April 14, 1959 F. H. UEHRE, JR 2,881,854

AIR PURIFIER

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Fig. 1

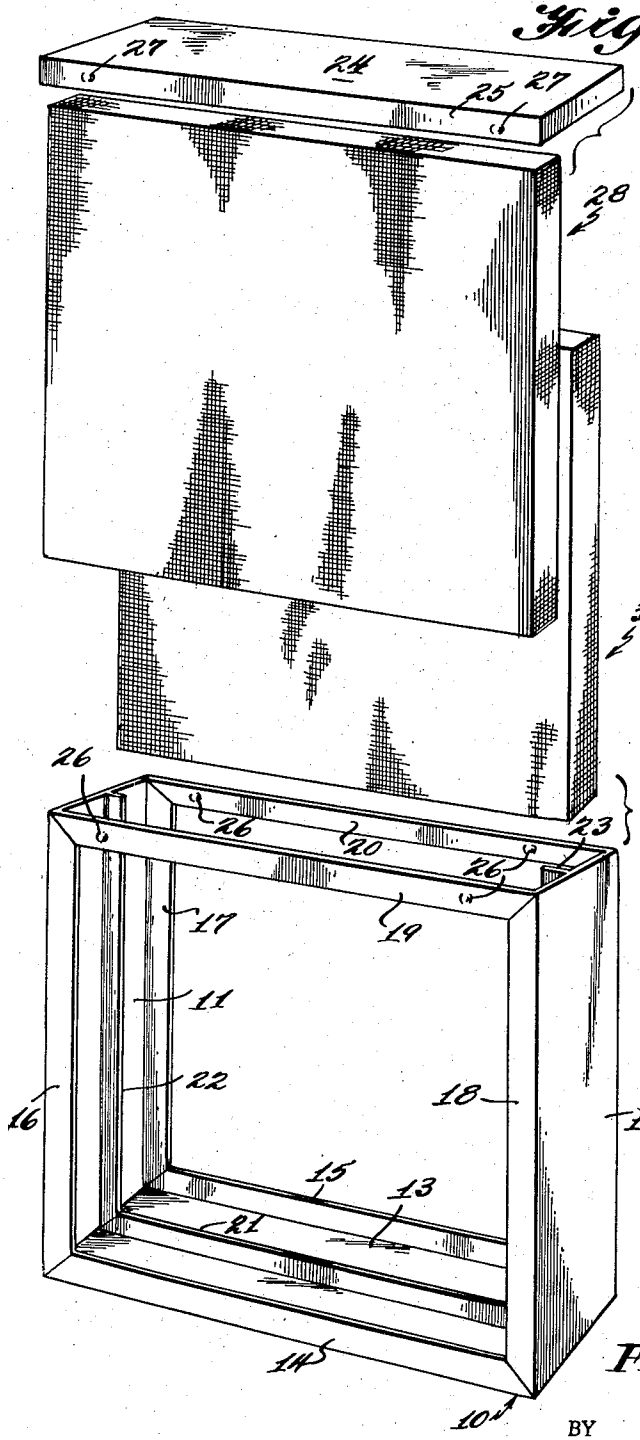

Fig. 2

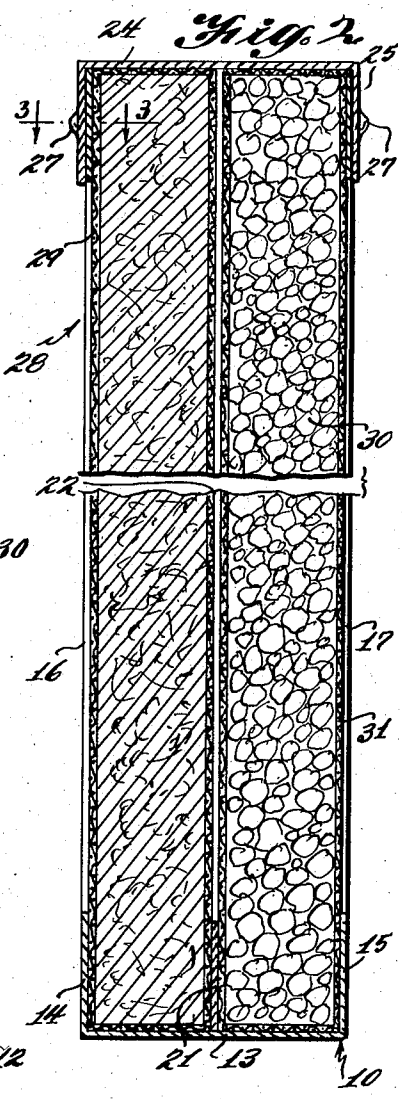

Fig. 3

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AIR PURIFIER

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1 Claim. (Cl. 183—4.3)

The present invention relates to air purifiers, and more particularly to air purifiers for attachment to the fresh air inlets of internal combustion engine driven vehicles.

The primary object of the invention is to provide an air purifier to eliminate unpleasant odors, dirt, dust, and other foreign material from the air entering vehicles through the heating system, air conditioning system, or other fresh air inlets.

Another object of the invention is to provide an air purifier of the class described above in which the air purifying members are easily replaceable when no longer serviceable for the purpose designed.

A further object of the invention is to provide an air purifying apparatus of the class described above which is inexpensive to manufacture, easy to install, and which is quite effective in its action.

Other objects and advantages will become apparent in the following specification when considered in the light of the attached drawings, in which:

Figure 1 is an exploded perspective view of the invention.

Figure 2 is a vertical cross-section through the invention, shown partly broken away for convenience of illustration.

Figure 3 is an enlarged fragmentary horizontal cross-section taken along the line 3—3 of Figure 2, looking in the direction of the arrows.

Referring now to the drawings in detail wherein like reference characters indicate like parts throughout the several figures, the reference numeral **10** indicates generally an air purifier constructed in accordance with the invention.

The air purifier **10** comprises a side wall **11**, a second side wall **12** positioned in spaced parallel relation to the wall **11**, a bottom wall **13** extending between and having its opposite ends, respectively, attached to the bottom ends of the side walls **11** and **12**.

The bottom wall **13** is provided with front and rear flanges **14** and **15**, respectively. The side wall **11** is provided with front and rear flanges **16** and **17** on the front and rear edges, respectively, thereof, and the side wall **12** is provided with a front flange **18** and a rear flange (not shown) on its respective front and rear edges. An upper front cross bar **19** extends between the upper edges of the flanges **16** and **18**, and an upper rear cross bar **20** extends between the upper rear flange **17** and the rear flange (not shown) on the side wall **12**.

A central flange **21** extends upwardly from the medial portion of the bottom wall **13** in spaced parallel relation to the flanges **14** and **15**. A flange **22** is formed on the wall **11** extending vertically thereon in alignment with the flange **21** in spaced parallel relation to the flanges **16** and **17**. A flange **23** is formed on the wall **12** and extends vertically in alignment with the flange **21** in spaced parallel relation to the flange **18** and the flange (not shown)

on the wall **12** opposite the flange **17**. The flanges **21**, **22** and **23** divide the device into two trackways for reasons to be assigned.

The end of the purifier opposite the bottom wall **13** is open and can be closed by means of a removable cover **24** having a depending peripheral flange **25** which engages over the cross bars **19** and **20** and the upper end portions of the walls **11** and **12**. The cross bars **19** and **20** are provided with a plurality of outwardly projecting detents **26**, and the flange **25** of the cover **24** is provided with a corresponding series of detent engaging sockets **27** which detachably secure the cover **24** to the purifier **10**.

A generally rectangular dust filter **28** is formed of fiberglass, steel wool, copper turnings, or other suitable material covered by an open mesh screen **29** to form a filter package. The dust filter **28** is positioned within the air purifier **10** between the flanges **21**, **22**, **23** and the flanges **14**, **16**, **18**, as best shown in Figure 2.

An air purifying filter **30** is formed of charcoal, reactivated carbon, or other suitable material and is enclosed in an open-work mesh screen **31** of a generally rectangular shape. The air purifer **30** is positioned in the purifier **10** between the flanges **21**, **22**, **23**, and the flanges **15**, **17**, and the rear flange of the wall **12**. The arrangement of the dust filter **28** and the air purifier filter **30** is such that the air passes therethrough successively so that the combined filtering action of the filter **28** and the filter **30** is effective on the air passing therethrough,

The air purifier **10** is mounted in the mouth of the air intake of a motor vehicle, the conduit of the heater, or in any air inlet to the vehicle so that air entering the vehicle will of necessity pass therethrough. Obviously, the air purifier **10** will not only remove dust, dirt, and foreign material of this type from the air passing therethrough, but will in addition remove foreign materials of the type which would be absorbed on the charcoal.

Having thus described the preferred embodiment of the invention, it should be understood that numerous structural modifications and adaptations may be resorted to without departing from the scope of the appended claim.

What is claimed is:

An air purifier for the fresh air intake of a motor vehicle comprising a generally rectangular open ended hollow housing having a pair of opposed side walls, a bottom wall and an open top, an inwardly extending peripheral flange integral with and adjacent one end of said housing, a second inwardly extending peripheral flange integral with and adjacent the other end of said housing, a third inwardly extending peripheral flange integral with said side and said bottom walls intermediate said first and said second flanges, a generally rectangular dust filter removably disposed intermediate and engaging against said first and said third flanges, a generally rectangular chemical purifying filter removably disposed intermediate and engaging against said second and said third flange, said dust filter being positioned in laterally spaced parallel relation to said chemical purifying filter so that air passing through said air purifier will move successively through said dust filter and said chemical purifying filter, a detachable cover for said open top of said housing and means on said housing for detachably securing said cover to said housing.

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