

No. 886,713.

PATENTED MAY 5, 1908.

J. F. MACWILLIAM.  
COVER FOR FIRE EXTINGUISHING RECEPTACLES.  
APPLICATION FILED APR. 13, 1907.

Fig. 1.

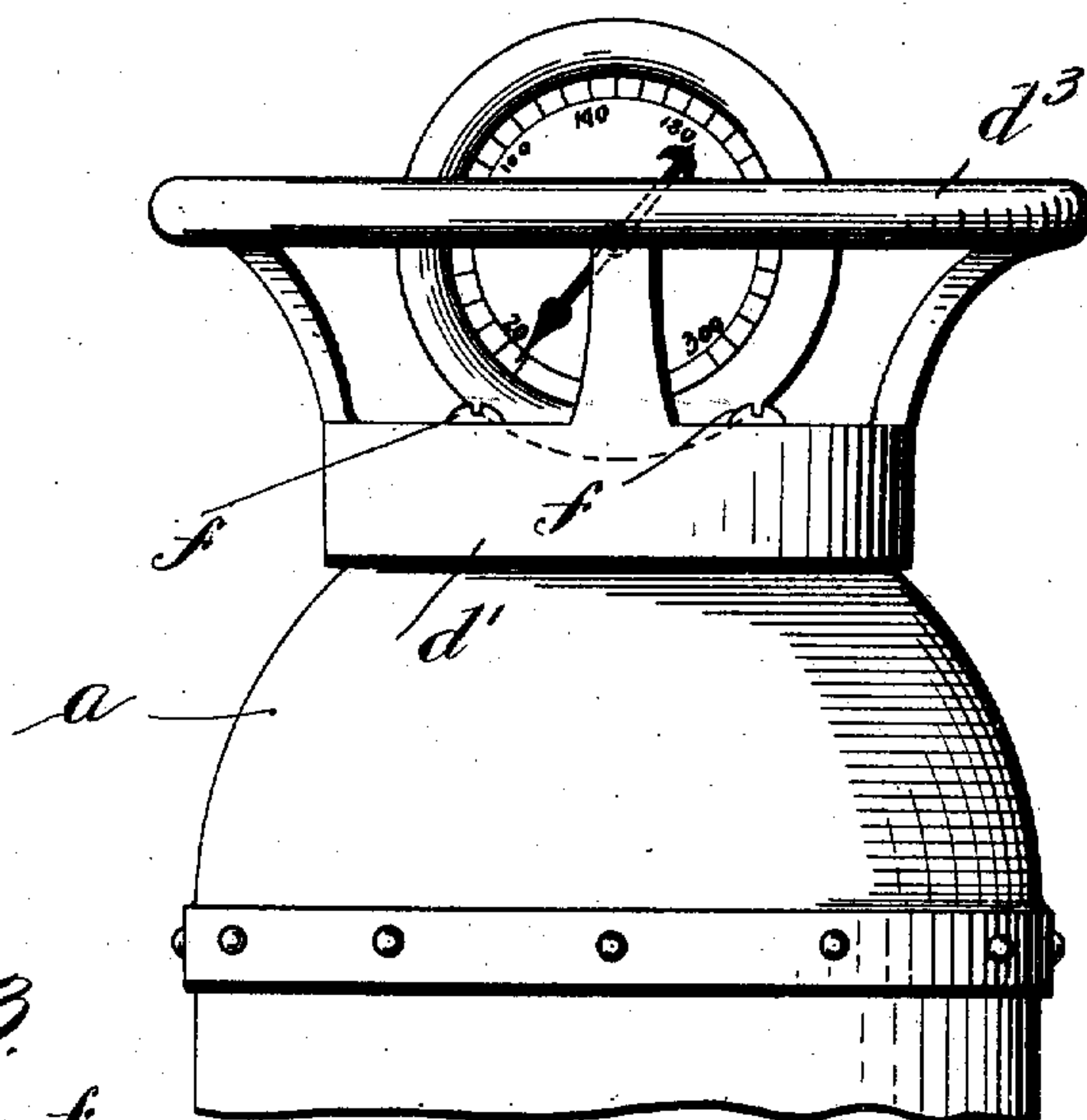


Fig. 3.

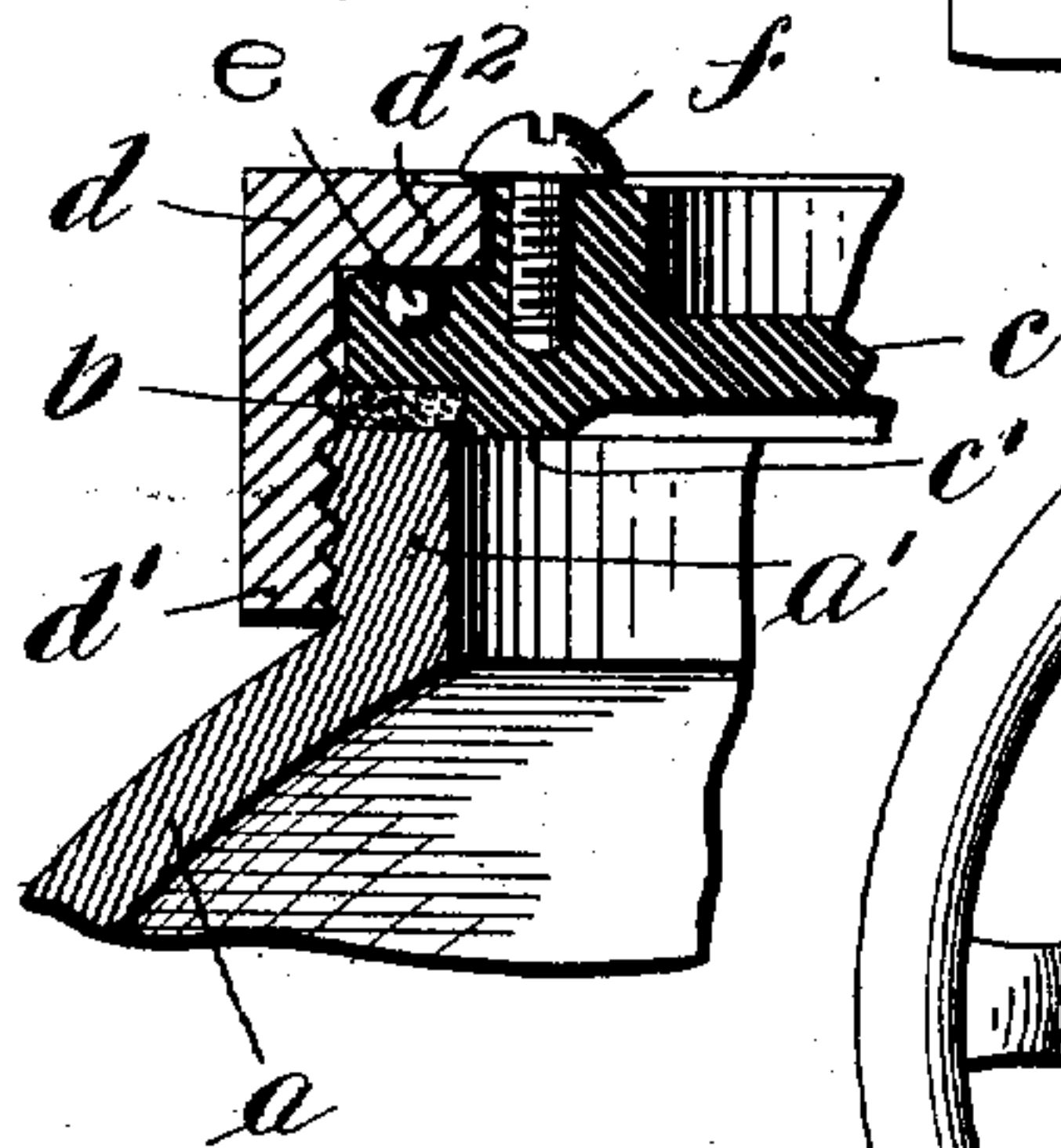


Fig. 4.

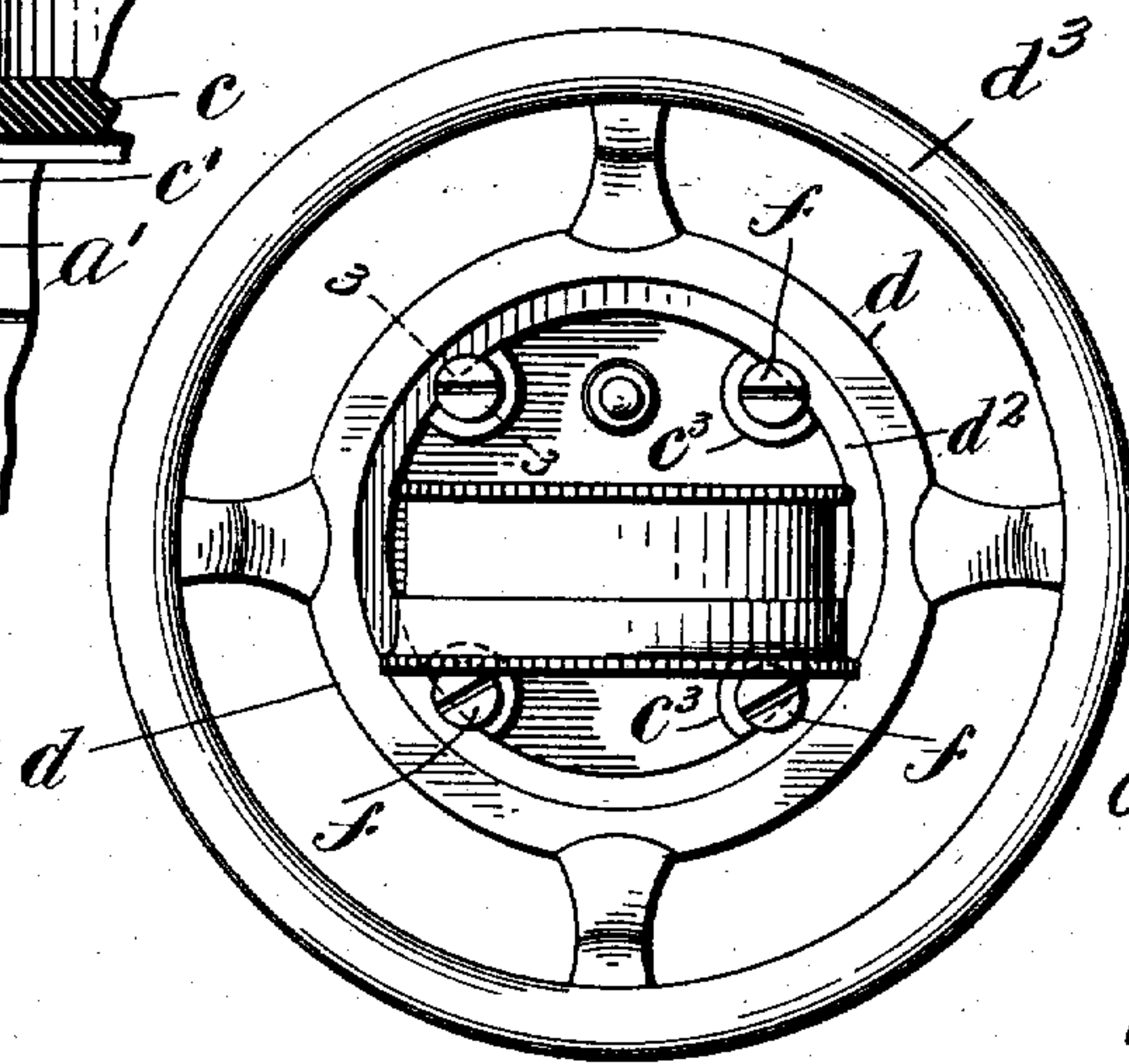
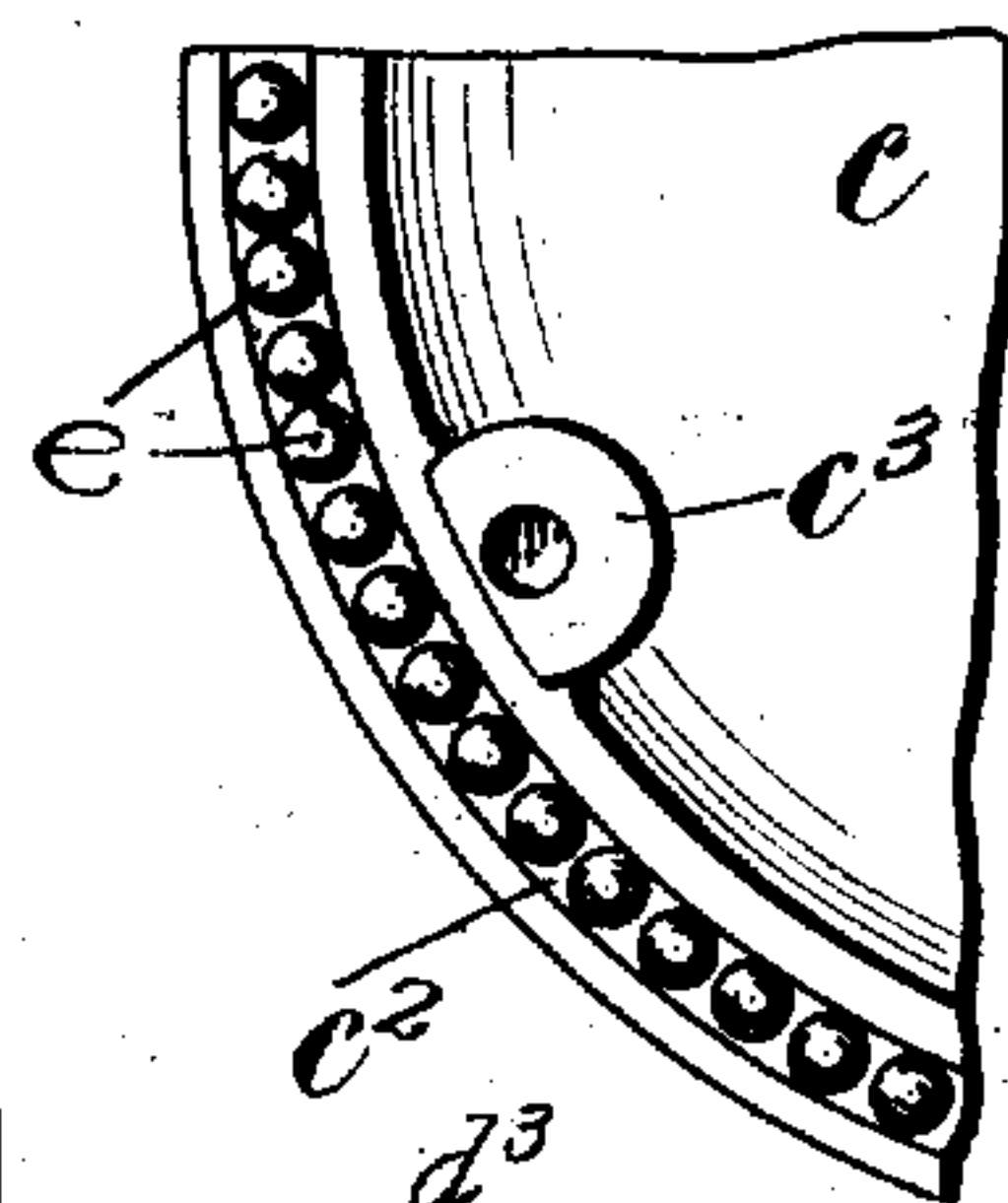


Fig. 2.

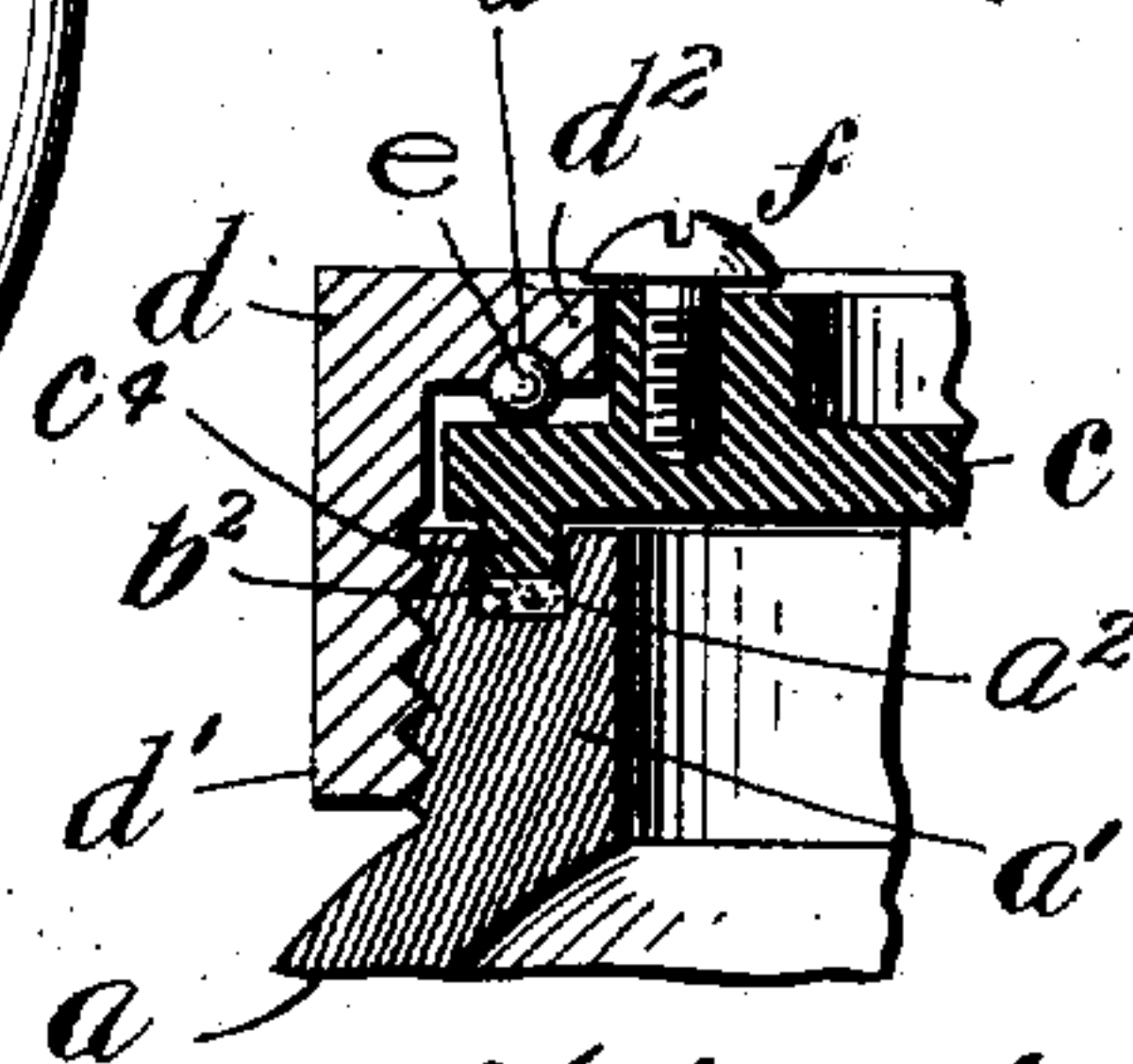


Fig. 5.

Witnesses:

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Inventor:  
J. F. MacWilliam  
By Attorneys

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# UNITED STATES PATENT OFFICE.

JAMES F. MACWILLIAM, OF HUBBARDSTON, MASSACHUSETTS.

## COVER FOR FIRE-EXTINGUISHING RECEPTACLES.

No. 886,713.

Specification of Letters Patent.

Patented May 5, 1908.

Application filed April 13, 1907. Serial No. 368,107.

*To all whom it may concern:*

Be it known that I, JAMES F. MACWILLIAM, a citizen of the United States, residing at Hubbardston, in the county of Worcester and State of Massachusetts, have invented a new and useful Cover for Fire-Extinguishing Receptacles, of which the following is a specification.

Fire extinguishing receptacles and tanks are ordinarily provided with a cover having a hand-wheel, by means of which they can be secured down into position and removed. These covers as usually constructed have a surface which is screwed down on packing at the top of the receptacle or tank, and as the surface which bears on the packing necessarily rotates while being clamped in position, it wears out the packing and is apt to tear it.

The principal object of this invention is to provide means whereby this objectionable feature may be avoided, and that I accomplish by making the cover in two parts, a ring which is provided with screw threads and connected with the hand-wheel, and a plate rotatable with respect to the ring and having a surface for engaging the packing. With this construction the turning of the hand wheel to tighten the plate in place does not rotate the plate, and consequently the wearing action on the packing is avoided.

Reference is to be had to the accompanying drawings, which illustrate a preferred form of the invention, and in which

Figure 1 is a side elevation of the upper end of a fire extinguishing receptacle or tank provided with my improvement. Fig. 2 is a plan of the same. Fig. 3 is a sectional view on the line 3—3 of Fig. 2, on an enlarged scale. Fig. 4 is a plan of a portion of the top of the central plate, and Fig. 5 is a similar view of a modification.

The receptacle *a* may be of the usual construction having an upwardly extending externally screw-threaded flange *a'*, on the top of which is located a packing *b*. On top of this packing is a central plate *c* having a surface *c'* for engaging the packing, preferably of such size that the rubber packing is stretched over it before the plate is applied to the tank. The object of the device is to secure this plate firmly in position so as to prevent leakage without rotating the same. For this purpose a ring or shell *d* is employed having a screw threaded flange *d'* for engaging the screw-threads on the flange *a'* of the

tank *a* when the latter is constructed with screw threads, any equivalent fastening means being suitable. This ring also has an inwardly extending flange *d<sup>2</sup>* adapted to engage the top of the outer edge of the plate *c*, and in the usual manner a hand-wheel *d<sup>3</sup>* extends upwardly from the ring *d* by which the ring may be turned to screw it down in position and loosen it from the receptacle. It will be observed that the rotation of the ring *d* does not rotate the ring *c* but that it is clamped in position against the packing so as to securely seal the receptacle or tank.

In order to insure the non-rotatability of the plate *c* it is preferably provided with ball-bearings *e* engaging the adjacent surfaces of the flange *d<sup>2</sup>* and plate *c*. The balls are mounted in a ball race *c<sup>2</sup>* or *d<sup>3</sup>* (see Fig. 5.) In order that the plate *c* may be connected with the ring *d* and hand wheel at all times and lifted with them when removed from the receptacle, the plate is provided with bosses *c<sup>3</sup>* in which are mounted screws *f* having means adapted to project over the surface of the flange *d<sup>2</sup>*, whereby the parts are held in position when lifted from the receptacle and when placed on the flange *a'* the rotation of the ring will not be transmitted to the plate.

While this invention can be carried out in the manner set forth above, there are some advantages in embodying it in the form similar to that shown in Fig. 5. In this case most of the parts are the same as those shown above, and are given the same reference letters, but the top of the flange *a'* of the tank or receptacle is provided with an annular groove *a<sup>2</sup>* in which is placed packing *b<sup>2</sup>*. The cover *c* is provided with a projection *c<sup>4</sup>* which may be circular in form to fit in the groove. In the groove liquid can be placed before the cover is applied, and then when the cover is forced down, a portion of the liquid will be displaced and the groove filled with it so as to still more effectively seal the joint. In this form also another construction for the ball-race is shown, it being indicated as a groove *d<sup>3</sup>* in the flange *d<sup>2</sup>* instead of being located in the cover plate.

It will be seen that by the construction of a device in accordance with the principle set forth, the receptacle can be effectively sealed without marring the packing. Moreover, by the use of the ball-bearings there will be substantially no friction except that of the screw threads opposing the rotation of the ring to tighten it or loosen it.



While I have described particular forms in which the invention is preferably embodied, I am aware that many modifications may be made therein by any person skilled in the art and it may be applied to other than fire extinguishing receptacles without departing from the scope of the invention as expressed in the claims. Therefore I do not wish to be limited to the particular features of construction shown, but

What I do claim is:—

1. In a receptacle cover, the combination of a ring having an inwardly extending flange and an opening at the center; a sealing plate having its edges projecting under said flange, said cover having a circular groove between said plate and flange, bearing balls located in said groove, said plate having projections extending upwardly therefrom and engaging with the inner edge of said flange for guiding the same, and headed screws mounted in said projections and their heads projecting over the top of said ring, whereby said ring and plate are held together, but are rotatably connected.

2. A receptacle cover comprising a ring having an inwardly extending flange and an opening at the center thereof, a sealing plate having its edges projecting under said flange and provided with projections extending upwardly inside said flange and engaging the inner edge of the flange to guide the same, and fastening devices mounted on said projections having heads projecting over the top of said ring, whereby the ring and plate may be held together and rotatably connected.

3. In a cover for a fire extinguishing receptacle, the combination of a ring having an inwardly extending flange and a vertical flange, a sealing plate located under the inwardly extending flange, bearing balls located on said plate and engaging the under surface of said flange, and headed screws mounted in the plate having their heads above said inwardly extending flange and projecting over it, whereby the plate and ring may be connected together.

4. A receptacle cover comprising a ring having a vertical flange by which it is adapted to be secured to a receptacle and an inwardly extending flange, a sealing plate having its edges projecting under said inwardly

extending flange, and headed screws mounted in said sealing plate having their heads above said inwardly extending flange and projecting over it for connecting the plate and ring together.

5. A cover for fire extinguishing receptacles, comprising a ring having a vertical flange by which it is adapted to be secured to the receptacle, and an inwardly extending flange near the top thereof, a sealing plate having its edges projecting under said inwardly extending flange, and means extending up from said sealing plate and over the top of said flange at a plurality of sides of the sealing plate for connecting the plate and ring together, whereby the lifting of the ring will also lift the plate but the ring may be rotated independently of the plate.

6. A fire extinguisher, comprising a receptacle having a neck formed with a seat, a ring-like member adapted to engage said neck having an inwardly extending flange above said seat, and a plate having portions extending under, and also having means extending over, said flange for loosely connecting it with said ring-like member, said plate being movable toward and from said seat by turning said ring-like member.

7. In a fire extinguisher, the combination of a receptacle having a neck formed with a seat and with connecting means for a cap or cover, a cover consisting of a ring-like member having an inwardly extending flange and also having means for connecting it with said neck, and a plate having an extension edge which projects beneath the flange on the ring-like member and which has a packing ring beneath its extension edge which engages the seat on said neck and which also has means at its edge, above its extension edge overlying the flange on said ring-like member, whereby said plate may be moved in a vertical direction both toward and from its seat by turning said ring-like member.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses.

JAMES F. MACWILLIAM.

Witnesses:

LOUIS W. SOUTHGATE,  
ALBERT E. FAY.