Oct. 25, 1938. T. C. PITTMAN 2,134,004

OIL CONDUIT

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FIG. 1.

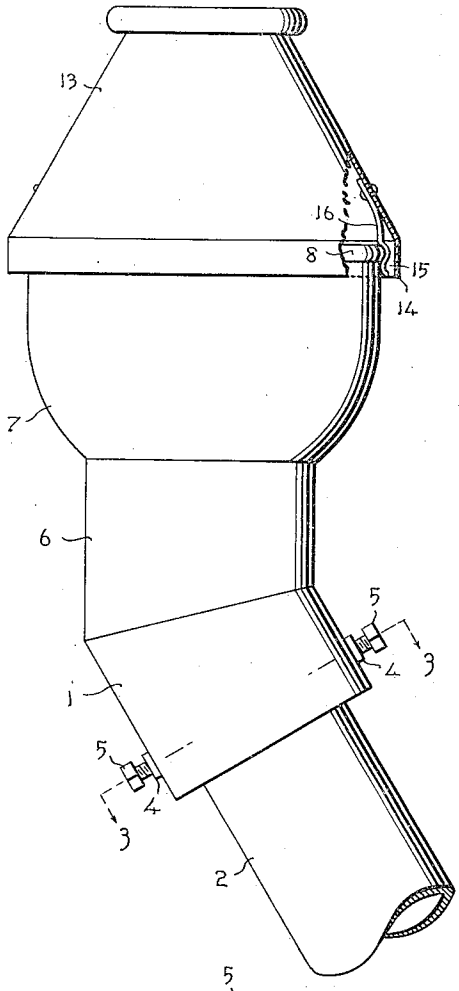
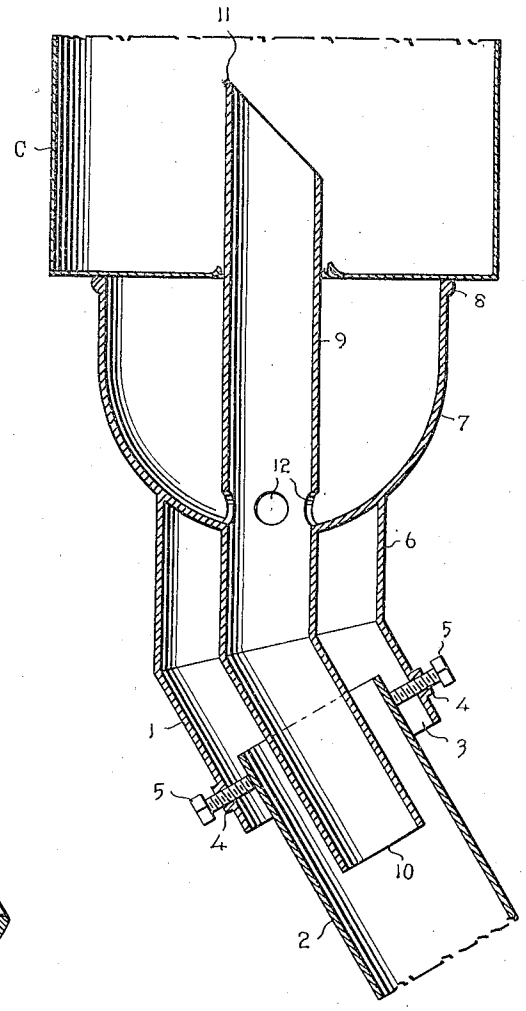


FIG. 2.



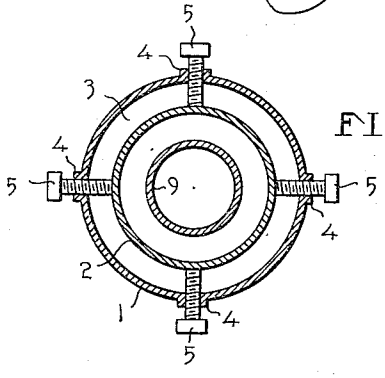


FIG. 3.

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FIG. 4.

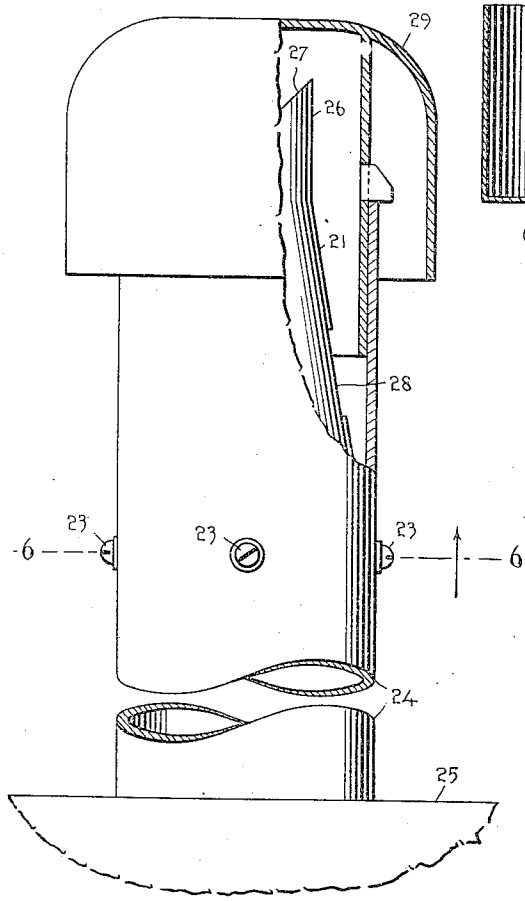
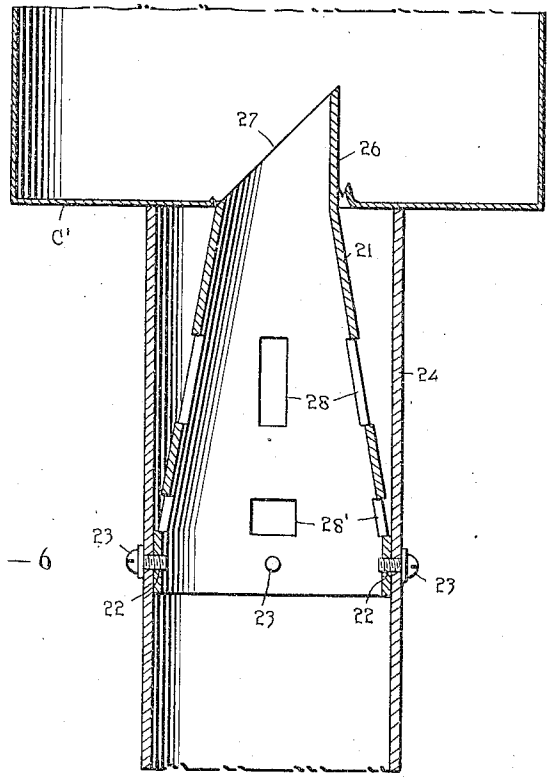


FIG. 5.



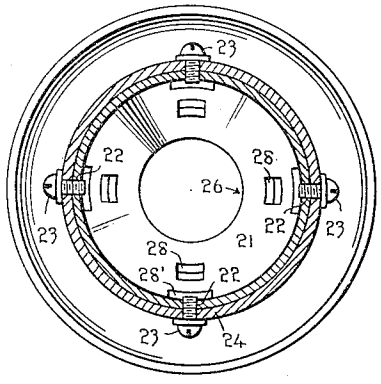


FIG. 6.

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UNITED STATES PATENT OFFICE

2,134,004

OIL CONDUIT

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Application May 1, 1935, Serial No. 19,299

4 Claims. (Cl. 184—105)

My invention consists in a new and useful improvement in oil conduits and is designed to provide a device to be used in connection with the crankcase of an internal combustion engine to facilitate the charging of the crankcase with lubricating oil. It has now become a very general practice for lubricating oil to be dispensed in sealed containers, and my improved device is designed for use in connection with the ordinary form of sealed can in which the oil is packaged for sale. My device has a rupturing blade for cutting the can to permit the oil to flow therefrom, and this blade is provided upon the end of the conduit so that the oil flows directly from the can, through the conduit, into the crankcase. My device is also designed so that, if desired, the oil may be poured into the conduit by any of the ordinary methods which have been used before the use of the sealed containers. Thus I have provided a conduit for the oil, to be permanently attached to the crankcase, and through which the oil may be supplied to the crankcase from either a sealed or an open container. The particularly novel features of my improved device are the rupturing means for opening the sealed cans, the reception means for oil poured from open containers, and the provision for the usual "breather" construction in connection with the intake of the crankcase.

While I have illustrated in the drawings filed herewith and have hereinafter fully described two specific embodiments of my invention, it is to be distinctly understood that I do not consider my invention limited to said specific embodiments, but refer for its scope to the claims appended hereto.

In the drawings:

Fig. 1 is a side elevation of the device.

Fig. 2 is a vertical section of the device, showing its cap removed and a can on the device.

Fig. 3 is a horizontal section on the line 3—3 of Fig. 1.

Fig. 4 is a side elevation, partly in section, of a modified form of my device.

Fig. 5 is a vertical section of the modified form, showing the cap removed and a can on the device.

Fig. 6 is a horizontal section on line 6—6 of Fig. 4.

As illustrated in Figs. 1, 2 and 3 of the drawings, my device is provided at its bottom with the tubular portion 1 of sufficient diameter to surround the open end of the intake pipe 2 of the crankcase, forming a peripheral channel 3 thereabout. The portion 1 is provided with a series of bosses 4 through which are tapped bolts 5 for attaching the device to the pipe 2, as clearly indicated in Figs. 2 and 3. Extending upwardly from the portion 1 and at an angle of 45° is the tubular portion 6 on which is co-axially mounted the bowl 7 having on its upper edge the peripheral bead 8. Mounted in the center of the bowl 7 is the conduit 9 which extends to a point above the bead 8 and downwardly through the portions 6 and 1, its lower open end 10 being extended into the pipe 2 when the device is mounted thereon. The upper end of the pipe 9 is formed to provide a rupturing blade 11. A series of holes 12 are provided in the pipe 9 at points adjacent to the bottom of the bowl 7, to afford communication between the bowl 7 and the pipe 9. I provide a suitable cap 13 for covering the bowl 7 when my device is not in use. This cap 13 is sufficiently long as to extend above the upper end of the pipe 9, and has its skirt 14 of sufficient diameter to afford a peripheral channel 15 about the upper edge of the bowl 7. The cap 13 is provided at points adjacent this skirt 14 with spring fingers 16 adapted to co-act with the bead 8 of the bowl 7 to fasten the cap 13 thereon.

As clearly illustrated in Fig. 2, the can C containing the oil to be placed in the crankcase through the inlet pipe 2 is forced down against the rupturing blade 11 on the upper end of the pipe 9, thus causing the pipe 9 to enter the can C and permit the oil to drain from the can C through the pipe 9 and pipe 2 into the crankcase, the bottom of the can C resting on the upper edge of the bowl 7. It is obvious that the rupturing of the can C by the blade 11 will cause such a torn opening in the wall of the can C that some of the oil may escape, about the pipe 9, into the bowl 7 and will drain therefrom through the holes 12 into the pipe 9. In this way also the residue of the oil in can C, when the oil level has reached the level of the upper end of the pipe 9, will drain, completely emptying the can C.

Figs. 4, 5 and 6 of the drawings illustrate a modified form of my device comprising a conical element 21 provided at its base with threaded orifices 22 for the reception of bolts 23 passed through bolt holes in the intake pipe 24 of the crankcase 25, by which the element 21 is fixed in the pipe 24. The element 21 has at its peak a tubular portion 26 provided with a rupturing blade 27. The conical element 21 has a plurality of orifices 28 and 28', the latter being positioned closely adjacent the point of juncture of the base of element 21 and pipe 24. As illus-

trated in Fig. 4, it is obvious that when the element 21 is mounted in the pipe 24, the ordinary type of "breather" cap 29 may be applied to the pipe 24. As illustrated in Fig. 5, it will be obvious that when can C' is forced down on blade 27 it will be ruptured to allow the oil to flow through tubular element 26, conical element 21 and pipe 24 into the crankcase 25, the can C' resting upon the upper end of the pipe 24.

It will be noted that in the form of my device illustrated in Figs. 1, 2 and 3 there is provided the "breather" construction by the channel 3 provided between portion 1 and intake pipe 2, and also by the channel 15 about the bezel 8 of the bowl 7 when the cap 13 is applied thereto. In the modified form of the device illustrated in Figs. 4, 5 and 6, the ordinary "breather" cap 29 is used.

It will be obvious that in both forms of the device the orifices 12 and 28, 28' respectively are provided so that when oil is poured from an open container it will pass through said orifices into the crankcase. These orifices 12 and 28, 28' also serve to admit air to facilitate the flow of the oil through the conduit when a sealed container supplies the oil.

Having described my invention, what I claim is:

1. In an oil conduit for the oil intake pipe of an internal combustion engine, the combination of a pipe having its upper end provided with a rupturing blade; and tubular means on said pipe and provided with means adapted to attach the pipe to the oil intake pipe, said tubular means being spaced from the intake pipe to afford an air ingress for said pipe.

2. In an oil conduit for the oil intake pipe of an internal combustion engine, the combination of a pipe; a bowl communicating with and attached to said pipe; and tubular means on said bowl and provided with means adapted to mount the bowl on the oil intake pipe, said tubular means being spaced from the intake pipe to afford an air ingress for said pipe.

3. In combination with the crankcase of an internal combustion engine, an oil conduit leading to said crankcase and provided on its outer end with a rupturing blade, and surrounded by a bowl, a series of orifices being provided in said conduit adjacent the bottom of said bowl, and said bowl being provided with a depending pipe surrounding said conduit and provided with means adapted to mount said pipe upon the crank case.

4. In an oil conduit for the crankcase of an internal combustion engine, the combination of a tubular casing to be positioned about the intake pipe of the crankcase and afford a peripheral air space between said pipe and said casing, and having clamping means to attach the casing to the pipe; a bowl mounted on said casing; and a pipe mounted in said bowl and passing through said bowl and casing, and provided with a rupturing blade on its upper end and a series of orifices adjacent the inner surface of the bowl, and having its lower end disposed within the intake pipe when the casing is clamped thereto.

THOMAS C. PITTMAN.