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FUEL TANK FILLER NECK CONSTRUCTION

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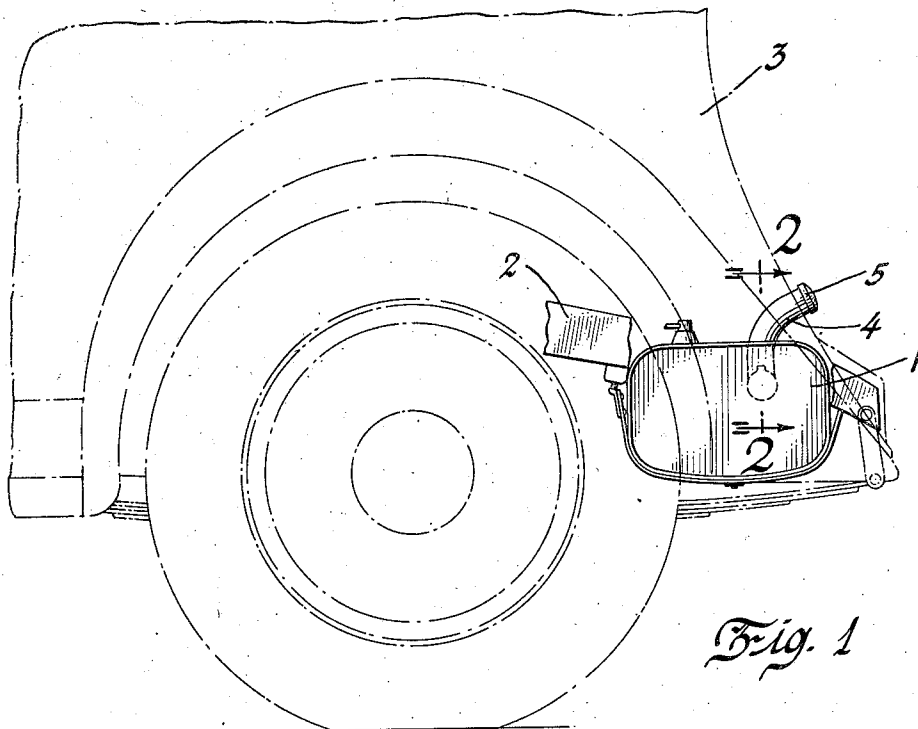


Fig. 1

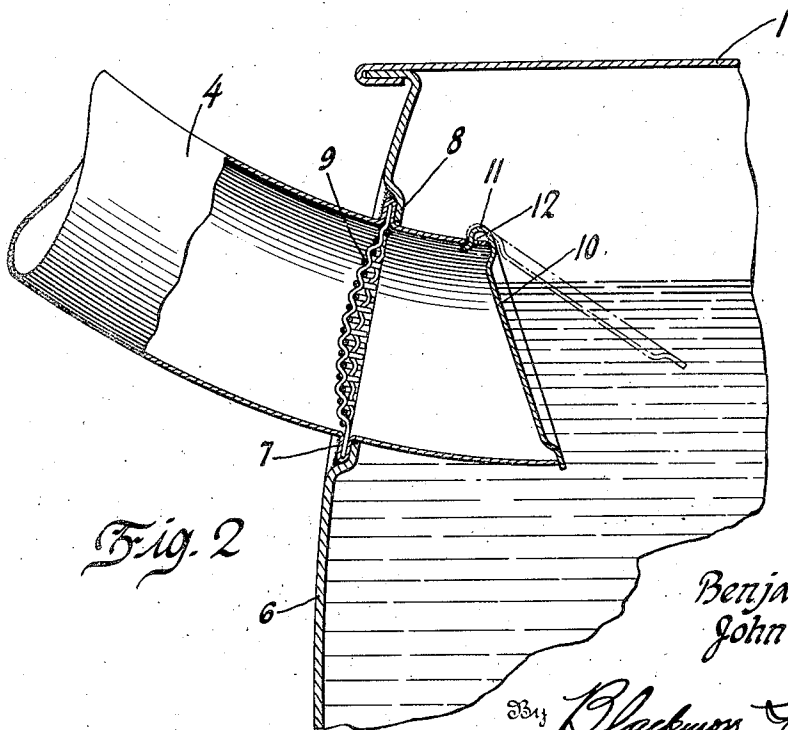


Fig. 2

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FUEL TANK FILLER NECK CONSTRUCTION

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3 Claims. (Cl. 220—86)

In automobiles of today, the fuel tank is usually hung at the back of the chassis frame and under the rear end of the body. This necessitates a rather long filler spout, which for convenience, as well as for design reasons, enters a side wall of the tank, and consequently, discharges at a point below the average liquid level. In order to prevent theft by siphoning of gasoline through the filler neck, it is here proposed to provide the tube with a check valve against liquid flow from the tank into the tube and with an obstruction, which, while allowing free flow of liquid, blocks the insertion of a siphon hose or other instrument to open the check valve and enter the tank.

A better understanding of the invention will be had upon reference to the accompanying drawing, wherein Figure 1 is a fragmentary side elevation of the fuel tank at the rear of a motor vehicle; and Figure 2 is a detailed sectional view showing the discharge end of the filler spout as taken on line 2—2 of Figure 1.

In the drawing, the reference character 1 indicates the fuel storage tank suspended from the chassis frame 2 and concealed under the body 3. The filler spout or tube 4, as shown in the drawing, may extend upwardly from one side of the tank and through the rear panel of the body 3, where it is closed by a removable cap 5. Its lower end extends through and is mounted upon the end wall 6 of the tank 1. For this purpose the wall of the tube 4 is provided with a peripheral flange 7, formed by bending the wall upon itself, and this flange is seated upon and welded to a depressed annular rim 8 at the opening in the wall through which the tube extends.

The reversely bent portions providing the flange 7 are utilized also for the purpose of securing in place the peripheral edge of a screen or perforate wall 9 extending across the interior of the tube. It is to be noted that the wall 9, while blocking the tube against the passage therethrough of a hose or the like, is sufficiently far away from the outer end of the tube as not to interfere with the insertion of the hose nozzle of a gasoline pump.

The discharge end of the tube projecting through the wall and beyond the screen 9 is cut at an angle to the axis of the tube to provide an inclined seat for the check valve 10. This check valve may be in the form of a dished plate closing the tube and seating on the inclined edge of the tube. A simple pivotal mounting for the valve consists of an ear or tongue 11, reversely bent for projection through an opening 12 in the upper part of the tube.

The dotted line position of the valve in Figure 2 shows it swung open to allow the passage of gasoline from the filler spout and into the tank. Normally, the valve is held in its full line closed position by its own weight and additionally by the weight of the liquid when the level within the tank is at or above average height. Thus the valve not only eliminates violent surging and splashing of the liquid into the filler spout, but it also affords an effective closure to check flow when a suction hose is inserted to the limit permitted by the screen 9 and used to draw off fuel contained in the spout. In other words, the screen blocks insertion of the hose to open the valve and the valve remains closed against flow to the hose. In this connection it may be pointed out that a positive seal is unnecessary. Any seepage around the flapper valve and into the filler neck would be too slow to encourage a thief to wait for the filler neck to fill up several times in order to get the small quantity of gasoline which could be obtained because of leakage.

We claim:

1. Theft preventing means, including in combination with a fuel storage tank, a filler tube extending through an opening in a wall of the tank and having a portion of its wall bent upon itself to provide intermediate its ends a peripheral flange adapted to seat on the marginal portion of said wall opening, a perforate wall extending across said tube with its peripheral edge seated within the flange formed by said bent wall portion, and a gravity operated valve normally closing the discharge end of the tube and having an attachment ear pivotally mounted on the tube.

2. In a liquid fuel storage tank, a filling tube projecting through the wall of the tank and having a peripheral flange secured to the tank wall, said flange comprising a portion of the tube wall bent upon itself, a foraminous obstruction inside the tube, secured peripherally between the reversely bent portion constituting said flange, and a one way valve closing the tube beyond the foraminous obstruction.

3. A liquid storage tank having a filler pipe, which includes a sheet metal tube having in the wall thereof an outwardly pressed peripheral deformation affording an inwardly opening interior annular groove, and a guard located interiorly of the tube with its marginal portion seated within said annular groove.

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