L. L. HARMON.

RADIATOR CAP HOLDER.

APPLICATION FILED JUNE 5, 1919.

1,372,812. Patented Mar. 29, 1921.

FIG. 1.

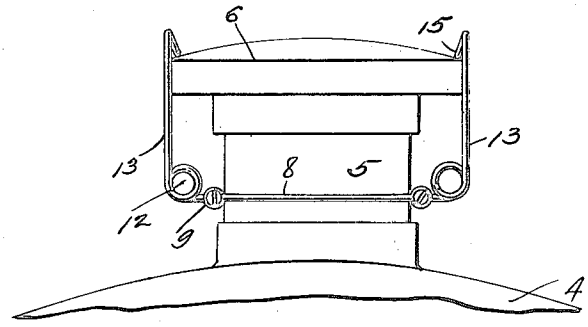


FIG. 2.

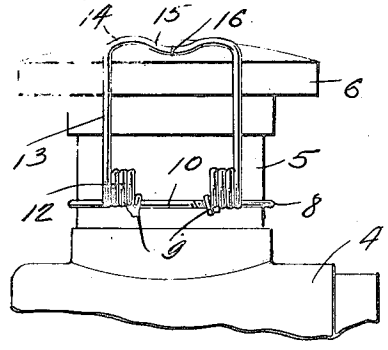
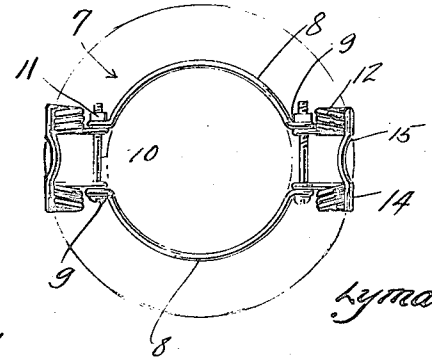


FIG. 3.



Witnesses

E. E. Walling

J. B. Hellmuth

Inventor

Lyman L. Harmon

By Richard B. Owen.

Attorney

UNITED STATES PATENT OFFICE.

LYMAN L. HARMON, OF CANTON, OHIO.

RADIATOR-CAP HOLDER.

1,372,812. Specification of Letters Patent. Patented Mar. 29, 1921.

Application filed June 5, 1919. Serial No. 302,032.

To all whom it may concern:

Be it known that I, LYMAN L. HARMON, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Radiator-Cap Holders, of which the following is a specification.

My invention relates broadly to new and useful improvements in means for detachably retaining a closure upon a receptacle, and an important object of the invention resides in the provision of means carried by the receptacle and engaging the sides and top of the closure for detachably retaining the closure upon the receptacle.

Another object of the invention resides in the provision of a device as above set forth including pairs of oppositely disposed arms for engagement with the closure and resilient means for normally urging said arms toward each other and into engagement with the closure.

A further object of the invention resides in the provision of a device of the above mentioned character which is formed from a single strand of wire, which insures an article inexpensive to manufacture and efficient in practice.

Other objects and advantages of the invention will become apparent during the course of the following description.

In the drawings, forming a part of the description and wherein like numerals are employed to designate like parts throughout the same.

Figure 1 is a side elevation of the invention as applied to an automobile radiator cap.

Fig. 2 is an end view of the same, and

Fig. 3 is a top plan of the invention unapplied.

In the drawings, wherein is shown a preferred embodiment of my invention, and is illustrated in the present instance as used in connection with an auto radiator cap, the numeral 4 designates a portion of an auto radiator having the usual neck 5 and closure or cap 6. However, I desire it to be understood that the invention may be employed in connection with detachably retaining closures on various types of receptacles.

The single strand of wire from which the invention is constructed, is designated in general by the numeral 7 and the clamp 8 of my invention is provided by bending two portions of the wire arcuately in opposite directions so that they nearly encircle the neck 5 of the radiator. Each end of the arcuated portions of the clamp is provided with a loop 9 formed by bending the free ends of the arcuated portions. Thereby two pair of oppositely disposed loops 9 are provided, and a bolt 10 is adapted to be passed through each pair of loops in order to retain the clamp upon the neck of the radiator. As usual nuts 11 are received upon the threaded ends of the bolts to be screwed on the ends thereof in order to draw the opposite sides of the clamp closer toward each other.

After the loops 9 have been formed in the wire, the ends of the loops are extended outwardly of the radiator neck a substantial distance, then bent into coils 12 to form springs. After the coils 12 have been completed, the ends thereof are extended outwardly to project a substantial distance above the top of the cap 6. By extending the end of the coils 12 upwardly, a pair of oppositely disposed closure engaging members 13 are formed, each of which consists of a pair of upwardly extending spaced arms. The end 14 of each arm of the closure engaging members above the top of the cap is bent inwardly toward each other, then are arcuated inwardly then outwardly of the cap 6 until they merge into one another. The inwardly turned ends of the arms 13 form a bridging portion for the two arms, and is adapted to engage with the top of the cap 6 when these arms are in their normal position.

The free ends of the single strand of wire come together at the point 16 intermediate the bridging portion of one pair of arms 13, as more clearly shown in Fig. 2 of the drawing. Beginning with the free ends of the wire and following out its bends, the free ends when they meet at the point 16 are each curved upwardly and outwardly a substantial distance, then are carried downwardly to form the spaced arms 13. The wire at the lower ends of the arms 13 is coiled to form the spaced coiled springs 12, the ends of which are carried inwardly toward the neck of the radiator. Then, the wire is looped to provide the loops 9 through which are adapted to pass the bolts 10. The wire is then bent outwardly in opposite directions to provide the clamp 8 after which the wire is bent

and coiled in the same manner as set forth above to provide the oppositely disposed loops 9, coils 12, and closure engaging member 13.

When it is desired to remove the radiator cap from the neck 5, the operator separates the closure engaging members 13 with one hand, and with the other hand rotates or otherwise removes the closure from the receptacle. When it is desired to retain a closure upon a receptacle, the closure engaging members are separated in the manner set forth and the closure placed, then the closure engaging members 13 are released and are caused to spring inwardly toward each other through the medium of the coil springs 12. Of course, this will cause the arms of each member 13 to engage with the opposite sides of the closure while the bridging portion 15 of each member 13 engages with the top of the cap and thereby prevents the same from casual displacement. By reason of the provision of the coil springs 12 in the device, it will be readily appreciated that the closure engaging members 13 may have upward movement with relation to the clamp 8.

The foregoing description and the drawings have reference to what may be considered the preferred, or approved, form of invention. It is to be understood that I may make such changes in construction and arrangement and combination of parts, materials, dimensions, etc., as may prove expedient and fall within the scope of the appended claims.

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

1. The combination with a receptacle having a closure therefor, a clamp secured to the receptacle, a pair of closure engaging members, each member consisting of a pair of spaced arms for engagement with the sides of said closure and a bridging portion for engagement with the top of said closure, and coils connecting said arms to said clamp for retaining said members in engagement with said closure.

2. The combination with an auto radiator cap, a holder therefor secured to the neck of a radiator and consisting of a single strand of wire formed into a clamp for engagement with said radiator neck, a pair of oppositely disposed loops formed upon opposite sides of said clamp, means passing through each pair of loops for securing the clamp upon the radiator neck, the wire after forming said loops being continued outwardly to be formed into pairs of coiled springs upon opposite sides of said neck, and the end of each coil being extended upwardly of the neck to engage the sides of the cap then extended inwardly toward each other for engagement with the top of said cap.

In testimony whereof I affix my signature in presence of two witnesses.

LYMAN L. HARMON.

Witnesses:
LOYAL J. SNYDER,
W. H. WENGER.