

W. H. BANFIL.
FIRE EXTINGUISHER.
APPLICATION FILED OCT. 19, 1907.

908,727.

Patented Jan. 5, 1909.

Fig. 1.

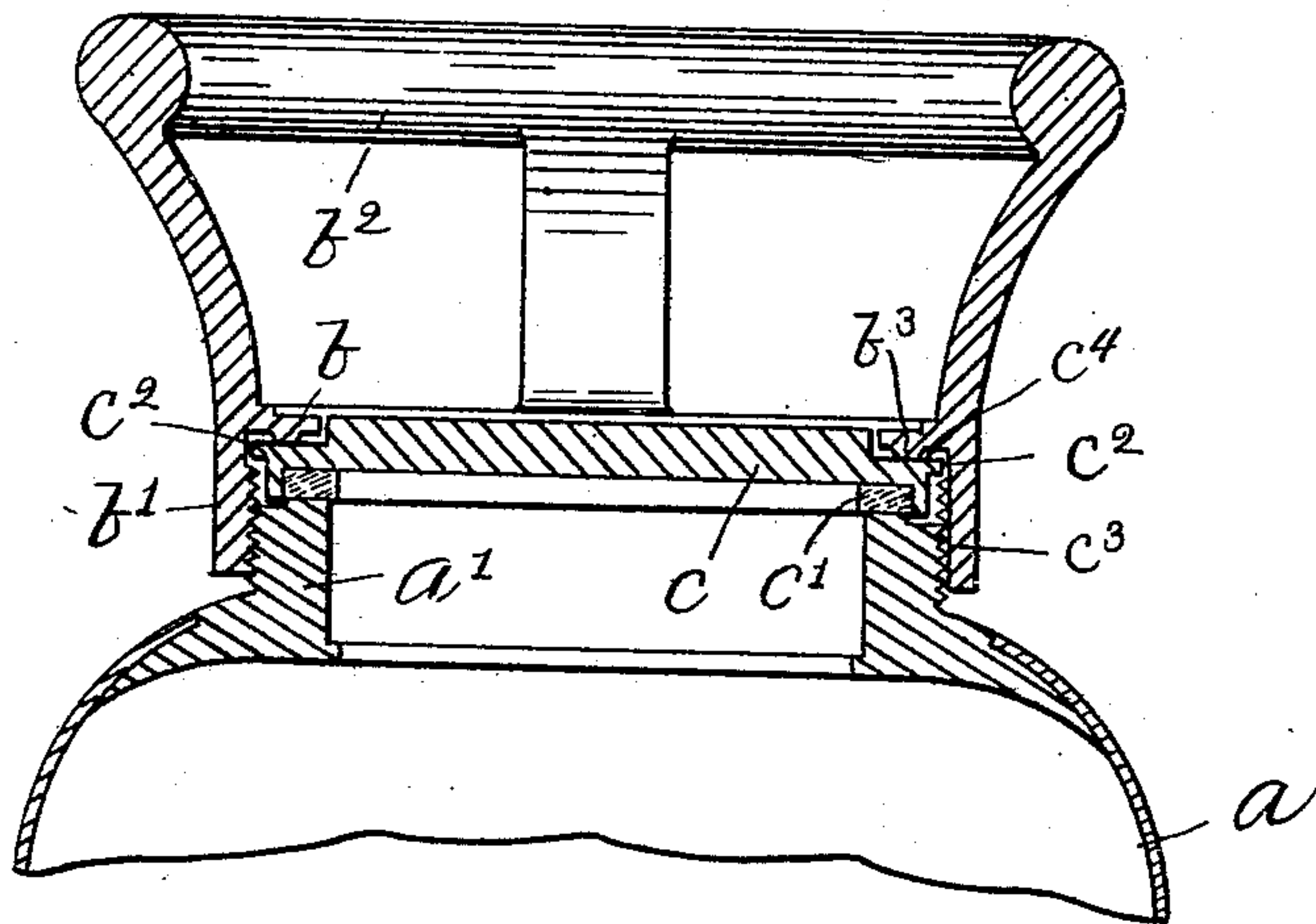


Fig. 2.

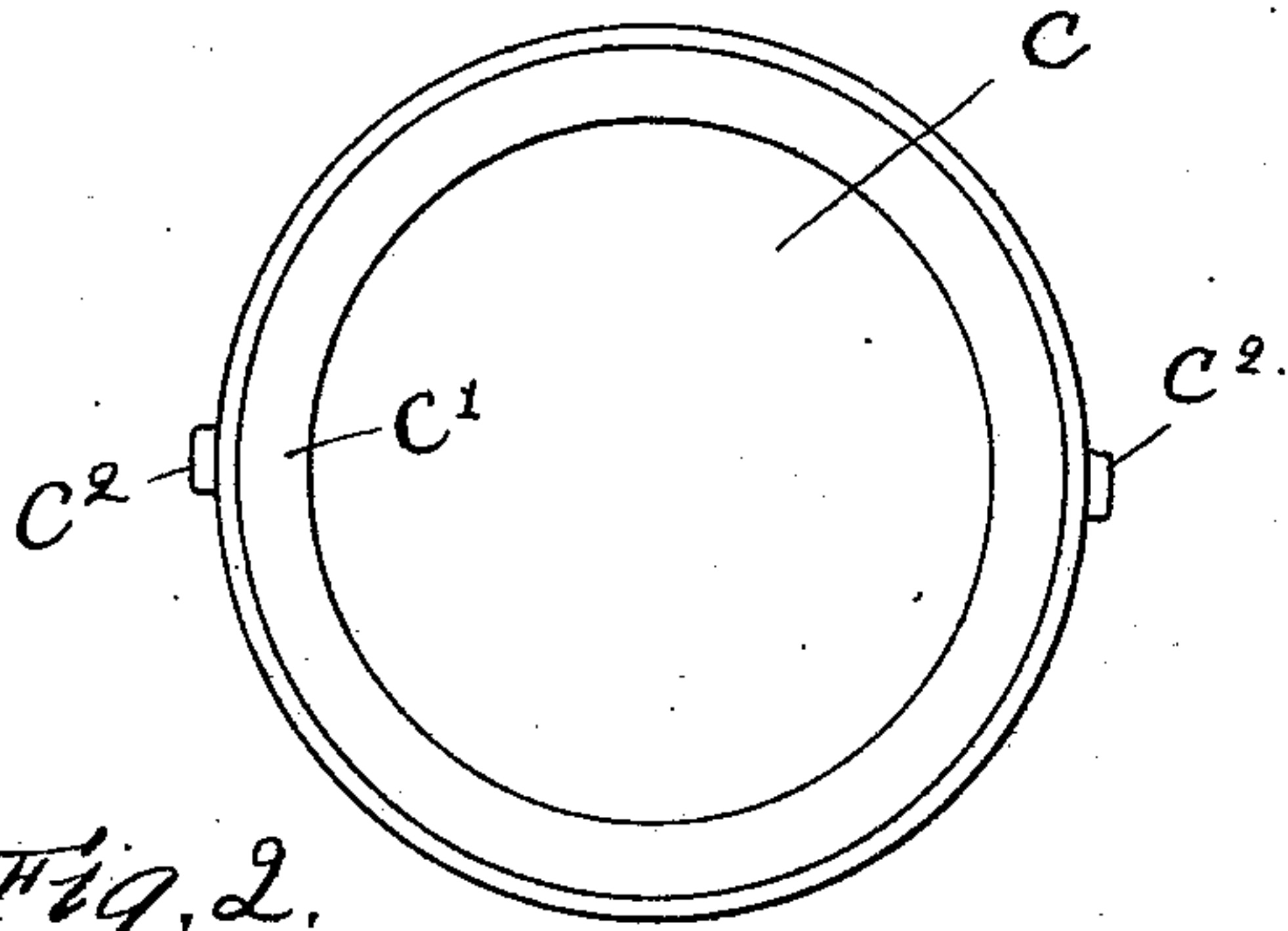


Fig. 4.

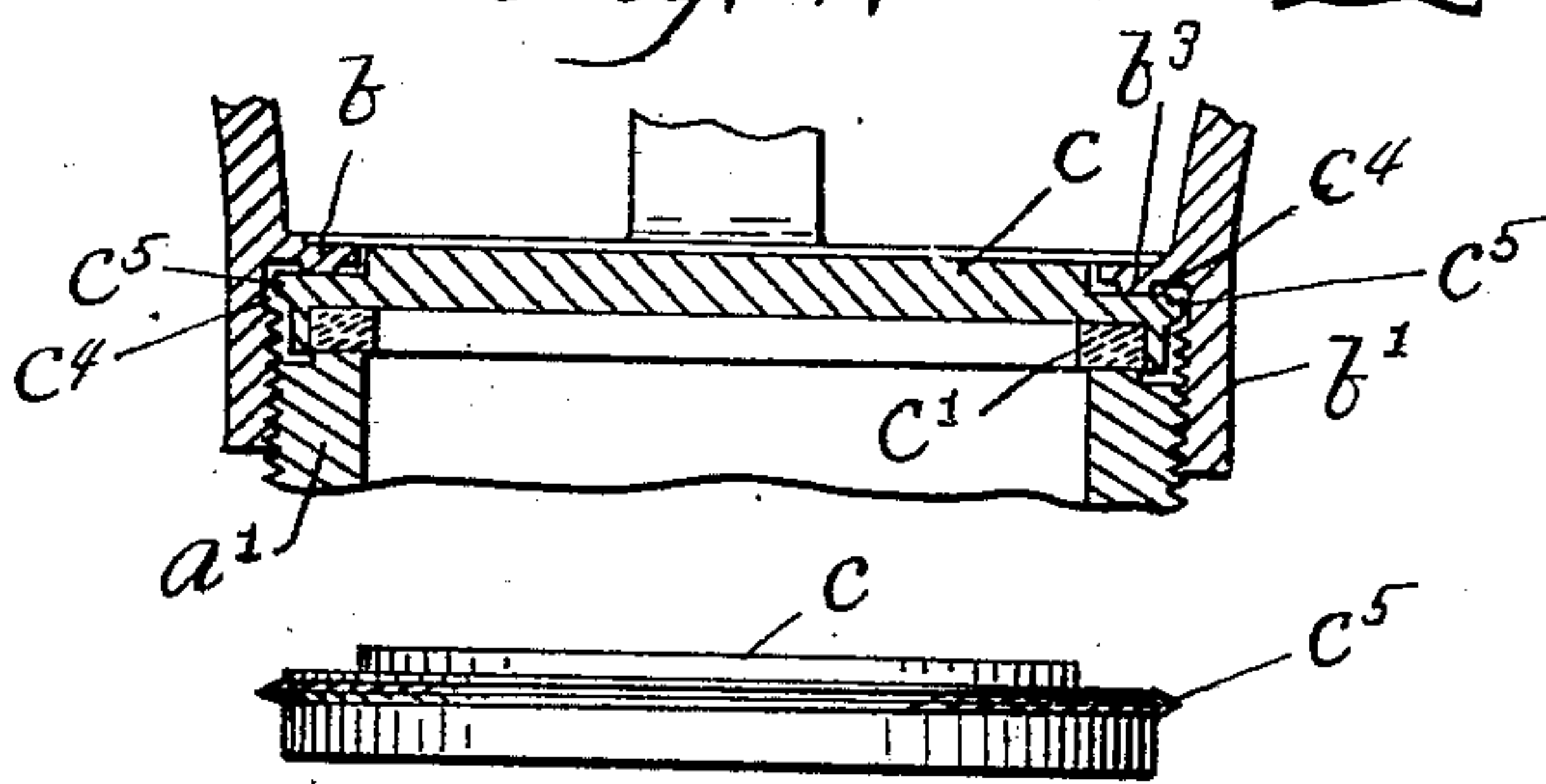
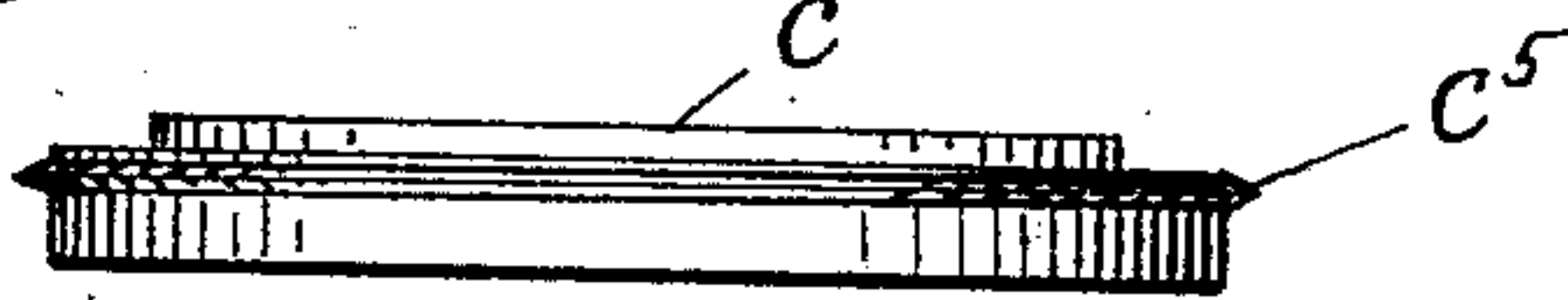


Fig. 3.

Fig. 5.



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UNITED STATES PATENT OFFICE.

WILLIAM H. BANFIL, OF BOSTON, MASSACHUSETTS.

FIRE-EXTINGUISHER.

No. 908,727.

Specification of Letters Patent.

Patented Jan. 5, 1909.

Application filed October 19, 1907. Serial No. 398,237.

To all whom it may concern:

Be it known that I, WILLIAM H. BANFIL, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Fire-Extinguishers, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to fire extinguishers of the type comprising a cylindrical shell or case provided with a removable cap or cover and containing a holder for the bottle which contains one of the chemical ingredients.

The invention has for its object to provide a ring-like member, having means for engaging the neck of the case, with improved means for loosely supporting a sealing-plate which is adapted to engage a seat on the case and to be moved in a vertical direction toward and from its seat by turning the ring-like member, and to be supported by said ring-like member when the latter is removed from the case, my improvement comprehending means on the ring-like member for engaging and lifting the sealing-plate from its seat only after said member has been turned backwards and lifted a short distance, so that the sealing-plate remains in engagement with its seat during the initial movement of the ring-like member, and is then engaged and lifted by and with said member, and my improvement also comprehends means on the ring-like member for engaging the sealing-plate to move it into engagement with its seat.

Figure 1 shows in vertical section a portion of a fire extinguisher embodying this invention. Fig. 2 is an end side view of the sealing-plate. Fig. 3 is a plan view of the ring-like member and sealing-plate supported by it. Fig. 4 is a sectional detail of the ring-like member and sealing-plate showing modified means on the ring-like member which extends beneath the edge of the sealing-plate, whereby said plate is adapted to be lifted from its seat by the rotation of the ring-like member, but only after said member has been turned backwards and lifted a short distance. Fig. 5 is an edge view of the sealing-plate shown in Fig. 4, before the screw-thread thereon has been crushed.

Referring to Figs. 1 to 3, the cylindrical or other shaped shell or case *a* is represented as having at its upper end an externally screw-threaded neck *a'* formed at its upper end to serve as a seat. A ring-like member has a

portion *b*, which extends inwardly over the top of the edge of a sealing-plate *c*, and a portion *b'* which extends downwardly and is internally screw-threaded to engage the screw-threaded neck *a'*, and a ring-like handle *b²* which extends upwardly. In lieu of this means of securing the ring-like member to the neck any other suitable means may be employed. The sealing-plate *c* is loosely supported by said ring-like member. This plate is made circular and is provided on its under side, at its edge, with a recess in which a packing-ring *c'* is placed, which latter is adapted to engage the seat which is formed at the upper end of the neck. The portion *b* of the ring-like member which overlies the edge of the sealing-plate preferably has formed on its under side an annular engaging portion or rib *b³*, which engages the top of the sealing-plate *c*, directly over the seat, so that when the ring-like member is turned in a forward direction onto the neck the sealing-plate will be moved toward the seat and will be held thereon with any desired degree of pressure. The rib *b³* thus serves as an engaging-portion on the under side of the portion *b* for engaging the sealing-plate. The portion *b'* on the ring-like member is provided with means extending under the edge of the sealing-plate, which, when said ring-like member is turned backwards and lifted a short distance, will be brought into engagement with the edge of the sealing-plate, so that further upward movement of said member will act to lift said plate away from its seat. As shown in Figs. 1 to 3, the sealing-plate is formed at its edge with a pair of lugs *c²*, extending outwardly therefrom, and between the upper end of the screw-threaded part of the portion *b'* and the overlying portion *b* of the ring-like member an annular recess *c⁴* is formed, which receives said lugs, so that the screw-threaded part extends beneath the edge of the sealing-plate. The width of the annular recess *c⁴* is greater than the thickness of the lugs *c²*.

To place the sealing-plate in position a vertical recess *c³* is formed in the screw-threaded part of the portion *b'*, the threads at such point being cut away (see Fig. 3) wide enough for the passage of one of the lugs. To introduce the sealing-plate it will be tipped and one of the lugs will first be placed in the annular recess, at a point opposite said recess *c³*, then the plate will be thrust down against the portion *b*, the lug passing along the recess

c^3 , and then the plate will be turned in its own plane.

Referring to Figs. 4 and 5, a modified form of means for holding the sealing-plate is shown, wherein it will be seen that the edge of the sealing-plate is formed with a single screw-thread c^5 , adapting it to be screwed into the portion b' , and at the top of the screw-threaded part of the portion b' an annular recess c^4 is formed, into which the screw-thread c^5 on the plate enters. The plate is screwed into the portion b' until its screw-thread enters the annular recess c^4 . Then one of the parts is struck a severe blow from above and the threads offset or crushed, so that the plate will be prevented from being removed from the ring-like member, yet it will be loosely supported thereby. It will be observed that the lugs c^2 and the screw-thread c^5 , each form an integral extension on the edge of the sealing-plate which enters the annular recess c^4 , and that the cut away portion c^3 in Fig. 3, and the spiral groove formed by the screw-threads in Fig. 4, each serve as a passage leading to said annular recess c^4 , for the extension of the sealing-plate, whereby said extension may enter the annular recess. Furthermore, owing to the width of the annular recess being greater than the thickness of the lugs c^2 , or of the screw-thread c^5 , the ring-like member may be turned backwards and lifted a short distance before said extensions are engaged by the ring-like member, and then as said member is turned backwards further, said extensions will be engaged and the sealing-plate lifted in a vertical direction away from its seat.

By means of the improvements herein described, it will be observed that the ring-like member which usually starts hard when removing it from the case, may be started independently of the sealing-plate, and that during such initial movement of said member said sealing-plate will remain in engagement with its seat, and after said member has been started and is free to be turned it will engage the sealing-plate and by such subsequent op-

eration will lift the sealing-plate from its seat.

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

1. In a fire-extinguisher, a case having a neck formed with a seat, a sealing-plate adapted to engage said seat having an extension at its edge, a ring-like member engaging said neck having a portion extended over the top of the edge of the sealing-plate and having an annular recess below said portion, of a width greater than the thickness of the extension on the edge of the sealing-plate, which receives said extension, whereby the ring-like member may be turned backwards and lifted a short distance independently of the sealing-plate but further backward and upward movement thereof will lift the sealing-plate bodily from its seat, substantially as described.

2. In a fire-extinguisher, a case having a neck formed with a seat, a sealing-plate adapted to engage said seat having an extension at its edge, a ring-like member engaging said neck having a portion extended over the top of the edge of the sealing-plate and having an annular recess below said portion, of a width greater than the thickness of the extension on the edge of the sealing-plate which receives said extension, whereby the ring-like member may be turned backwards and lifted a short distance independently of the sealing-plate but further backward and upward movement thereof will lift the sealing-plate bodily from its seat, said ring-like member also having a passage leading to said annular recess to provide for the entrance thereof of said sealing-plate, substantially as described.

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

WILLIAM H. BANFIL.

Witnesses:

B. J. NOYES,
H. B. DAVIS.