

June 29, 1926.

1,590,578

C. W. HARRIS ET AL

OIL DISPENSER

Filed July 17, 1922

4 Sheets-Sheet 1

Fig. 1.

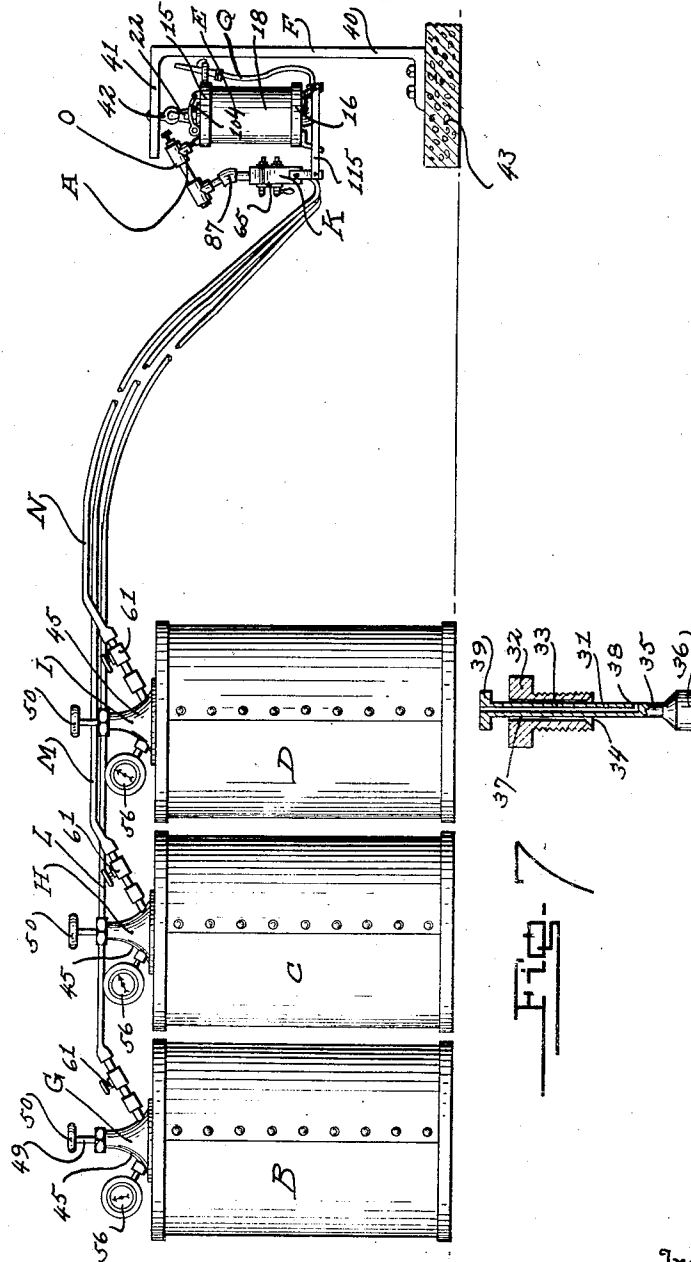


Fig. 7

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Fig. 2.

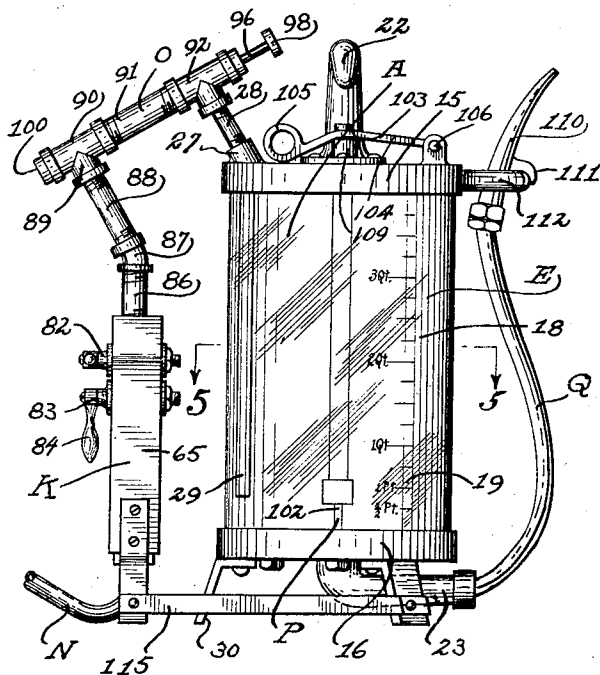


Fig. 5.

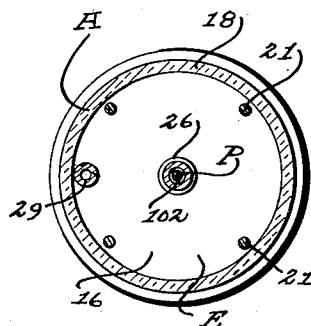


Fig. 4.

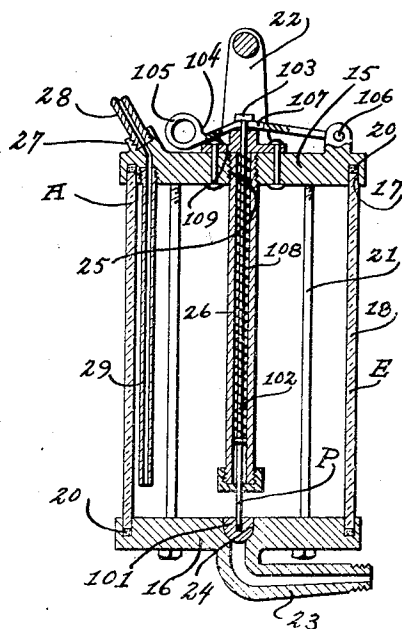
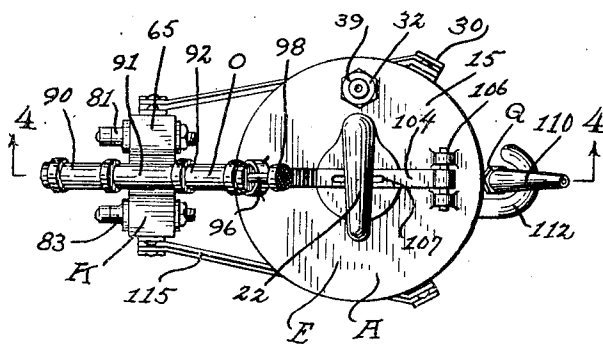


Fig. 3.



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Fig. 6.

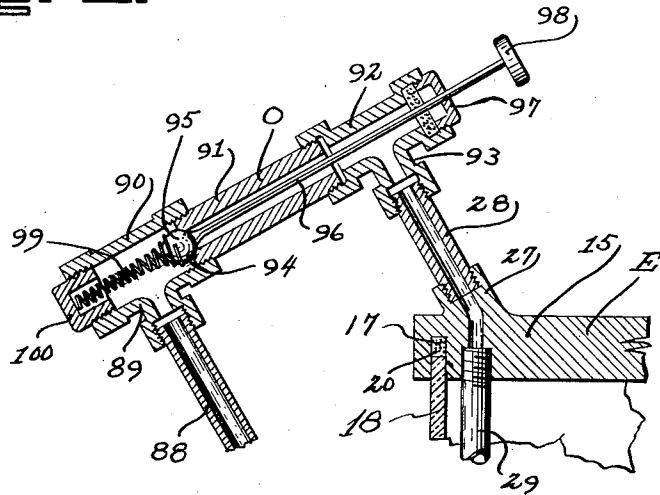
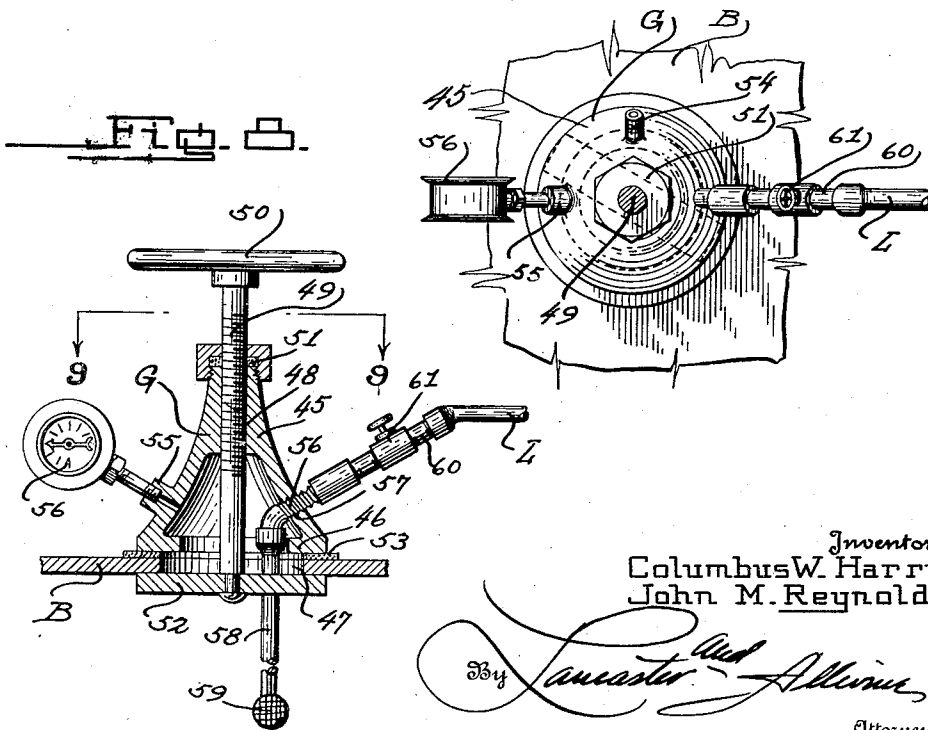


Fig. 9.



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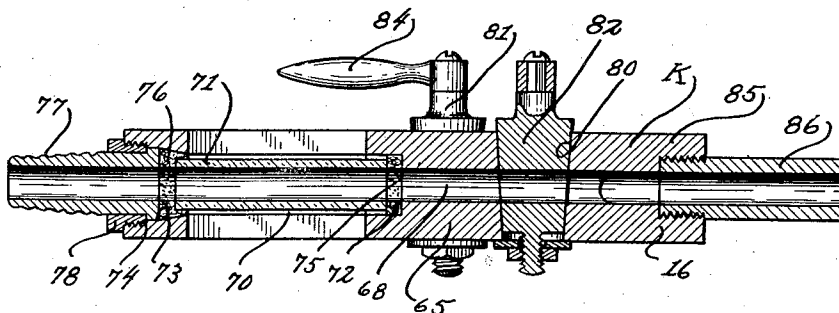
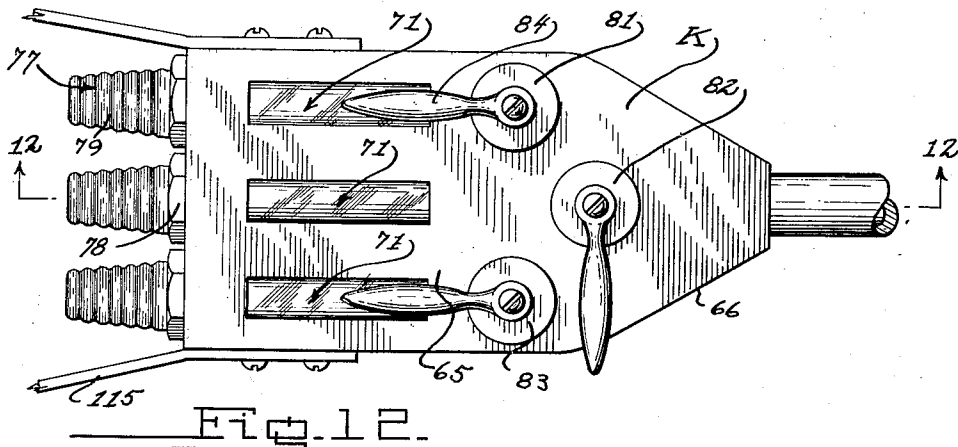
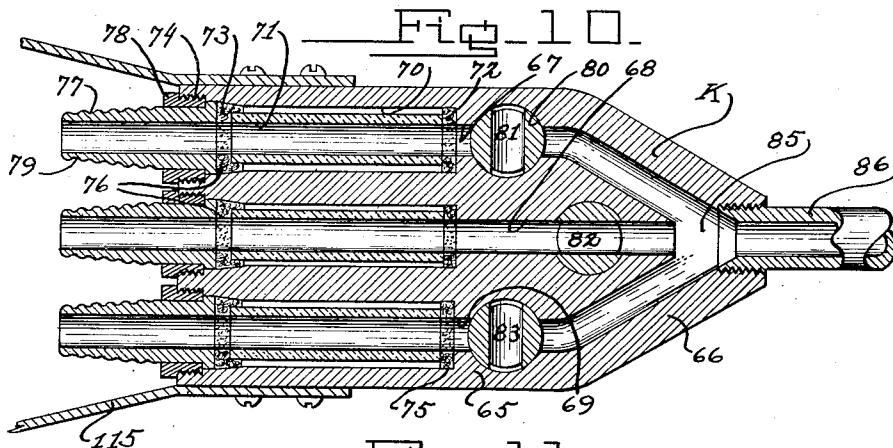
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4 Sheets-Sheet 4



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UNITED STATES PATENT OFFICE.

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OIL DISPENSER.

Application filed July 17, 1922. Serial No. 575,600.

This invention relates to liquid dispensing machines, and the primary object of this invention is to provide a novel device, for dispensing different grades of oils or any desired liquid direct from their original containers to the point where said liquids are to be used.

The present method of dispensing lubricating oils for motor vehicles and the like is to provide a pump for each oil container and to pump the oil into a measuring vessel, and then pour the oil from the measuring vessel into the crank case of the motor vehicle. The cost of providing pumps for the different grades of oils is excessive, and the oil itself is subjected to contamination by dirt, grit and the like. Further, when the oil is pumped into the measuring vessel, the oil cannot be readily seen, and thus the user of the oil cannot determine whether he is getting the desired grade, and whether the oil is pure and free from dirt and the like.

It is therefore a prime object of the invention to provide an improved device for dispensing lubricating oils which will eliminate the necessity of providing a plurality of pumps for the oil, and which will deliver the desired quantity and grade of the oil direct to the point of use, and which will permit the oil to be viewed by the person buying the same.

A further object of the invention is to provide an improved oil dispensing device embodying a portable transparent graduated oil dispensing vessel having communication with the different containers for the oil, and which is adapted to be normally positioned adjacent to the drive way for the motor vehicles, and which is adapted to be carried directly to the side of the motor vehicle.

A further object of the invention is to provide an improved oil dispensing apparatus embodying a portable graduated transparent oil container, a manifold having a plurality of inlets communicating with the different containers for the different grades of oils, means disposed in the manifold for controlling the flow of the different grades of oil into the vessel, and means disposed in the vessel for controlling the flow of oil therefrom after the oil has been delivered thereto from the manifold.

A still further object of the invention is

to provide a novel unitary device for dispensing different grades of lubricating oil from different containers of the above character, which is durable and efficient in use, one that is simple and easy to manufacture, and one which can be placed upon the market at a reasonable cost.

With these and other objects in view, the invention consists in the novel construction, arrangement and formation of parts, as will be hereinafter more specifically described, claimed and illustrated in the accompanying drawings, forming a part of this specification, in which drawings:

Figure 1 is a side elevation of the improved oil dispensing apparatus, showing the oil dispensing vessel hung on a suitable support carried by the base of a gasoline dispensing machine.

Figure 2 is an enlarged side elevation of the improved oil or liquid dispensing vessel, showing the improved manifold connected therewith.

Figure 3 is a top plan view of the improved oil dispensing vessel.

Figure 4 is a vertical longitudinal section through the same, taken on the line 4—4 of Figure 3.

Figure 5 is a horizontal transverse section through the improved vessel taken on the line 5—5 of Figure 2.

Figure 6 is an enlarged vertical longitudinal section through the control valve, utilized for controlling the flow of the various grades of lubricating oil from the control manifold to the dispensing vessel.

Figure 7 is an enlarged detail vertical section through the float controlled air escape valve carried by the oil dispensing vessel.

Figure 8 is an enlarged central vertical section through one of the heads utilized for connection with the oil containers.

Figure 9 is a section taken on the line 9—9 of Figure 8, showing one of the heads connected with one of the containers.

Figure 10 is an enlarged longitudinal section through the control manifold for the oil dispensing vessel.

Figure 11 is an elevation of the same.

Figure 12 is a central longitudinal section through the manifold taken on the line 12—12 of Figure 11.

Referring to the drawings in detail, wherein similar reference characters design-

nate corresponding parts throughout the several views, the letter A generally indicates the improved oil dispensing apparatus; and B, C and D, oil containers with which the improved apparatus is associated. The oil containers B, C, and D are of the ordinary or any preferred type and contain different grades of lubricating oil, and while we have shown specifically three of these containers, it is to be understood that the improved apparatus can be used with a more or less number of the same. As also shown in the drawings, these containers B, C, and D are set up upon their ends, in that they are the type in which the bung holes are provided in the heads thereof, but when containers of the type having the bung holes in their sides, the containers are laid on their sides, as can be readily understood by persons skilled in the art.

The improved oil dispensing apparatus A includes the improved novel dispensing receptacle E, the support F therefor; the novel heads G, H and I for connection with the bung holes of the containers B, C, and D; the manifold K, for controlling the flow of oil from the containers B, C, and D through the feed pipes or tubes L, M and N, the valve O for controlling the flow of oil from the manifold K to the oil receptacle E and the valve P for controlling the flow of oil from out of the receptacle E to the delivery tube Q.

The receptacle E is of a relatively small size and weight, so as to permit the ready handling thereof, and as shown in the drawings, the same is of a sufficient size to hold approximately a gallon of oil or other liquid. However, in actual practice, the receptacle E will be made to hold a quart of oil as this is the usual amount of oil dispensed and by reducing the size of the receptacle the weight thereof is correspondingly reduced.

The receptacle E includes the upper and lower heads 15 and 16, which are preferably formed of metal, and have their inner faces provided with grooves 17 for receiving the upper and lower ends of the body portion 18 of the receptacle. The body portion 18 of the receptacle is preferably formed of glass or some other transparent material and the same is provided with graduations 19 so that the amount of oil forced into the same can be readily seen. If desired, suitable packing gaskets 20 can be placed in the grooves 17, so that a fluid tight connection will be had between the body portion 18 and the heads 15 and 16. The heads 15 and 16 can be connected by suitable bolts or the like 21, which can be either arranged interiorly or exteriorly of the body 18. The upper head 15 carries a suitable hook 22, which permits the vessel to be hung up on the support F. The lower head 16 is provided at its axial center with the outlet nip-

ple 23, which is adapted to have connected therewith the outlet hose Q, as will be hereinafter more fully described. The inner face of the lower head 16 at the axial center thereof is recessed, as at 24, to provide a valve seat for the outlet control valve P, which will also be hereinafter more fully described. The upper head 15 in direct axial alignment with the valve seat 24 is provided with an opening 25 which has threaded therein the depending tubular casing 26 for the said control valve P. The head 15 also has communicating therewith the inlet nipple 27, which is provided with internal threads for the reception of the inlet pipe 28 which communicates with the control valve O which will also be hereinafter more fully described. Directly below the nipple 27, the head 15 supports the inwardly extending tube 29, which prevents the splashing of the oil as the same flows into the vessel E from the inlet nipple 27. If so desired, the lower head 16 can have secured thereto suitable feet 30, whereby the vessel can be placed upon a suitable support and maintained in an upright position. The head 15 also carries the air outlet control valve 31, which includes a plug 32, which is threaded into the head 15. The plug 32 is provided with an axial way 33, and the lower end of the same is provided with a valve seat 34. Slidably mounted in the way 33 is the shank 35 of the valve 31 and the lower end of this shank has connected thereto a suitable float 36, which is adapted to raise the valve when the oil engages the same. The valve stem 35 is provided with an axial way 37, and a communicating radial way 38, which extends exteriorly of the stem at a point above the float 36. The way 37 communicates with the atmosphere through the upper end of the stem, and downward movement of the stem in the axial way 33 is limited by a flange 39 formed upon the stem. By this construction, it can be seen that as oil is forced into the container E, the air in the container is permitted to escape through the axial passageway 37 and the radial passageway 38, and when oil reaches the float 36, the said valve will be raised and the float will engage the valve seat 34 and thus prevent the escape of oil from out of the vessel.

The support F for the vessel E consists of a standard 40 having a right hand angularly disposed arm 41 formed upon its upper end and which arm can carry an eye 42 which is adapted to be engaged by the hook 22 formed upon the upper head 15 of the vessel. Thus the vessel can be normally held in a suspended position. This standard 40 can be secured to a concrete base 43 or the like, which can form a part of the base of the ordinary gasoline dispensing pump of a gasoline dispensing station if so desired.

The heads G, H and I for connection with the containers B, C, and D are all of the same construction, and thus a description of one is deemed sufficient for all. Each of these heads include a hollow conical shaped body 45, the base portion of which is provided with an inwardly extending flange 46, for engaging about the bunghole 47 of the container with which it is associated. The apex portion of each head is provided with a screw threaded way 48, which supports the adjusting stem 49. This adjusting stem 49 can be provided with a suitable hand wheel 50 to permit the ready turning thereof. The upper or apex end of the body 45 can be provided with a suitable stuffing box 51 to prevent the escape of oil around the adjusting stem 49. The lower end of the adjusting stem 49 has swivelly secured thereto a cross bar 52 which is utilized for holding the body 45 in place on the container. In applying the body 45 in position, the hand wheel 50 is turned, so as to feed the adjusting screw 49 downward, which will move the cross bar 52 away from the body 45. The whole head is then held in a canted position and one end of the bar 52 is disposed in the bung hole, and the head slipped laterally until the opposite end of the bar can be placed in the bung hole. After the bar 52 is placed in the bunghole, the whole head is moved over the adjusting rod 49 is centered in the bung hole, after which the hand wheel 50 is turned in a reverse direction, so as to feed the bar 52 in intimate engagement with the inner surface of the container, which will, of course, force the body 45, and the flange 46, into intimate contact with the outer surface of the container. If so desired, a suitable packing gasket 53 may be interposed between the body 45 of the barrel, so as to insure against the seepage of oil from between the container and the head. Each head is provided with an inlet air valve 54, which may be of the ordinary construction, so that a suitable pump may be connected therewith to permit air under pressure to be forced into the container. It is to be understood, of course, that the air is utilized for forcing the oil from the container. Inasmuch as the improved oil dispensing device is primarily intended for use around gasoline filling stations, the air can be introduced into the containers through the valve 54 from the ordinary so-called "free air pump". The body 45 is provided with a nipple 55, which has connected therewith a suitable air gauge 56 so that the amount of pressure in the containers can be readily determined. Usually four or five pounds of pressure is ample for forcing the oil out of the containers. Diametrically opposite the nipple 55, the body 45 is provided with a threaded way 57, in which a suitable L 57 is threaded. The in-

ner end of the L 57 supports a depending pipe or tube 58, which can be of flexible nature if so desired, and this pipe is adapted to extend to the lower end of the barrel or oil container. This pipe 58 can be provided with a suitable screen guard 59 if so desired, so as to preclude the entrance of foreign matter into the pipe 58 with the oil. Connected with the outer end of the L 57, is a suitable outlet pipe 60, which can have interposed therein a manually operated control valve 61. The pipe 60 is adapted to receive any one of the lead pipes L, M or N for the oil. These pipes L, M and N are connected to the manifold K as will be hereinafter understood.

The lead pipes L, M and N may be of a flexible nature if so desired, and can be housed in a suitable cable or hose. The containers B, C and D can be placed at a point remote from the dispensing receptacle E and thus these barrels or containers can be placed at any suitable point which is most desirable to the owner of the apparatus.

The manifold K includes a flat body or casing 65, one end of which may be tapered as at 66. The main portion of the body 65 is provided with a plurality of axial ways 67, 68 and 69, there being a way provided for each delivery pipe or tube L, M and N, it being understood, however, that the size of the manifold K can be increased or decreased as desired, as hereto before stated. The outer ends of the ways 67, 68 and 69 are enlarged, as at 70 for the reception of transparent tubes 71, and the enlarged portion of the ways 70 can be cut entirely through the body 65 so that the said tubes can be readily seen and thus permitting the grade of oil passing therethrough to be viewed by the purchaser. The enlarged portion of the ways 67, 68 and 69 form shoulders 72 at the inner ends thereof, and the outer ends of the enlarged portions of the ways 70 may be flared, as at 73 and provided with internal screw threads 74. When the sight tubes 71 are placed in position in the enlarged portion 70 of the ways 67, 68, and 69, suitable packing gaskets 75 are placed upon the shoulders 72 so as to prevent the seepage of oil from around the inner ends of said sight tubes or glasses 71. The outer ends of the sight tubes or glasses 71 also receive suitable annular packing gaskets 76, which are forced in firm contact with the outer ends of the sight tubes by the base portions of nipples 77, which are placed in the enlarged flared portions 73 of the ways. The nipples 77 are held in position by means of suitable adjusting nuts 78 which are threaded in the threaded portions 74 of said ways. These nipples 77 are provided with external ribs or screw threads 79 so as to permit the connection of the feed pipes or tubes L, M and N therewith. Each of the

ways 67, 68 and 69 have communicating therewith transverse tapered bores 80 in which are fitted control plug valves 81, 82 and 83. These plug valves are turned by suitable handles 84, and it is obvious that by manipulating these handles, the flow of oil through the passageways 67, 68 and 69 can be controlled. All of the passageways 67, 68 and 69 terminate in a single outlet way 85 at the tapered end 66 of the body 65, and this tapered end of the body supports an outlet pipe 86 which communicates with the central way 85. The pipe 86 has connected therewith a suitable L 87, which in turn receives the pipe 88, connected with an inlet nipple 89, carried by the casing 90, of the control valve O which will now be described.

The control valve O includes an intermediate body 91 having connected therewith at one end the head 90 and at its opposite end the head 92. The head 92 is also provided with a nipple 93 which is similar to the nipple 89, and this nipple 93 receives the pipe 28, heretofore mentioned, which is connected with the inlet nipple 27 of the head 15 of the receptacle E. The outer end of the intermediate body portion 91 is provided with a valve seat 94, on which is adapted to normally seat a valve 95. This valve 95 is provided with a stem 96, which extends outwardly through the head 92 and a stuffing box 97 carried thereby. The outer end of the stem 96 can be provided with a suitable manipulating handle or thumb piece 98. The valve 95 is normally maintained on its seat 94 by means of an expansion spring 99, which engages the outer face of the valve and the removable plug 100, which is provided so that the valve can be readily inserted in place. By depressing the valve 95, it can be seen that the flow of the oil from the manifold K is permitted.

The outlet valve P includes the valve body 101 which is adapted to normally seat in the valve seat 24 and this valve body supports the upwardly extending valve stem 102, which extends through the casing 26 heretofore described. The upper end of the valve stem 102 is provided with a head 103 which engages the outer surface of the manipulating lever 104, which can be provided with a single receiving eye 105. One end of this manipulating lever 104 is pivotally secured as at 106 to the upper head 15 of the oil dispensing vessel E. The lever 104 at a point intermediate its ends is provided with a slot 107, through which the valve stem 102 extends. In order to normally maintain the valve body 101 on its seat 24, an expansion spring 108 is coiled about its stem and engages a suitable pin or disc carried by the stem, and a closure plate 109 which is riveted or otherwise secured to the outer surface of the head 15 of said vessel E. It can be seen that by pulling up on the outer end of

the lever 104, the valve 101 will be raised from off of its seat, and thus permit the oil to flow out of the vessel E into the outlet nipple 23.

The outlet hose Q is of the ordinary or any preferred construction and is of course, made flexible, so that the nozzle 110 carried thereby can be readily inserted into the breather pipe of a crank case of a motor vehicle. The inner end of the outlet hose Q is suitably connected to the outlet nipple 23 as is well known in the art. As shown, the nozzle 110 is provided with a hook 111 which is adapted to engage a suitable companion hook 112 which is formed on, and which extends radially from the upper head 15.

In use of the improved oil dispensing apparatus, the heads G, H, and I are placed in communication with the containers B, C, and D as heretofore described, and air is forced under pressure into the containers through the inlet air valves 54. The valves 61 carried by the pipes 60 can now be opened so as to permit the free flow of oil through the feed pipes or tubes L, M and N. Now when a person desires a certain grade of oil, say the grade of oil contained in the container B, the valve 81 is turned, so as to permit the free flow of that grade of oil through the manifold. This grade of oil can be readily seen by the person, by looking into the glass 71. Now, the vessel E is lifted from off of the support F, and the thumb piece 98 depressed, which will unseat the valve 95 as heretofore described, and thus permit the flow of oil into said vessel. When the amount of oil desired has been forced into the vessel by the pressure of air in the container B pressure is released from the thumb piece 98 and the valve 95 will resume its normal position and thus prevent the further entrance of oil into the vessel. The outlet tube Q is then grasped and the nozzle 110 inserted in the breather pipe of the crank case of the motor vehicle, and the lever 104 is moved upwardly, which will move the valve body 101 from off of its seat 24 and thus permit the free flow of oil out of the casing and into the crank case. After the desired quantity of oil has been dispensed, the nozzle 110 is placed back into its normal position, and the vessel E again placed back on its support. The valve 81 can then be turned back to its normal closed position.

The manifold K is of course secured to the vessel E, and as shown, suitable brackets 115 are utilized for this purpose.

From the foregoing description, it can be seen that a novel and simple device has been provided for dispensing lubricating oils which entirely eliminates the necessity of providing independent pumping means for each grade of oil, and which permits the oil to be dispensed directly from the con-

tainer and delivered directly to the crank case of an automobile.

Changes in details may be made without departing from the spirit or scope of this invention; but,

We claim:

1. A liquid dispensing apparatus comprising a portable graduated vessel, and means connecting said vessel with a plurality of containers adapted to contain different grades of liquid, said means comprising a manifold carried by the vessel, a conduit leading from the manifold and communicating with the interior of the vessel, a plurality of flexible pipes connecting the containers with the manifold, valves carried by the manifold for controlling the flow of liquid from the containers to the vessel, and an outlet valve carried by the vessel.

2. In a liquid dispensing apparatus, a portable dispensing vessel having a visible gage and provided with an outlet and an inlet, an inlet valve communicating with the inlet, a manifold carried by the vessel and having an outlet communicating with said inlet valve and passages leading from its

outlet through the manifold, valves for controlling the passage of liquid through said passages, and means carried by said manifold in operative relation to the passages for connection with flexible conduits leading from separate sources of liquid supply.

3. In a fluid dispensing apparatus, a portable graduated container having an outlet and an inlet, a manifold, supporting means for the manifold carried by said vessel, the manifold being provided with fluid passages leading from its lower end and meeting adjacent its upper end for discharge of liquid through a common outlet, nipples connected with the manifold at the lower ends of the fluid passages and extending from the manifold for connection with flexible conduits leading from separate sources of liquid supply, separate control valve for the fluid passages carried by the manifold, and a valve member having an outlet communicating with the inlet of said vessel and an inlet communicating with the outlet of said manifold.

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