

(No Model.)

R. WENSLEY, Jr.  
FIRE EXTINGUISHER.

No. 598,188.

Patented Feb. 1, 1898.

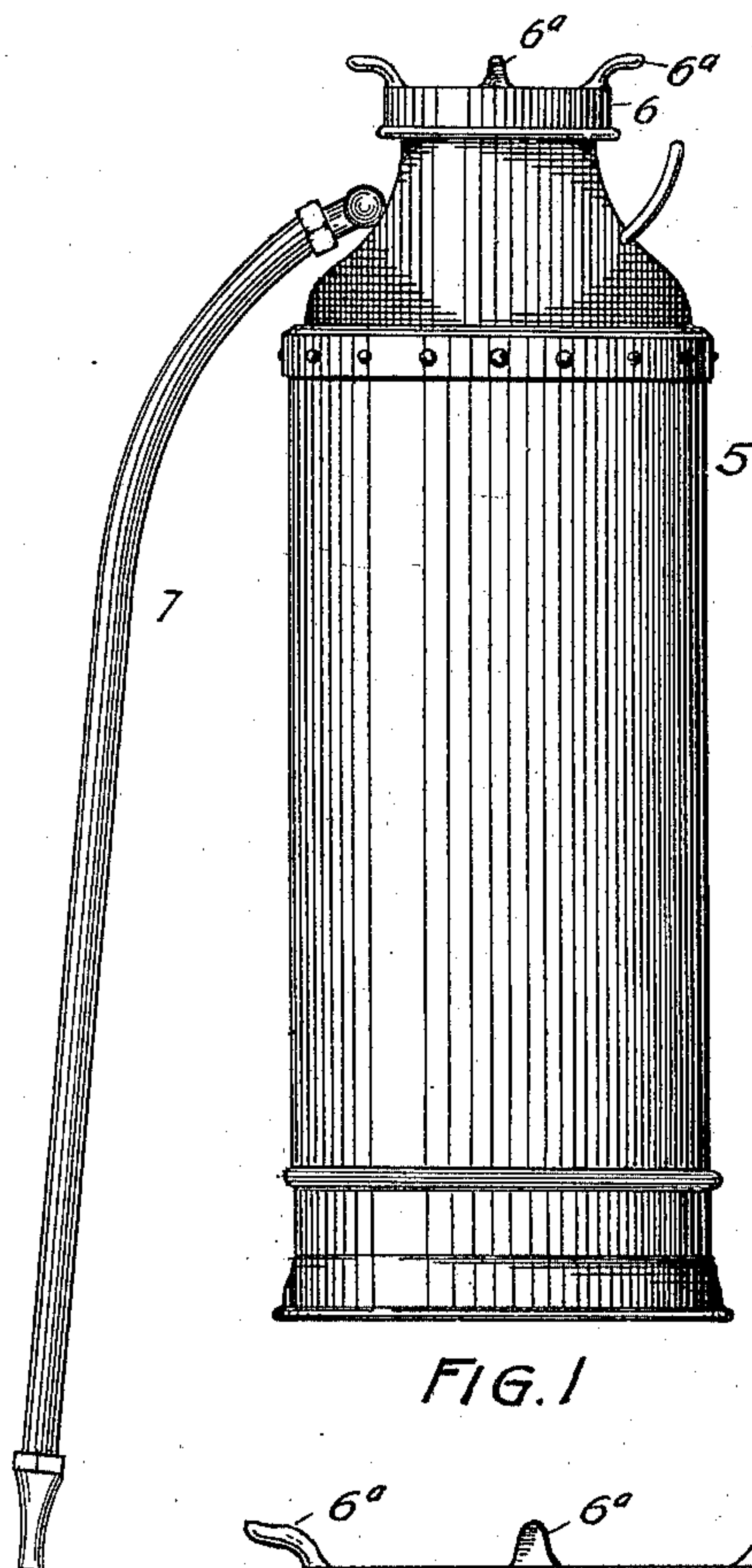


FIG. 1

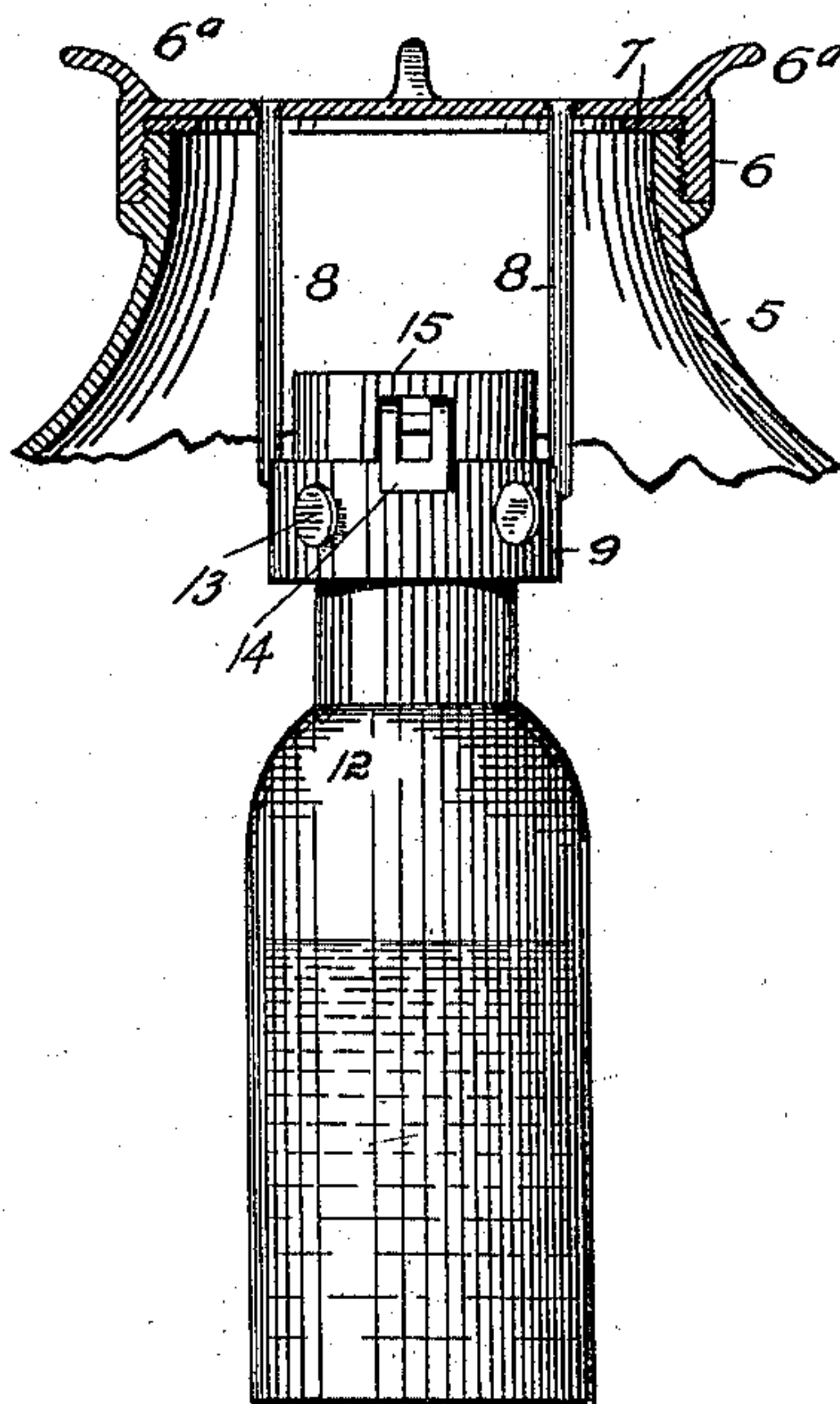


FIG. 2

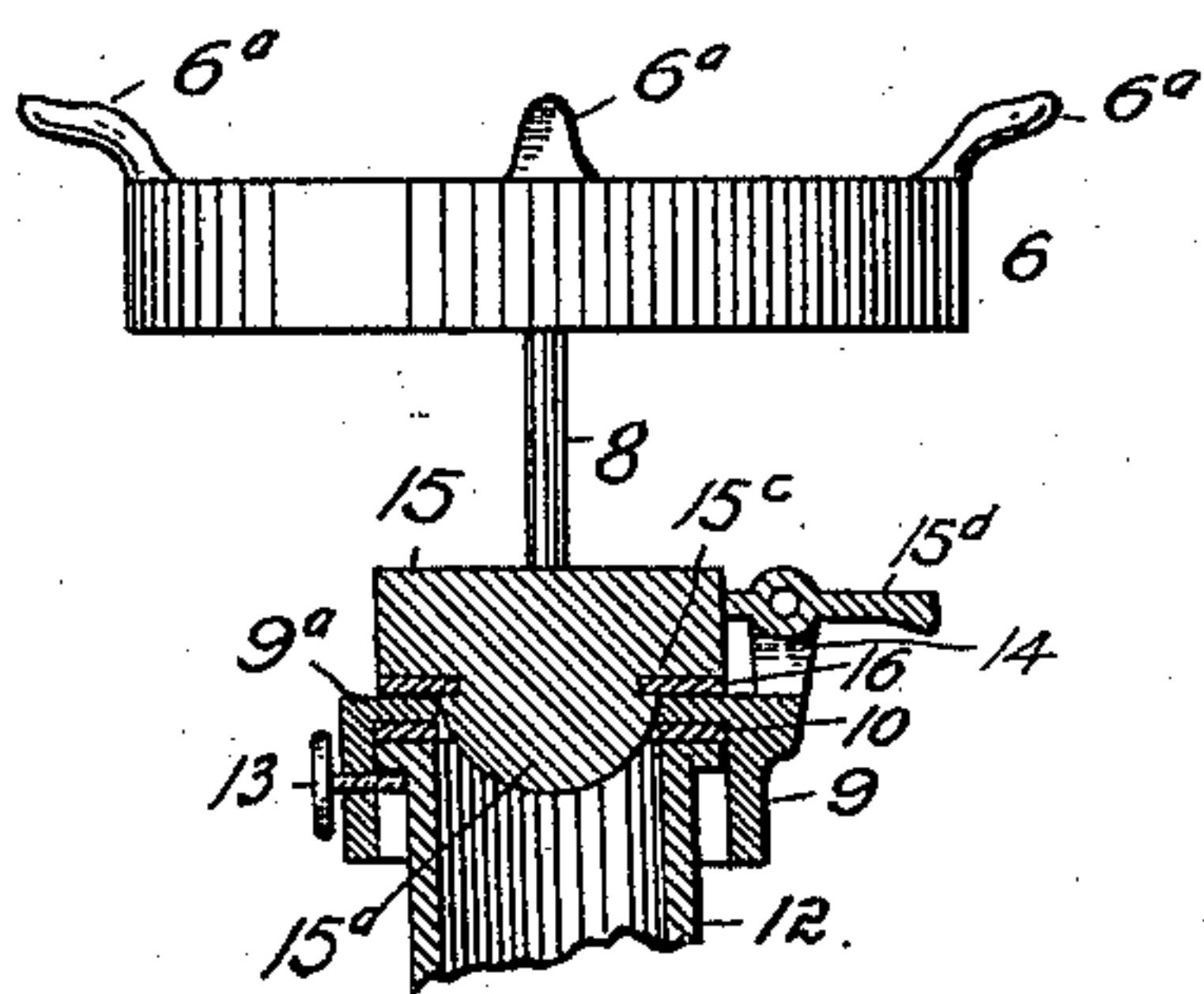


FIG. 3

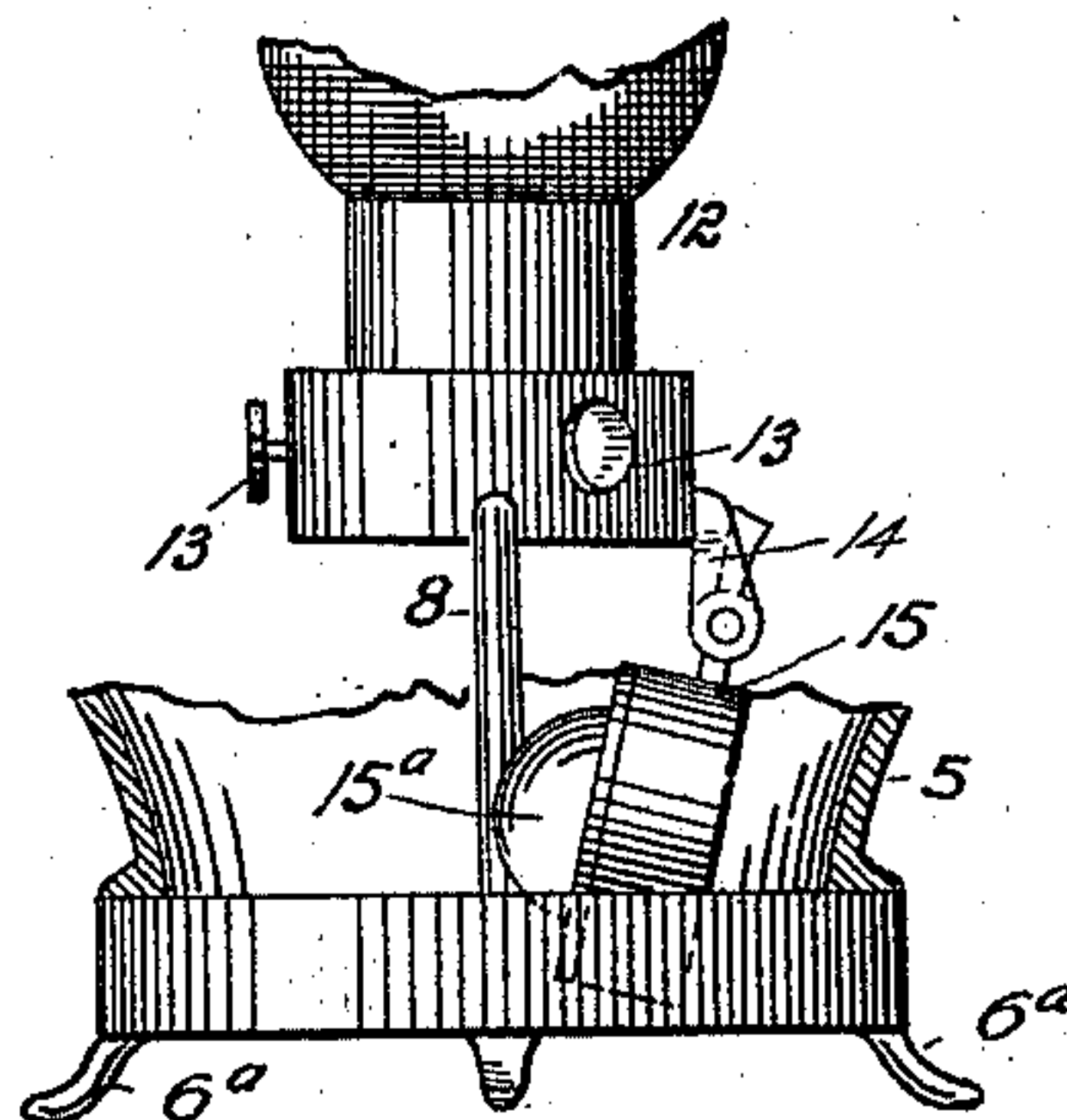


FIG. 4

Witnesses  
*G. J. M. Blaudet*  
*Edith Kimworth.*

Inventor  
R. Wensley Jr.  
By his Attorney *A. J. Zien*



# UNITED STATES PATENT OFFICE.

RICHARD WENSLEY, JR., OF DENVER, COLORADO.

## FIRE-EXTINGUISHER.

SPECIFICATION forming part of Letters Patent No. 598,188, dated February 1, 1898.

Application filed April 22, 1897. Serial No. 633,259. (No model.)

*To all whom it may concern:*

Be it known that I, RICHARD WENSLEY, Jr., a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Fire-Extinguishers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in that class of fire-extinguishers in which an acid or other chemical is mingled, as occasion may require, with the fire-extinguishing liquid, thus generating a gas having sufficient force to expel the liquid from its tank or receptacle to the locality of the fire. In apparatuses of this class it is essential that the acid or chemical receptacle be normally tightly sealed in order to maintain the strength of the acid or other substance, which otherwise would be gradually weakened by the absorption of the water from the solution in the tank.

My object is to provide a device of this class which shall be simple in construction, economical in cost, reliable, durable, and efficient in use; and to these ends the invention consists of the features hereinafter described and claimed, all of which will be fully understood by reference to the accompanying drawings, in which is illustrated an embodiment of the invention.

In the drawings, Figure 1 is a side elevation of the complete apparatus. Fig. 2 is a section taken through the top of the tank or main reservoir, showing the bottle suspended from its top or screw-cap. Fig. 3 is a fragmentary view, the top of the tank being shown in elevation and the valve mechanism in section. Fig. 4 is a fragmentary view illustrating the apparatus inverted and in position for use.

Similar reference characters indicating corresponding parts in the views, let the numeral 5 designate the tank, to the top of which is screwed the cap 6, having the gasket 7, thus forming a tight joint. This cap is provided with two depending arms 8, supporting a collar 9, preferably formed integral with the said

arms. The top of the collar is provided with an interiorly-projecting flange 9<sup>a</sup>, against which rests a gasket 10, which is engaged by the top of the bottle 12. This bottle is secured in place or fastened to the collar by means of set-screws 13, engaging threaded apertures in the collar. The inner extremities of these screws pass below the exterior flange or ring surrounding the top of the bottle, thus holding the said top tightly against the gasket 10. To an upwardly-projecting arm 14, formed on the collar, is hinged a valve 15, having a shoulder 15<sup>c</sup>, surrounding a semispherical part 15<sup>a</sup>, formed integral with the body of the valve and projecting from its lower surface. Applied to the shoulder 15<sup>c</sup> of the valve is a gasket 16, which engages the exterior surface of the flange 9<sup>a</sup> of the collar. The inner edge of the gasket 16 engages a groove surrounding the base of the part 15<sup>a</sup> of the valve, whereby the gasket is held tightly in place. The part 15<sup>a</sup> of the valve projects into the neck of the bottle. There is sufficient vertical space between the collar 9 and the screw-cap 6 to allow the valve to open by gravity when the apparatus is turned over or inverted. (See Fig. 4.) This is the position of my improved fire-extinguisher when in use. When the tank 5 is inverted, it rests upon the feet 6<sup>a</sup>, formed integral with the top of the screw-cap 6. (See Fig. 4.) Hence when inverted the apparatus maintains a vertical position, the contents of the bottle mingling with those of the tank for the purpose heretofore explained.

Before using the apparatus the tank 5 is supplied with a suitable quantity of some fire-extinguishing liquid, which may be an alkali or other solution. The bottle 12 is provided with an acid or other chemical capable, when mingled with the fire-extinguishing liquid, of generating a gas having a sufficient expansive force to expel or throw the liquid upon the fire through the hose or conduit 17, which is supplied with a suitable nozzle. The apparatus being placed in suitable proximity to the fire is inverted and allowed to rest upon the feet 6<sup>a</sup> of the cap. When this is done, the valve 15, normally closing the mouth of the bottle, instantly opens by gravity, assuming the position shown in Fig. 4, thus allowing the chemical in the bottle to mingle with



the solution in the tank. The gas thus generated forces the liquid out of the tank by way of the conduit 17, which is its only escape from the tank. The user of the device so  
5 manipulates the nozzle attached to the conduit that the solution in the tank is effectively employed to extinguish the fire.

The valve 15 is preferably composed of some heavy material which at the same time  
10 will not be injuriously affected by the acid or chemical in the bottle or tank. Hence I prefer lead for the construction of the valve, as it conforms to both these requirements and at the same time is comparatively inexpensive.  
15 The valve, in addition to the features already described, is provided with a tail-piece 15<sup>a</sup>, which projects outward beyond the hinge-pin when the valve is seated. (See Fig. 3.) The function of this projection is  
20 to prevent the valve from swinging outward farther than is necessary or desirable when unseated. When the valve is unseated or in the position shown in Fig. 4, the said tail-piece engages the collar at the base of the  
25 projection 14 and prevents farther outward movement of the valve. Were it not for this feature the valve might swing outward so far that it would not readily return to its seat when the apparatus is changed from the in-  
30 verted to the upright position.

Having thus described my invention, what I claim is—

1. In an apparatus of the class described, the combination with the tank having a suitable cap, of a collar suspended from the top  
35 of the cap, a bottle or other receptacle attached to said collar and projecting into the tank, and a valve hinged to the collar and adapted to close the bottle when the apparatus is in the upright position, said valve being adapted to open by gravity when the apparatus is inverted.

2. In an apparatus of the class described, the combination with the tank having a suitable cap, of a collar suspended from said cap,  
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a gasket applied to said collar, a bottle or other receptacle attached to said collar and engaging the gasket, a valve hinged to the collar and adapted to close the bottle when the apparatus is in the upright position, and  
50 a gasket applied to the valve and adapted to engage the collar exteriorly, the valve being adapted to open by gravity when the apparatus is inverted.

3. In a fire-extinguishing apparatus, the combination with the tank adapted to contain the fire-extinguishing solution, a collar suspended from the top of the tank and having an interior flange, a gasket applied to the inner surface of said flange, a chemical bottle or other receptacle attached to the collar and engaging said gasket, a valve hinged to the collar and having a semispherical portion projecting into the top of the bottle, and a  
60 gasket applied to the valve, surrounding its semispherical portion and engaging a shoulder thereon, said gasket engaging the collar exteriorly when the valve is closed, the arrangement of the parts being such that the valve tightly closes the chemical-bottle when  
65 the apparatus is in the upright position, while said valve is adapted to open by gravity when the apparatus is inverted.

4. In a fire-extinguisher, the combination with the tank, of a collar suspended from the  
75 cap of the tank and projecting into the said tank, a bottle or other suitable receptacle attached to said collar, a valve hinged to the collar and adapted to close the bottle when the apparatus is in the upright position, and  
80 to open automatically when the apparatus is inverted, the valve being provided with a suitable tailpiece or stop to prevent it from swinging outward too far when unseated.

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

RICHARD WENSLEY, JR.

Witnesses:

G. J. ROLLANDET,  
EDITH HIMSWORTH.