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C. BREER

OIL FILTER

Filed March 9 , 1925

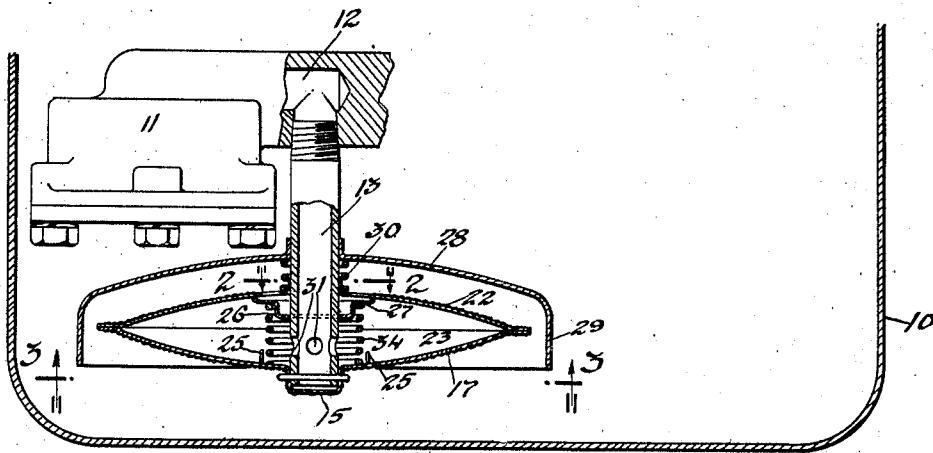


Fig. 1

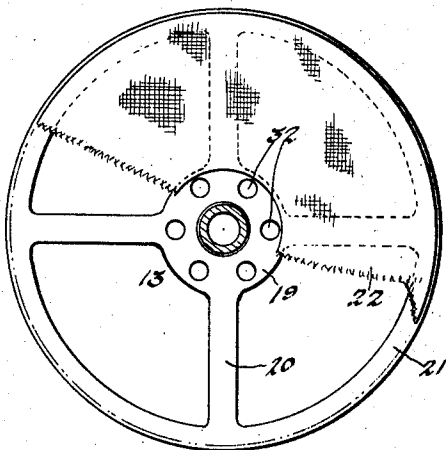


Fig. 2

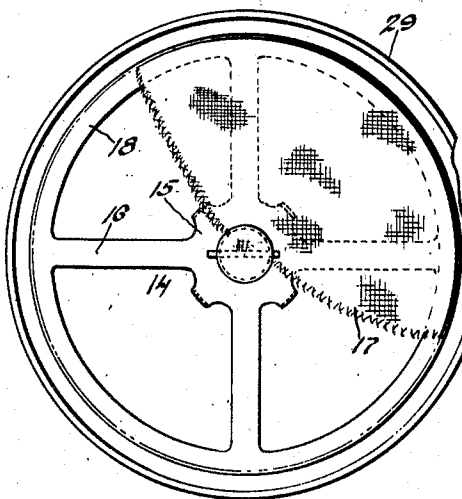


Fig. 3

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OIL FILTER.

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To all whom it may concern:

Be it known that I, CARL BREER, a citizen of the United States, and resident of the city of Detroit, county of Wayne, State of Michigan, have invented certain new and useful Improvements in Oil Filters, of which the following is a specification, reference being had to the accompanying drawings.

It is the primary object of my invention to provide means, associated with a screen device, employed on the end of an oil line such as is usually placed in the crank case of an internal combustion engine, whereby oil may be allowed to pass from the crank case or like reservoirs, into the end of the oil line.

It is a further object of my invention to provide such a device of cheap and economical construction.

With the above and other objects in view, my invention consists of the arrangement, combination, and construction of the various parts of my improved device, as described in the specification, claimed in my claims, and shown in the accompanying drawings, in which:

Fig. 1 is a sectional view of an engine crank case showing my improved device in section, as well as a conventional oil pump in elevation.

Fig. 2 is a sectional view taken on line 2-2 of Fig. 1.

Fig. 3 is a sectional view taken on line 3-3 of Fig. 1.

I have shown an engine crank case 10, within which is positioned a conventional oil pump 11, having a conduit 12, leading therefrom and connecting with a vertically disposed conduit 13, the lower end of which is positioned near the bottom of the crank case.

Positioned on the end of the conduit 13 and secured by means of a pin 14 is a spider consisting of a center plate 15 having diverging arms 16, over which is disposed a screen 17. A ring 18 joins the ends of the arms 16.

Positioned intermediate the ends of the conduit 13, is a second spider consisting of a center plate 19 having diverging arms 20 joined together at their ends by a ring 21. A screen 22 is provided over the arms 20. The rings 21 and 18 abut each other as shown in Fig. 1, leaving an intermediate

space 23 between the arms 16 and 20, and the screens 17 and 22.

A coil spring 34 is provided in this space encircling the conduit 13, the bottom of which spring is adapted to bear against the top of the plate 15; and to be held in place by the struck up lugs 25 on the plate. A valve or cap 26 is provided on the top of the spring 34, the spring bearing against the shoulder 27 on the valve. The valve 26 is thus held against the plate 19 by the pressure of the spring 24.

Suitably secured to the conduit 13 above the screen 22 is a circular shield 28 having a vertically disposed flange 29 for housing the screens 22 and 17. Disposed around the conduit 13 between the shield 28 and the plate 19 is another coil spring 30 which resiliently holds the screen 22 in place.

A plurality of openings 31 are provided in the conduit 13, adjacent to its lower end between the screens 17 and 22.

In the normal operation of my improved device, oil in the crank case will be drawn by the suction of the pump 11 thru the screens 17 and 22, the openings 31, and conduit 13, to be passed on by the pump for the suitable lubrication of the various parts. Should the screens 17 and 22 for any reason become closed so that oil may not pass thru them to the apertures 31, the suction from the pump will cause the valve 26 to unseat against the pressure of the spring 24, and the oil will pass thru apertures 32 in the plate 19 over the valve 26, and thru the apertures 31 for lubrication in the usual manner.

It will be obvious that various changes may be made in the arrangement, combination, and construction of the various parts of my improved device without departing from the spirit of my invention, and it is my intention to cover, by my claims, such changes as may reasonably be included within the scope thereof.

What I claim is:

1. In combination, a conduit having an opening therein, a screen surrounding said opening, an imperforate member spaced from and housing the top and side of said screen, suction means for drawing fluid through the conduit, a normally closed valve adjacent to said screen adapted to permit access of fluid to said conduit through said

opening when unseated, and said suction means being adapted to open said valve in the event of clogging of said screen.

2. In combination, a conduit having an opening therein, a screen surrounding said opening, a plate around a portion of said conduit spacing a portion of said screen from the conduit, said plate having openings therein, a valve within said screen normally held against said plate to prevent passage of fluid through said openings to the interior of said screen and suction means for drawing fluid passing through said screen through said conduit, said suction means adapted to unseat said valve and permit passage of fluid through said openings to said conduit opening in the event of clogging of said screen.

3. In combination a conduit having an opening therein, a screen surrounding said opening, a plate around a portion of said conduit spacing a portion of said screen from the conduit, said plate having openings therein, a valve within said screen normally held against said plate to prevent passage of fluid through said openings to the interior of said screen, an imperforate member spaced from and housing the top and sides of said screen, and suction means for drawing fluid passing through said screen through said conduit, said suction means adapted to unseat said valve and permit passage of fluid through said openings to said conduit opening in the event of clogging of said screen.

4. In combination a conduit having an opening therein, a screen surrounding said opening, a plate around portion of said conduit spacing a portion of said screen from the conduit, said plate having openings therein, a valve within said screen normally resiliently held against said plate to prevent passage of fluid through said openings to the interior of said screen and suction means for drawing fluid passing through said screen through said conduit, said suction means adapted to unseat said valve and permit passage of fluid through said openings to said conduit opening in the event of said screen becoming clogged.

5. In combination, a conduit having a side opening therein, a plate secured on the end of said conduit below said opening, diverging arms extending from said plate, a ring joining the free ends of said arms, a screen supported by said arms and ring, a second plate disposed around said conduit above said opening, diverging arms extending from said plate, a ring joining the free ends of said arms, a second screen supported by said second arms and rings, said arms being bent and said rings being arranged in abutting relation to each other.

6. In combination, a conduit having a side opening therein, a plate secured on the end of said conduit below said opening, diverging arms extending from said plate, a ring joining the free ends of said arms, a screen supported by said arms and ring, a second plate disposed around said conduit above said opening, diverging arms extending from said plate, a ring joining the free ends of said arms, a second screen supported by said second arms and rings, said arms being bent and said rings being arranged in abutting relation to each other, and means consisting of a coil spring positioned around said conduit, above said second plate, for resiliently holding said rings in abutting relation.

7. In combination, a conduit having an opening therein, a screen surrounding said opening, a plate around a portion of said conduit, spacing a portion of said screen from the conduit, said plate having openings therein, a shouldered valve within said screen, a coil spring around said conduit, beneath said valve and bearing against the shoulder thereon to normally hold said valve against said plate to prevent passage of fluid through said openings to the interior of said screen and suction means for drawing fluid passing through said screen through said conduit, said suction means adapted to unseat said valve and permit passage of fluid through said openings to said conduit opening in the event of clogging of said screen.

CARL BREER.