June 6, 1944. G. M. GABEL 2,350,748

DRAIN VALVE

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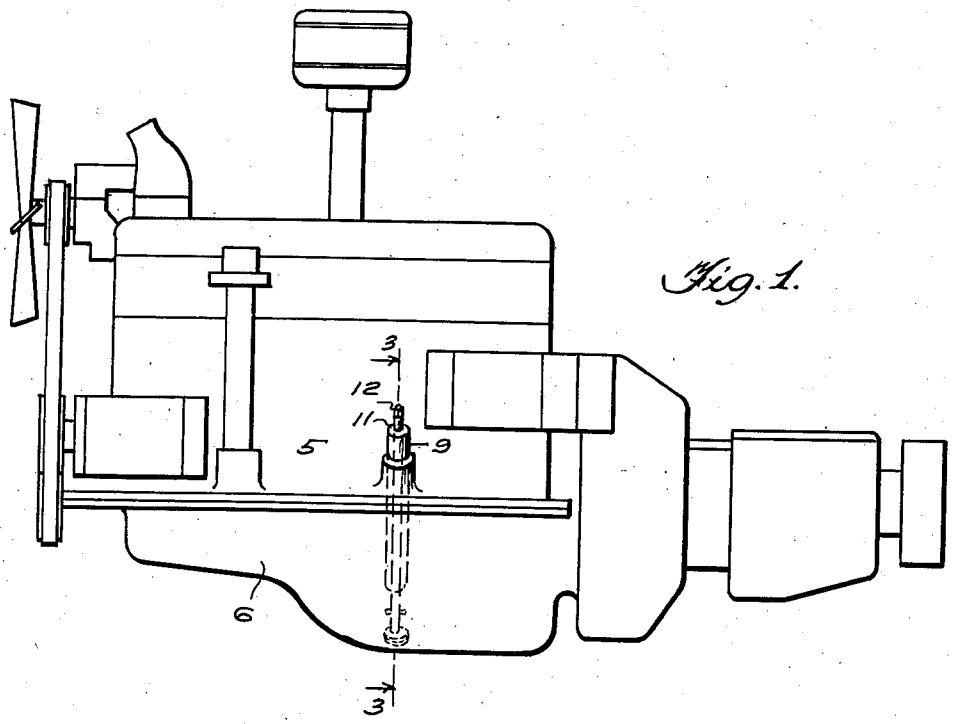


Fig. 1.

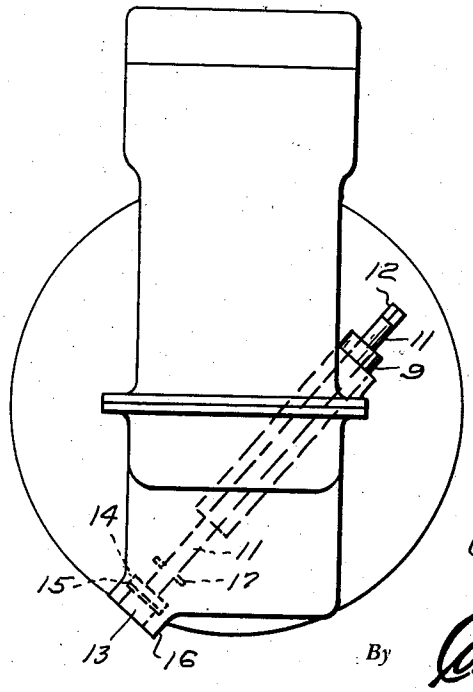


Fig. 2.

Inventor

GLEN M. GABEL,

By Clarence A. O'Brien

Attorney

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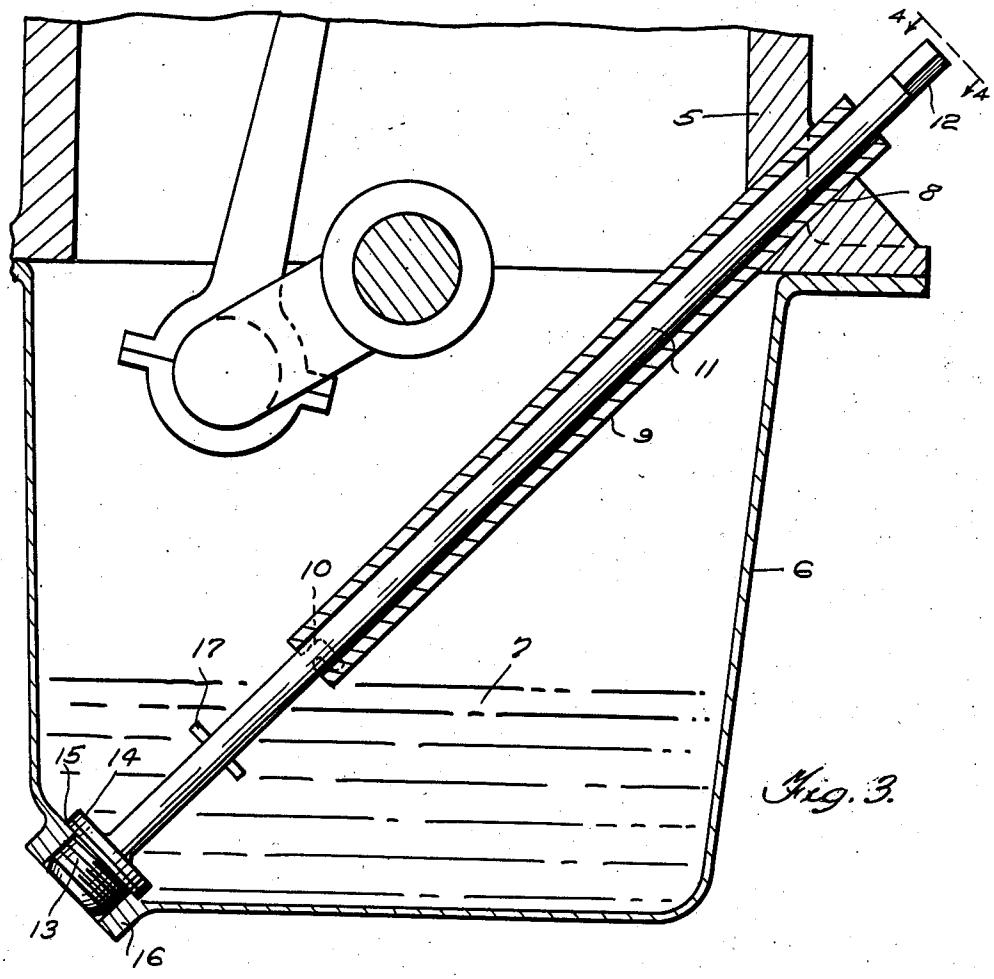


Fig. 3.

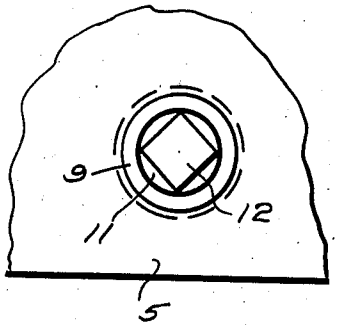


Fig. 4.

Inventor

GLEN M. GABEL,

By Clarence A. O'Brien

Attorney

Patented June 6, 1944 2,350,748

UNITED STATES PATENT OFFICE

2,350,748

DRAIN VALVE

Glen M. Gabel, Le Mars, Iowa

Application December 11, 1941, Serial No. 422,583

1 Claim. (Cl. 137—34)

This invention relates to new and useful improvements in drain means such as may be employed for draining oil from engine crankcases, or in fact liquid from various types of receptacles.

The principal object of the present invention is to provide drain means which is substantially safe in construction against the larceny of the contents of the receptacle with which it is employed.

Other objects and advantages of the invention will become apparent to the reader of the following description.

In the drawings:

Figure 1 is a side elevational view of an internal combustion engine showing the drain means.

Figure 2 is a front elevational view of an engine showing the drain means.

Figure 3 is an enlarged fragmentary vertical sectional view taken substantially on the line 3—3 of Figure 1.

Figure 4 is a fragmentary elevational view looking from the position 4—4 of Figure 3.

Referring to the drawings wherein like numerals designate like parts, it can be seen in Figures 1 to 4, inclusive, that numeral 5 denotes an engine block from which depends and to which is secured a crankcase 6 containing oil 7 for the lubrication of the bearings of the crankshaft and other parts.

In carrying out the present invention, the lower portion of the block 5 is bored as at 8 and through this is disposed an elongated barrel 9 terminating in substantially close spaced relation with respect to the bottom of the crankcase 6 and having a bayonet slot 10 in the lower end thereof.

The upper end of the barrel 9 projects slightly beyond the lower portion of the block 5.

Snugly slidable in the barrel 9 is an elongated rod 11, substantially longer than the barrel 9, its upper end being squared as at 12 to permit engagement therewith of a wrench or other desired tool.

The lower end of the rod or shaft 11 is provided with a threaded plug head 13 having a stop flange 14 and a packing ring 15. This plug head 13 can be screwed into an internally threaded burr 16 at one side of the bottom of the crankcase 6.

As can be seen in Figure 3, the drain means is arranged diagonally across the crankcase 6, so that drained oil can be poured in a receptacle positioned under one side of the crankcase while the drain means can be controlled conveniently from above the other side of the crankcase.

As can be seen in Figure 3, a cross pin 17 is provided on the lower portion of the shaft 11 and obviously after the shaft 11 has been rotated by a wrench or other means and the plug 13 has been removed from the burr 16, the shaft 11 can be pulled outwardly and the pin 17 disposed in the bayonet slot 10 for holding the shaft 11 extended until all of the oil has been drained from the crankcase. After this, flushing can be performed and subsequent to this, the plug 13 can be disposed into the burr 16, screwed in place and subsequently the crankcase can be replenished with oil through the usual filler opening.

While the foregoing specification sets forth the invention in specific terms, it is to be understood that numerous changes in the shape, size and materials may be resorted to without departing from the spirit and scope of the invention as claimed hereinafter.

Having described the invention, what is claimed as new is:

In combination, a receptacle provided with an outstanding burr in one lower corner portion thereof, said burr having a threaded opening therein, an elongated guide tube projecting into the crank case from the upper portion thereof and in alignment with said threaded bore, a shaft disposed through the guide tube and snugly fitting therein, a threaded plug at the lower end of the shaft adapted to be fed into the threaded opening when the shaft is lowered and rotated, said shaft being adapted to project above the upper end of the guide tube when the plug is located within the opening, said shaft being provided with a cross pin adjacent its lower end, said tube being formed with a bayonet slot at its lower end to receive the cross pin for holding the shaft elevated when the plug has been removed from the threaded opening.

GLEN M. GABEL.