No. 657,813. Patented Sept. 11, 1900.

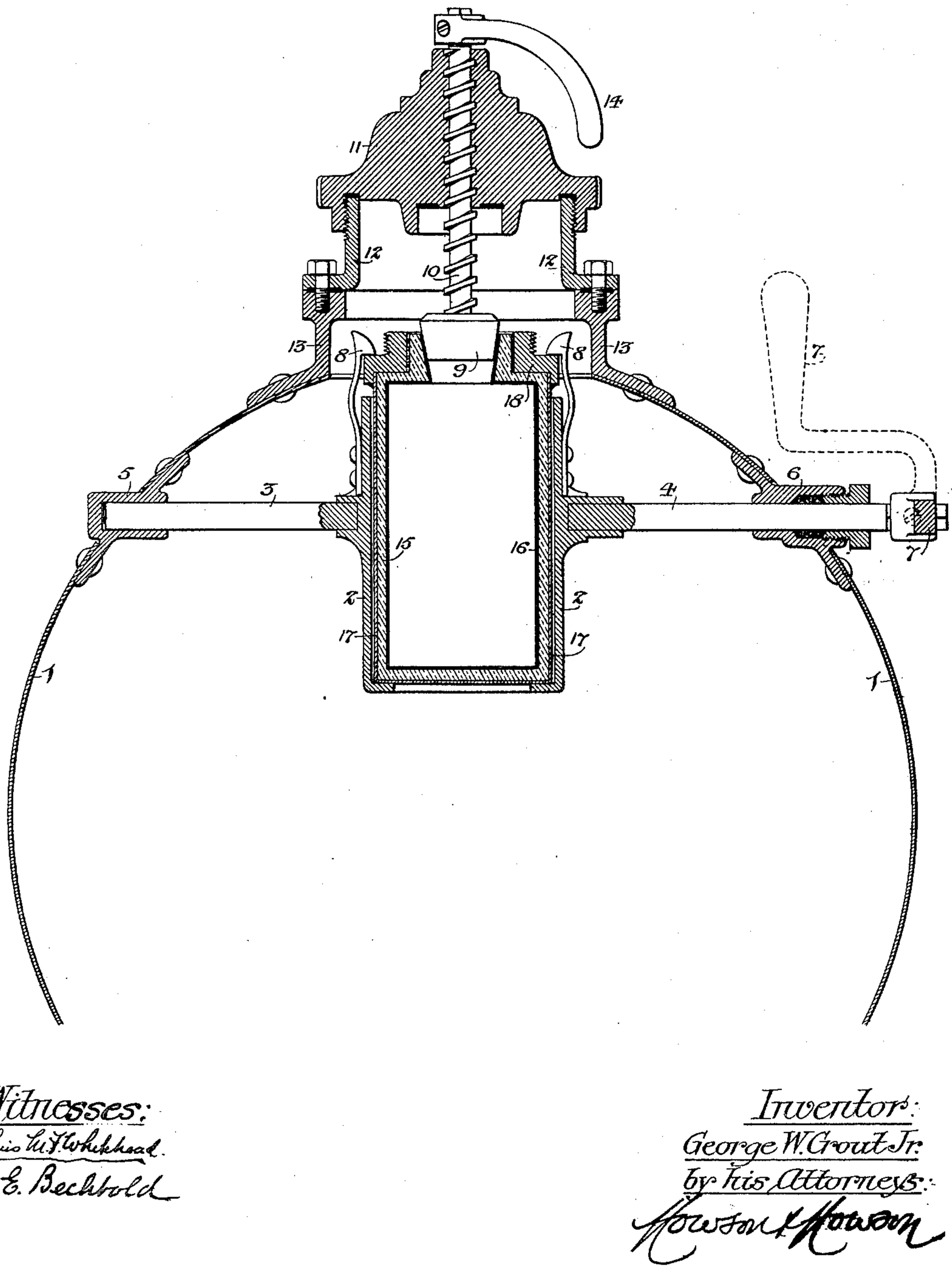
G. W. CROUT, Jr.

CHEMICAL FIRE EXTINGUISHER.

(Application filed Mar. 10, 1900.)

(No Model.) 3 Sheets—Sheet 1.

Fig. 1.



Witnesses:
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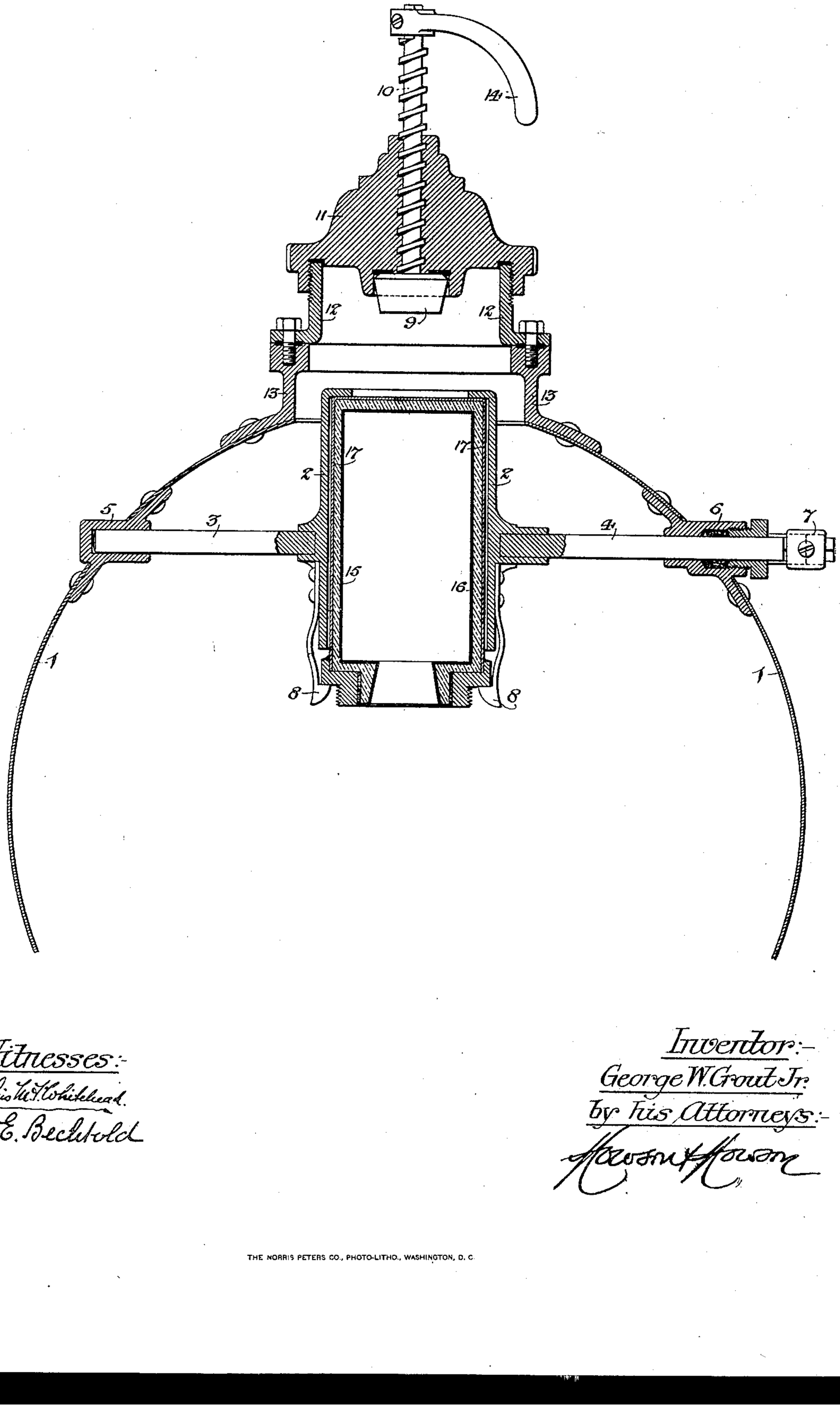
(No Model.) 3 Sheets—Sheet 2.

Fig. 2.



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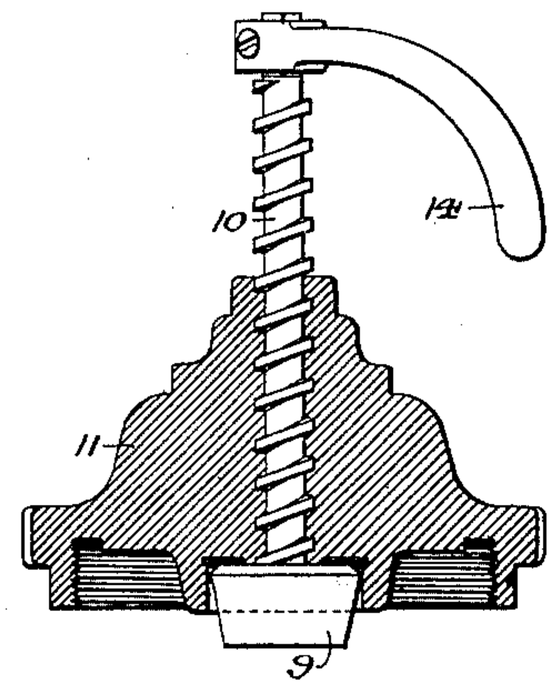
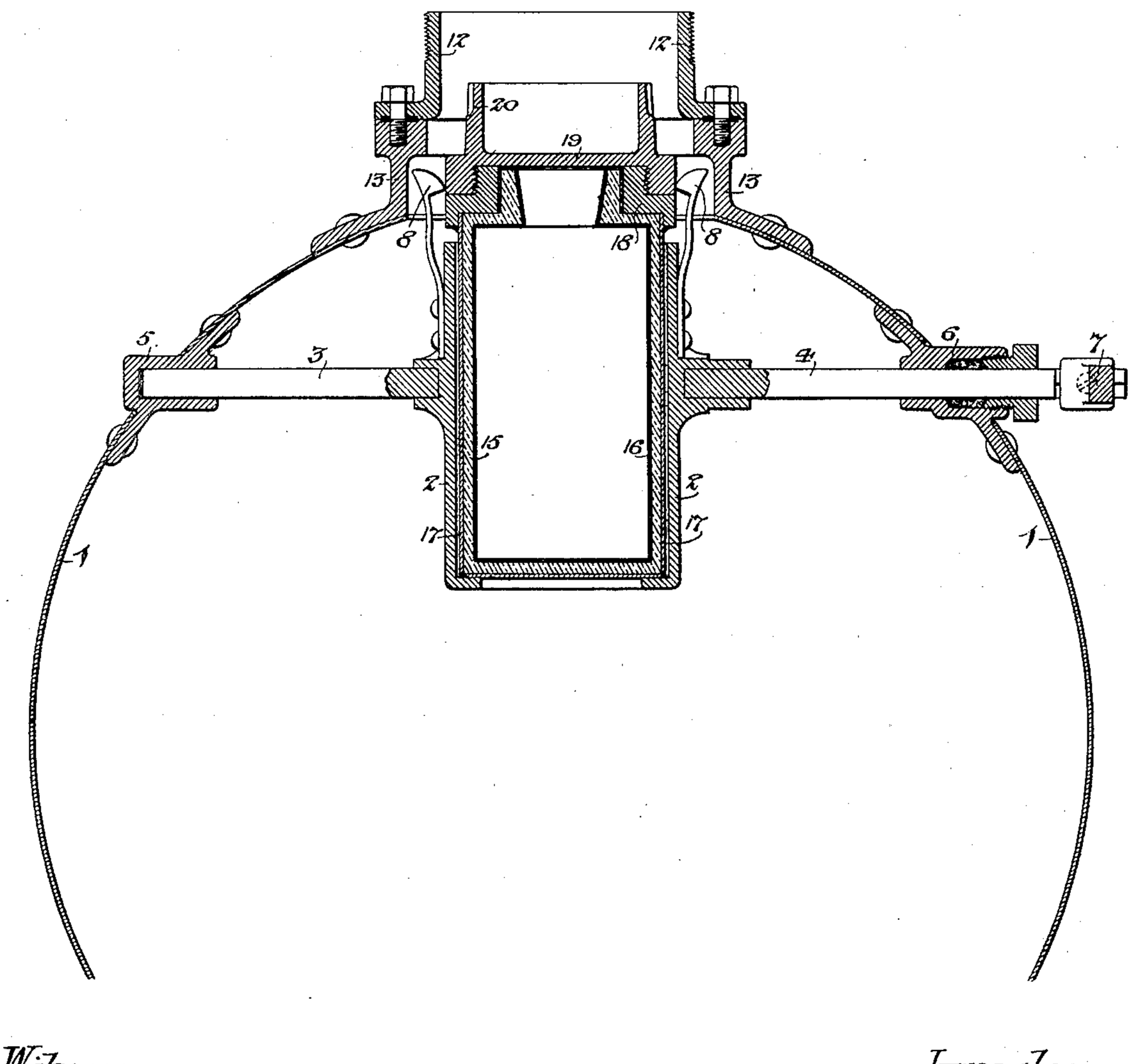


Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORGE W. CROUT, JR., OF PHILADELPHIA, PENNSYLVANIA.

CHEMICAL FIRE-EXTINGUISHER.

SPECIFICATION forming part of Letters Patent No. 657,813, dated September 11, 1900.

Application filed March 10, 1900. Serial No. 8,149. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. CROUT, Jr., a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Chemical Fire-Extinguishers, of which the following is a specification.

One object of my invention is to provide a chemical fire-extinguisher with ready means for introducing an acid vessel into and removing it from the dumping cage or holder with which the reservoir of such an extinguisher is provided and to effect the operations of introduction or removal while the acid vessel is tightly closed, and hence incapable of spilling any of its contents upon the person of the attendant who is charging the machine.

A still further object is to provide for the automatic unlocking of the acid vessel from the dumping cage or holder prior to its removal and the automatic locking of said acid vessel to the cage or holder after its insertion therein, thereby rendering unnecessary any adjustment by hand of the catches or retainers whereby the acid vessel is held in place in the cage or holder.

In the accompanying drawings, Figure 1 is a transverse section of sufficient of a chemical fire-extinguisher to illustrate my present invention, the parts being shown in the position which they will normally occupy when the extinguisher is not in use. Fig. 2 is a similar view, but showing the parts in the position to which they have been moved in order to dump the contents of the acid vessel into the alkaline solution in the reservoir for the purpose of generating carbonic-acid gas therein; and Fig. 3 is a view illustrating the means employed for introducing the acid vessel into the dumping cage or holder or removing it therefrom.

1 represents part of the reservoir of a chemical fire-extinguisher intended to contain the usual alkaline solution, and 2 represents the cup-like cage or holder for the reception of the acid vessel, said holder being provided with oppositely-projecting shafts or spindles 3 and 4, one adapted to turn in a bearing 5 on the casing of the reservoir, but the other passing through a stuffing-box 6 on said casing and being provided with a handle 7, so that it can be turned in order to dump the contents of the acid vessel into the alkaline solution in the reservoir. The acid vessel is retained in position in the cage 2 by means of spring catches or hooks 8, and the opening in the top of the acid vessel is normally closed by means of a plug 9, carried by a threaded stem or spindle 10, which is adapted to a threaded opening in a cap 11, screwed upon the short tube 12, which is bolted or otherwise secured to the neck 13 at the top of the reservoir 1, the upper end of the threaded stem 10 having a handle 14, whereby it may be readily turned. With the exception of the construction of the acid vessel these parts are all similar to those now used in chemical fire-extinguishers, the plug 9 being normally screwed down, so as to close the opening in the top of the acid vessel, as shown in Fig. 1, and locking the same in the upright position, but being drawn up, as shown in Fig. 2, when the extinguisher is to be used, so as to open the acid vessel and release the same from restraint, thereby permitting it to be turned by the cage 2, so as to dump its contents into the alkaline solution in the lower portion of the reservoir.

My invention consists of a certain construction of the acid vessel and a certain means whereby the same may be introduced into and withdrawn from its position in the dumping cage or holder 2. The acid vessel consists of an earthenware bottle or jar 15, having on the inner surface an acid-proof glaze 16, said earthenware jar having a metallic sheathing or armor 17, of sheet metal, such as brass or copper. To the upper portion of said metallic sheathing 17 is secured by soldering, brazing, or otherwise a ring 18, which overlaps a shoulder on the jar 15, formed by reducing the diameter of said jar at the upper end in order to produce the central neck, in which is formed the opening for the reception of the plug 9. The upper portion of the ring 18 is likewise reduced in diameter, so as to form a shoulder, with which engage the spring hooks or catches 8 of the dumping-cage, the reduced upper portion of the ring being threaded externally, as shown in Fig. 1. Each of the acid vessels which is kept in reserve is provided

with a cap 19, screwed upon this threaded neck of the ring 18 and serving to close the opening in the top of the acid vessel, so as to prevent any spilling of the acid therefrom while the vessel is being handled. The cap 19 has an upwardly-projecting annular flange 20, roughened or grooved externally, so as to afford a good hold for the hand, and the lower portion of the cap has a diameter as great as or greater than the diameter of the lower portion of the ring 18. If the acid vessel is to be introduced into the dumping cage or holder 2 therefore, the cap 11 is removed, as shown in Fig. 3, and the acid vessel, with the cap 19 thereon, is lowered into the dumping-cage, as also shown in said figure, the spring-catches 8 being forced outward by the ring 18 and held in the extended position by the lower portion of the cap 19. When the acid vessel is properly seated in the dumping-cage 2, the cap 19 is unscrewed and removed, thus permitting the spring-catches 8 to move inward and engage with the shoulder of the ring 18 in order to securely retain the acid vessel in the dumping-cage. The cap 11 is then reapplied and the plug 9 screwed down, so as to close the opening in the mouth of the acid vessel. When the acid vessel has been dumped and the charge in the reservoir 1 has been exhausted, so that it becomes necessary to recharge the same, the cap 11 is removed and the cap 19 is again screwed down onto the threaded neck of the ring 18, so as to close the mouth of the acid vessel, at the same time forcing apart the spring-catches 8 and providing a convenient means whereby the acid vessel may be lifted from the dumping-cage preparatory to the recharging of the reservoir 1 and the insertion of a reserve acid vessel or the refilling and reinsertion of the acid vessel which has just been removed.

I find that an earthenware jar lined with acid-proof glaze and provided with metallic sheathing or armor is much more durable than the lead vessels ordinarily employed and will not only better resist the destructive effect of the acid, but will much better withstand the rough handling to which these vessels are likely to be subjected when in use.

The cap 19 provides for the effective sealing of the acid vessel at all times except when it has been properly deposited in the dumping-cage of the extinguisher, thus preventing injury to the person or clothing of the attendants, which is frequently caused by the splashing of acid when the mouth of the acid vessel is open while such vessel is being handled preparatory to and during its insertion into the dumping-cage.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. The combination of the dumping-cage of a chemical fire-extinguisher having projecting spring-catches, with an acid vessel consisting of a bottle or jar of earthenware having a shouldered top and contracted neck with vertical outer sides and an internal lining of acid-proof glaze, and a metallic sheathing or armor for said earthenware jar comprising a casing inclosing the sides and bottom of the jar and a ring surrounding the vertical-sided neck and engaging with the upper shoulder of the jar and secured to the sides of the casing, said ring presenting a shoulder for engagement with said spring-catches and having a projecting threaded neck, and a ring adapted to engage with said threaded neck and to force or hold apart the spring-catches, whereby the vessel can be withdrawn from the holder, substantially as specified.

2. The combination of the dumping-cage of a chemical fire-extinguisher, having a series of projecting spring-catches, with the acid vessel having at the top an externally-threaded neck, and a shoulder projecting laterally beyond the same, and a ring adapted to be screwed upon said neck, said ring having a diameter as great as that of said shoulder, whereby it is adapted to force or hold apart the spring-catches whereby the acid vessel is normally secured to the dumping-cage of the extinguisher, substantially as specified.

3. The combination of the dumping-cage of a chemical fire-extinguisher, having a series of projecting spring-catches, with the acid vessel having a threaded neck at the upper end and a shoulder projecting laterally beyond said neck, and a cap adapted to screw upon said neck and to close the mouth of the acid vessel, said cap having a portion of as great a diameter as said shoulder, whereby it is adapted to force or hold apart the spring-catches whereby the acid vessel is normally held in place in the dumping-cage of the extinguisher, substantially as specified.

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

GEORGE W. CROUT, JR.

Witnesses:

MURRAY C. BOYER,

JOS. H. KLEIN.