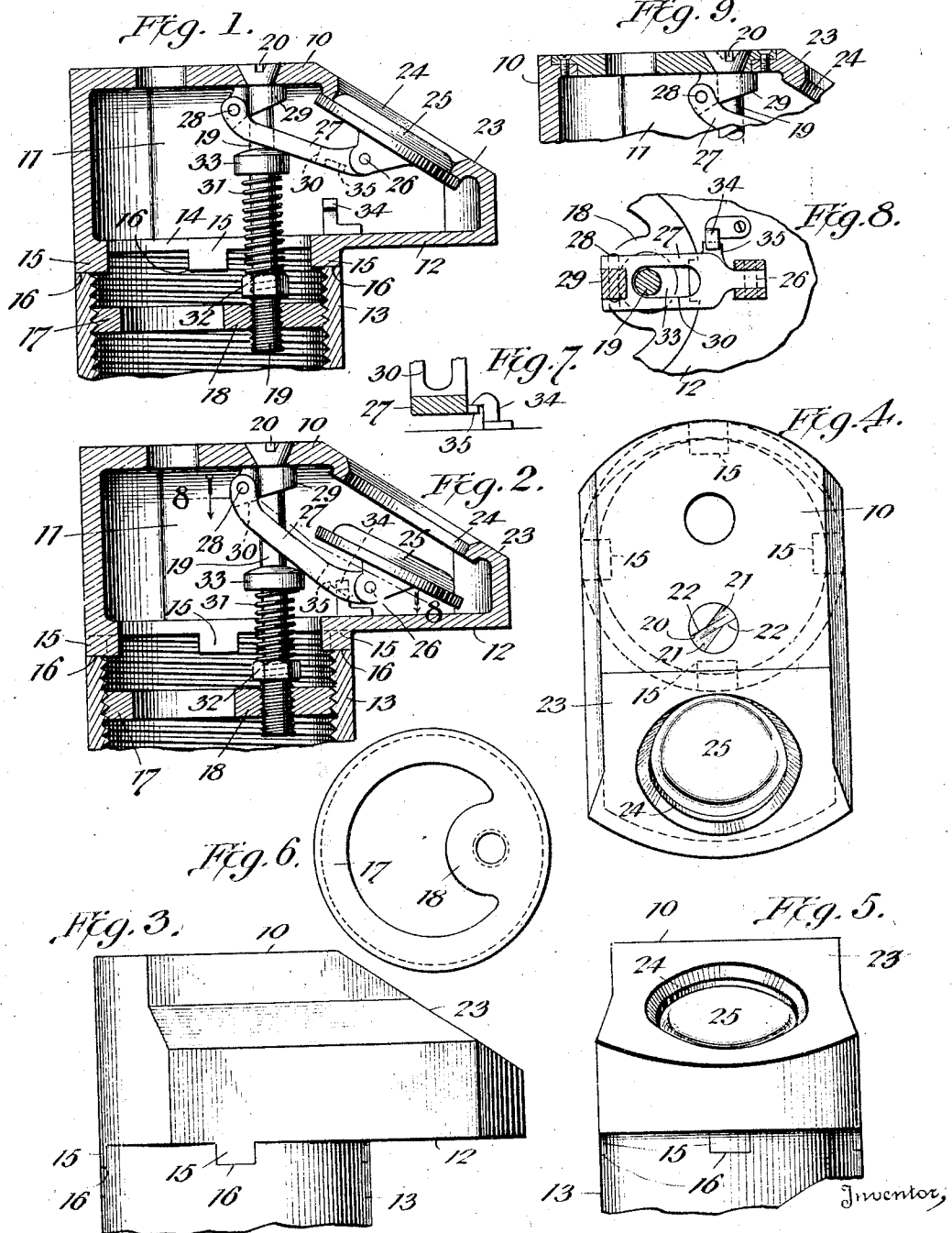


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CLOSURE.
APPLICATION FILED MAY 14, 1920.

1,393,847.

Patented Oct. 18, 1921



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By

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CLOSURE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ROBERT STIRLING, a citizen of the United States, residing at East Chicago, in the county of Lake and State of Indiana, have invented certain new and useful Improvements in Closures, of which the following is a specification.

The present invention relates to closures for the filling openings of containers, and while particularly designed for automobile radiators, is not necessarily limited to that specific use.

The object is to provide a structure that will constitute an effective closure for the inlet opening—one that is readily opened to permit the supply of fluid to the container, and a structure in which the parts are completely housed and compactly arranged.

An embodiment of the invention that is at present considered the preferable one is illustrated in the accompanying drawings, wherein:—

Figure 1 is a vertical sectional view through the device with the closure in its operative or closed position,

Fig. 2 is a similar view with the closure opened,

Fig. 3 is a side elevation of the device,

Fig. 4 is a top plan view,

Fig. 5 is a front elevation,

Fig. 6 is a plan view of the anchor element,

Fig. 7 is a detail sectional view showing the latch for holding the closure in opened position,

Fig. 8 is a horizontal sectional view substantially on the line 8—8 of Fig. 2,

Fig. 9 is a detail sectional view showing a slightly modified form of construction.

In the embodiment disclosed, a head 10 is employed having a chamber 11 and provided with a bottom 12, the rear portion of which is adapted to fit upon the upstanding filling nipple 13 of the usual automobile radiator, said bottom having an opening 14 that registers with the interior of such nipple 13. Arranged on different sides of the opening 14 are depending lugs 15 adapted to fit into notches or sockets 16 filed or otherwise cut into the upper margin of the nipple 13.

An anchor element 17 in the form of an externally threaded ring is screwed into the nipple 13 and is provided with an inset lug 18 into which the fastening screw 19

is threaded, this screw passing through the top of the head 10 and serving to effectively hold the head in place on the nipple 13. In order that the head may not be readily removed the screw is preferably provided with a driver-receiving slot 20 in its outer end, the diagonally opposite portions of which are beveled or cut away, as shown at 21 in Fig. 4, leaving shoulders 22 that will permit the screw being driven home, but having no shoulders by which the screw-driver can be engaged to turn the screw in a retrograde direction to thus release the head.

The top of the head 10 has its front portion preferably beveled, as illustrated at 23, and said portion is provided with an inlet opening 24, through which water can be introduced into the chamber 11, and will thus find its way through the opening 14 into the nipple 13. The opening 24 is adapted to be covered by an inwardly opening closure plug 25 that is located in the chamber 11, and is pivotally mounted, as shown at 26, on a swinging arm 27. This arm is pivoted, as illustrated at 28, to a collar 29 loosely mounted on the upper portion of the screw stem 19, and bearing against the under side of the top of the head 10. The pivotal connection 28, it will be noted, is on the rear side of the screw stem 19, and the arm 27 is provided with a slot 30 through which the screw stem 19 passes. The arm 27 is yieldingly maintained in elevated position with the closure plug 25 covering the opening 24 by means of a coiled spring 31 surrounding the screw stem 19 below the arm 27. The lower end of this spring bears upon a nut 32 threaded on the screw 19. The upper end of said spring bears against a collar 33 on the stem 19, said collar having a convex upper end that bears against the under side of the arm 27. A latch 34 is also provided, said latch being located on the bottom 12 of the head 10 and adapted to engage with a lug 35 on one side of the arm 27, the parts having sufficient play to permit the lug to pass the latch and engage beneath the same, as illustrated in Fig. 7.

It is believed that the operation of the device will be clear from an inspection of Figs. 1 and 2 of the drawing. Under normal conditions the closure 25 is in its operative position and is maintained therein by the upward pressure of the spring 31 against the arm 27. When it is desired to introduce

water or other liquid into a radiator, the operator has only to press the closure 25 downwardly and move it laterally until the latch 34 engages the lug 35, whereupon the closure will be maintained in opened position, as shown in Fig. 2. To reclose the inlet opening 24, it is only necessary to move the closure and arm laterally until the latch 34 is disengaged, whereupon the spring will return the said closure to its active position.

From the foregoing, it is thought that the construction, operation and many advantages of the herein described invention will be apparent to those skilled in the art, without further description, and it will be understood that various changes in the size, shape, proportion and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

1. In a structure of the character set forth, the combination with an intake member having an inlet opening, of a fixed stem within the intake member, a swinging arm within the member having a pivotal mounting on the stem, a closure for the opening having a rearwardly extending portion pivoted on a transverse axis to the arm within the member and movable outwardly to closed position, and a coiled spring surrounding the stem and having a bearing against the swinging arm to move the same and thereby seat the closure over the opening.

2. In a structure of the character set forth, the combination with a filling nipple member having an upper inlet opening, of means engaged with the nipple member for securing said member on a container, and

a closure for the opening mounted on the securing means.

3. In a structure of the character set forth, the combination with a filling nipple member having an inlet opening, of means for securing the member on a container, including a fastening stem engaged with the member, and a closure for the opening of the nipple member, movably mounted on the stem.

4. In a structure of the character set forth, the combination with a filling nipple member having an inlet opening, of a fastening screw extending into the nipple for securing it in place on a container, an arm pivotally mounted on the screw, a closure for the inlet opening pivoted on the arm, and a spring mounted on the screw and acting on the arm to move the closure to its closed position over the inlet opening.

5. In a structure of the character set forth, the combination with an intake member having an inlet opening and an outlet opening, of means for securing the member to a container, a spring-pressed closure element for the opening movably mounted within the member and movable outwardly to a closed position across said opening, and a holding device within the intake member adapted to be engaged by the closure element when moved inwardly to its open position to hold the latter in inoperative position, said closure element being disengageable from the holding device to permit its movement to a seating position across the opening.

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

ROBERT STIRLING.

Witnesses:

HENRY W. PETERSEN,
TRESSIE M. PETERSEN.