

B. C. MOWAT
PROPORTIONAL MIXING CONTAINER HAVING
ROTATABLE CONTROL ROD
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2,788,801

Fig.1

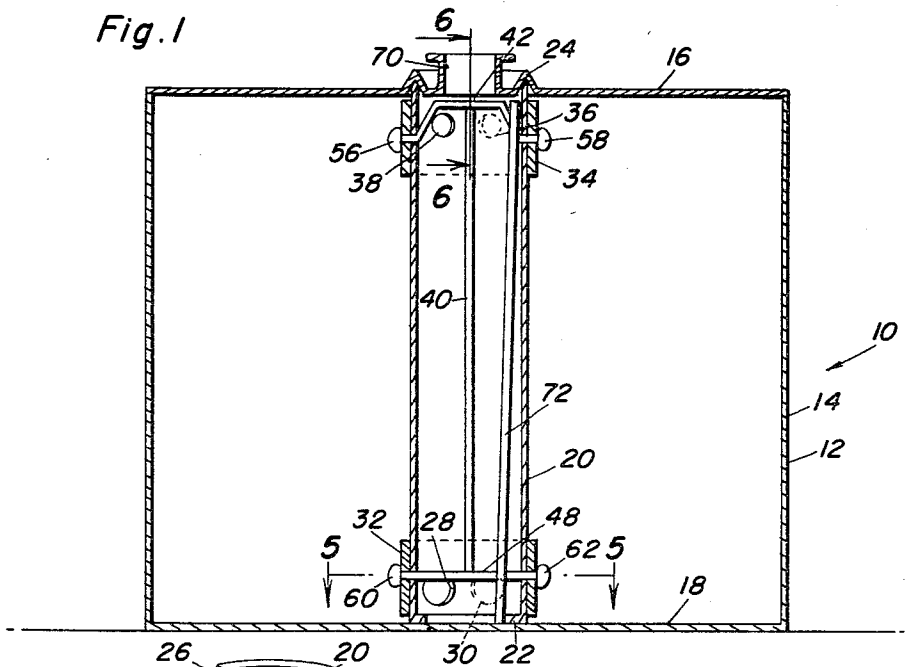


Fig. 2

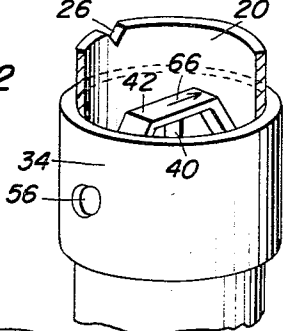


Fig. 5

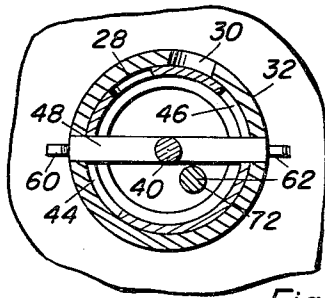


Fig. 3

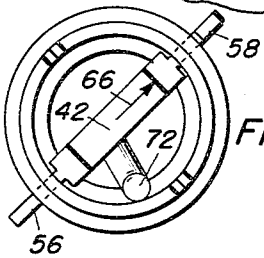


Fig. 4

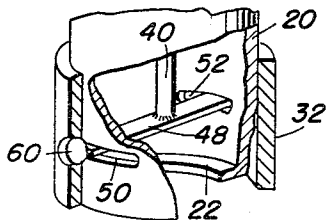
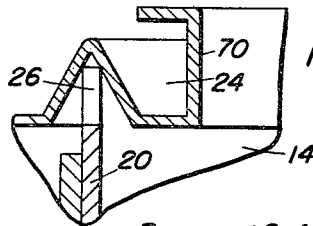


Fig. 6



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PROPORTIONAL MIXING CONTAINER HAVING ROTATABLE CONTROL ROD

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2 Claims. (Cl. 137—576)

This invention relates to the art of mixing and dispensing, and more particularly to a proportional mixing container for use in storing, mixing and dispensing fuel for internal combustion engines.

Internal combustion engines, such as outboard motors or the like as are used on boats and elsewhere, utilize fuel consisting of a mixture of gasoline and oil which are mixed in a predetermined proportion. Difficulty is commonly experienced in maintaining the mixture at proper proportion during refilling after the container or tank has been partially emptied. It is therefore the primary object of the present invention to provide means for facilitating the accurate mixing of the constituents of the fuel in the proper and desired proportion independent of whether the container or tank is wholly or partially emptied.

The construction of this invention features a gauging tube having at least one aperture therethrough which is adapted to align with an aperture in a collar mounted about the tube in such manner that fluid can flow from the tube into the receptacle in which the tube is positioned. However, upon rotation of the collar with respect to the tube, the aperture in the tube will be closed to thereby prevent fluid flow.

Still further objects and features of this invention reside in the provision of a portable mixing container especially adapted for use in tanks and the like for fuel that is simple in construction, highly efficient in operation, which may employ displacement members or rods which can be insertable into the gauging tube to change the proportion of the mixture, and which is inexpensive to manufacture and install, thereby permitting wide use and distribution.

These, together with the various ancillary objects and features of the invention which will become apparent as the following description proceeds, are attained by this portable mixing container, a preferred embodiment of which has been illustrated in the accompanying drawings, by way of example only, wherein:

Figure 1 is a vertical sectional view of the proportional mixing container comprising the present invention;

Figure 2 is an enlarged partial perspective view with portions being shown in section of the gauging tube and rotatable control rod together with an associated collar;

Figure 3 is a plan view of the structure shown in Figure 2;

Figure 4 is an enlarged partial perspective view of portions of the gauging tube, control rod and the lower collar;

Figure 5 is an enlarged horizontal sectional view as taken along the plane of line 5—5 of Figure 1; and

Figure 6 is an enlarged sectional detail view as taken along the plane of line 6—6 of Figure 1 and illustrating the means for venting the receptacle.

With continuing reference to the accompanying drawings wherein like reference numerals designate similar parts throughout the various views, reference numeral 10 generally designates the proportional mixing container comprising the present invention. This proportional mix-

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ing container 10 includes a receptacle 12 having cylindrical side walls 14 as well as a top 16 and a bottom 18. Secured to the bottom in any convenient manner, as by welding or the like, is a gauging tube 20 having a peripheral flange 22 sealed or affixed to the bottom 18. The gauging tube 20 extends upwardly into a raised portion 24 in the top 16 and is notched, as at 26, to form means for venting the receptacle 12.

The capacity of the gauging tube 20 is of a predetermined relationship with respect to the capacity of the receptacle 12, and the gauging tube 20 is apertured, as at 28, so as to permit fluid flow from the gauging tube through an aperture 30 in a collar 32 positioned about the gauging tube and into the receptacle 12. Means are provided for rotating this close fitting collar 32 so that the aperture 30 will align with the aperture 28 when desired. It is noted that another collar 34 is provided having an aperture 36 therethrough adapted to be rotated so as to align with an aperture 38 at the upper portion of the gauging tube 20 for providing additional venting means.

Positioned within the gauging tube 20 is a rotatable control rod 40 having an upper substantially inverted U-shaped arm 42 which extends through notches 44 and 46 in the tube 20. A lower arm 48 is provided, the arm 48 extending through notches 50 and 52 in the tube 20. The ends of the arms are secured to or engage the collars 34 and 32, the arm 42 being provided with headed portions 56 and 58 while the arm 48 has headed portions 60 and 62 extending through suitable apertures in the collars, thereby locking the arms in position. Hence, upon rotation of the control rod 40 which may be grasped by engaging the fingers of the user of the receptacle 12 in a manner whereby the control arm 42 may be rotated in a convenient manner. An arrow or other suitable indicia 66 may be provided on the arm 42 for indicating the position of the control arm 40.

In use, and with the tank or receptacle 12 empty, the filler cap securable over the mouth 70 of the container 10 is removed. The control rod is rotated to an oil position which rotates the sleeves 34 and 32 to a position where they close the apertures 38 and 28 respectively in the tube 20. Then, oil may be poured into the gauging tube 20 to a height equal to the inside of the main cavity of the tank which is generally represented by the upper surface of the arm 42. Then, the control rod 42 is rotated so as to align the apertures 36 and 38 and the apertures 28 and 30 to thereby permit the oil to flow into the tank 14. Then, the tank or receptacle 12 can be filled with gasoline.

After any amount of fuel is used, in order to refill the tank or receptacle 12 to capacity, all that is necessary is to set the tank in level position and remove the filler cap. Then, the control rod is turned to an oil position so as to trap the mixture in the proportional chamber or gauging tube 20 equal to the height of the mixture in the tank. The gauging tube 20 may then be filled with oil, after which the control rod 40 is rotated to a position whereby the oil can then pass into the tank or receptacle 12, after which the tank can be filled to capacity with gasoline.

If it is desired to vary the proportion of the constituents of the fuel, a suitable displacement member or rod 72 may be inserted into the gauging tube 20, the volume of the rod being in a predetermined proportion to the capacity of the tube 20 so as to displace a certain amount of liquid, thereby varying the proportion of the mixture accordingly when the tube is filled with the rod in position.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention

to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A proportional mixing container comprising a receptacle having a predetermined capacity and including a top provided with an opening therein, a gauging tube positioned in said receptacle and having a capacity in predetermined proportion to the capacity of said receptacle, said gauging tube having at least one aperture therethrough, at least one close fitting collar rotatably positioned about said gauging tube for overlying and closing said aperture, said collar having an aperture therethrough, and means for selectively rotating said collar for aligning said aperture in said tube and the aperture in said collar, said top of said receptacle having a raised portion, the top of said gauging tube seating in said raised portion, said top of said gauging tube being notched to form means for venting said receptacle.

2. A proportional mixing container comprising a receptacle having a predetermined capacity and including

a top provided with an opening therein, a gauging tube positioned in said receptacle and having a capacity in predetermined proportion to the capacity of said receptacle, said gauging tube having at least one aperture therethrough, at least one close fitting collar rotatably positioned about said gauging tube for overlying and closing said aperture, said collar having an aperture therethrough, said gauging tube having at least one slot therethrough, and a control rod engaging said collar extending through said slot for selectively rotating said collar for aligning said aperture in said tube and the aperture in said collar, said top of said receptacle having a raised portion, the top of said gauging tube seating in said raised portion, said top of said gauging tube being notched to form means for venting said receptacle.

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