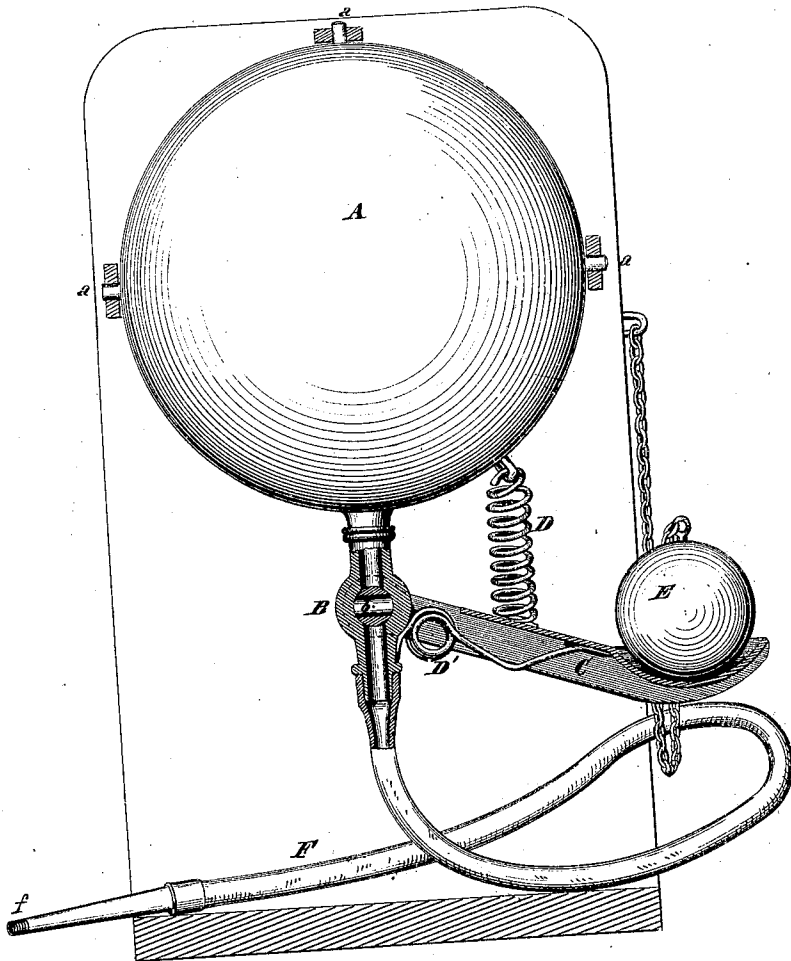


Stewart & Bradley,

Fire Annihilator.

No. 10,404.

Patented Mar. 29. 1870.



W. Scott
J. Van Kannel
Attest

J. H. Stewart
R. J. Bradley
Inventors.

United States Patent Office.

H. C. STEWART AND R. T. BRADLEY, OF CINCINNATI, OHIO.

Letters Patent No. 101,404, dated March 29, 1870; antedated March 5, 1870.

IMPROVED AUTOMATIC FIRE-EXTINGUISHER FOR USE ON RAILROAD CARS, &c.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that we, H. C. STEWART and R. T. BRADLEY, both of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Automatic Fire-Extinguisher; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawing making a part of this specification.

The nature of our invention relates to an automatic fire-extinguisher, to be used for extinguishing fire in stoves or furnaces on railroad cars, steamboats, ships, and for other like purposes, when the same may be overturned, or meet with other accidents which would be likely to cause the fire of the stove to communicate with and ignite the car or vessel.

It consists of a vessel made of such material as is suitable for holding carbonic-acid gas, and furnished with a suitable tube for the purpose of conducting the gas to and within the stove. This tube, near its junction with the gas-holder, is provided with a valve or stop-cock so arranged that the same will open automatically by any unusual concussion, and thus permit the gas to escape through the tube to the stove.

In construction our invention is substantially as follows:

A is the gas-holder with attachments *a a*, by which it is permanently fastened to the car or vessel as near the stove as is safe and convenient.

B shows a sectional view of the stop-cock, communicating with holder A.

The key *b* of the stop-cock is provided with the arm C, at the end of which is a concave or cup *c*.

A spiral spring D is attached to the arm C and holder A, and spring D' attached to the cock B and arm C draw the said arm in an upward direction when not obstructed.

A ball, E, of sufficient weight to overcome the power of springs D and D' rests in the cup *c*, and is connected to any permanent portion of the car by a chain or cord to prevent its being lost.

The stop-cock B is provided with a stop with which the key *b* comes in contact, thus retaining the arm C

in the position shown in the drawing, whereby the springs are not affected by the rocking or jolting of the car.

The tube F communicates with the stove.

The end of the nipple *f* is formed into a screw, whereby it may be readily and permanently inserted in the stove or any opening leading to the same.

The operation of our invention becomes obvious; the gas-holder A having been charged with carbonic-acid gas, the ball E is placed in the cup *c*, the weight of which overcomes the springs, and draws the arm to its lowest position, where the cock B is closed.

When the car or vessel comes in contact with any resisting object, or is overturned, the ball E is thrown out of the cup *c*, and the arm C is raised by the action of the springs D and D', turning the key *b* and allowing the gas in the holder to flow through the tube into the stove, or should it be broken, it will find its way through the crevices of the same.

Owing to the superior weight of carbonic-acid gas it falls in the air, and should therefore, be introduced in such a part of the stove, or in several parts, as to insure its most direct contact with the fire.

We are aware that carbonic-acid gas has been used for the purpose of extinguishing fires, and this we do not claim, broadly; but

What we claim as our invention, and desire to secure by Letters Patent, is—

1. Carbonic-acid gas, discharged automatically into a stove or furnace by an unusual concussion, collision, or overturning of the car or vessel carrying the same, substantially as above described.

2. The gas-holder A, stop-cock B, arm C, springs D and D', ball E, and tube F, or their several equivalents, when constructed and operating in the manner and for the purpose set forth.

H. C. STEWART.
R. T. BRADLEY.

Witnesses:

C. A. SCOTT,
T. VAN KANNEL.