March 6, 1934. G. LIEN 1,950,254

FILTER

Filed May 23, 1932

Fig. 1.

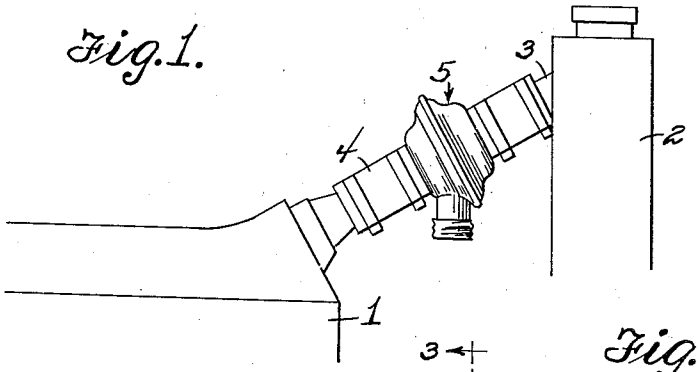


Fig. 2.

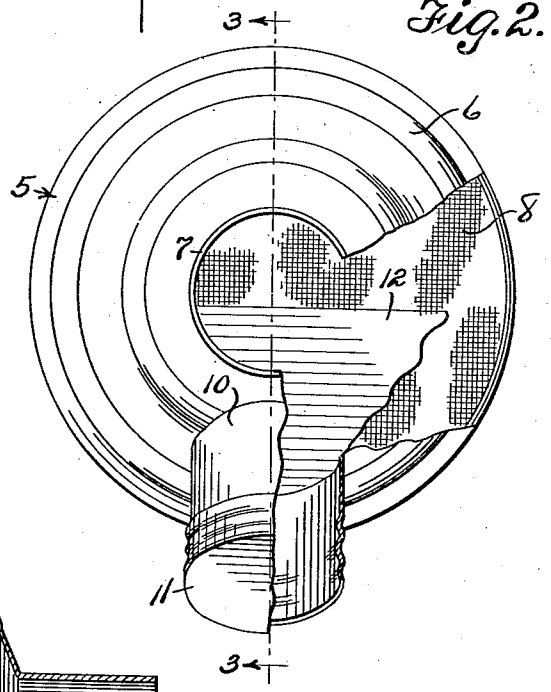
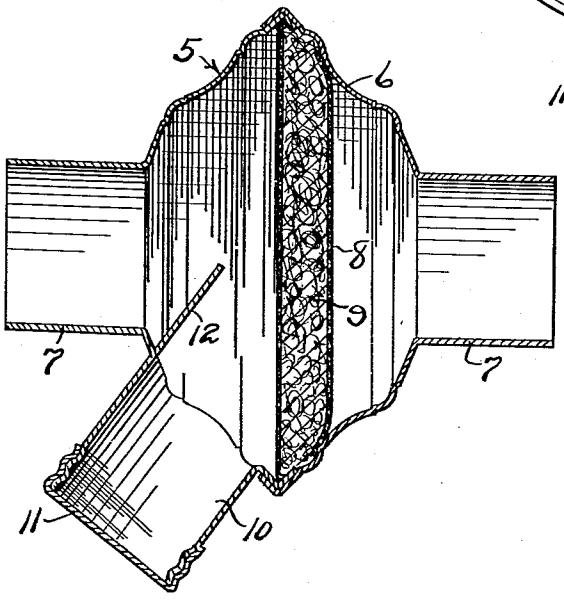


Fig. 3.



Gilbert Lien
INVENTOR

BY Victor J. Evans & Co.
ATTORNEY

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FILTER

Gilbert Lien, Fergus Falls, Minn.

Application May 23, 1932, Serial No. 613,117

1 Claim. (Cl. 210—165)

This invention relates to filters especially adapted to prevent the passage of sediment from the water jacket of an engine to the cooling radiator and has for the primary object, the provision of a device of the above stated character which may be easily and quickly installed and so constructed that the circulation of the cooling fluid will not be materially retarded and all sediment trapped thereby may be easily and quickly removed without detaching or removing the device from its installed position.

With this and other objects in view, this invention consists in certain novel features of construction, combination and arrangement of parts to be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawing, in which

Figure 1 is a side elevation illustrating a filter applied to a fragmentary portion of an engine and cooling radiator.

Figure 2 is an end elevation partly broken away illustrating the filter.

Figure 3 is a sectional view taken on the line 3—3 of Figure 2.

Referring in detail to the drawing, the numeral 1 indicates a fragmentary portion of an internal combustion engine and 2 a fragmentary portion of a cooling radiator therefor which has its inlet pipe 3 connected to the outlet of the water jacket of the engine by a hose 4. The hose 4 is severed or has a portion removed therefrom so that the filter 5 may be incorporated in the hose for the purpose of collecting sediment passing from the water jacket to the radiator.

The filter 5 consists of a sectional casing 6, each section being of substantially conical shape and formed integrally with a neck 7 to which the hose 4 is connected. Spaced screens 8 are mounted within the casing and have positicned therebetween strands of matted or closely related metallic material 9. The screens 8 are preferably constructed of copper and when first mounted within the casing are thoroughly saturated with a lubricating oil which cooperates with the screens and material 9 in separating the sediment from the cooling fluid. One of the sections of the casing 5 is provided with a depending neck 10 closed by a removable cap 11. Extending upwardly in the respective section carrying the neck 10 is a deflecting plate 12. The sediment stopped by the screens gravitates into the neck 10 and may be easily removed by removing the cap 11.

While I have shown and described the preferred embodiment of my invention, it will be understood that minor changes in construction, combination and arrangement of parts may be made without departing from the spirit and scope of my invention, as claimed.

By referring to Figure 3 it will be noted that the construction is exceedingly simple and inexpensive. The conical sections may be easily formed from sheet metal so that the device will be very light and will not put a tearing strain on the hose. When accumulated sediment is to be removed, it is necessary to merely take off the cap 11 without disturbing any other part. The filtering material is initially held by crimping or bending the edge of one body section over the edge of the mat so that when the other section is placed in position and its edge bent over the edge of the mat and the first section, the mat will be compressed and very securely clamped by and between the sections.

Having thus described my invention, what I claim is:—

A filter comprising a casing consisting of opposed conical sections, inlet and outlet necks on the respective sections, a filtering mat disposed within the casing between the necks, the edge of one section being bent around the edge of the mat and the edge of the other section being bent around the edge of the mat and the first section, a downwardly extending drain neck on the inlet section of the casing and communicating with the interior of the casing between the inlet neck and the filtering mat, one wall of the drain neck being extended and projecting upwardly in the casing away from the inlet neck and towards the filtering mat and terminating in spaced relation to the latter, and a removable cap for closing the lower end of the drain neck.

GILBERT LIEN.