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2,263,644

FILLING COVER AND BODY FOR OIL FEED TANKS

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Fig. 1

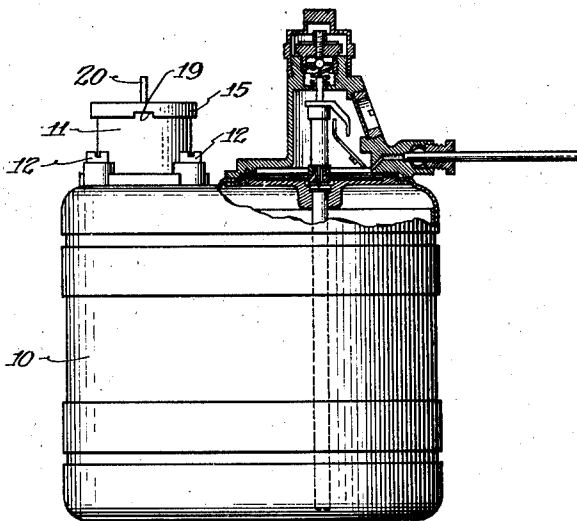


Fig. 2

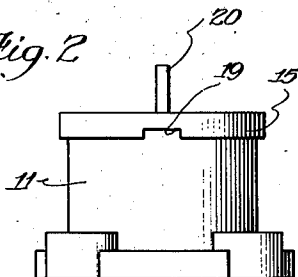
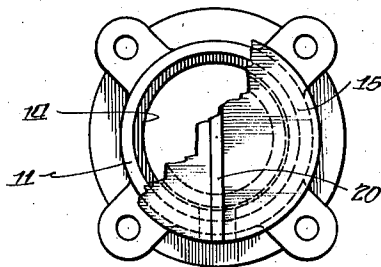


Fig. 3

Fig. 5

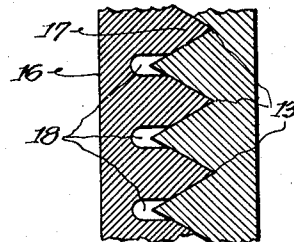
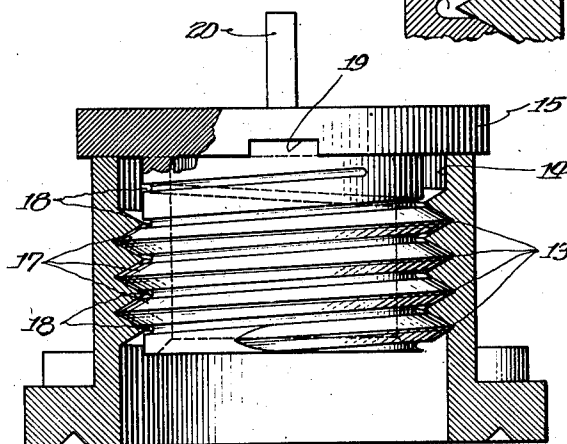


Fig. 4

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UNITED STATES PATENT OFFICE

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FILLING COVER AND BODY FOR OIL FEED
TANKS

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Application May 20, 1938, Serial No. 208,977

3 Claims. (Cl. 220-44)

The invention relates to improvements in oil feed tanks for internal combustion engines and more particularly to an improved arrangement for filling such tanks, the primary object of the invention being the provision of an improved construction of the character indicated which is highly efficient in use.

Another object of the invention is the provision of a construction of the character indicated so arranged as to permit free entry of air to such tanks.

Another object of the invention is the provision of a construction of the character indicated so arranged as to cause automatic tightening of the removable filler cap in case of accidental loosening thereof.

Other objects will appear hereinafter.

The invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawing forming a part of this specification, and in which

Fig. 1 is a side view of an oil feed tank embodying the invention;

Fig. 2 an enlarged side view of a filling nipple for said tank shown detached;

Fig. 3 a top plan view, shown partially in horizontal section, corresponding to Fig. 2;

Fig. 4 an enlarged detail cross section of the filling nipple shown in Fig. 2; and

Fig. 5 an enlarged partial detail section taken through a side of the filling nipple.

The embodiment of the invention illustrated in the drawing comprises an oil feed tank 10 of usual construction and equipped with connections as shown whereby oil therefrom will be drawn into the cylinders of the engine in the usual way. The tank 10 is provided with a filling nipple 11 secured thereto by means of screw bolts 12 and provided with an internal thread 13, as best shown in Figs. 4 and 5. An annular air chamber 14 is provided in the upper part of the nipple 11 as shown. A closure cap 15 is provided with a projection 16 in the form of a sleeve having external threads 17 of a pitch to fit the threads 13 in the nipple 11. A groove 18 is formed in the wall of the projection 16 and extended into the bottoms of the threads 17 so as to permit the free passage of air from the air chamber 14 into the tank 10. An air notch 19 is provided as shown in the under side of the cap 15 so as to permit of the free entry of air to the air chamber 14 when the cap 15 is seated snugly on top of the nipple 11. An operating blade or finger piece 20 is provided on the top of cap 15 to facilitate the tightening and loosening thereof.

By this arrangement, in the normal operation

of the tank 10, air will be admitted through the notch 19, air chamber 14 and groove 18 into the interior of the tank, thereby relieving the vacuum ordinarily formed therein and permitting of ready withdrawal of the oil therefrom in the normal operation of the engine. The more or less constant passage of air along the threads 13-17 creates a suction which has a tendency to prevent leakage of oil through the cap and also tends to tighten the cap in place should it become accidentally loosened in use. Also if the cap has not been fully tightened after the tank is filled, the suction thus induced in the thread and the partial vacuum in the tank coupled with the natural vibration will eventually close said cap tightly. The specific form and arrangement of parts is a simple and effective one for the purpose.

While I have illustrated and described the preferred form of construction for carrying the invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I therefore do not wish to be limited to the precise details disclosed, but desire to avail myself of such variations and modifications as fall within the scope of the appended claims.

I claim:

1. A tank of the class described having an internally threaded filling nipple; and a closure cap seating on top of said nipple and having a projection threaded to fit the threads of said nipple, there being an annular air chamber in the top of said nipple, an air notch in the under side of said cap permitting free entry of air to said chamber, and an air passageway following said threads and permitting free passage of air from said chamber into said tank.

2. A tank of the class described having an internally threaded filling nipple; and a closure cap seating on top of said nipple and having a projection threaded to fit the threads of said nipple, there being an annular air chamber in the top of said nipple, an air notch in the under side of said cap permitting free entry of air to said chamber, and an air passageway running around the surface of said projection, and extending into and following said threads and permitting free passage of air from said chamber into said tank.

3. A tank of the class described having an internally threaded filling nipple, there being an air entry groove at the bottom of the thread; and a closure cap for said nipple having a projection threaded to fit the threads of the said nipple and provided with an air entry passage leading to said groove and whereby free entry of air to said tank is permitted.

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