

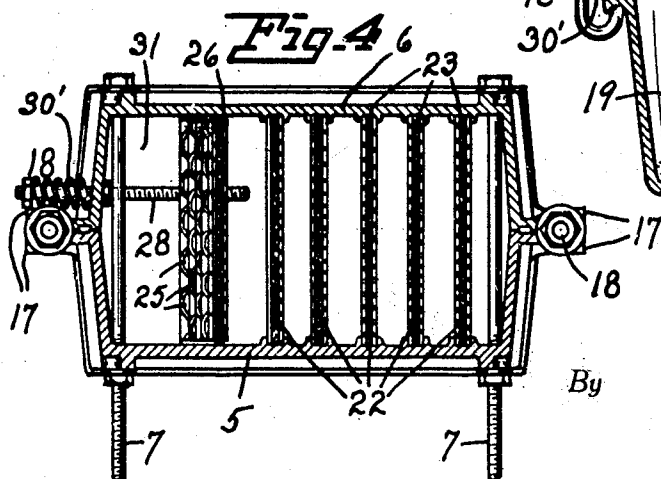
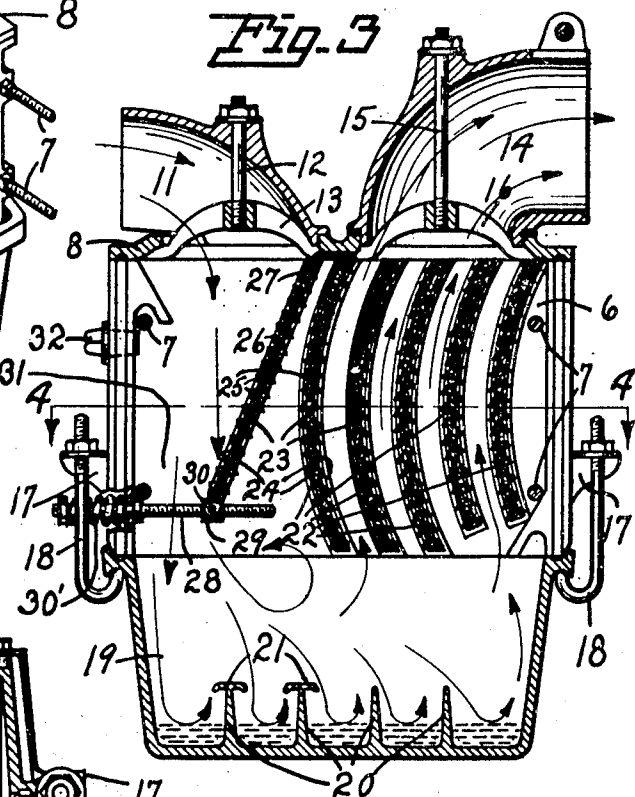
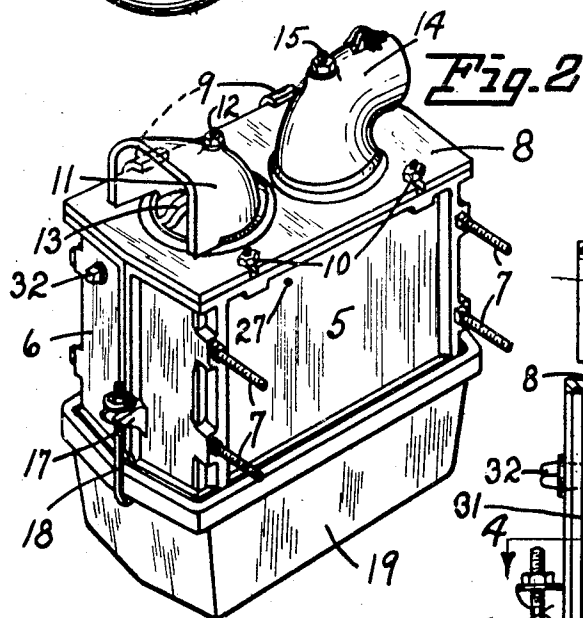
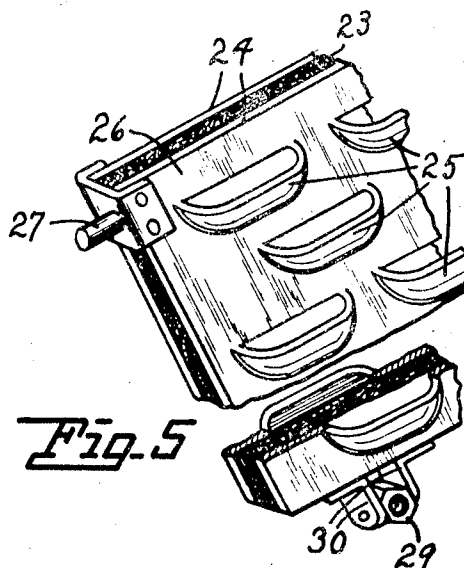
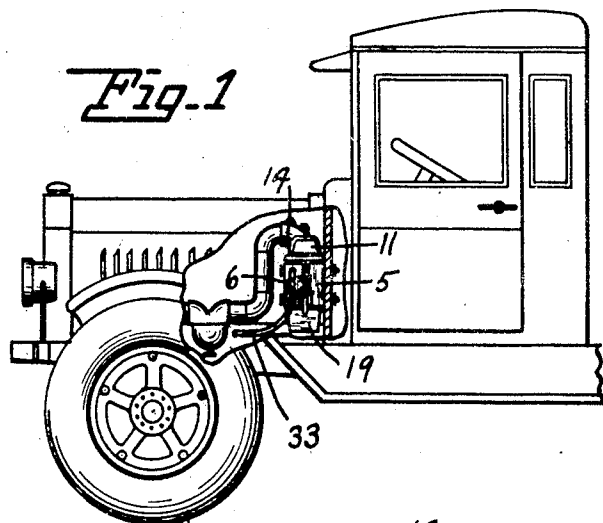
Nov. 17, 1931.

R. K. RUNYON

1,832,245

AIR CLEANER CASE

Filed Jan. 3, 1930



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UNITED STATES PATENT OFFICE

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AIR CLEANER CASE

Application filed January 3, 1930. Serial No. 418,222.

My invention relates to air cleaner cases and is an improvement over the device described in my co-pending patent application for "Dust collectors", Serial Number 386,833, and filed August 19, 1929, and issued as Patent No. 1,788,410 January 13, 1931. Certain objects of the present invention are to provide adjustable means for the air intake and discharge members, adjustable means for the main or straight baffle plate, detachable means for the bottom pan, the elimination of the inner casing of the former invention, and other improved details of construction as hereinafter set forth.

With the above and other objects in view which will appear as the description proceeds, the invention consists of the novel construction, adaptation, combination and arrangement of parts hereinafter described and claimed. These objects are accomplished by devices illustrated in the accompanying drawings; wherein:—

Figure 1 is a view in side elevation of the forward portion of a motor truck showing my device installed therein;

Figure 2 is a detail view in perspective of the device;

Figure 3 is a view in longitudinal vertical section of the same;

Figure 4 is a view in horizontal section taken substantially on a broken line 4, 4 of Fig. 3; and

Figure 5 is a view in perspective showing fragmentary portions of the adjustable baffle plate.

Referring to the drawings throughout which like reference numerals designate like parts, the numerals 5 and 6 indicate the two complementary halves of the main cleaner casing that are secured together by means of four long bolts 7. As shown in Figs. 2 and 4, the threaded ends of said bolts project at some length exteriorly of the casing and may be used for securing the device to brackets or otherwise fastening same to the motor or other convenient place as will be understood.

The numeral 8 designates the top or lid which may be secured in place on the upper flanged edges of the main casing by means

of a pair of hooked lugs 9 and a pair of stud bolts 10. The intake member 11 for said top is held in place by a bolt 12 that is centrally threaded into a spider member 13 provided for the intake opening and when said bolt is loosened the intake member may be adjustably revolved to any desired position on its annular seat. The outlet or discharge member 14 is similarly mounted by means of a bolt 15 threaded into a spider 16 and may likewise be adjustably revolved around its opening.

Complementary halves of lugs 17 are formed on the flanged abutting end edges of the two main casing halves 5 and 6 which provide mountings for hooked bolts 18 when the casing is assembled. The hooked ends of said bolts engage under the flanges of a bottom pan 19 whereby said pan may be readily removed for cleaning. A plurality of spaced baffle projections 20 is provided for the bottom of said pan some of which may be provided with T-heads 21. Oil is placed in said pan and these baffle projections prevent the oil from being sucked into the motor. It will be understood that the oil collects the dust from the air upon coming into contact therewith as in my former application.

A plurality of curved baffle plates 22 is mounted within the main casing and said baffles are disposed in spaced apart relation to provide conduits that are in communication with the outlet opening of the discharge or outlet member 14 as clearly shown in Fig. 3 of the drawings. Each of said baffles comprises a felt pad 23 held between sheet metal plates 24. A plurality of cups 25 is pressed outwardly from said plates with openings on the lower sides so they will catch the dust in its upward flow.

A straight adjustable baffle plate 26 is pivoted at 27 in the top portion of the main casing and slants forward and downward to a bolt 28. A nut 29 mounted on said bolt is swiveled between bracket lugs 30 on the lower end of said baffle. Said baffle plate provides an entry passage 31 for the air and by turning said bolt the plate is moved back and forth whereby the entry passage may be adjusted in conformity with the air ca-

capacity of the particular carburetor to which the device is attached.

A spring 30' is mounted on the bolt 28, having sufficient tension to hold baffle firmly in place under normal speed of the engine. As the engine speed is increased the volume of air also is increased therefore the increased draft causes the baffle to pull against the spring thus allowing the correct amount of air thru the cleaner at all speeds of the engine eliminating resistance and back firing. This baffle plate likewise comprises a felt pad 23, sheet metal plates 24 and cups 25 that are similar to the corresponding parts of the baffles 22 with the exception that the cups are open on their upper sides in order to catch the dust from the downwardly flowing air.

A plug 32 is threaded into the main casing and same may be removed for the installation of a tube 33 in the threaded opening. Said tube is usually connected to the crank-case breather and relieves the crank case of gases and other foreign matter which are purified and removed in passing through the cleaner. The vapor oil that is mixed with the gases is deposited on the felt pads of the baffles and keeps them moist so that the dust will adhere thereto more readily.

The principal improvements in the device of my present application comprise the adjustable means for the intake and discharge members 11 and 14 respectively, the adjustable means for the baffle plate 26, the detachable means for the bottom pan 19 together with its baffle projections, the elimination of the inner casing of the former application, and the incorporation of other details of construction as herein set forth.

The operation of the device was fully set forth in my former patent application and no description in detail is here considered necessary except to state that the air is sucked downwardly through the intake 11 and passage 31 into the pan 19. Upon striking the oil in the bottom of said pan the dust is partly removed and the air then rebounds upwardly through the conduits between the baffle plates 22. The projecting pockets or cups 25 catch the air momentarily and the dust therein adheres to the oil saturated felt pads.

Having thus described my invention, it being understood that minor changes may be resorted to in its construction without departing from its scope and spirit, what I claim and desire to secure by Letters Patent of the United States is:—

1. An air cleaner case comprising a casing consisting of complementary halves detachably secured together, a top, an air intake member for the top, an air outlet member for said top, means for revolubly adjusting said intake and outlet members, a bottom pan having oil therein, detachable means for securing said pan to the casing, baffle projec-

tions for the pan, and baffle plates for directing the air from the intake to the pan and thence through the outlet.

2. An air cleaner case comprising a main casing, a detachable top for the casing, an air intake and an air outlet member for said top, a bottom pan detachably secured to the casing and having oil therein, a plurality of upstanding spaced apart baffle projections for the pan some having T-heads, a plurality of curved baffle plates spaced to form conduits communicating with the air outlet, a straight baffle plate arranged to form a passage chamber for the intake, and pivotal adjusting means for said straight baffle.

3. An air cleaner case comprising a casing consisting of complementary halves detachably secured together, a detachable top, an air intake and an air outlet member for the top, adjustable means for said intake and outlet members, a bottom pan having oil therein, baffle projections for the pan, means for detachably securing the pan to the casing, a plurality of curved baffle plates spaced to form conduits for the air outlet, a straight baffle plate adapted to direct air from the intake to the bottom pan, adjustable means for said straight baffle, said curved and straight baffles each comprising a felt pad secured between metal plates, projecting pockets for said metal plates, the pockets for the curved baffles being open on their lower sides, and the pockets for the straight baffle open on their upper sides.

In testimony whereof I affix my signature.
ROY K. RUNYON.