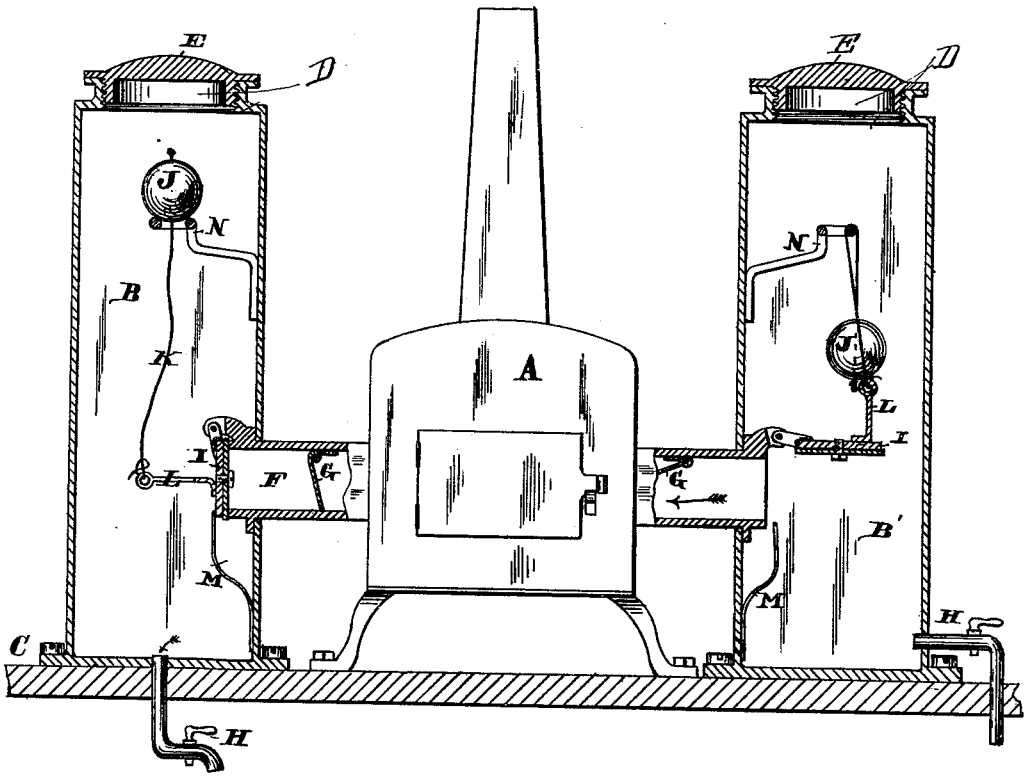
J. M. VAN DYKE.

FIRE-EXTINGUISHERS FOR CAR-STOVES.

No. 191,495. Patented May 29, 1877.



Attest
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UNITED STATES PATENT OFFICE.

JOHN M. VAN DYKE, OF MASON, OHIO.

IMPROVEMENT IN FIRE-EXTINGUISHERS FOR CAR-STOVES.

Specification forming part of Letters Patent No. **191,495**, dated May 29, 1877; application filed March 31, 1877.

To all whom it may concern:

Be it known that I, JOHN M. VAN DYKE, of Mason, Warren county, Ohio, have invented a new and useful Device for Extinguishing Fires in Railroad and Steamboat Stoves, of which the following is a specification:

My invention relates to an improved form of those devices whereby, in the event of a collision or break-down, water, in sufficient quantity for quenching purposes, is automatically conveyed to the fire-chamber of a stove employed upon a car or steamboat, or other public vehicle.

My invention, in its preferred form, comprises two similar water-tanks, secured upon opposite sides of the stove, and of which each tank communicates with the stove's fire-chamber through a pipe; a valve which, in the normal condition of the apparatus, closes said pipe; a ring or annular bracket located within the tank higher than said valve, which ring supports an iron ball, which, being connected through the ring to an arm that projects from the said valve, operates, when said ball is precipitated from its said bracket by the overturn or a sudden jar of the vehicle, to open the said valve and admit water to the interior of the stove.

The accompanying drawing represents a stove provided with my fire-extinguishing apparatus, the latter being shown in vertical section.

A may represent any stove such as are employed in railroad-cars, steamboats, and other public vehicles.

B and B′ represent two precisely similar tanks or reservoirs for containing water. Each reservoir is firmly bolted or otherwise secured to the car, as at C, and each is furnished with the following parts or members, to wit:

An orifice, D, at top, closed by a cap or cover, E; a pipe, F, which extends from the interior of the tank to that of the stove; a check-valve, G, which prevents any passage of smoke or heated materials from the stove into the tank; a cock, H, to discharge water from the tank; a valve, I, which, in the normal condition of the apparatus, closes the entrance of the pipe F; a ring or annular bracket, N, which, extending horizontally from the inner wall of the tank some distance above the valve I, supports a ball, J, of cast-iron or other heavy material. This ball is connected by chain or wire cord K with arm L, that extends horizontally from the valve I. Finally, I provide a spring, M, to prevent leakage, arising from ordinary agitation of the car.

The operation of my apparatus is as follows: It will be the duty of the conductor or other person in charge to maintain the tanks full of water, the same being introduced through the orifices D, and so long as no dangerous disturbance of the car occurs no further attention is necessary; but any disturbance of the car sufficient to eject the ball J from its annular bracket N, the ball falling outside of the bracket, operates through chain K to drag open the valve I, and thus permit water to flow from the tank into the stove, and put out the fire.

There being two tanks provided, each of them higher than the stove and on opposite sides of it, water will flow into the latter in quantity equal to one tankfull, in whatever direction or to whatever extent the disturbance may take place.

The situation of the bracket N is such as to preclude the possibility of such self-replacement of the ball as would permit a reclosure of the valve I.

The device hereinabove specified is believed to comprise several important desiderata not combined in any existing apparatus of the kind. For example: The water-tanks, being wholly distinct from the stove proper, may be used with any form of the latter without liability of rendering it top-heavy, or of becoming useless at the important juncture by its separation therefrom, and can, without inconvenience, be made of adequate capacity for the purpose intended. In case of a complete capsize of the car, or nearly so, my tanks are equally effective. Instead of adding to the instability of the stove, they are capable of serving as bulwarks against its disturbance or overthrow. My tanks, being made broad and flat, may serve in the place of the screens which are not unfrequently interposed between the stove and the furniture of a railroad-car. My safety apparatus, being wholly interior, and out of sight and reach, is, of course, not liable to be tampered with by mischievous

or ill-disposed persons. The ball, operating through the medium of a lever, is not required to be as heavy as would otherwise be necessary.

I claim as new and of my invention—

1. The combination, with a car or steamboat stove, of a pair of tanks, B B′, higher than, and on opposite sides of, the stove, with which they communicate by passages F, closed by valves I, having a chain or other flexible connection, K, with a ball or heavy mass, J, supported in annular bracket N, from which said mass is readily displaced by any violent disturbance, substantially as set forth.

2. The combination of elevated annular bracket N and ball J, connected by chain or cord K with an arm, L, extending from a valve, I, that closes the passage F from tank B into a car or steamboat stove, substantially as and for the purpose set forth.

3. In combination with valve I, closing the passage F into a railway-stove, the spring M, as and for the object designated.

4. The described combination of valves G and I with passage F and automatic releasing mechanism N J K L, for the objects set forth.

In testimony of which invention I hereunto set my hand.

JOHN M. VAN DYKE.

Attest:

WALTER KNIGHT,

L. H. BOND.