May 1, 1934. C. E. JACOBS 1,956,865

OIL PUMP

Filed Nov. 5, 1931

Fig. 3

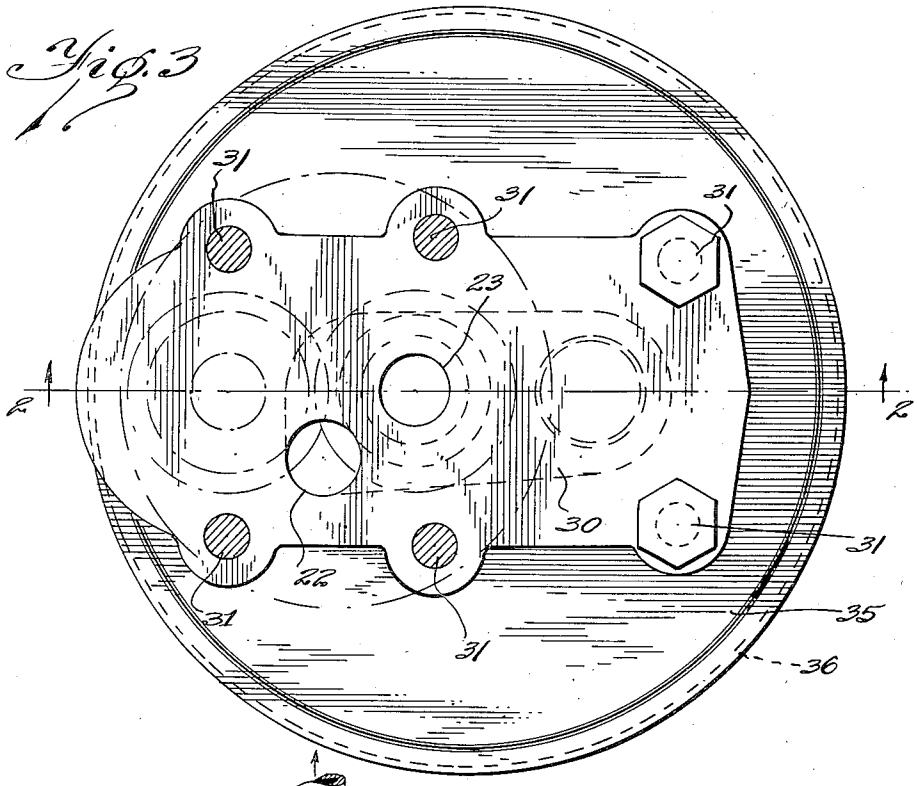


Fig. 2

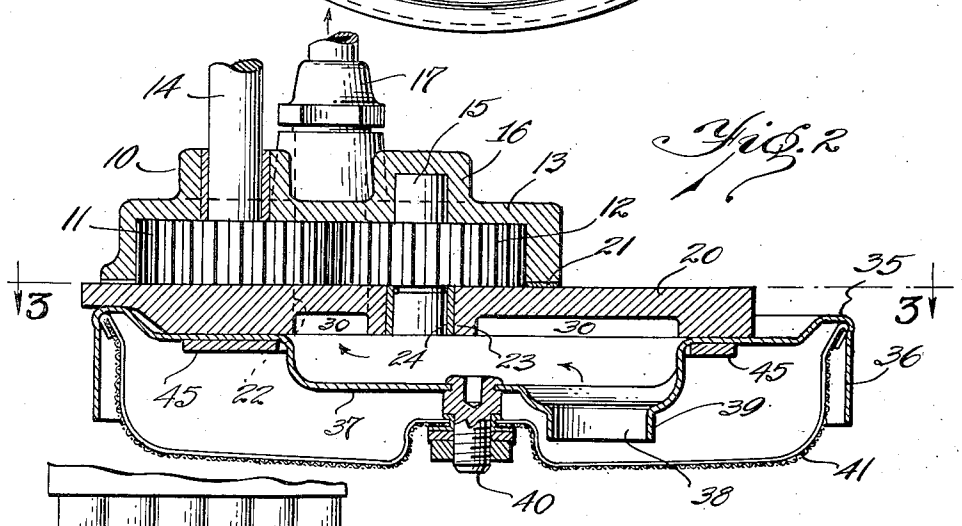
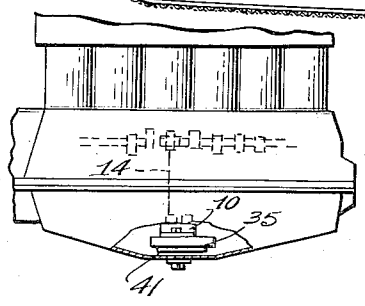


Fig. 1



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OIL PUMP

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3 Claims. (Cl. 184—26)

The present invention relates to screened pump inlet chambers for the lubricating pumps of internal combustion engines and more particularly to an inlet chamber and pump combination.

In the usual automotive engine, the oil pump is mounted in the crankcase to one side of the center line and the inlet therefor does not take oil from the desired point unless a suitable conduit is provided to extend to the center line. Heretofore, one of the methods of accomplishing this result has been to offset from the pump the screen chamber and to provide a relatively long conduit inside the latter and secured by soldering or other means.

This is objectionable as expensive and because of the relatively large percentage of defective assemblies.

Among the objects of the present invention is to overcome the difficulties encountered in the above described devices and to provide a construction which is more economical to construct and which is less likely to be defective.

Other objects will readily occur to those skilled in the art upon reference to the following description and the accompanying drawing in which:

Fig. 1 is a more or less diagrammatic side elevation of part of an engine with a part broken away to show the installation.

Fig. 2 is a longitudinal vertical section taken substantially along line 2—2 of Fig. 3 and looking in the direction of the arrows, but showing in addition and in similar section the pump itself; and

Fig. 3 is a plan view of the pump pad and screen chamber with the pump removed, corresponding to a horizontal section substantially on the line 3—3 of Figure 2 and looking in the direction of the arrows.

In the Figs. 1 and 2, is shown an oil pump 10 comprising a pair of meshing gears 11 and 12 fitting in a housing 13, the gear 11 being secured to a drive shaft 14 and the gear 12 being provided with a short shaft 15 having a bearing in a recess 16 in housing 13. At 17 is indicated the delivery conduit of the pump.

The open lower side of housing 13 is closed by means of a pad 20, a suitable gasket 21 being provided. This pad 20 is smooth on top and provided with openings 22 and 23, the latter receiving the lower end of short shaft 15 together with a suitable bushing 24. The opening 22 is the pump inlet.

The underside of pad 20 is provided with a depression 30, communicating with opening 22, and forming one half of a conduit leading to said inlet.

As shown the pump 10 is mounted upon pad 20 and the latter in turn mounted upon the screen chamber 35, suitable openings being provided for bolts or screws 31 by means of which the elements are fixed together.

The screen chamber 35 comprises a bell member 36 having its upper side somewhat depressed as indicated and in the depressed portion there is formed a recess 37 of an area substantially the same as that of recess 30 in pad 20 and located to register therewith when the parts are assembled. At the opposite end of recess 37 from opening 22, there is provided an opening 38 which may be flanged, as indicated at 39. This is the intake for the pump 10.

Recess 37 is also preferably provided as shown with a downwardly extending, centrally (of the bell 35) located stud 40 by means of which the bowl shaped screen 41 is secured with its edge up within the bell 35.

If desired, a plate or plates 45 may be fixed to the under side of the bell top to serve as better anchorage for screws 31.

Now having described the invention and the preferred embodiment thereof, it is to be understood that the said invention is to be limited, not to the specific details herein set forth, but only by the scope of the claims which follow:—

1. In combination with an oil pump having a base with a pump inlet therein, a member having a screened inlet remote from the pump inlet, upon which member said pump base is mounted, and means for conducting oil to the pump inlet from the screened inlet of said member, comprising a conduit formed by a depression in the top of said member and a co-operating recess in the under face of the pump base.

2. In combination with an oil pump having a base with a pump linlet therein, a bell member having a screened inlet and upon which the pump base is mounted, the bell having a depression in its top portion covered by a pump portion and forming a chamber between the pump base and bell communicating with the pump inlet, and said depression having said screened inlet therein at a point remote from the pump inlet.

3. In an engine oil pump including a pair of intermeshing pump gears, a housing therefor having an outlet and a closure plate having an inlet, a screen for said inlet, a bell housing said screen, means for mounting the closure plate upon said bell and said screen within said bell, said closure plate and bell cooperating to form a chamber communicating with the inlet and forming as well a conduit extending from said closure plate inlet to a remote portion of said chamber, said chamber and conduit being formed by a depression in the top of said bell and a co-operating recess in the underside of said plate.

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