

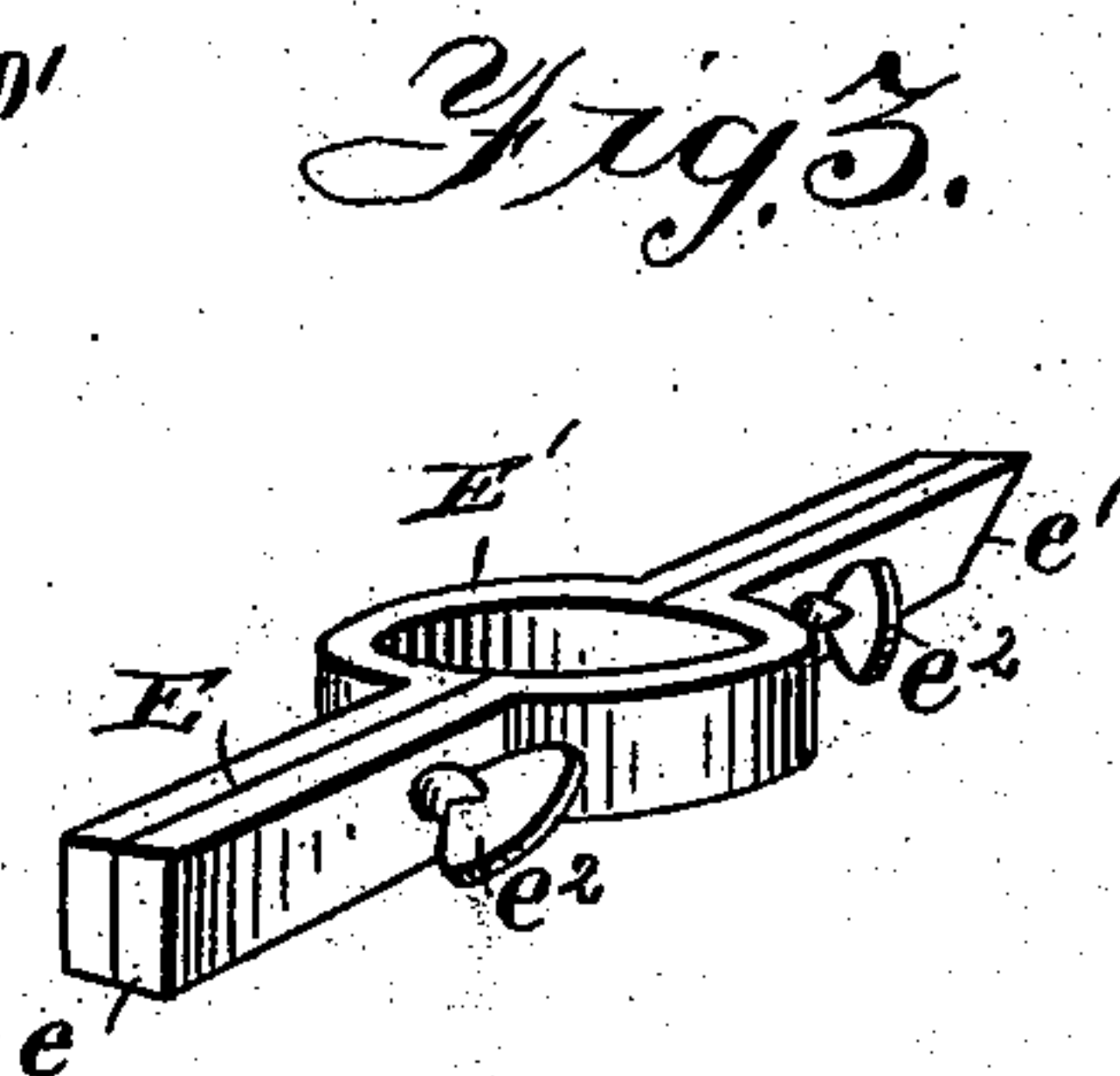
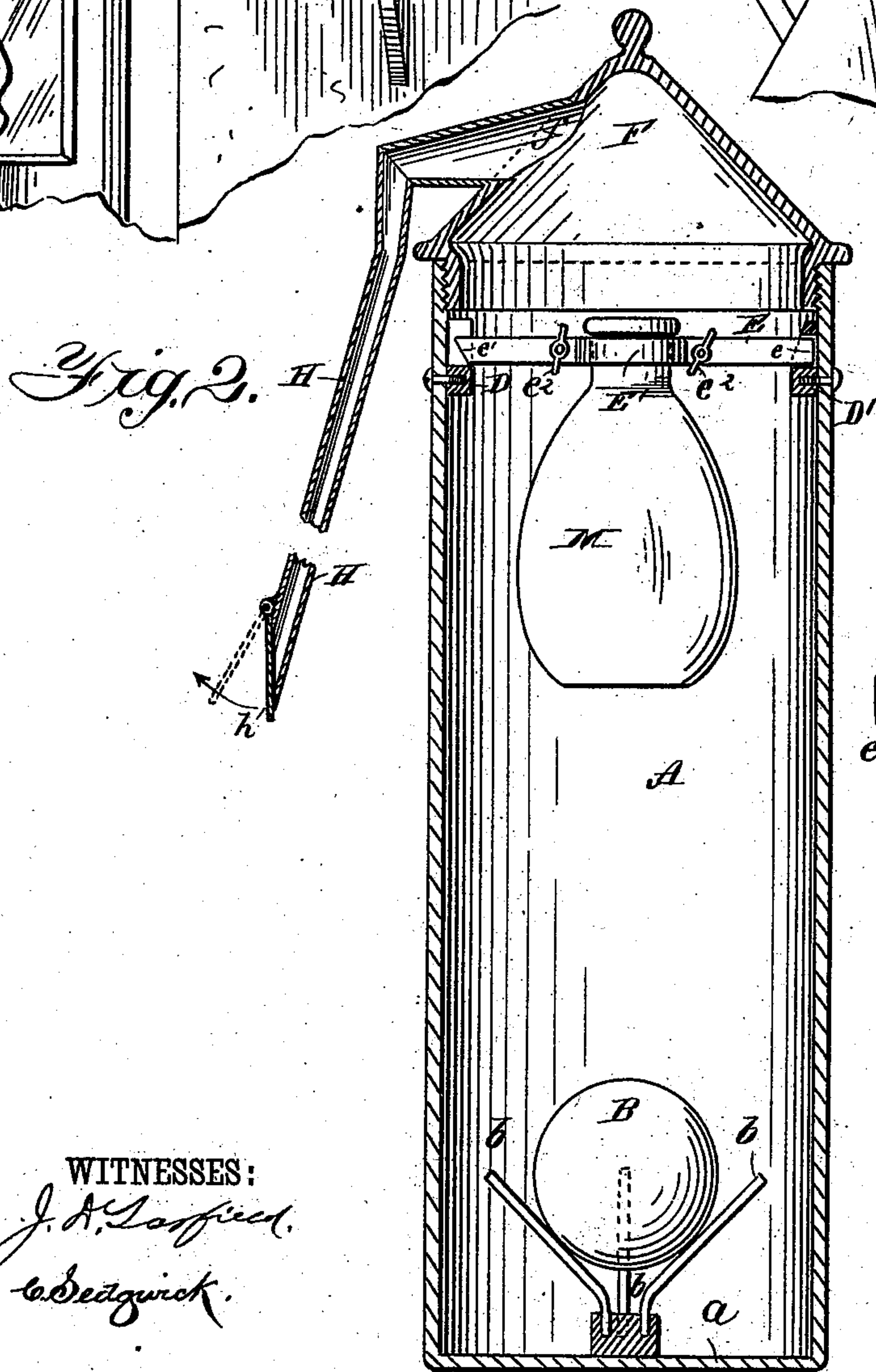
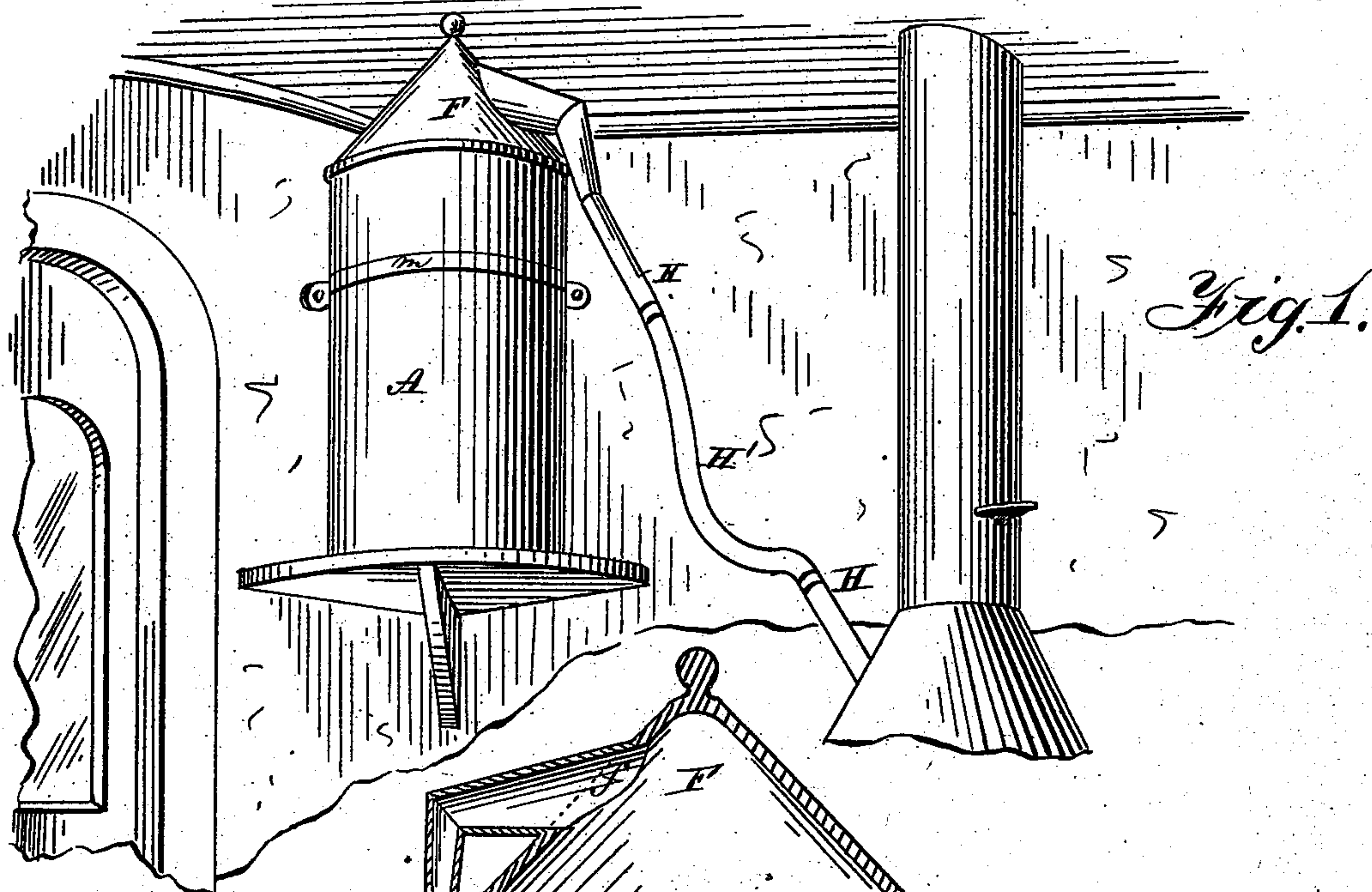
(No Model.)

F. L. HOTCHKIN & P. A. RABY.

AUTOMATIC FIRE EXTINGUISHER FOR STOVES AND HEATERS.

No. 382,812.

Patented May 15, 1888.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

FREDERICK L. HOTCHKIN AND PIERRE A. RABY, OF BROOKLYN, NEW YORK.

AUTOMATIC FIRE-EXTINGUISHER FOR STOVES AND HEATERS.

SPECIFICATION forming part of Letters Patent No. 382,812, dated May 15, 1888.

Application filed February 26, 1887. Serial No. 228,965. (No model.)

*To all whom it may concern:*

Be it known that we, FREDERICK L. HOTCHKIN and PIERRE A. RABY, both of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Automatic Fire-Extinguisher for Stoves and Heaters, of which the following is a full, clear, and exact description.

Our invention relates to an automatic fire-extinguisher for use in connection with stoves or heaters, and especially applicable for use with car-heaters, and has for its object to provide a device which, in the event of a collision or overturning of a car, will automatically act to extinguish any fire existing in the heater, and thereby prevent a conflagration.

The invention consists in the construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view illustrating the application of our device, and Fig. 2 is a central vertical longitudinal section through the same. Fig. 3 is a detail perspective view of a bracket employed in the construction of the device.

To carry the invention into effect, a cylindrical tubular body, A, is provided, having a bottom, *a*, and a thread cut interiorly the upper end, the said body being preferably made of brass, copper, or equivalent material. Centrally the bottom *a*, upon the inside, upwardly-inclined rods *b* are secured, preferably four in number, the said rods being inclined in opposite directions, as shown in Fig. 2, forming a seat for a weighty metal ball, B.

Aligning-brackets D D' are secured to the body A upon opposite sides of the inner surface of said body near the top, one of which brackets, D, is provided with an open recessed top, and the other, having an upwardly-inclined inner face, being provided with a rectangular aperture in the same horizontal plane with the recess of the opposing bracket D.

The brackets D D' are adapted to receive a detachable split yoke, E, having one square end, *e*, a downwardly-inclined end, *e'*, and a

central circular opening, E', the said yoke being divided longitudinally and detachably united by thumb-screws *e*<sup>2</sup>, as shown in detail in Fig. 3. The object of the yoke is to hold a glass or other fragile vessel, M, in suspension within the body A, the bottom of which vessel is preferably made as thin as possible, for a purpose hereinafter stated.

By reference to Fig. 2 it will be observed that the bracket D is provided with an angular recess in the inner face, the top being closed, and that the bracket D' is provided with an open or apertured top, which aperture intercepts a rectangular recess aligning the aforesaid recess in the bracket D. When the yoke E is placed in position, the inclined end of the said yoke is posited in the angular recess of the bracket D, and the square end is permitted to drop through the aperture in the bracket D' into the intercepting-recess therein, whereby a wedge-like bearing is secured.

A conical top, F, is made to screw into and form a cap for the body A, which cap is provided with an outlet, *f*, in one side near the top, over which outlet upon the outside a stout metallic tube, H, is soldered, riveted, or otherwise secured. The end of the tube H, which is adapted for insertion in a stove or heater above the fire-pot, is provided at its free end with an inclined surface having a hinged lid, *h*, the object of which lid is to prevent the heat passing up the tube. Between the pipe which enters the heater and that portion connected to the cap F a flexible connection, H', is preferably made, as shown.

In operation the body A is filled with a solution of carbonate of potash or soda and the vessel M with sulphuric acid. The cap is then screwed on and the extinguisher placed upon a suitable bracket a convenient distance from and above the stove or heater, being held in position by a band, *m*, or other equivalent or appropriate means. The pipe H, connected with the conical cap, is thereupon carried downward through a convenient portion of the stove or heater and held in engagement therewith above the fire-pot. In the event of a collision, or should the car be thrown upon its side, the ball B will leave its seat and engage the thin bottom of the receptacle M, breaking the same, and thereby mixing the two



solutions. A carbonic acid gas is thereupon formed, which, finding a vent through the tube H, sprays over the heated fuel, extinguishing the fire.

5 By removing the yoke from the body A and loosening the thumb-screws  $e^2$  another bottle of acid may be inserted. In replacing the yoke the square end  $e$  is entered the rectangular recess of the bracket D' and the beveled end allowed to drop in the recess of the  
10 bracket D.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

15 1. The combination, with the body A, provided with brackets D D' near the top, the oppositely-inclined rods  $b$  at the bottom, and the conical cap F, provided with an outlet-tube, H, of an acid bottle suspended by a detachable  
20 split yoke, E, from said brackets D D', and a

ball, B, loosely seated upon the said inclined rods  $b$ , substantially as shown and described, and for the purpose herein set forth.

2. The combination, with a stove or heater, of a fire-extinguisher consisting of a body, A, 25 a split yoke, E, detachably held in said body near the top, an acid bottle suspended from the yoke, a series of oppositely-inclined rods,  $b$ , attached centrally to the bottom of the body, a metal ball supported by said rods beneath 30 the bottle, a detachable conical cap, F, and outlet-tubes H, connecting the body with the interior of the stove, substantially as shown and described.

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Witnesses:

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