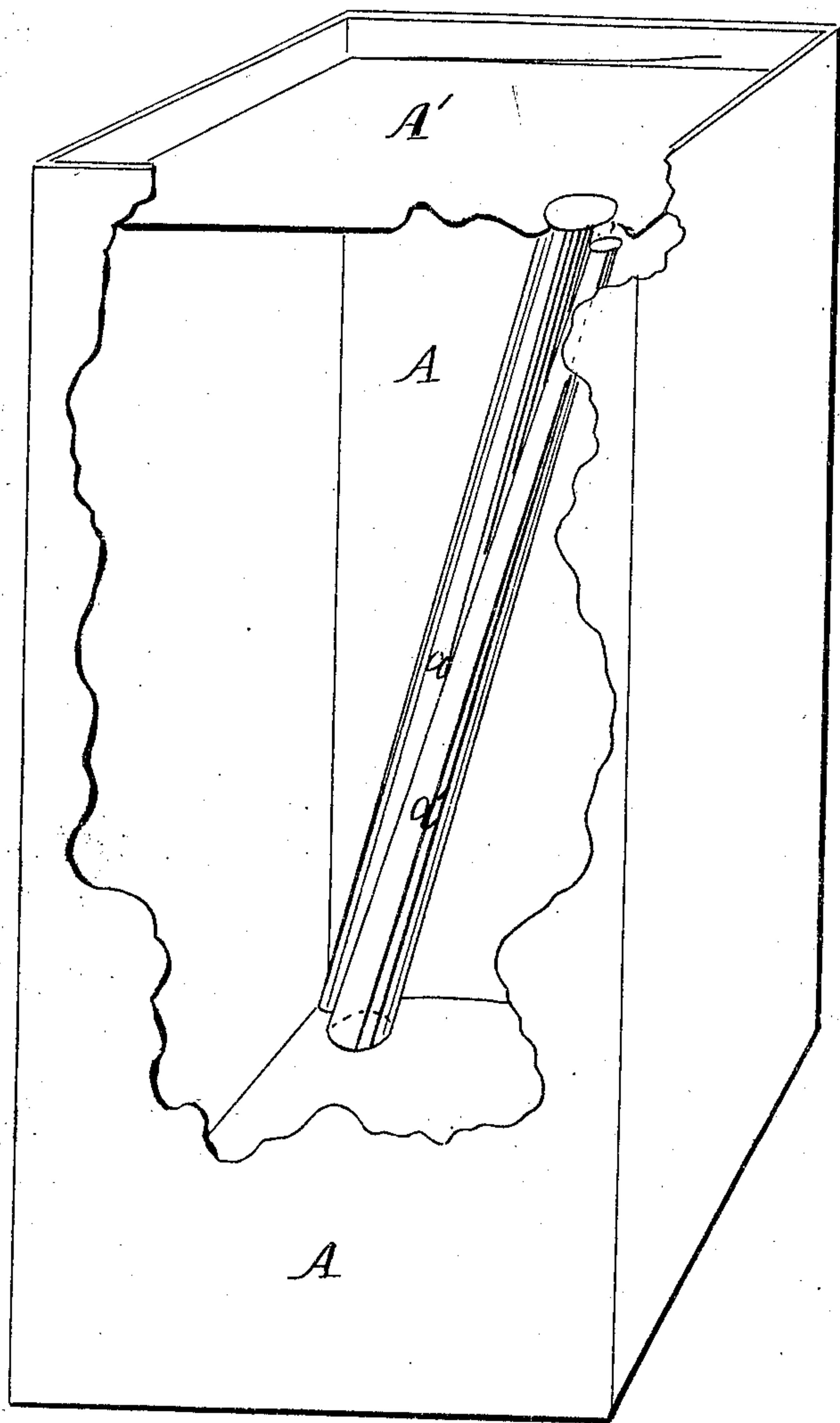


EDWIN A. EATON & W. C. IRELAND
WATER VESSEL
FOR STEAM FIRE-PROOF SAFES

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PATENTED
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Witnesses
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EDWIN A. EATON AND WILLIAM CARLTON IRELAND, OF BOSTON, MASSACHUSETTS,
ASSIGNORS TO "SANBORN STEAM FIRE-PROOF SAFE ASSOCIATION."

Letters Patent No. 71,288, dated November 26, 1867.

IMPROVEMENT IN FIRE-PROOF SAFES.

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, EDWIN A. EATON and WILLIAM C. IRELAND, both of the city of Boston, in the State of Massachusetts, have invented a new and useful Improvement in Water-Vessels for Steam Fire-Proof Safes; and we do hereby declare the following to be a full and correct description of the same, reference being had to the accompanying drawings, in which the figure is a perspective view of our improved water-vessel, one of the sides and part of one of the heads being cut away to show the interior arrangement of tubes.

This invention is designed as an improvement on the steam fire-proof safes patented by Rufus S. Sanborn. In those safes, water-vessels are introduced between the exterior wall and the internal chamber, for the purpose of supplying steam to the chamber when the safe is exposed to a heat sufficient to raise the water in the vessels to the boiling point. The steam, thus injected into the interior of the safe, protects its contents from the injurious effects of the heat, and the larger the supply of water the vessels contain, the longer will the desired protection be afforded. A safe being a portable article, liable, during transportation, to be placed in any position, it is necessary to provide against the escape of water from the vessels, in case the safe should be thrown upon its side or turned bottom upwards. In Sanborn's safe, this object is attained by a tube running from any point on the surface of the vessel to its mathematical centre, and by introducing just water enough to rise to a line just below the level of that centre. This arrangement allows steam to escape from the vessel, in whatever position it may be placed, and prevents the escape of water; but it accomplishes these objects by leaving the water-vessel half empty, and shortening in the same proportion the period of protection during which a supply of steam can be kept up by the water in the vessel.

Our invention consists in an arrangement of tubes, in connection with the water-vessels of steam fire-proof safes, by which the vessels may be nearly filled with water, and yet none be allowed to escape, whatever position the vessel or safe may occupy, while a ready exit is provided for the steam in every position of the vessel or safe.

The accompanying drawing represents a water-vessel, to be used in a steam fire-proof safe, in the manner described in Sanborn's patents. It may be of any desired form or dimensions.

A marks the sides of the vessel, A' the upper or lower head, and *a a'* the steam-tubes. The tubes are respectively inserted in the top and bottom heads of the vessel, and run diagonally from one corner of the upper head to the opposite corner of the lower head, as shown. The tubes are represented as conical in form, the larger end being inserted in and fastened to one of the heads of the vessel, while the smaller end is free, and reaches nearly to the opposite head to that in which the larger end is inserted. The conical form was given to the tubes to secure stiffness and strength, and as affording a larger surface for forming the joint, but a cylindrical tube can be used without affecting the principle of the invention, and is, in some respects, preferable. The tubes may either be open at both ends, or their larger or outer ends may be closed by a metal cap, soldered to the vessel by an alloy so compounded as to melt at or below the boiling point of water.

It results from this construction that the vessel may be filled with water up to the level of the open end of that tube whose inner end is uppermost, (marked *a'* in the drawing,) and yet no water will escape in any position in which the vessel may be placed.

When the water is heated to boiling, the steam passes down tube *a'*, and escapes through its lower orifice, in the lower head of the vessel, melting the fusible solder and removing the cap in its course.

This construction is very convenient in regard to the filling of the vessel, one tube serving to introduce the water, while the other acts as a vent for the escape of air.

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

A water-vessel for steam fire-proof safes, in which the inlet and outlet-tubes are constructed and arranged, and operate substantially in the manner and for the purpose set forth.

The above specification of our said invention signed and witnessed at Boston, this 11th day of June, A. D. 1867.

EDWIN A. EATON,
WM. CARLTON IRELAND.

Witnesses:

R. A. BALLOU,
WILLIAM C. CLEVELAND.