

(No Model.)

H. PURDY.

FIRE EXTINGUISHER FOR RAILROAD CARS.

No. 266,311.

Patented Oct. 24, 1882.

Fig. 1.

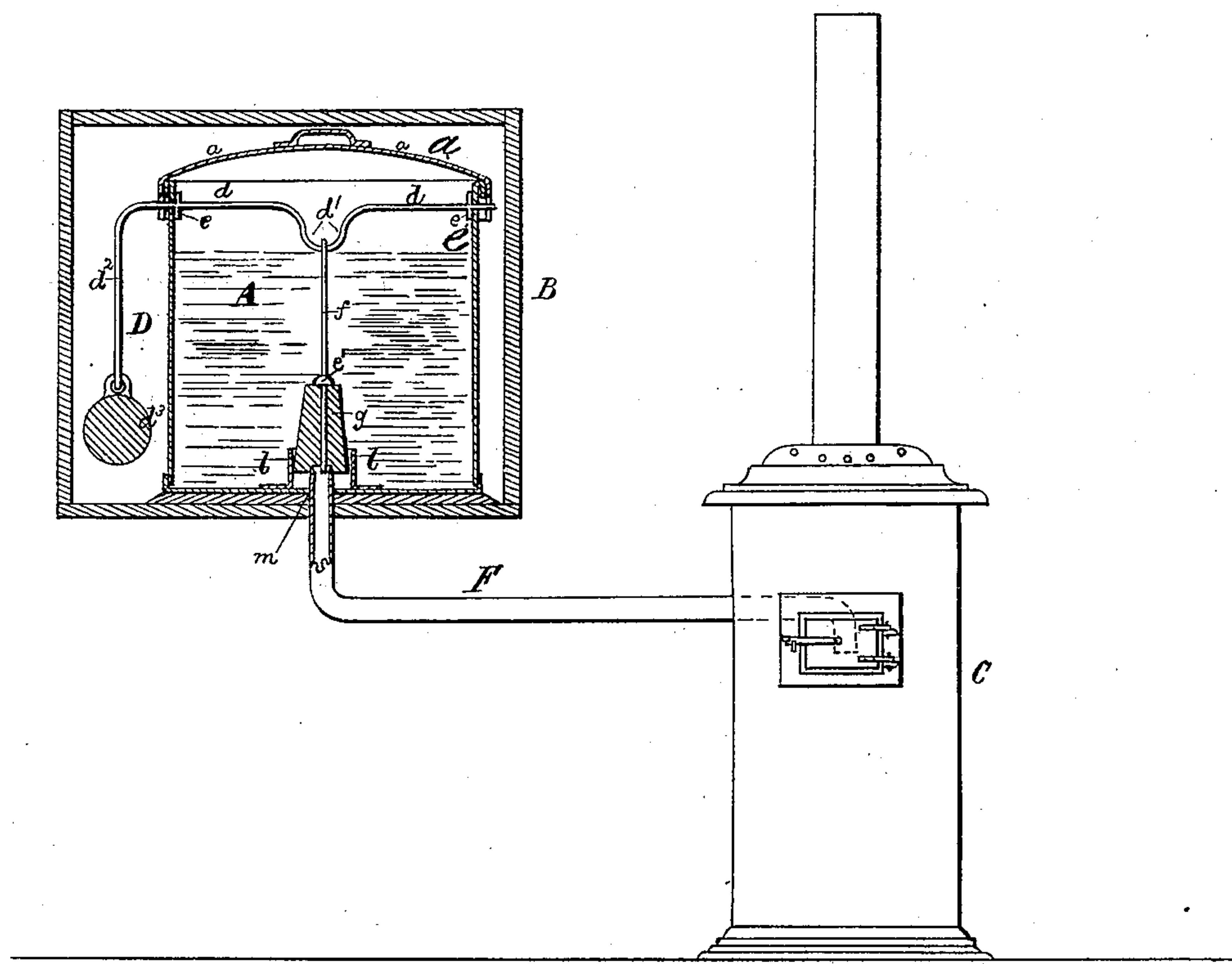


Fig. 2.

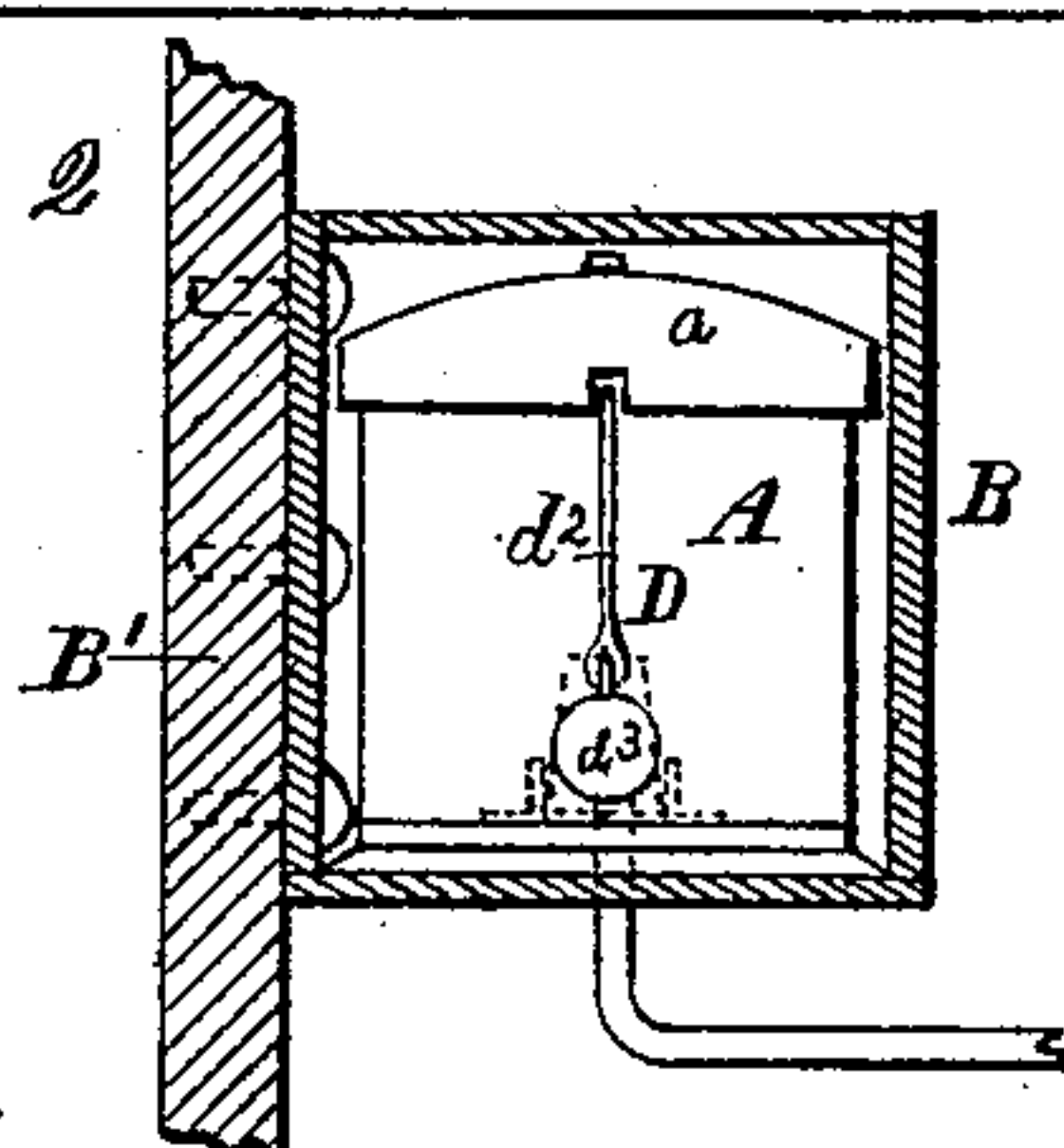
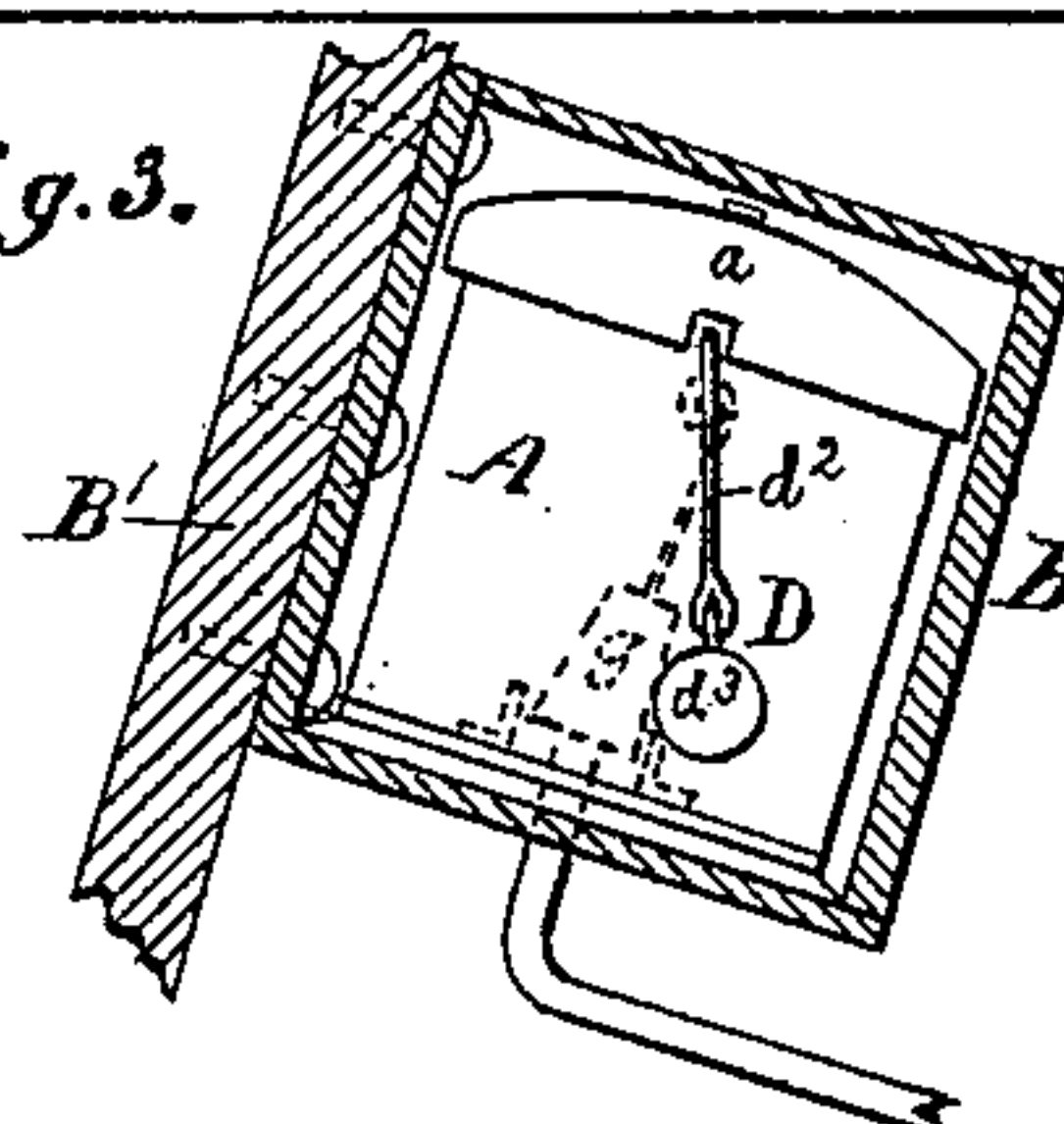


Fig. 3.



Witnesses:

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HIRAM PURDY, OF BURLINGTON, IOWA.

FIRE-EXTINGUISHER FOR RAILROAD-CARS.

SPECIFICATION forming part of Letters Patent No. 266,311, dated October 24, 1882.

Application filed April 6, 1882. (No model.)

To all whom it may concern:

Be it known that I, HIRAM PURDY, a citizen of the United States, residing at Burlington, in the county of Des Moines, in the State of Iowa, have invented certain new and useful Improvements in Apparatus for Extinguishing Fires in Stoves of Railroad-Cars, of which the following is a specification.

This invention in the main relates to certain improvements in devices for extinguishing the fires in heating-stoves of railroad-cars in case of accident to or overturning of the cars, the object of the invention being to provide a simple, cheap, but effective and reliable, apparatus which will perform its functions with absolute certainty.

In the accompanying drawings, Figure 1 represents a vertical central section of my improved apparatus, supposed to be applied within an inclosing box to the inside of a railroad passenger-car, and communicating by a tube with the interior of a stove used for heating the car, the section being taken on a longitudinal vertical plane of the car. Fig. 2 is a diagram showing said invention within its inclosing box, indicated in section on a vertical plane transverse of the car, and with a portion of the side of the car-body in section, to which the inclosing and supporting box is attached. Fig. 3 is a view the same as Fig. 2, but indicating the car in the act of being overturned sidewise, whereby the water contained in a vessel within the inclosing box is set free and allowed to flow through the tube connecting the apparatus with either a stove for heating a car or with a lamp for lighting the car, as the case may be.

As shown in the figures, A indicates a vessel, in this instance of circular form, for containing, say, one hundred gallons (more or less) of water, which is securely seated in any proper manner within an inclosing box, B, fastened to one of the side walls, B', of a railroad-car, as indicated in Figs. 2 and 3, and in close proximity to a stove, C, used for heating the car, as shown in Fig. 1. The vessel A is provided with a close-fitting cover, a, and access to the vessel may be had through a door provided in the top of the housing or inclosing box B in any suitable manner, whereby water (indicated in short lines in Fig. 1) may be supplied to said vessel.

D indicates a pendulum rocking shaft, consisting of a portion, as *d d*, having a crank, as at *d'*, and with a pendulum portion, as *d²*, provided with a weight or ball, *d³*. The part *d d* is passed through the vessel A, as shown, with a bearing at opposite points in the wall of said vessel, near its top, the bearing being such as to permit the free articulation or vibration of the shaft, while at the same time it is retained in place, as shown, by stops *e e* on the shaft, which abut against the inside surface of the wall of the vessel. A valve-stem, *f*, at its upper end is hooked around the crank portion *d'*, so as to form an eye, in which said crank portion may freely work, while its lower end is passed through a rubber valve, *g*, said lower end of the stem *f* being made fast to said valve by set-screws or in any proper manner.

Attached to the bottom of the vessel A are three upwardly-projecting centering-pieces, *lll*, (one of which is not shown in the drawings,) which pieces are equally spaced apart around a perforation, *m*, through the center of the bottom of the vessel and inclosing box, and serves to prevent sidewise displacement of the valve, as well as center the same over said perforation and guide the valve to its seat upon a tube, F, which communicates with the interior of the vessel A and leads off into the interior of the stove C, over the fire-pot thereof, as indicated in Fig. 1. The end of this tube which enters the vessel A is made with a thin or knife edge, so that said edge may press into the bottom of the valve *g* and make a water-tight joint when the parts are in position as shown in Fig. 1, and to effect such pressure of the thin edge of the tube into the valve the length of the valve-stem *f* is such as to force down the valve into such water-tight contact with the knife-edge of the tube when the parts are made to assume the position shown in said figure, a stop, *e'*, on the valve-stem *f* serving to prevent the valve *g* from being unduly shoved up along the valve-stem during the act of forcing the valve down to its seat, as shown.

When the parts are in the position as indicated in Figs. 1 and 2, the pendulum rocking shaft D will occupy a vertical plane coincident with the central vertical plane of the vessel A; and it will be seen that by swinging the weight or ball *d³* either to the right or left hand of such

plane this act will correspondingly swing the crank d' farther from the knife-edge end of the tube F, and thus draw the valve g from its seat, and so allow the water in the vessel to
 5 be discharged through the tube F into the stove C, and thereby extinguish the fire therein; and that this same effect will be produced in the event of a sidewise overturn of the car, which event would cause the ball d^3 to swing
 10 from its relative position as shown in Figs. 1 and 2 to its relative position shown in Fig. 3, and thus withdraw the valve from its seat. A like apparatus, though of much smaller size, and holding a proper quantity of water, and
 15 arranged to discharge upon the burning wick or flame of a lamp, would afford protection from danger from such source in case of an overturn of a car.

By securing my improved fire-extinguisher
 20 against the end walls of a car an endwise tip or overturn of the car would bring it into action.

The valve-stem or connecting-rod f , if desired, can be regulated to give proper pressure on the
 25 valve g by set-screws applied to hold the valve upon the stem or connecting-rod f , and by enlarging the eye at the upper end of the stem in which the crank d' works the pendulum d^2 d^3 would have corresponding freedom of move-
 30 ment without opening the valve, and thus the fire-extinguisher would not be brought into action by the ordinary shocks of the car.

A single one of my fire-extinguishers, whether
 35 located at the side or the end of a car, may be brought into action, either in the event of a

sidewise overturn of the car or an endwise tipping or unusual concussion or telescoping of the same, by duplicating within the vessel A the pendulum-shaft D, valve g , and their connected
 40 parts; and in such case the additional pendulum-shaft D would be arranged across the vessel A at right angles to the one shown in Fig. 1, and its valve would be seated upon the end of an additional water-exit tube connecting
 45 with the tube F.

As a modification of the pendulum-weight and its rod, a grooved trough may, midway of its length, be rigidly attached horizontally to the end of shaft $d d$ at the same point where the pendulum d^2 connects with d . Midway of
 50 this trough a semi-spherical seat may be formed directly over the shaft d , and in this seat a ball-weight may be placed. With this construction, if the car tips over in either direction side-
 55 wise, the ball-weight will roll out of its seat and along to the one or the other end of the trough, as the case may be, and thereby cause the valve to be raised and water discharged.

What I claim as my invention, and desire to
 60 secure by Letters Patent, is—

The combination of a water-containing vessel, rocking shaft D, connecting-rod f , valve g , a device for centering the valve to its seat, and tube F, substantially as and for the purpose described.

HIRAM PURDY.

Witnesses:

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 B. J. GAFFNEY.