

E. J. CARTER & L. J. HOULE.
 REMOVABLE CAP FOR PIPES.
 APPLICATION FILED APR. 28, 1909.

943,338.

Patented Dec. 14, 1909.

Fig. 1.

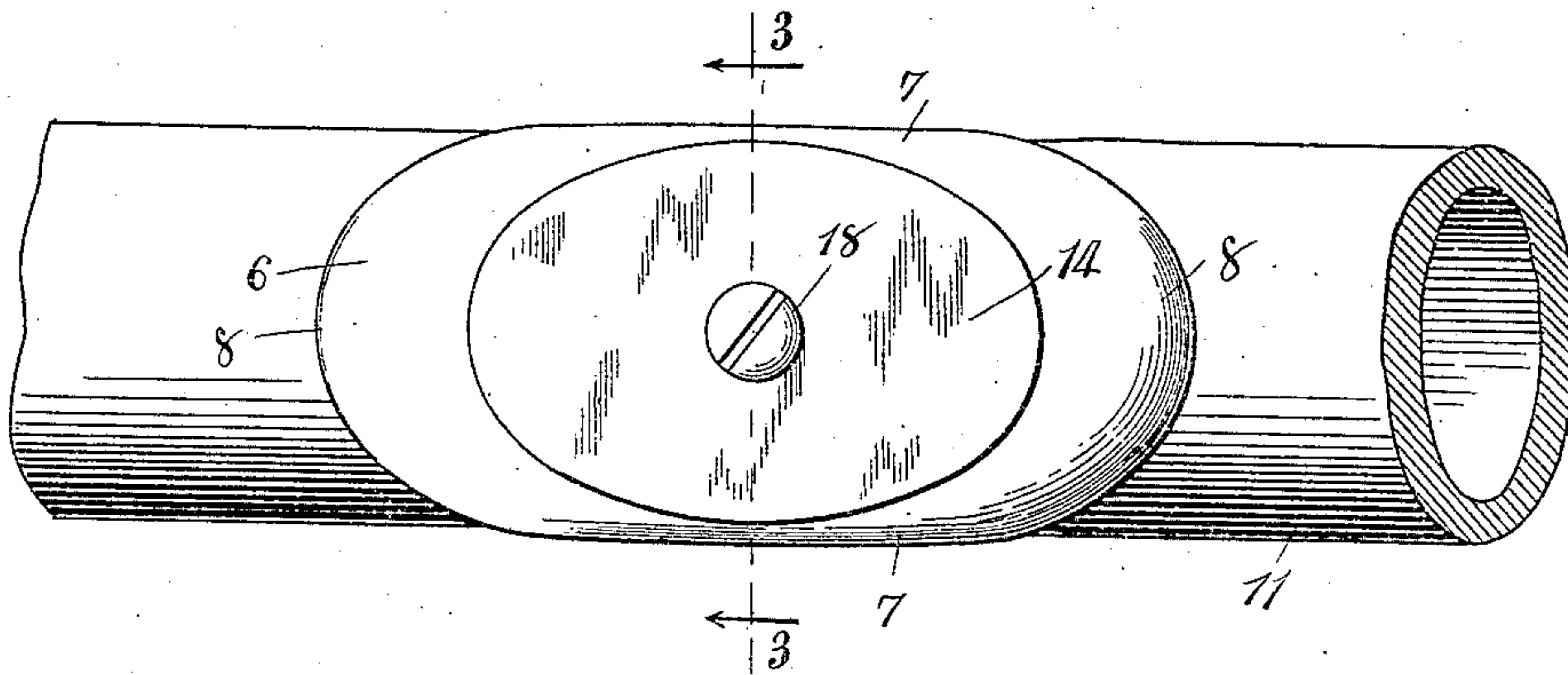


Fig. 2.

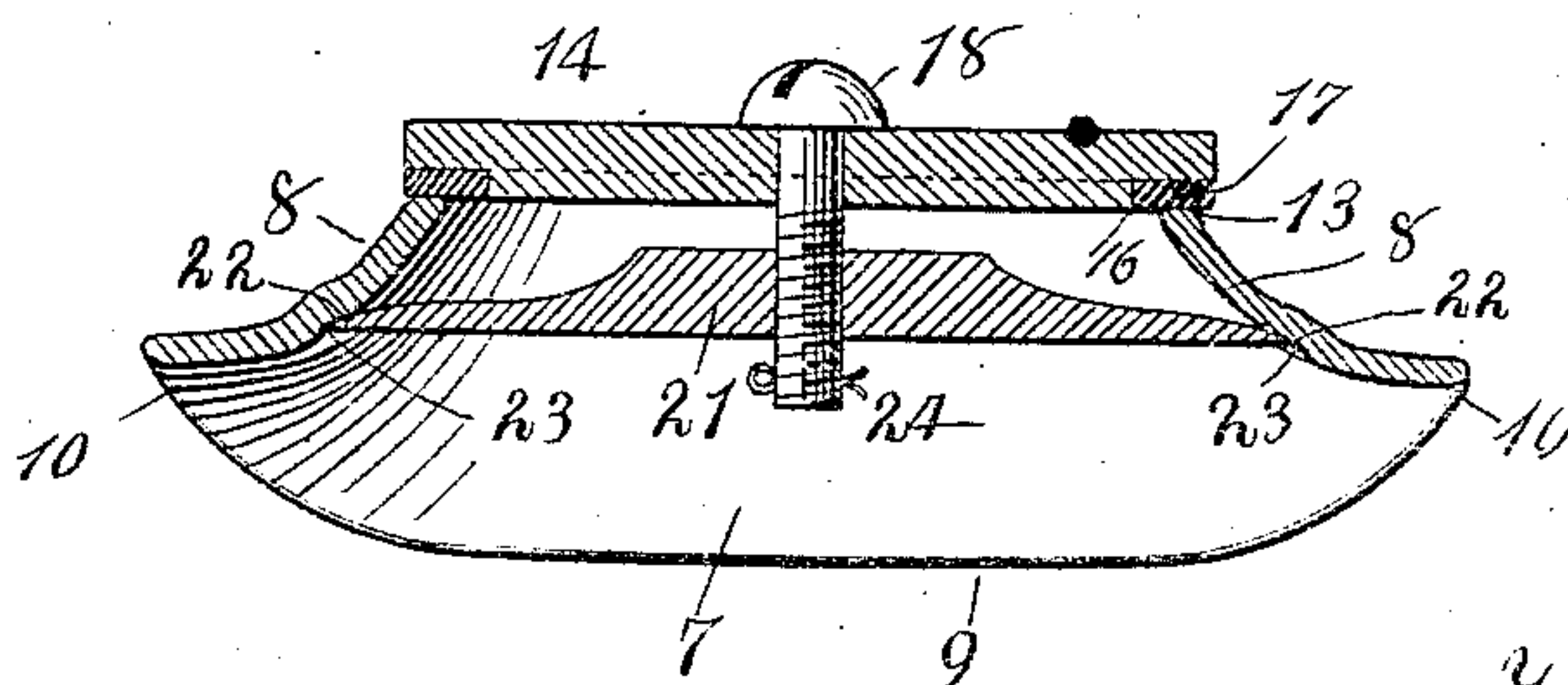


Fig. 4.

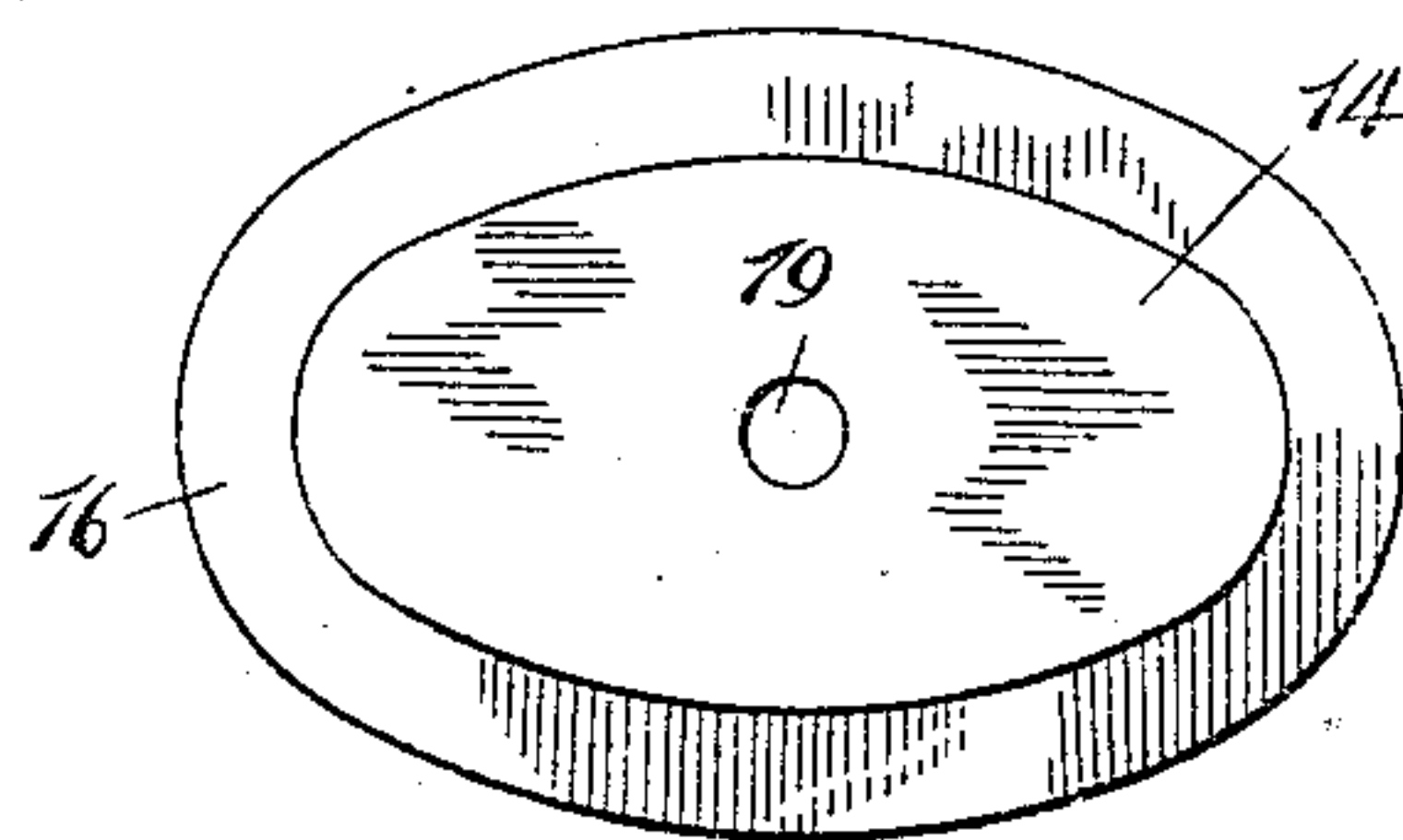


Fig. 3.

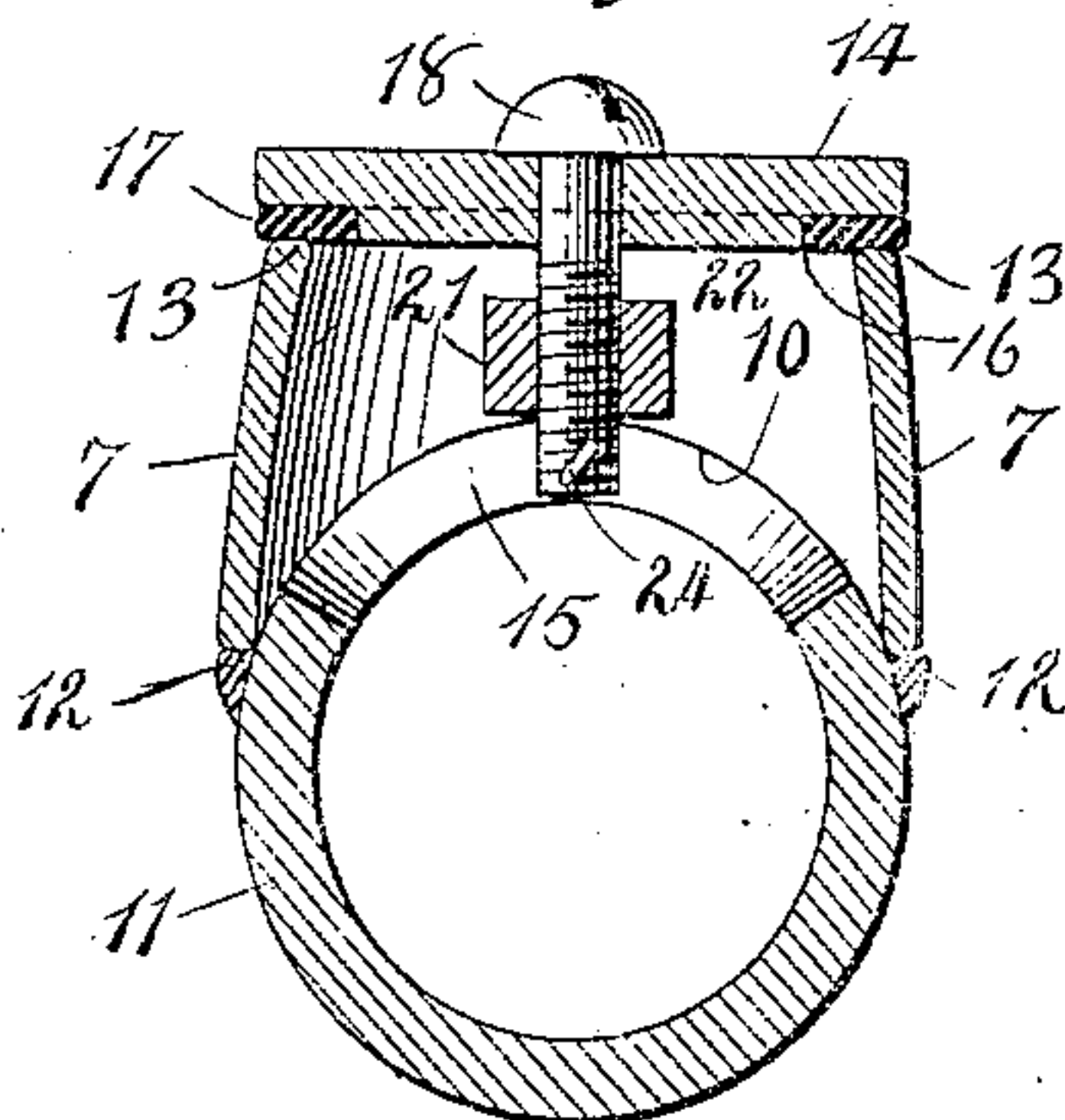
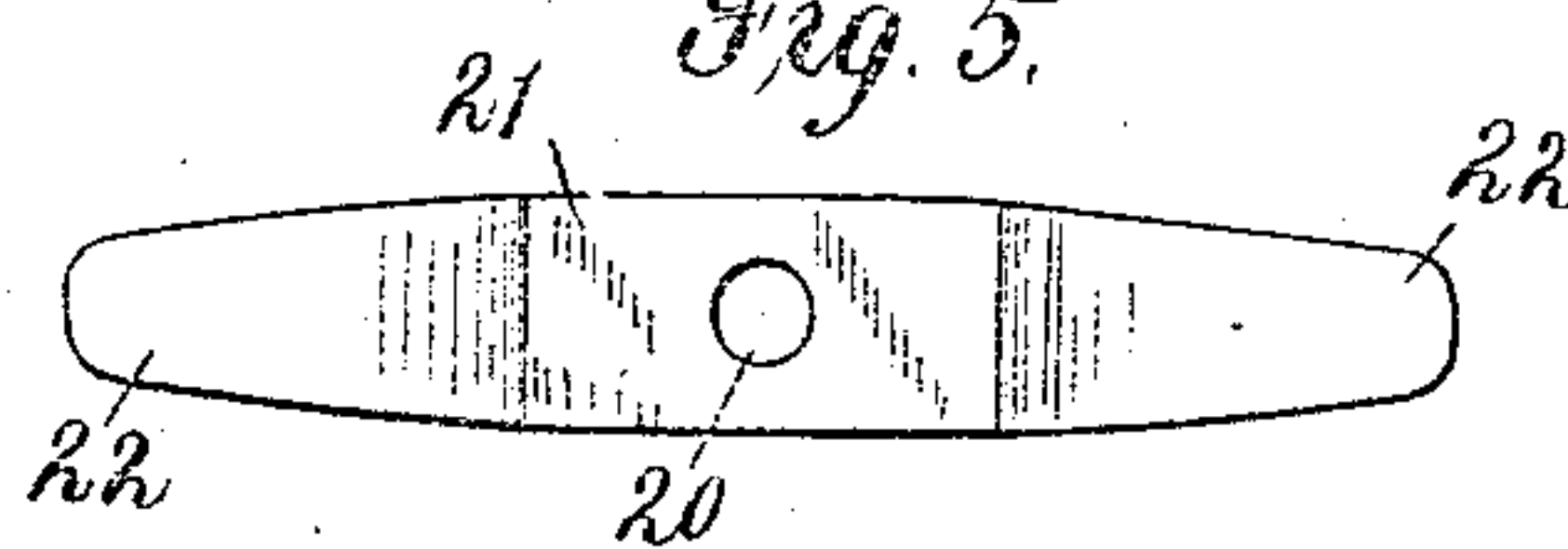


Fig. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

EPHRAIM J. CARTER AND LOUIS J. HOULE, OF EAST CONCORD, NEW HAMPSHIRE.

REMOVABLE CAP FOR PIPES.

943,338.

Specification of Letters Patent.

Patented Dec. 14, 1909.

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To all whom it may concern:

Be it known that we, EPHRAIM J. CARTER and LOUIS J. HOULE, citizens of the United States, residing at East Concord, in the county of Merrimack and State of New Hampshire, have invented certain new and useful Improvements in Removable Caps for Pipes, of which the following is a specification.

Our invention relates to plumbing devices and refers especially to attachments applicable to waste pipes, traps and other similar structures by means of which access may be had to their interior, such an appliance being commonly termed a clean-out.

The chief objects of the improvements which form the subject matter of this application are:—to produce a device that may be located at any convenient point upon a pipe or hollow cylinder, and when so placed will permit access to the interior of the body to which it is attached; to furnish a simple, efficient and durable closure for an aperture, and to construct a device of the nature specified that may be applied by any one skilled in the plumber's art, and that can be so applied by the use of a few tools and those the ordinary ones usually carried in the workman's kit.

Further objects of this invention is to construct a clean-out that may be quickly opened or closed, after having been attached to a pipe, and such manipulation may be readily and effectually done by an unskilled person, an ordinary screw driver being the only tool required, and to provide a device of the nature stated that can be economically manufactured and placed on the market at a moderate price.

We accomplish the desired results stated above, and others of minor importance by employing the contrivance illustrated in the accompanying drawing, forming a part of this application, the details of construction being disclosed in the following views:

Figure 1 is a top plan view of a pipe with our improved clean-out applied thereto; Fig. 2 is a longitudinal section of the device removed from the pipe; Fig. 3 is a sectional view, on the line 3—3 of Fig. 1; Fig. 4 is a bottom plan view of the cover plate, and Fig. 5 is a top plan view of the lock bar.

Referring to the details of the drawing, the numeral 6 indicates a collar or shell, formed of a suitable metal, preferably made of lead so that when the device is to be ap-

plied to pipe of different sizes, the flexibility of the material will permit the necessary changes in shape to fit the various dimensions of pipe to be readily and easily made by the use of ordinary tools. This collar is compressed laterally to form an oval or oblong, as shown in Fig. 1. The walls of the collar flare widely from above downward, particularly in the longitudinal diameter, and the sides 7, extend below the level of the end portions 8, as shown, and are directed approximately parallel with the long axis of the oval, and their lower margins are straight for a suitable distance, as indicated at 9. The lower margins are curved at the ends on a radius corresponding with the curvature of the pipe to a cylinder to which the application is to be made as indicated at 10. Thus the contour of the entire lower margin of the collar is adapted to fit closely the surface of a cylinder or pipe when applied thereto, the flexibility of the material entering into the construction of said collar permitting the parts to be molded to the pipe surface, if the fit is not sufficiently exact, thus accommodating the appliance to be used on pipes of different diameters. When so applied, as shown in Figs. 1 and 3, the collar is attached to the pipe 11, by the application of solder 12 to the line of junction, thus forming a tight joint. The upper margin 13 of the collar is suitably flattened to form a seat for a cap or cover plate 14, oval in shape to conform to the outline of the said margin, and thus forming a closure for the opening 15, which is made in the pipe wall previous to the attachment of the collar.

To insure tight joint between the cover 14 and its seat, the former is provided on the under side with a marginal groove or rabbet 16 in which is lodged a suitable gasket 17 conforming to the shape of said groove. The cover plate is secured upon its seat, and retained thereon with sufficient pressure to produce a tight joint by a bolt, or clamping screw 18, which passes loosely through a central hole 19 in the cover and engages a threaded hole 20 in a clamping member or locking bar 21, arranged within the collar and extending longitudinally, its ends 22 being reduced in thickness and having their extremities lodged in recesses or sockets 23 formed in the inner walls of the collar at points diametrically opposite. The point of the screw 18 is furnished with a

cotter pin 24, to prevent the said bar from becoming separated from the screw when the cover and clamping means are removed.

To attach the device to a pipe a hole 25 of suitable dimensions and in shape conforming to the general outline of the collar is first cut in the side of the pipe at the point where it is desired to locate the clean-out. The collar 6 is then applied around the opening in the pipe and secured by soldering in usual manner. The cap or cover-plate 14, having the clamping or locking bar 21 attached thereto by the screw 18, is then assembled by first introducing the said bar 21 through the opening of the collar and seating its extremities 22 in the sockets 23 to prevent its turning with the screw. By keeping the cover raised so as to make moderate pressure upon the bar, its ends will be maintained in their seats while the screw is being tightened, the cotter pin 24 being placed near the point of the screw 18 to allow the necessary slack to permit the insertion of the bar in this manner while the clamp is connected to the cover plate. The screw is then tightened with a proper tool to a sufficient degree to produce a tight joint.

It will be seen that the cover may be readily removed and replaced by an unskilled person after the device has been attached in the manner set forth.

Having thus described our invention what we claim, is:—

35 1. In a device for the purpose stated, the combination with a pipe having an aperture therein, of a collar surrounding said aperture and overlapping the edges thereof, a cover for the collar, and removable means
40 for locking the cover on the collar, said locking means comprising an adjustable member passing through the cover and a bar engaging the inner walls of the collar, and engaged by said adjustable member.

45 2. In a device for the purpose stated, the combination with a pipe having an aperture therein, of a collar surrounding said aper-

ture, and conforming to the walls of the pipe adjacent the aperture, a cover engaging the collar and means for removably se- 50 curing said cover on said collar, said means comprising a screw passing through the cover, a locking bar engaged by said screw and having its ends engaging the inner walls of the collar. 55

3. A device for the purpose specified, comprising a collar adapted to be attached to a pipe, a grooved cover seated on the collar, a gasket engaging said groove and means for retaining the cover on its seat, said 60 means comprising a screw passing through said cover, and a lock bar attached to the screw within the collar, the ends of the said bar engaging recesses in the walls of the collar. 65

4. In a device for the purpose stated, the combination with a pipe having an aperture therein, of a collar surrounding the aperture, and attached to the pipe by soldering, a cap engaging the collar, a gasket for the cap, and clamping means for remov- 70 ably securing the cap to the collar, said clamping means comprising a screw passing through the cap, a clamping bar extending longitudinally within the collar and having 75 its ends engaging the walls of the collar, and means for retaining the bar on said screw.

5. In a device of the character described, a collar having outwardly flaring walls con- 80 forming in part to the shape of the pipe to which it is secured and having its free edges projecting from the surface of the pipe, a cover seated on the free edges of said collar, means for effecting a tight joint be- 85 tween the collar and cover, and means for removably connecting the cover and collar.

In testimony whereof we affix our signatures in the presence of two witnesses.

EPHRAIM J. CARTER.
LOUIS J. HOULE.

Witnesses:

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FRANK G. PAGE.