Jan. 28, 1936. J. A. MATNEY 2,029,078

FILTERING DEVICE

Filed June 19, 1934

Fig. 1.

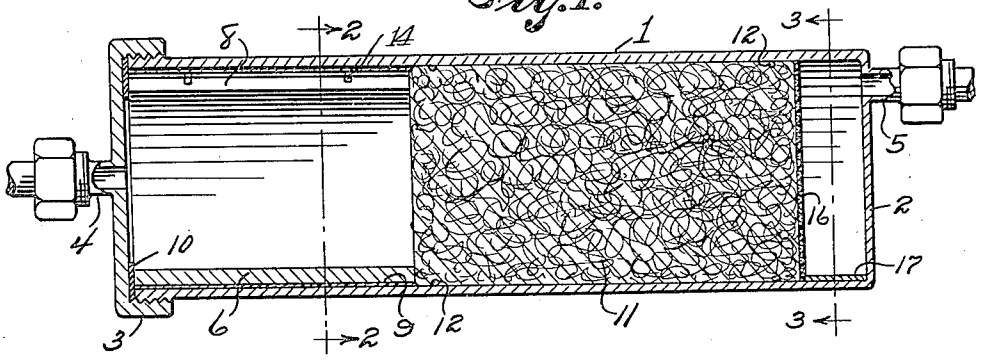


Fig. 2.

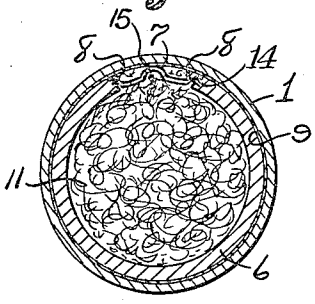


Fig. 3.

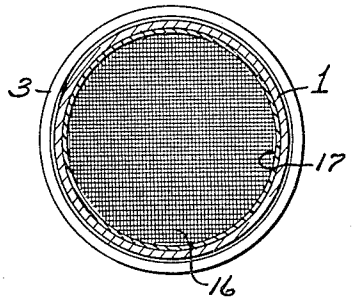


Fig. 4.

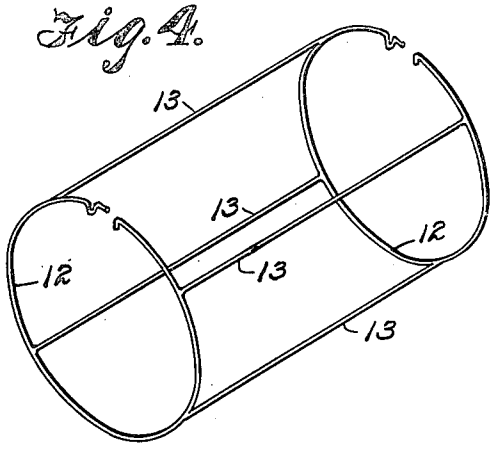
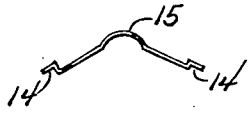


Fig. 5.



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FILTERING DEVICE

James Aaron Matney, Prosser, Wash.

Application June 19, 1934, Serial No. 731,37

1 Claim. (Cl. 210—131)

This invention relates to filters and its general object is to provide a filtering device that is primarily designed for use with the lubricating system of an engine, and it not only includes filtering means, but also magnetic means, the latter being adapted to remove metallic particles from the lubricant as it passes through the device, therefore the lubricant will be free from foreign matter, which of course will result in better lubricating qualities for a longer period of time than is possible with the ordinary filter now in general use.

A further object of the invention is to provide a filter that includes removable parts and ready access can be had thereto for removing the parts for cleaning and replacing the same when necessary.

Another object of the invention is to provide a filter of the character set forth, that is simple in construction, inexpensive to manufacture, easy to install and extremely efficient in use and service.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawing and specifically pointed out in the appended claim.

In describing my invention in detail, reference will be had to the accompanying drawing wherein like characters denote like or corresponding parts throughout the several views, and in which:

Figure 1 is a longitudinal sectional view taken through the filter which forms the subject matter of the present invention.

Figure 2 is a sectional view taken approximately on line 2—2, of Figure 1, looking in the direction of the arrows.

Figure 3 is a sectional view taken approximately on line 3—3 of Figure 1, looking in the direction of the arrows.

Figure 4 is a perspective view of the frame which constitutes a holder for the filtering material.

Figure 5 is a detail view of one of the clamping members for the magnet.

Referring to the drawing in detail, the reference numeral 1 indicates a container which as shown is of substantially elongated cylindrical formation, and is provided with a closed end 2 while its opposite end is exteriorly threaded to threadedly receive what may be termed a cap 3, as clearly shown in Figure 1 of the drawing. The cap has formed therewith or otherwise secured thereto and extending centrally therefrom a nipple 4 which provides the inlet for the container. A nipple 5 extends from the closed end 2 and preferably for the upper end thereof to provide the outlet for the container.

Removably disposed within the container 1 and adjacent one end thereof as best shown in Figure 1, is a magnet 6 of the horse shoe type and which as shown is in the form of a sleeve having a relatively wide gap 7 extending longitudinally thereof to provide the poles 8 of the magnet, as will be apparent. Surrounding the magnet is a sleeve 9 of suitable insulating material, so as to insulate the same from the wall of the container. A suitable gasket 10 is disposed between the cap 3 and the container to not only provide a leak proof connection but also to insulate the magnet from the cap.

Any well known filtering material may be used with my device, but I preferably employ a sheet of coarse woven cotton fabric which is arranged in a roll 11 and disposed within a skeleton frame of a size and shape to fit within the container and the frame includes split rings 12 that are connected at intervals in their circumference by cross rods 13, the frame acting as a means for holding the filtering material in roll formation as well as to allow for its easy insertion and removal with respect to the container.

The split rings 12 have hooked ends as best shown in Figure 4 so that the rings can be arranged in clamping association with the roll of filtering material.

It will be noted from Figure 1 that the filtering material has one end arranged in contacting engagement with the confronting end of the magnet to assist in holding the latter firmly within the container, but I also employ spring clamps such as shown in Figure 5, and these clamps terminate in ears 14 that engage the sides of the poles of the magnet, while arranged midway between the ends of the spring clamps are humped portions 15 that engage the inner wall of the container, with the result the magnet will be held against movement or casual displacement.

A disk 16 of screen wire engages the opposite end of the filtering material and is held accordingly through the instrumentality of a collar 17 that contacts with the closed end of the container as clearly shown in Figure 1.

From the above description and disclosure of the drawing, it will be obvious that I have provided a filtering device to be used with the lubricating system of an engine and is capable of removing practically all foreign matter from the

lubricant, due to the magnet and the filtering material, and all of the parts within the container can be removed therefrom, so that they can be readily cleaned when necessary. By providing a sheet of cloth in rolled formation for the filtering material, it will be apparent that it can be readily cleaned merely by unrolling the sheet and washing the same in some suitable cleaning fluid such as gasoline or the like. However, the filtering material can be made from layers of cloth stitched together. The remaining parts of the filtering device can be made from any suitable material.

It is thought from the foregoing description that the advantages and novel features of my invention will be readily apparent.

I desire it to be understood that I may make changes in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claim.

What I claim is:

A filtering device comprising a container, inlet means and outlet means therefor, magnetic means in said container and being insulated therefrom, means for detachably securing the magnetic means in position, filtering material in said container, a skeleton wire frame for the filtering material and including split end rings, means for detachably connecting the ends of the rings together, cross rods having their ends secured to the rings, said frame and filtering material being removable from the container as a unit, screening means cooperating with the filtering material, and means for holding the screening means against one end of the filtering material and spaced from the outlet means.

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