(No Model.)

# C. F. B. DURAND.

## PORTABLE FIRE EXTINGUISHER.

No. 596,861. Patented Jan. 4, 1898.

Fig. 1.

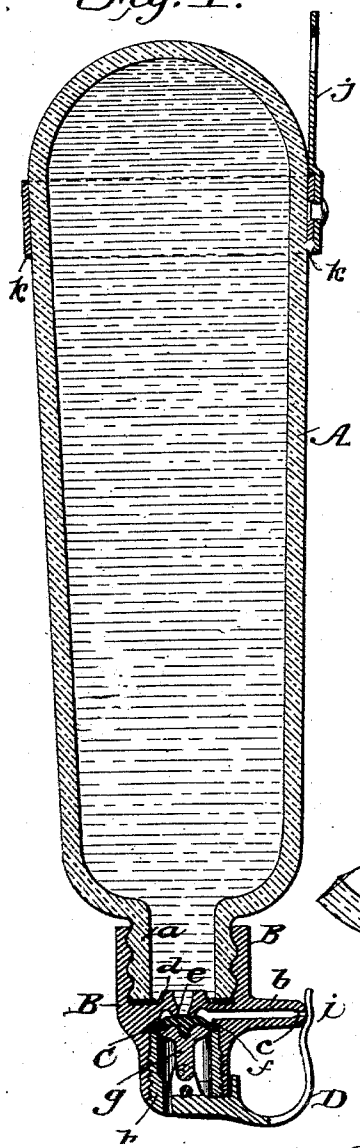



Fig. 2.

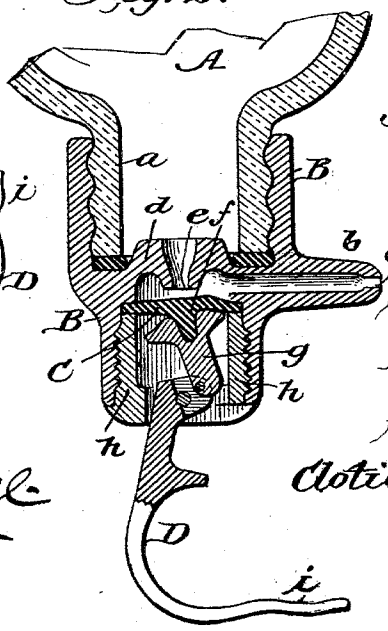
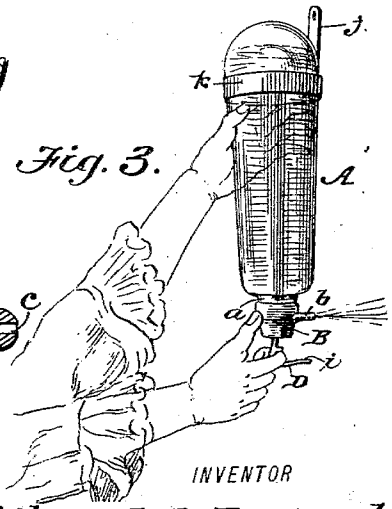



Fig. 3.




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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

CLOTILDE F. B. DURAND, OF MONTREAL, CANADA.

## PORTABLE FIRE-EXTINGUISHER.

SPECIFICATION forming part of Letters Patent No. 596,861, dated January 4, 1898.

Application filed April 4, 1896. Serial No. 586,195. (No model.)

*To all whom it may concern:*

Be it known that I, CLOTILDE FRANCOISE BELLEMAIN DURAND, a citizen of France, residing in Montreal, Province of Quebec, Canada, have invented a new and useful Improvement in Portable Fire-Extinguishers, of which the following is a specification.

My invention is an improvement in the class of hand or portable fire-extinguishers which are adapted to eject a saline solution by means of the pressure of a gas with which the extinguisher is charged.

The feature of novelty is the construction and arrangement of a lever in connection with the discharge nozzle and valve, as hereinafter described.

In the accompanying drawings, Figure 1 is a central longitudinal section of my improved fire-extinguisher. Fig. 2 is a similar section of the discharge end of the fire-extinguisher, showing the valve open. Fig. 3 is a perspective view illustrating the manner of using the extinguisher.

The hollow body A of the extinguisher resembles an ordinary ginger-ale bottle, and is preferably constructed of glass of such thickness as to withstand the pressure of the gas used for charging the same. The cylindrical neck *a* of the body A is screw-threaded exteriorly to adapt it for attachment of the metal head or breech B, which is screwed thereon, as shown in Figs. 1 and 2. The said head B has a lateral discharge nozzle or beak *b*, whose central longitudinal passage leads to a discharge-orifice *c* from the mouth proper of the body A, which is in the center of the base or diaphragm *d* of the head B. The outer side of such diaphragm *d* is constructed with an annular projection *e*, forming a seat for the valve or stopper C. The latter is composed of a flexible elastic disk or diaphragm *f* and an inflexible T-shaped metal piece *g*. The parts *f g* are connected by means of a socket formed in the piece *g* and which receives a central projection of the diaphragm *f*. The edge of the latter is clamped and held between an annular shoulder of the head B and a tube or cylinder *h*, that screws into the tubular neck of the head, as shown. The means for operating the valve C is a curved lever D, which is pivoted in the outer end of the screw-tube *h* and whose free end *i* normally extends over and practically closes the nozzle *b*, Fig. 1, thus excluding dirt and other foreign substances from the latter. The stem of the valve-piece *g* is pivoted eccentrically at its outer end to the head or pivot end of the lever D—that is to say, it is pivoted at one side of the pivot of said lever—so that when the valve C is closed, as in Fig. 1, or open, as in Fig. 2, it will be held in such position by the gas-pressure within the receptacle A.

It will be understood that the valve-diaphragm *f*, being made of soft rubber or some other duly elastic material, is compressed and indented by the seat *e* when the valve C is closed, Fig. 1, so that the valve may recede to a very slight extent without permitting escape of the contents of the receptacle A, and such recession necessarily occurs when the valve-pivot passes the center in the act of closing the lever D. The latter rests or bears upon the head B on the other side of the pivot, and is thus limited in its closing movement.

The enlarged head of the piece *g* is rounded or conical and adapted to bear upon the valve or diaphragm adjacent to the central projection of the latter, so as to afford due support to the diaphragm when closed, and yet permit the piece *g* to be inclined laterally, as shown in Fig. 2, when the valve is open, without unduly stretching the latter.

The extinguisher is shown, Fig. 1, provided with means for suspending it from a hook or nail, which consists of a perforated metal plate *j*, secured to the upper rounded end of the receptacle A by band or strap *k*, passing around the latter.

To prepare the extinguisher for use, the head B is removed and the receptacle A filled to about two-thirds of its capacity with some saline solution, say a weak aqueous solution of ammonia. Then the head B is screwed on, the valve C opened, and the beak *b* held to the mouth of a hose or pipe attached to the holder or receptacle containing liquid strongly charged with gas—say carbonated water—and the receptacle A is thus filled to about four-fifths of its capacity.

In using the extinguisher the receptacle may be held in one hand and the valve-lever pulled by the other, as illustrated in Fig. 3.

What I claim is—

The combination, with the body of the bottle, and its discharge-head, having a lateral discharge-nozzle, and internal valve, of the lever D, pivoted to said head and having an eccentric connection with the valve, and provided with a handle *i*, which has such length and curvature as adapts it to cover and protect the said nozzle, when the valve is held closed by gas-pressure within the bottle and the lever rests in locked position upon the head of the bottle, as shown and described.

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