

C. P. ABS.
RADIATOR CAP.
APPLICATION FILED MAR. 1, 1911.

Patented June 13, 1911.

995,314.

Fig. 1.

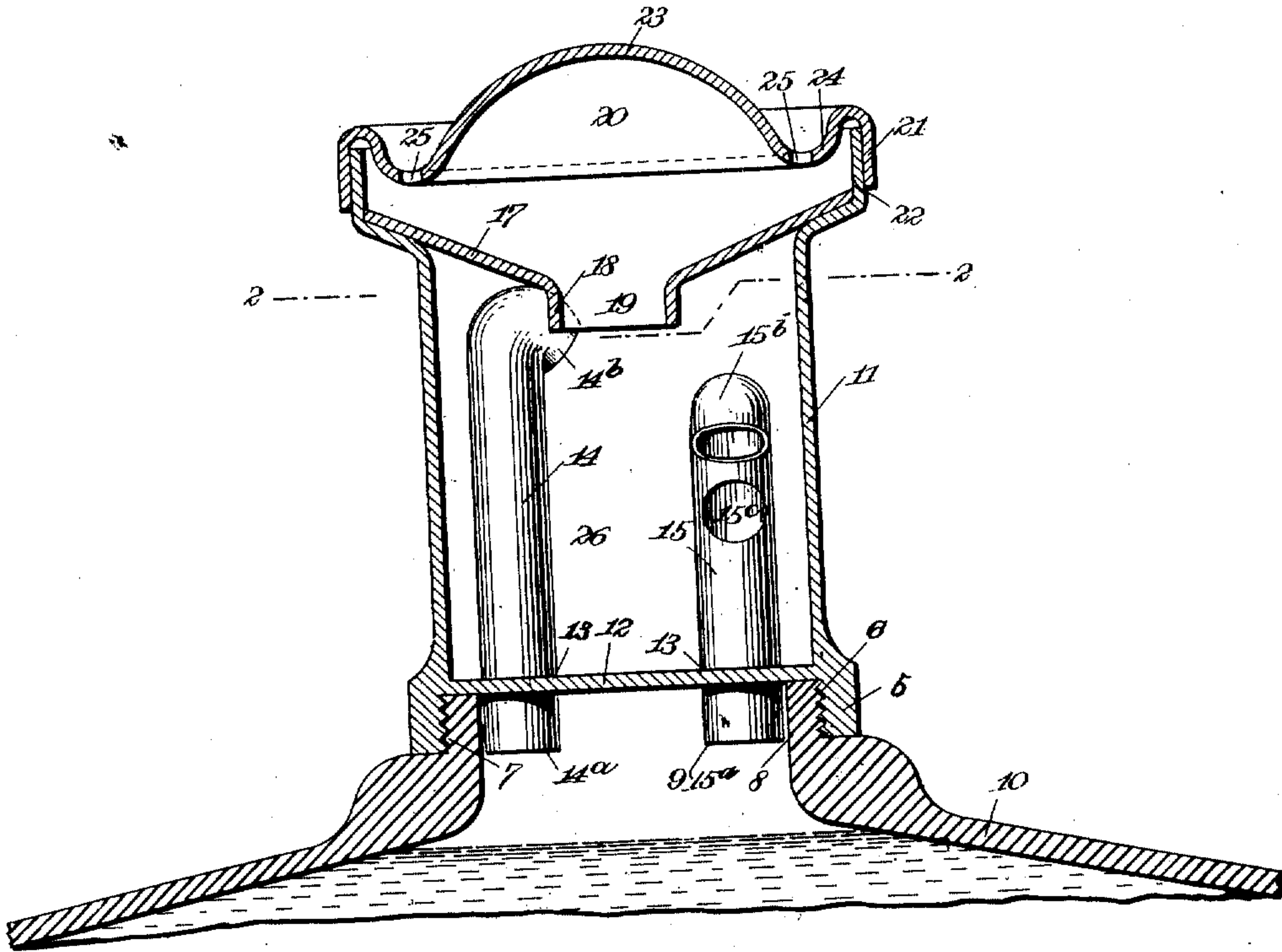


Fig. 2.

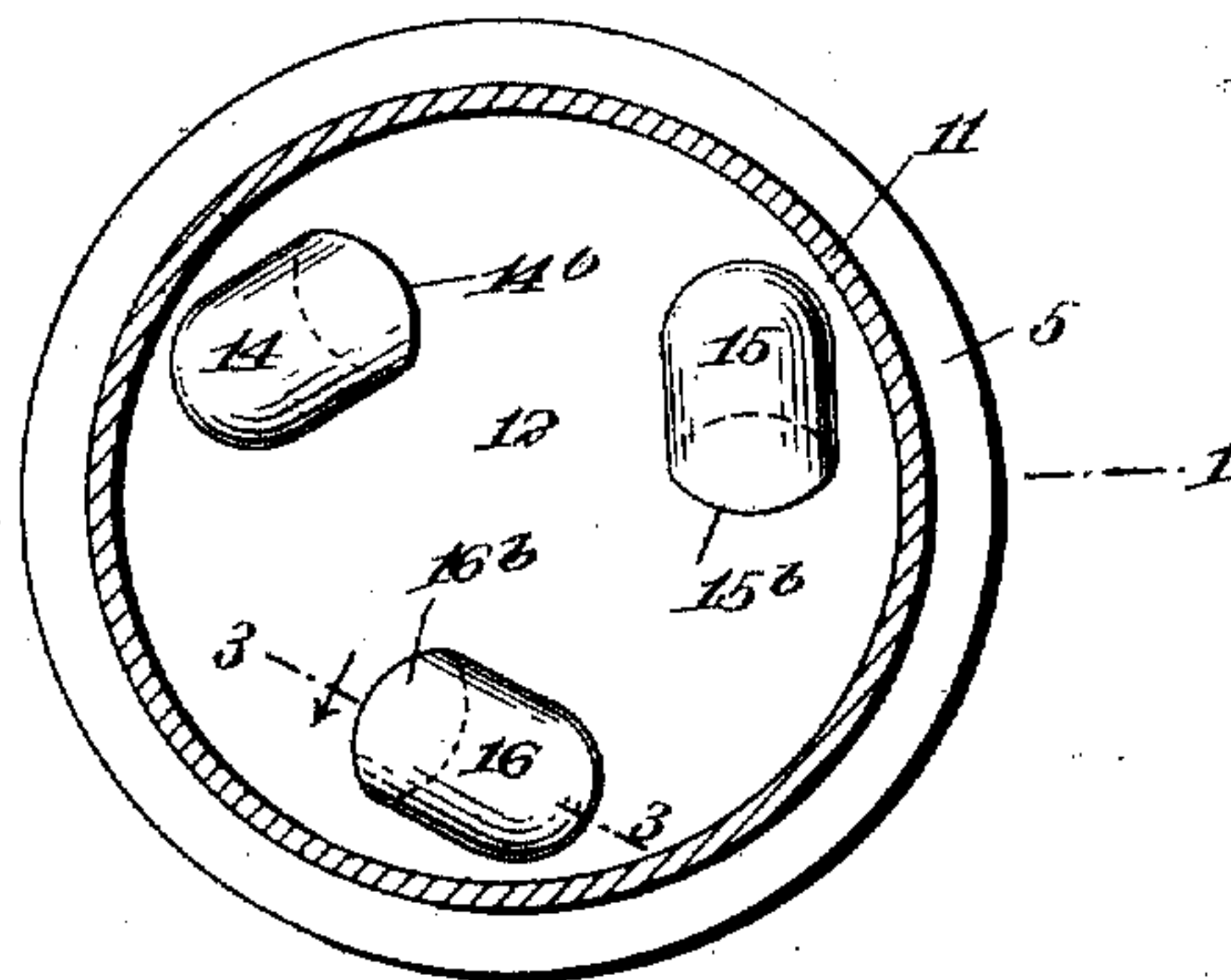
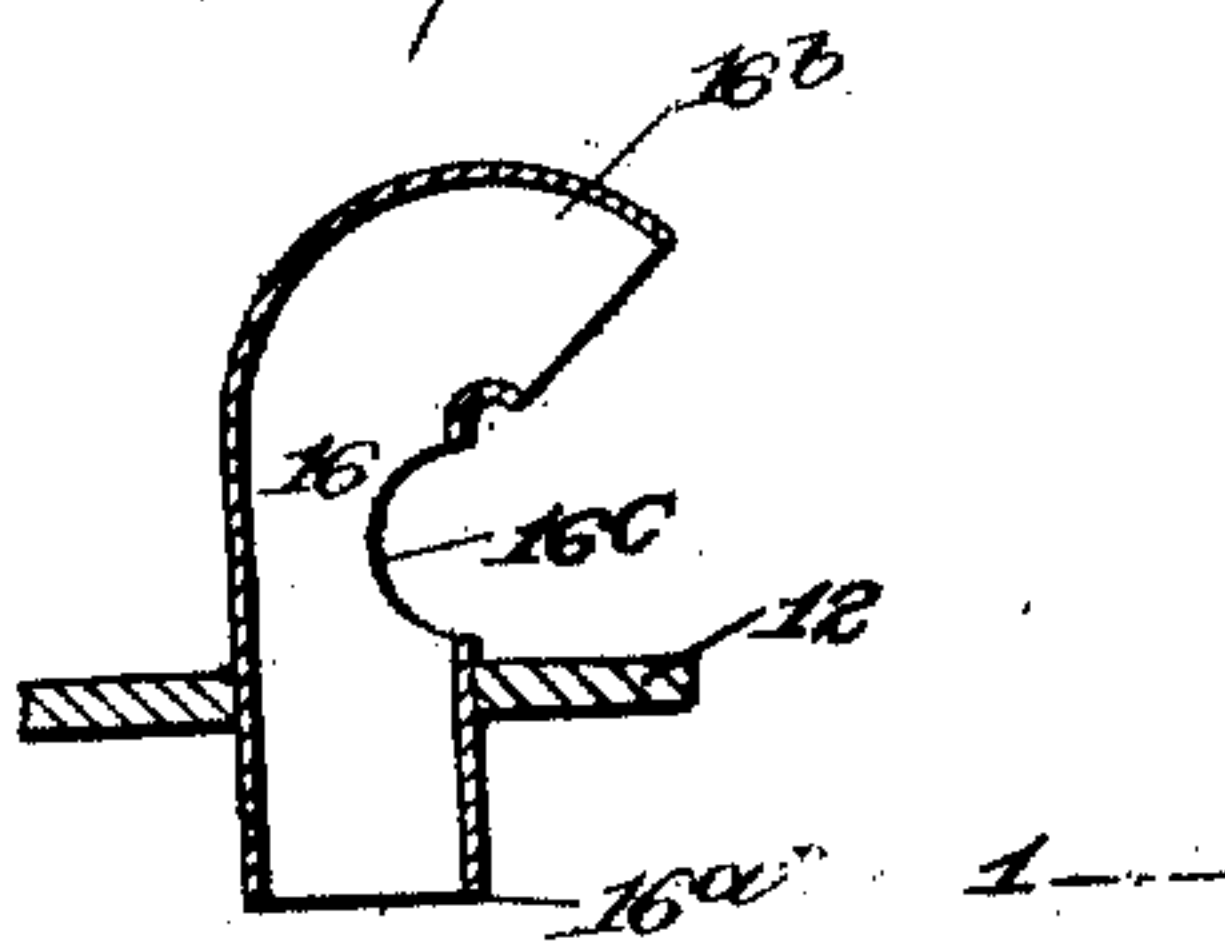


Fig. 3.



WITNESSES:
H. J. Walker
E. B. Marshall

INVENTOR
Charles P. Abs
BY *M. J. Co.*
ATTORNEYS

UNITED STATES PATENT OFFICE.

CHARLES P. ABS, OF HOBOKEN, NEW JERSEY.

RADIATOR-CAP.

995,314.

Specification of Letters Patent. Patented June 13, 1911.

Application filed March 1, 1911. Serial No. 611,618.

To all whom it may concern:

Be it known that I, CHARLES P. ABS, a citizen of the United States, and a resident of Hoboken, in the county of Hudson and State of New Jersey, have invented a new and Improved Radiator-Cap, of which the following is a full, clear, and exact description.

My invention relates to radiators, for cooling internal combustion engines, and it has for its object to provide a cap for such radiators, which may be manufactured at very little expense, and which is adapted to permit of the radiator being readily and quickly filled.

Other objects of the invention are to provide a radiator cap which will condense and return to the radiator any water which may be vaporized by the heat in the radiator, and one which will return to the radiator any water which may be thrown through the vent into the cap.

Still other objects of the invention will appear in the following complete specification, in which the preferred form of the invention is disclosed.

In the drawings similar characters of reference indicate corresponding parts in all the views in which—

Figure 1 is a sectional view on the line 1—1 of Fig. 2; Fig. 2 is a sectional view on the line 2—2 of Fig. 1; and Fig. 3 is a sectional view on the line 3—3 of Fig. 2.

By referring to the drawings it will be seen that the radiator cap 5 has a depending portion with an inner thread 6, which is adapted to mesh with the outer thread 7 on the annular flange 8, extending upwardly at the opening 9 in the radiator 10. My cap also has a circular side wall 11 and a bottom member 12 with three openings 13, through which extend the tubes 14, 15 and 16. The lower terminals 14^a, 15^a and 16^a of the said tubes 14, 15 and 16 are open. The said tube 14 extends upwardly a considerable distance above the horizontal plane at the upper end of the tube 16, and the tube 15 also extends upwardly a distance above the said horizontal plane at the upper end of the tube 16, but not as high as the tube 14. The upper terminals 14^b, 15^b and 16^b of the three tubes are bent over, and slightly downwardly. The tube 16, in addition to the opening at its upper terminal 16^b, has a lateral opening 16^c, just above the bottom member 12. The tube

15 has an opening 15^c, a distance above the bottom member 12 of the cap. A funnel member 17 extends inwardly from the sides 11 of the cap, the said funnel member 17 having a depending collar 18 surrounding an opening 19. The top 20 of the cap has a depending annular flange 21 which is disposed against the outer side of the laterally extending rim 22 of the cap, the said top member 20 having an upwardly extending central portion 23 around which there is an annular depression 24, with openings 25 all around, spaced apart. The radiator 10 may be filled with water by pouring it over or around the protruding portion 23 of the top member 20, the water flowing through the openings 25 into the funnel 17, and through the opening 16^c and the upper terminal 16^b through the tube 16, to the radiator. If the water flows into the cap faster than it may be carried by the tube 16 to the radiator, the water will reach a height, where it will flow through the openings 15^c into the tube 15, and from thence into the radiator. The water may also flow through the opening in the upper terminal 15^b of the tube 15. While the water is thus flowing into the radiator, the tube 14 will serve as a vent, permitting the escape of air so that there will be no back pressure to check the flow of the water.

When the radiator is in use and the water becomes heated, any steam which may be formed in the radiator will escape through the tubes 14, 15 and 16, where it will be directed downwardly into the compartment 26, surrounded by the wall 11, where it will condense, the water again flowing through the opening 16^c back into the radiator. When the radiator is used on an automobile or speed boat, any water which may splash through the openings in the tubes will be directed downwardly by the upper terminals of the tubes, and will go back into the radiator by the lateral opening 16^c in the tube 16.

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

1. A cap for radiators having side walls, and a bottom member with an opening, and a tube having its upper terminal bent laterally, extending through the opening.

2. A cap for radiators having side walls and a bottom member with two openings, two tubes extending through the openings respectively, one of the tubes extending

above the horizontal plane at the top of the other tube, there being lateral openings in the tubes.

3. A cap for radiators having a side wall
5 and a bottom member with two openings, two tubes having openings therethrough, extending through the openings in the bottom member respectively, the upper ends of the tubes being bent laterally, and one of the
10 tubes having a lateral opening near the upper surface of the bottom member.

4. A cap for radiators having a side wall and a bottom member with an opening therein, a member with a central opening extending
15 inwardly from the side wall, and spaced from the bottom member, and a top member spaced from and disposed over the last-mentioned member, the top member having an upwardly protruding central portion
20 with a surrounding depression with openings leading to the space between the second-mentioned member and the top member.

5. A cap for radiators having a side wall and a bottom member with an opening, a
25 tube extending through the opening, the up-

per terminal of the tube having a lateral opening, an intermediate member with a central opening extending inwardly from the side wall and spaced from the bottom member, and a top member spaced from and
30 disposed over the last-mentioned member, the top member having an upwardly protruding central portion with a surrounding depression with openings leading to the space between the second-mentioned member
35 and the top member.

6. A cap for radiators having side walls and a bottom member with an opening, and a tube having its upper terminal bent laterally, extending through the opening, there
40 being a lateral opening in the tube, between the bottom member and the said upper terminal.

In testimony whereof I have signed my name to this specification in the presence of
45 two subscribing witnesses

CHARLES P. ABS.

Witnesses:

WILLIAM FLIEDNERT,
CHAS. ALCERSIGER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
