

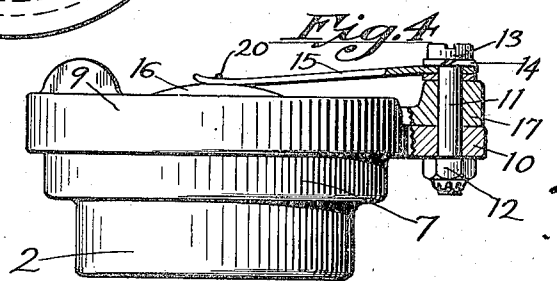
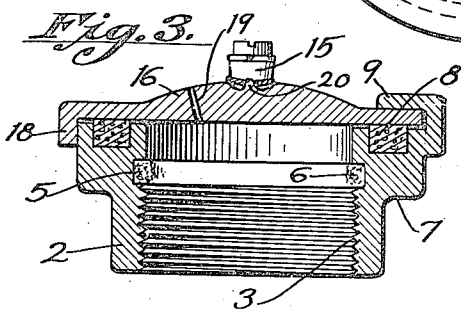
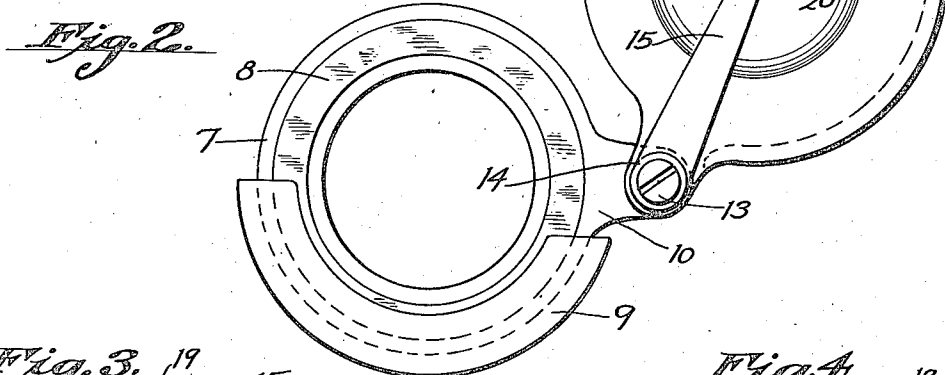
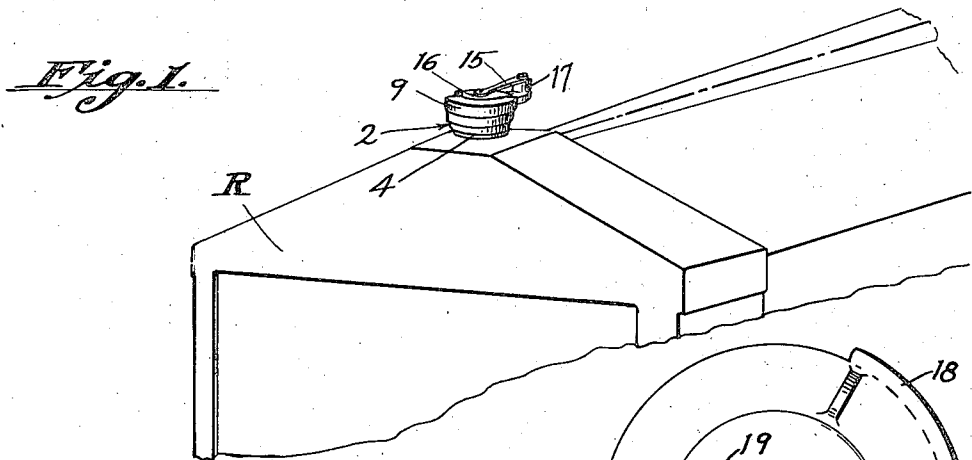
Sept. 16, 1924.

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D. R. MORRISON

TANK CAP

Original Filed May 16, 1922



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# UNITED STATES PATENT OFFICE.

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## TANK CAP.

Application filed May 16, 1922, Serial No. 561,300. Renewed July 5, 1924.

*To all whom it may concern:*

Be it known that I, DONALD B. MORRISON, a subject of the King of Great Britain, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Tank Caps, of which the following is a specification.

This invention relates to cap closures for gasoline tanks, engine radiators, and the like.

It is an object of the invention to provide a simple, substantial and practicable device in the form of a cap or closure for gasoline tanks and automobile radiators which, as is well known, are each provided with a screw threaded cap to be removed during the filling of the container of whatever its nature.

Another object of the invention is to provide a filling cap having one section adapted to be permanently secured to the container and having a movable member forming a cap piece.

Another object is to provide means for retaining the cap piece in closed position and for holding it against vibration and rattling.

Broadly, an object is to eliminate the bodily removal of the cap when filling its respective container and to provide for the quick opening of the cap to enable the quick filling of the receptacle.

Other objects will be made manifest in the following specification of an embodiment of the invention illustrated in the accompanying drawings, in which:

Fig. 1 is a perspective of the improved device in its applied and closed position.

Fig. 2 is a plan view of the device with the cap member in open position.

Fig. 3 is a vertical central section of the device with the cap in closed position.

Fig. 4 is a side elevation of the device.

In its preferred embodiment, the invention consists of a collar member 2 of suitable design and proportion and which is internally threaded at 3 so as to be mounted on the nipple 4 of any suitable receptacle as a radiator R of an automobile. The collar 4 is internally grooved at 5 to receive a cement 6 which, when set, serves to permanently secure the collar 2 in place and, therefore, prevent its surreptitious removal. The collar 2 is provided with a peripheral enlargement or flange 7 and the top face of this is channeled or grooved to receive

a suitable packing medium 8. At one side of the collar there is provided a substantially semi-circular overhanging lip 9.

The collar is also provided at one side with an extension lug or ear 10 and through this passes a perpendicular fastening and pivot member as a bolt 11, on the lower end of which is secured a castellated nut 12. The upper end of the pivot bolt 11 is provided with a head 13 slotted, or otherwise formed, to be held by an appropriate tool and under the head is a spring washer 14 bearing down on the contiguous end of a spring finger 15.

Pivotally mounted on the pivot bolt 11 and swinging between the spring finger 15 and the top plane face of the neck 2 is a cap member. This cap member is substantially in the form of a disc 16 having at one end a hub 17 through which the pivot bolt passes. Thus the cap 16 is adapted to be swung into closing position over the top of the collar 2 and when closed, one edge of the cap 16 passes in under the overhanging lip 9 of the collar. The diametrically opposite edge of the cap 16 is provided with a semi-circular flange 18 to sweep into contiguity with the adjacent flange portion 7 of the collar 2.

When the cap is closed, its lower surface forms a substantially leak proof seal when resting upon the packing or gasket 8 embedded in the flange 7 of the collar 2 and thus prevents spilling of the liquid and providing, if desired, for the creation of a pressure vacuum in the receptacle to which the device may be attached. If, as is sometimes desirable, an atmospheric pressure is to be had in the receptacle, then leakage or vent may be provided for as by drilling a vent hole indicated at 19, in this instance in the cap 16.

The spring finger 15 is of such normal form that when it is applied it will be pressed down on the bearing lug 17 at one end by the spring 14, while the outer end of the finger is substantially interlocked with the cap, which latter is provided with a projection 20, or other suitable means, engaging the adjacent end of the spring finger 15 so that this will not be accidentally dislodged from its position on the cap. The cap engaging end of the spring finger 15 is shown as perforated at 15' to engage the projecting part 20.

From the above it will be seen that the

device consists of a collar which may be readily attached to the radiator or other receptacle and may be permanently fastened thereto by a cement medium which can be introduced into the annular or otherwise formed recess or cavity 5.

When it is desired to fill the receptacle, it is only necessary to swing the cap 16 around on its pivot 11 and, therefore, uncover the opening of the collar 2. When the cap is in the closing position, it forms a substantially leak proof seat on the collar and prevents spilling. The spring finger serves to hold the collar closed or opened and also prevents it from rattling when in closed position, and, furthermore, holds it to its seat.

The frictional resistance to opening and closing of the cap member can be controlled by adjustment of the pivot 11 passing through the spring washer 14 which, when released or compressed, varies the resistance to returning movement.

It is understood that the collar portion 2 may be formed as an original and fixed part upon the receptacle as the radiator R or a tank, as may be desired and this will eliminate threading.

Various modifications and changes may be resorted to within the spirit of the invention as claimed.

What is claimed is:

1. A filling cap device for receptacles, comprising a collar adapted to be secured to the filling nipple or mouth of the receptacle and having an overhanging flange, and a cap member movably connected to said collar and closeable against and under said flange.

2. A filling cap device for receptacles, comprising a collar adapted to be secured to the filling nipple or mouth of the receptacle, a cap member movably mounted upon said collar, and a resilient finger applicable to the top of and for holding the cap member in its several positions as to the collar.

3. A filling device for receptacles, comprising a collar applicable to the nipple of the receptacle and having an overhanging flange and a cap connected to the aforesaid collar and adapted to be swung laterally to an open or to a closed position and having a lateral stopping flange.

4. A filling device for an automobile tank comprising a collar adapted to be attached to the filling nipple of the tank an annular packing recessed into the upper face of the collar, a quick opening and quick closing, laterally swinging closure member connected to the collar and adapted to seat upon said packing, and a laterally swinging resilient finger for pressing the cap member to its seat.

5. A filling device for an automobile tank comprising a collar adapted to be attached to the filling nipple of the tank, a quick opening and quick closing, laterally swinging closure member connected to the collar and adapted to seat upon said packing, and resilient means for pressing the cap member to its seat, said means including a bendable spring finger engaging and swinging with the movable cap member.

In testimony whereof I have signed my name to this specification.

DONALD R. MORRISON.