

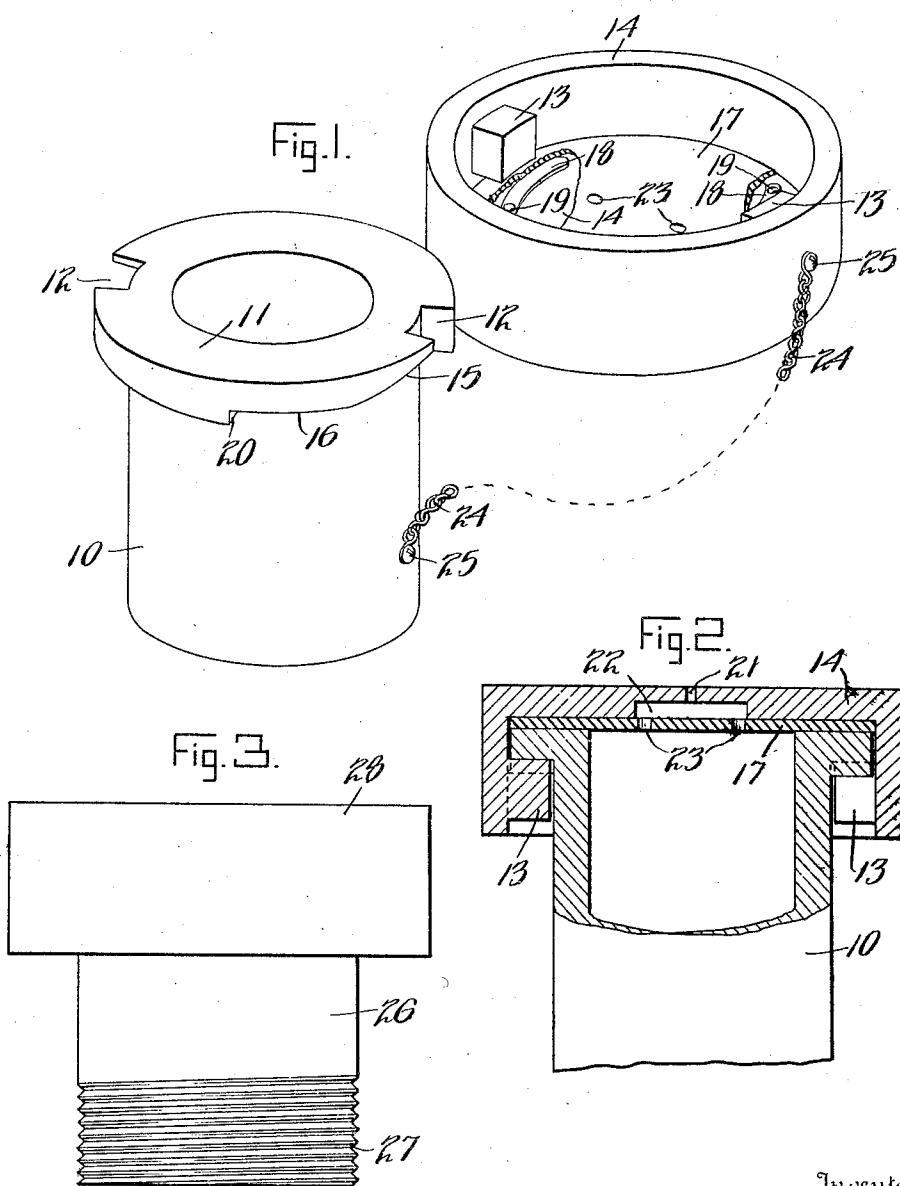
Sept. 30 , 1924.

1,509,969

C. H. MARTIN

CAP FOR TANKS

Filed April 9, 1923



Inventor

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By

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UNITED STATES PATENT OFFICE.

CHARLIE H. MARTIN, OF DANVILLE, INDIANA.

CAP FOR TANKS.

Application filed April 9, 1923. Serial No. 630,900.

To all whom it may concern:

Be it known that I, CHARLIE H. MARTIN, a citizen of the United States, residing at Danville, in the county of Hendricks and State of Indiana, have invented certain new and useful Improvements in Caps for Tanks, of which the following is a specification.

My said invention relates to a cap intended primarily for use on gasoline tanks of automobiles but adapted also for use in other relations as for example on automobile radiators and the like. It is an object of the invention to provide a tank closure which may be very quickly put on and taken off and which shall remain securely in place, yet without binding, so that it may be readily removed when desired.

A further object of the invention is to provide a closure which will not be liable to be lost.

Referring to the accompanying drawings, which are made a part hereof and on which similar reference characters indicate similar parts,

Figure 1 is a perspective showing the inside of the cap and also showing the tube to which the cap is secured,

Figure 2, a vertical central section of my device in position on the tube, and

Figure 3 a modified form of the device.

In the drawings reference character 10 indicates the body of the tube which may be such as is ordinarily found in automobile tanks and like structures. At its upper or free end the tube has a radial flange 11 which in the present construction is shown as having transverse cuts 12 adapted to receive inwardly directed lugs 13 on the cap 14. Said flange also has undercut or reduced portions each beginning with the sloping surface 15 along which the lugs 13 may glide and followed by a horizontal surface 16 upon which the contacting surface of the lug 13 will land. The object of the horizontal or flat surfaces is to do away with any tendency on the part of the lugs to slide back become disengaged from the flange.

For further assurance in regard to the prevention of accidental disengagement or loss of the cap I provide a packing disk 17 which rests between the upper face of the flange 11 and the underside of the cap 14. Disk 17 may be made of any convenient material, that preferred being leather. A

pair of leaf springs 18 are secured within the cap by means of screws 19, the springs being so positioned at their free ends as to lie adjacent the lugs 13 and preferably adjacent to that edge of the lug which will lie nearest to the corresponding shoulder 20 on the flange. These springs add an element of resiliency which helps to hold the cap in place after the adjacent surfaces of the lugs and the flange 11 become smooth and especially after they become worn to such an extent that the movement of the vehicle might otherwise dislodge the cap.

In place of the usual air supply hole I have provided a single opening at 21 on the cap, this opening being centrally positioned and being surrounded by a depression at 22 where the material of the cap is removed. Adjacent the periphery of the depression I provide openings 23 in the disk 17. The openings 21 and 23 with the depression 22 provide a tortuous passage for the admission of air, the passage being of such a shape that the liquid in the tank cannot readily escape therefrom even though it is caused to splash by the movement of the vehicle.

As one advantage of my construction it may be pointed out that whereas tank covers and radiator caps and the like have usually been formed with screw threads, which arrangement necessitates a number of revolutions of the cap whenever it is to be detached, in my construction only a fraction of a single revolution is needed and therefore I am enabled to fasten the cap to the tube or to some other nearby fixed part by means of a chain 24 secured to each of said members by screws 25 or in any other convenient manner. Such attachment prevents mislaying or accidental loss of the cap which often occurs with present structures when the cap is removed for replenishing the material in the tank. At the same time the chain will not become kinked as it would with former constructions since the cap turns only for a small distance.

The device so far described is intended mainly for application to new tanks. For replacement purposes in tanks now in use I may use a structure such as shown in the modified form of Figure 3 consisting of a nipple 26 externally screw-threaded at 27. The cap 28 and connections between the cap and tube are the same as in the figures heretofore described, threads 27, however, af-

fording means for attachment of the device to tanks having internally threaded nipples and the old caps now in use being discarded. Where externally-threaded nipples are found on tanks now in use a similar measure may be adopted the only change from the structure shown in Figure 3 being that the tube 26 will be of larger size and threaded internally instead of externally. This is deemed an obvious variation and therefore it has not been considered necessary to illustrate the same.

Among the benefits secured by the use of my device I may mention the saving in time by providing a quickly detachable cap instead of the one now in use, the further saving resulting from the fact that the cap of my construction will not bind so as to necessitate the use of tools to remove it, the low cost and convenience of manufacturing the same, and the convenient provisions for preventing loss or mislaying of the cap, such as often results in loss of considerable quantities of fuel or other liquid. It will be obvious to those skilled in the art that the device may be modified in various ways without departing from the spirit of the invention and therefore I do not limit myself to the specific form shown in the drawings and described in the specification but only as indicated in the appended claims.

Having thus fully described my said invention, what I claim as new and desire to secure by Letters Patent, is:

1. A closure for automobile tanks comprising a tube extending from the tank, a radial flange on the tube, a cap having internal lugs adapted to engage underneath the flange and springs on the inner face of the cap opposite said lugs adapted to press said flange against the lugs for preventing dislodgment of said cap, substantially as set forth.

2. A closure for automobile tanks comprising a tube extending from the tank, a radial flange on the tube said flange having transverse cuts at its periphery, a cap having lugs positioned to pass through said cuts and engageable with the farther surface of the flange by rotation of the cap and springs on the inner face of the cap opposite said lugs adapted to press said flange against the lugs for preventing dislodgment of said cap, substantially as set forth.

3. A closure for automobile tanks comprising a tube extending from the tank, a radial flange on the tube said flange having transverse cuts at its periphery, a horizontal surface adjacent each cut, an inclined surface leading from the cut to the horizontal surface, a cap having lugs positioned to pass through said cut and over said surface and springs on the inner face of the cap opposite said lugs adapted to press said

flange against the lugs for preventing dislodgment of said cap, substantially as set forth.

4. A closure for automobile tanks comprising a tube extending from the tank, a radial flange on the tube said flange having transverse cuts at its periphery, a horizontal surface adjacent each cut, an inclined surface leading from the horizontal surface to the cut, a cap having lugs positioned to pass through said cut and over said surfaces, a non-metallic washer between the upper surface of the tube and the under surface of the cap and adapted to be clamped between them and springs on the inner face of the cap opposite said lugs adapted to press against the washer to force said flange against said lugs for preventing dislodgment of the cap, substantially as set forth.

5. A closure for automobile tanks and the like comprising a tube extending from the tank, an outer flange on the tube, a cap having inturned lugs adapted to engage underneath said flange, a non-metallic disk adapted to be clamped between contacting faces of the tube and a cap by the relative movement of said lugs and said flange and springs between the disk and the cap opposite said lugs adapted to press said flange against the lugs for preventing dislodgment of said cap, substantially as set forth.

6. A closure for automobile tanks and the like comprising a tube extending from the tank, an outer flange on the tube, a cap having inturned lugs adapted to engage underneath said flange, a non-metallic disk adapted to be clamped between contacting faces of the tube and cap by relative movement of said lugs and said flange, spaced apertures in said disk, a depression in the cap opposite said apertures, and an aperture leading from said depression through the cap said aperture being located between the apertures in the disk, substantially as set forth.

7. A closure for automobile tanks comprising a tube extending from the tank, a radial flange on the tube, said flange having transverse cuts at its periphery, a cap having internal lugs positioned to pass through said cuts and engageable with the farther surface of the flange by rotation of the cap, a disk between the adjacent surfaces of the cap and the tube, springs on the inner face of the cap opposite said lugs, and a chain securing the cap to the tube, substantially as set forth.

8. A closure for automobile tanks comprising a tube extending from the tank, a radial flange on the tube, said flange having transverse cuts at its periphery, a cap having internal lugs positioned to pass through said cuts and engageable with the farther surface of the flange by rotation of the cap, and springs on the inner face of

the cap opposite said lugs, substantially as set forth.

dislodgment of said cap, said tube being threaded at its lower end, substantially as set forth.

9. A closure for automobile tanks comprising a tube extending from the tank, a radial flange on the tube, said flange having transverse cuts at its periphery, a cap having internal lugs positioned to pass through said cuts and engageable with the farther surface of the flange by rotation of the cap and springs on the inner face of the cap opposite said lugs adapted to press said flange against the lugs for preventing

In witness whereof, I have hereunto set my hand and seal at Indianapolis, Indiana, this 7th day of April, A. D. nineteen hundred and twenty-three.

CHARLIE H. MARTIN. [L. S.]

Witnesses:

M. L. SHULER,
ETHEL M. SWARTZ.