# W. D. PEGRAM & W. H. HOTCHKISS.

## RAILROAD CAR STOVES AND FIRE EXTINGUISHERS.

No. 190,780. Patented May 15, 1877.

FIG 1.

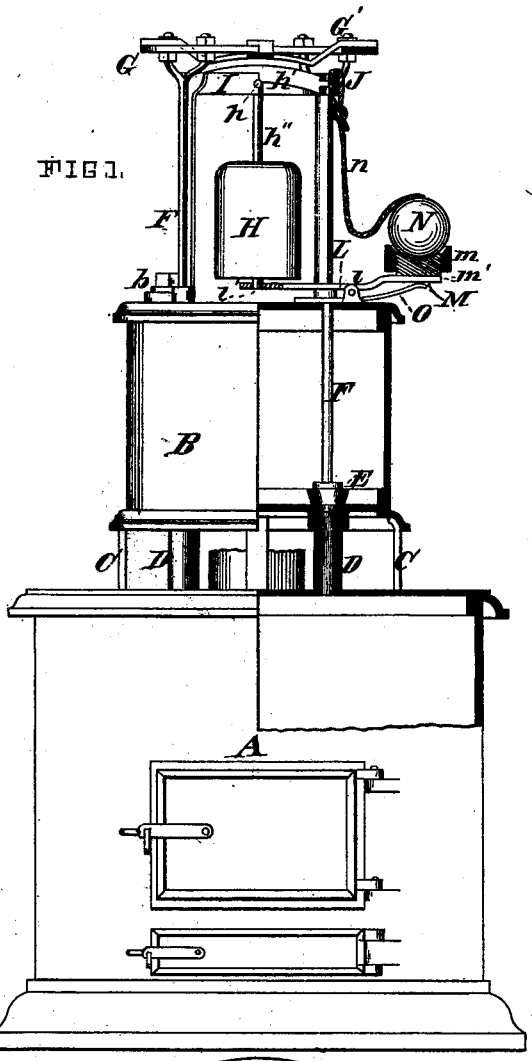



FIG 2.

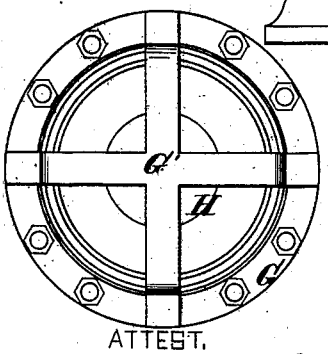



FIG 3

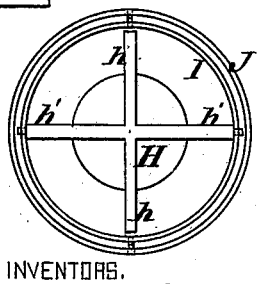
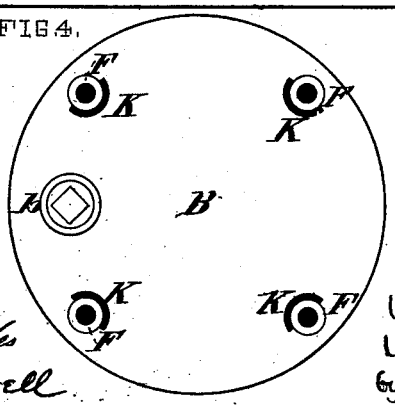



FIG 4.




ATTEST.

Charles Pickles

Paul Bakewell

INVENTORS.

William D. Pegram.

William H. Hotchkiss.

by Chas D. Moody.

their atty:

# UNITED STATES PATENT OFFICE.

WILLIAM D. PEGRAM AND WILLIAM H. HOTCHKISS, OF MOBERLY, MO.

## IMPROVEMENT IN RAILROAD-CAR STOVES AND FIRE-EXTINGUISHERS.

Specification forming part of Letters Patent No. **190,780**, dated May 15, 1877; applicatio filed April 4, 1877.

*To all whom it may concern:*

Be it known that we, WILLIAM D. PEGRAM and WILLIAM H. HOTCHKISS, residents of Moberly, Missouri, have made a new and useful Improvement in Railway-Car Fire-Extinguishers, of which the following is a full, clear, and exact description, reference being had to the annexed drawing, making part of this specification, in which—

Figure 1 is an elevation, partly in section, showing the invention in position; Fig. 2, a plan of the frame connecting the valve-stems, and showing the pendulum and its support; Fig. 3, a plan of the pendulum and supporting-frame; and Fig. 4, a horizontal section, taken just above the top of the reservoir.

Similar letters of reference denote similar parts.

By means of our improvement the fire of a railway-car stove can, in case of accident, be immediately extinguished. It is also automatic in its operation whenever the stove or car is changed from its proper upright position.

Referring to the annexed drawing, A represents a stove, which, saving as modified by the present improvement, may be of any approved form. B represents a water-reservoir arranged above the stove, and at a sufficient distance therefrom to prevent the undue heating of the water therein. The reservoir is securely fastened to the stove by means of the supports C C. It may also be attached to the car. D D D D represent pipes leading from the reservoir down into the stove. Any suitable number of pipes can be used, and they may, if desired, constitute the support of the reservoir. The entrances to these pipes are closed by valves E E E E, respectively, (but one valve is shown,) saving as hereinafter described. F F F F represent the valve-stems. They extend upward through and above the reservoir, and at their upper ends are united by means of a frame, G, to which the stems are similarly attached. This enables all the valves to be opened and closed by a single movement of the frame. The latter is preferably in the form of a flat ring, having a cross-piece, G′, attached thereto, as shown more distinctly in Fig. 2. A plate or disk may be used in place of the ring and cross-piece.

To extinguish the fire the stems F F F F are raised, opening the valves E E E E, and allowing the water to flow from the reservoir, through the pipes D D D D, into the stove. Any suitable means can be used to raise the valves; but to enable this to be effected automatically when the stove or car is inclined from its proper position we employ the following means: A pendulum, H, arranged to swing freely in any direction, and having four arms, *h h h′ h′*, extending at right angles, or thereabout, from the upper end of the pendulum-rod *h″*, is hung in such a position as to bring the arms *h h h′ h′* directly beneath the cross-piece G′, as shown in Fig. 1, and so that when the pendulum is swung aside the arm on the side of the movement will bear up against the cross-piece and lift it. The preferable mode of supporting the pendulum, so as to accomplish the result described, is to employ a gimbal-joint—that is, two, *h′ h′*, of the arms *h h h′ h′* of the pendulum are at their outer ends, respectively, journaled in a ring, I, that in turn, and at right angles to the arms *h′ h′*, is journaled in a frame, J, that is sustained by the supports K K K K, the latter being attached to the reservoir, and, preferably, being shaped and arranged so as to serve as guides for the valve-stems F F F F. Now, when the stove, and with it the frame-work G G′, are inclined from their proper position, as when the car is being thrown from the track, the pendulum retains its perpendicularity. This causes the arms (or rather the arm that is in the direction of the inclination) to lift the frame G G′ and open the valves E E E E. It will be noticed that the pipes D D D D are arranged to lead from all sides of the reservoir to the stove. Hence, even should the reservoir and stove be thrown into a horizontal position, the water can always find an outlet to the stove.

By reason of the universal movement of the pendulum the invention becomes operative, whether the car is inclined side or endwise.

The improvement further relates to the device for preventing the ordinary oscillation of a railway-car from affecting the pendulum to such an extent as to open the reservoir-valves.

L represents what we term the locking-lever. It is pivoted to the reservoir at *l*, and is ar-

ranged to bring its inner end beneath the pendulum when the stove is in an upright position. A cup, M, attached to the outer end of the lever, is arranged to contain a weight, N, which, when in the cup, operates to lift the inner end of the lever against the pendulum, there to engage with a projection, *l'*, that is on the under side of the pendulum, and, when thus engaged, to lock the pendulum. The cup M, however, is made so shallow that any extraordinary movement of the car, such even as occurs when the car is off the rails, but still on the road-bed, operates to dislodge the weight, and allow a spring, O, to raise the outer end of the lever and disengage the projection *l'*. As the ordinary oscillation of a railway-car varies, depending upon the character and condition of the railway, we make the cup M, as to shallowness, slightly adjustable, its wall *m* being made to screw up and down on its base *m'*. The rougher the railway the more the wall is raised. There is an opening, *b*, in the reservoir for introducing the water therein. It can be closed by a valve opening inwardly for the purpose of admitting air into the reservoir, to prevent the formation of a vacuum as the water is discharged, and to prevent the escape of the water when the reservoir is in a horizontal position. The weight is kept from falling to the floor of the car by means of the cord or chain *n*.

We claim—

1. The combination of the reservoir B, pipes D D D D, valves E E E E, stems F F F F, and frame G, substantially as described.

2. The combination of the stems F F F F, frame G G', pendulum H, arms *h h h' h'*, gimbal I, frame J, and supports K K K, substantially as described.

3. The combination of the stems F F F F, frame G G', pendulum H, and arms *h h h' h'*, substantially as described.

4. The combination of the frame G G', pendulum H, and arms *h h h' h'*, substantially as described.

5. The combination of the pendulum H, having the projection *l'*, and the locking-lever L, substantially as shown.

6. The combination of the pendulum H, projection *l'*, lever L, cup M, weight N, and spring O, substantially as described.

7. The combination of the lever L, and the cup M, having the adjustable wall *m*, substantially as and for the purpose specified.

WILLIAM D. PEGRAM.
WILLIAM H. HOTCHKISS.

Witnesses:
CHAS. D. MOODY,
PAUL BAKEWELL.