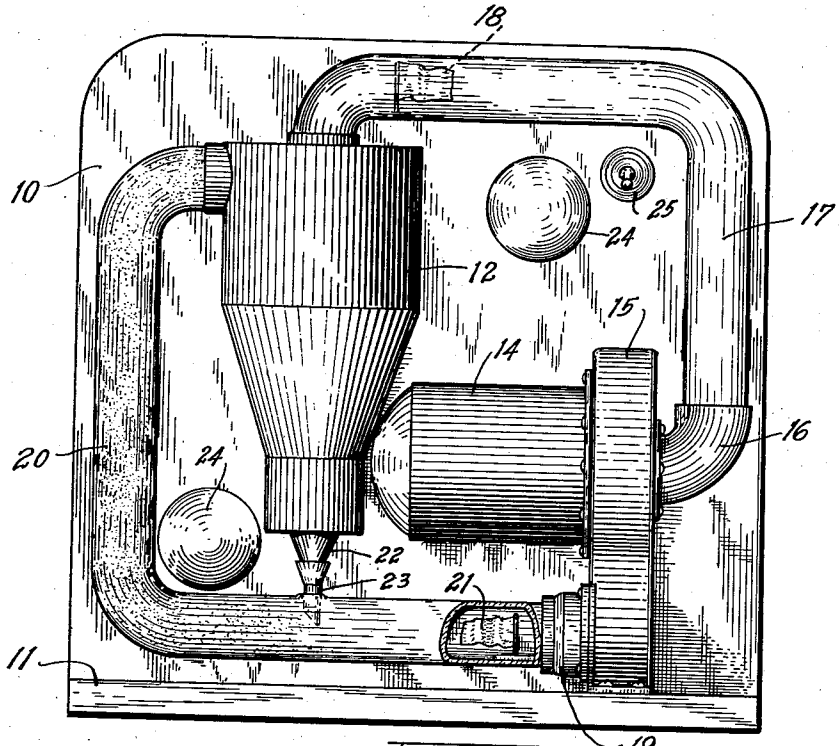


Fig. 1

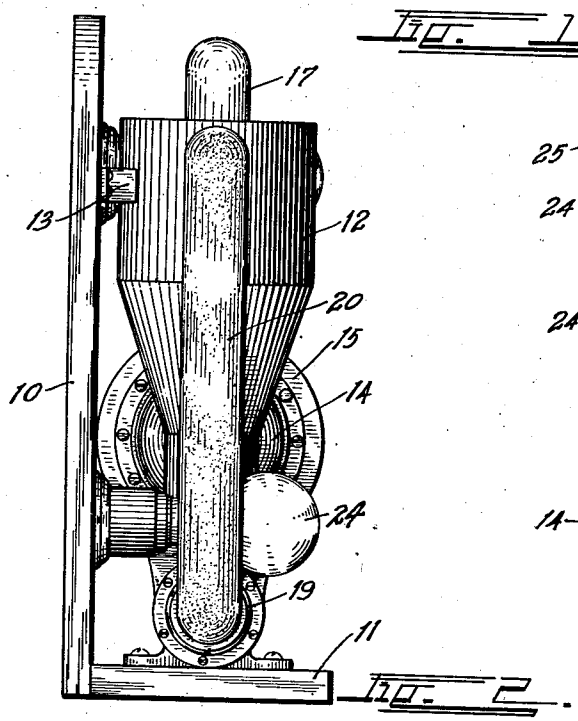


Fig. 2

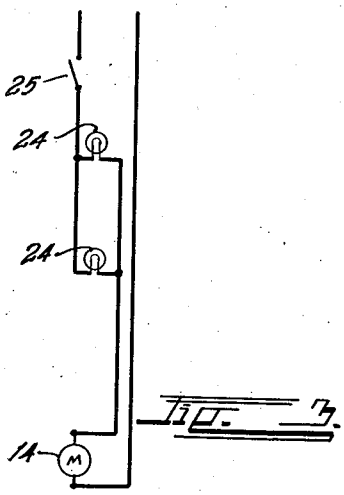


Fig. 3

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DISPLAY DEVICE FOR AIR CLEANERS

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2 Claims. (Cl. 35—13)

This invention relates to a display device for air cleaners and has for its principal object the provision of a device which can be placed on display in a sales room to demonstrate the efficiency of air cleaners more particularly cleaners of the type for use on automotive engines for removing the dust and other foreign materials from the incoming air stream.

Other objects of the invention are to provide a device of this character which will visibly and convincingly demonstrate to a prospective customer that dust, sand and other foreign materials are efficiently removed by the air cleaner.

It is more particularly designed for a cleaner of the type shown in applicant's prior Patent No. 2,155,911 but it is, of course, not limited to the demonstration of this particular cleaner.

Other objects and advantages reside in the detail construction of the invention, which is designed for simplicity, economy, and efficiency. These will become more apparent from the following description.

In the following detailed description of the invention reference is had to the accompanying drawing which forms a part hereof. Like numerals refer to like parts in all views of the drawing and throughout the description.

In the drawing:

Fig. 1 is a front view of the improved air cleaner demonstration device.

Fig. 2 is a side view thereof.

Fig. 3 is a circuit diagram of the electrical circuits employed in the device.

The device is mounted on a back board 10 supported from a base board 11. A typical automotive air cleaner 12 is mounted on the back board 10 by means of suitable supporting brackets 13. A blower 15 driven from an electric motor 14 is mounted on the base board 11. The motor and its blower may be similar to the type usually employed in small vacuum cleaners.

An elbow fitting 16 is connected to the suction intake of the blower and a transparent glass suction tube 17 is connected between the intake elbow 16 and the clean air outlet of the air cleaner 12. A small fabric flag 18 or other indicating device is placed in the glass tube to indicate the flow of air therethrough.

A discharge nipple 19 is fitted to the discharge of the blower 15 and is connected by means of a transparent glass discharge tube 20 with the air inlet port of the air cleaner 12. A second fabric flag or other indicating device 21 is placed in the discharge tube 20 to indicate the flow of air therethrough.

Air cleaners of the type illustrated are usually provided with a collecting bowl at the bottom into which a dust or sand funnel 22 discharges the foreign materials collected from the air. For demonstration purposes, the collecting bowl is removed from the cleaner and the funnel 22 is sealed into a side inlet member 23 which opens into the discharge tube 20 so that all foreign material collected from the air stream will be returned by gravity to the discharge tube 20.

Electric lamps 24 and an electric control switch 25 are mounted on the back board 10. The lamps are connected in series with the motor 14 and all are controlled by the switch 25, as shown in the circuit diagram of Fig. 3.

The operation of the device is believed to be evident. The air from the blower circulates through the tube 20, the cleaner 12, and the tube 17 back to the blower. Dust, sand, and other materials are previously placed in the tube 20. These materials are picked up by the air flowing through the tube 20 and are carried upwardly into the cleaner 12. The cleaner separates the foreign materials from the air stream and allows them to fall back into the tube 20 so that the air in the latter constantly presents a dirty, dusty, sandy appearance while the air in the tube 17 is always clean and clear.

The lamps serve a double purpose, first, they illuminate the transparent glass tubes and, second, they serve as an electrical resistance for the motor to reduce the speed of the latter from that usually employed in a suction cleaner or device. The purpose of the reduction of speed is to make the foreign particles more visible in the air stream. It was found that when high velocity was employed, these foreign particles were carried through the tube too rapidly for a convincing demonstration. By slowing the speed of the motor with the lamp resistance, however, the sand and dust particles were easily visible as they traveled through the tube.

While a specific form of the improvement has been described and illustrated herein, it is desired to be understood that the same may be varied, within the scope of the appended claims, without departing from the spirit of the invention.

Having thus described the invention, what is claimed and desired secured by Letters Patent is:

1. A demonstrating device for air cleaners comprising: a supporting member; an air cleaner mounted on said supporting member; a blower mounted on said supporting member; a motor driving said blower; a transparent tube extend-

ing from the discharge of the air cleaner to the intake of the blower, said cleaner being mounted above the discharge of said blower; a second transparent tube extending from the discharge of said blower beneath said cleaner thence upwardly to the intake of said cleaner; visible particles of foreign material in said latter tube; and a conduit extending downwardly from said cleaner into the latter tube to return the said particles by gravity from the cleaner to the second tube.

2. A demonstrating device for air cleaners comprising: a supporting member; an air cleaner mounted on said supporting member; a blower mounted on said supporting member; a motor driving said blower; a transparent tube extending from the discharge of the air cleaner to the intake of the blower; a second transparent tube extending from the discharge of the blower to the intake of the air cleaner; visible particles of foreign material in said latter tube; means for passing the foreign particles separated from the air by the cleaner back to said second tube; means other than the foreign material in the air flow of each tube for giving an indication of air flow therein.

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