

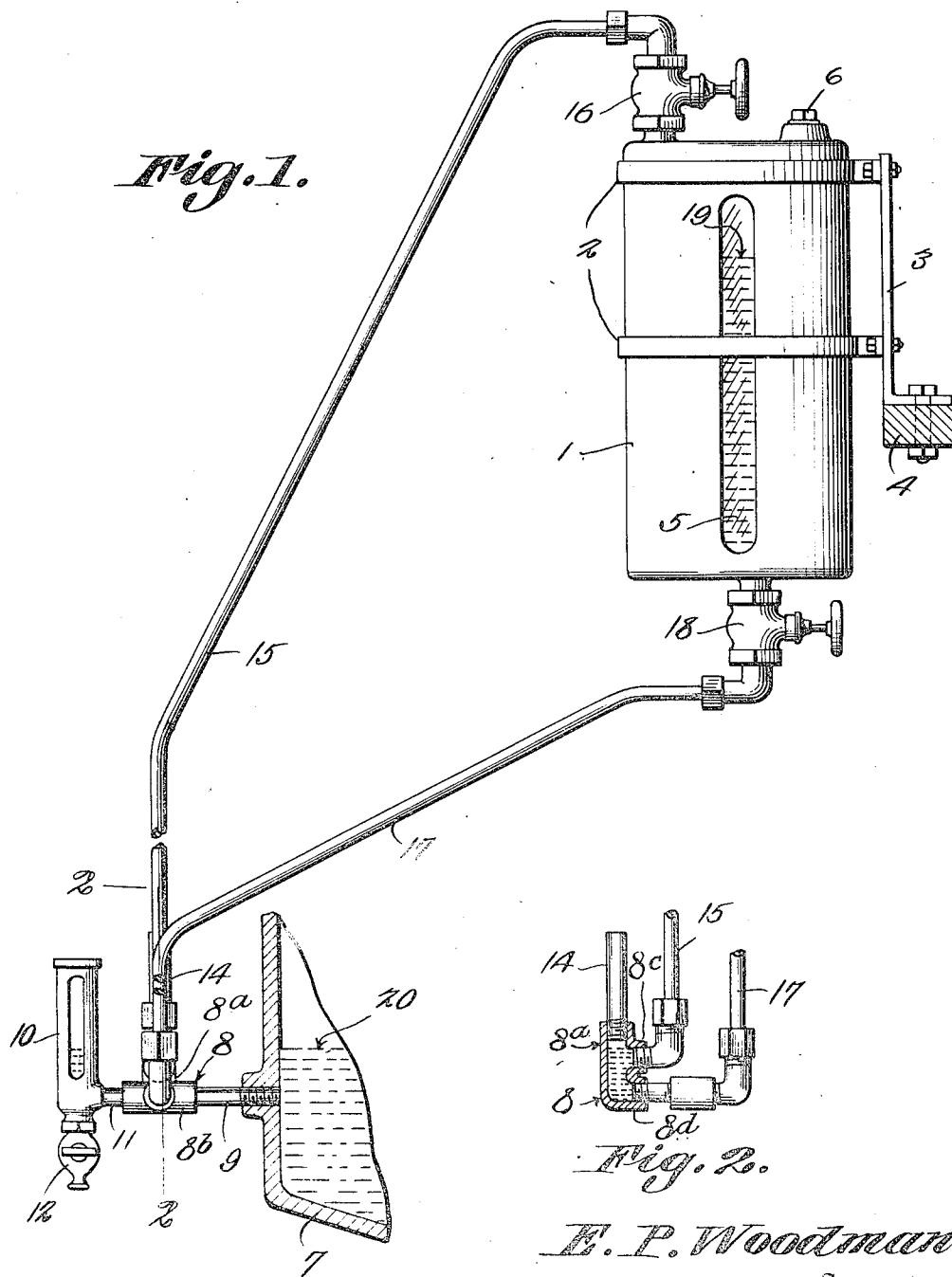
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OIL SUPPLY

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UNITED STATES PATENT OFFICE.

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OIL SUPPLY.

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This invention aims to provide novel means whereby liquid may be kept at a constant level, and, particularly, whereby oil may be maintained at a fixed level in the crank case of an internal combustion engine.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the invention appertains.

With the above and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

In the drawings:—

Figure 1 is an elevation showing a device constructed in accordance with the invention, parts being broken away, and parts being in section.

Figure 2 is a section taken approximately on the line 2—2 of Figure 1.

The numeral 1 marks an auxiliary oil supply tank mounted by any suitable means, such as clamping bands 2 and a bracket 3, on any accessible part 4 of an automobile or other vehicle which is driven by an internal combustion engine. The tank 1 has a sight glass 5 of any preferred construction whereby the amount of oil 19 in the tank can be ascertained at a glance, the oil being introduced into the tank when a filling plug 6 is removed. The numeral 7 marks a reservoir, in this instance, the crank case of an internal combustion engine. A T coupling 8 is provided and comprises a vertical body 8^a and a horizontal foot 8^b at the lower end of the body, the body of the coupling having an upper lateral nipple 8^c and a lower lateral nipple 8^d, located in a common plane with the body. A combined drain and gage 10—12 is disposed at the side of the reservoir 7, the coupling 8 being located between the reservoir and the combined drain and gage 10—12. A short straight tube 11 connects one end of the foot 8^b of the coupling 8 with the combined drain and gage 10—12, and a short straight tube 9 connects the opposite end of the foot 8^b with the reservoir 7. The gage 10 shows the oil level by inspection, and is supplied with a gage cock 12. The gage 10 may be omitted, but when used, it shows,

by inspection, the level of the liquid 20 in the crank case 7. The upright vertical body 8^a of the coupling 8 carries a vent pipe 14 for the admission of air into the coupling 8 and into the lower end of an air pipe 15 that is connected to the nipple 8^c, the upper end of the air pipe 15 discharging into the tank 1, above the lever of the oil 19, through a valve 16 under the control of an operator. An oil pipe 17 communicates with the nipple 8^d at a point below the place where the air pipe 15 joins the coupling. The upper end of the oil pipe 17 is connected to the bottom of the tank 1 by a valve 18 which is under the governance of an operator.

Assuming that the valves 16 and 18 are open, when the level of the oil 20 in the crank case falls far enough, the lower end of the pipe 15 is uncovered, and air flows by way of the vent tube 14, the coupling 8, and the pipe 15, into the tank 1, above the oil 19 in the tank, and the oil in the tank flows down into the crank case 7 by way of the pipe 18, the coupling 8, and the pipe 9. A substantially constant level, or at least a safe minimum stage of oil is maintained in the crank case 7, by the device hereinbefore described. The pipe 15 admits the air in ample quantity, directly on top of the oil in the tank 1 and permits a quick flow to the crank case 7 even though a thick oil is used. This cannot be said truthfully of a constant level device in which the air must bubble up through the oil as the oil passes down to the crank case.

The vent pipe 14 and the lower ends of the pipes 15 and 17, together with the nipples 8^c and 8^d, and the body 8^a of the coupling 8, all are located in a common plane, at right angles to the axis of the foot 8^b. This construction promotes compactness, and little room is taken up by the parts 14, 15 and 17, as Figure 1 will indicate. The extreme simplicity of the coupling 8 makes it possible to do away with more complicated and costly structures and the specific make-up of the coupling 8 enables it not only to accommodate the pipes 14, 15 and 17, but, as well, enables it to afford a connection (at 9) with the reservoir 7 and a connection (at 11) with the combined gage and drain 10—12.

What is claimed is:—

In a device of the class described, the combination with a tank, a reservoir located therebelow, and a combined drain and gage disposed at the side of the reservoir, of a coupling located between the reservoir and

the combined drain and gage, the coupling comprising a vertical body, and a horizontal transverse foot at the lower end of the body, short straight tubes connecting the ends of the foot respectively with the reservoir and with the combined drain and gage, the body of the coupling having upper and lower lateral nipples located in a common plane with the body, a pipe having its upper end connected to the top of the tank, and its lower end connected with the upper lateral nipple,

a pipe having its upper end connected to the bottom of the tank and having its lower end connected to the lower lateral nipple, and a vent pipe in the upper end of the body, the vent pipe and the lower ends of the other pipes specified being located in said plane, and said plane being disposed at right angles to the axis of the foot. 15

In testimony that I claim the foregoing as my own, I have hereto affixed my signature. 20

EDWIN POPE WOODMAN.