

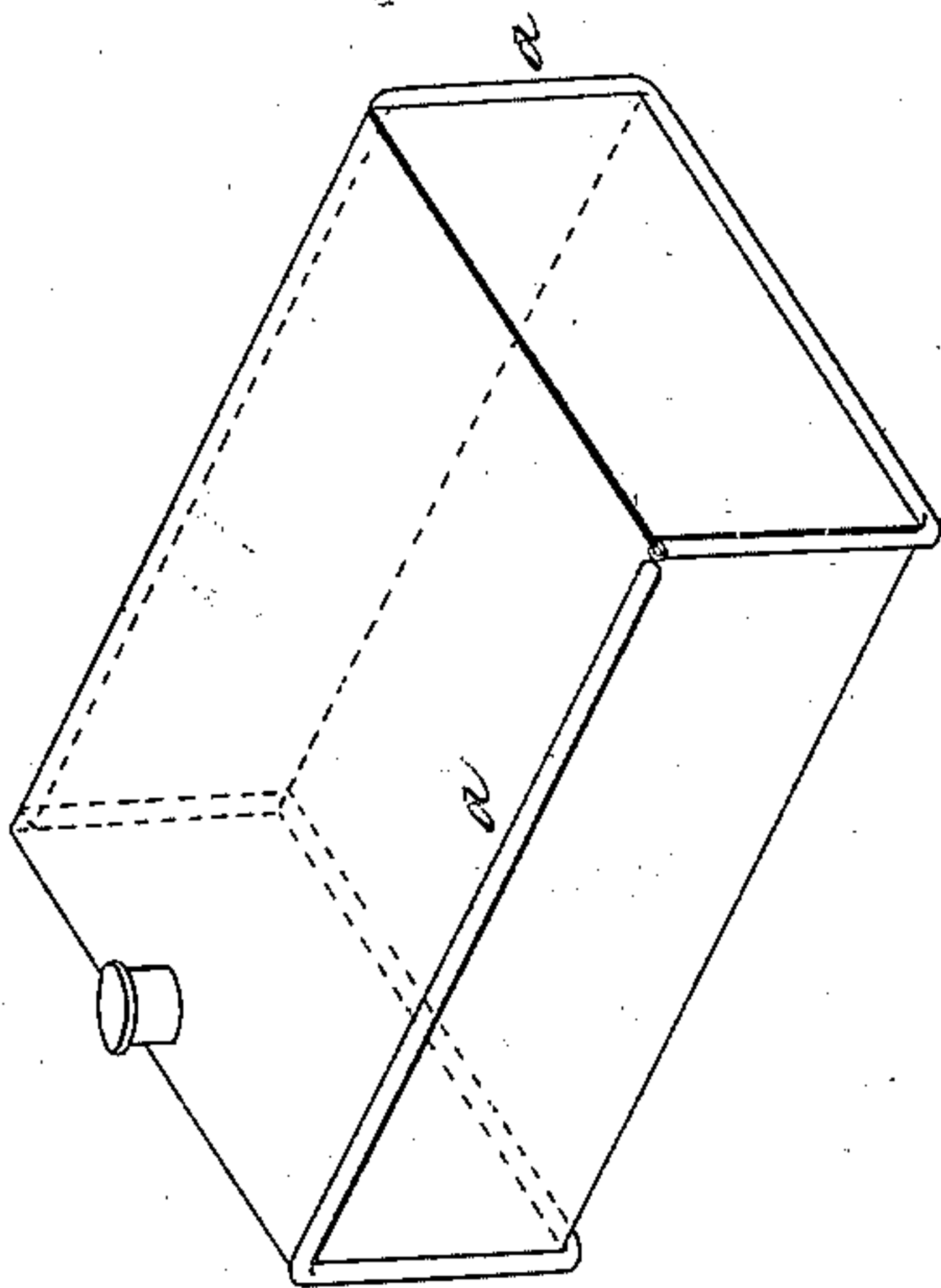
*H. H. Bryant,*

*Fire-Proof Safe.*

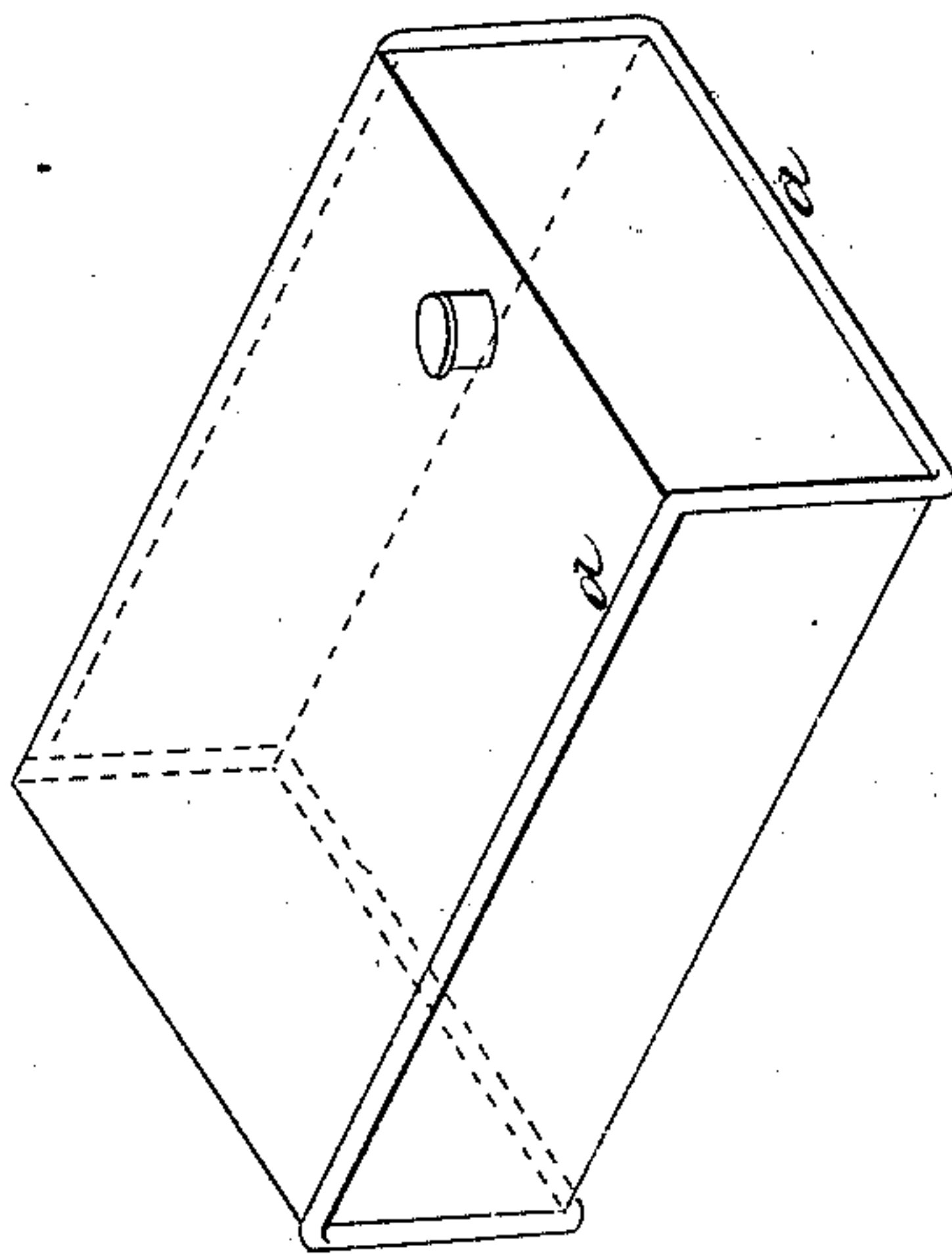
*No 79,809.*

*Patented July 14, 1868.*

*Fig 2*



*Fig 1*



*Witnesses*  
*Edmund H. Hewins*  
*Chas. L. Turner.*

*Inventor*

*H. H. Bryant*

# United States Patent Office.

HEZEKIAH H. BRYANT, OF BOSTON, MASSACHUSETTS.

*Letters Patent No. 79,809, dated July 14, 1868.*

## IMPROVEMENT IN FIRE-PROOF STRUCTURES.

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

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, HEZEKIAH H. BRYANT, of the city of Boston, county of Suffolk, and State of Massachusetts, have invented an Improved Construction of a Steam-Generator for use in safes or other structures of a similar nature; and I do hereby declare the following to be a full and correct description of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figures 1 and 2 are detached views of the same, showing the arrangement of a pipe, marked by the letter *a*, for the eduction of the steam or vapor that may be generated in said generator.

My invention consists in part of the arrangement of the pipes *a*, either within or without the generator, or in both ways, in such a manner that they will educt the steam that may be generated therein while retaining the steam-generating contents, regardless of the position in which the vessel or generator is placed.

It will be readily understood that a vessel having eight corners, (whatever its other formation may be,) if filled nearly full of a liquid may be placed in a position wherein seven of the eight corners thereof will be below the surface of the liquid, and the remaining or eighth one will mark the air-space within the vessel.

It will also be easily seen that such a vessel, so filled, cannot be placed in any position but what one or more of the corners thereof will mark the air-space therein.

From these facts it is obvious that a pipe having an opening within and without such a vessel, both of said openings placed at one and the same corner thereof, and which said pipe reaches from said corner to each and every of the others, will serve to educt the steam that may be generated in that part of the vessel, and at the same time prevent the escape of any material portion of the steam-generating contents. Whatever position the vessel may be placed in, that it will retain the liquid is apparent, from the fact that in every possible position of the vessel some portion of the pipe is above its surface, and, as it cannot rise higher than its level, it is obvious that none can escape.

By applying, under such an arrangement, one of these pipes to each corner of the vessel or generator, it readily appears that it cannot be placed in any position but that some one or more of the pipes will permit the steam to escape, and wherein none of them will allow any considerable portion of the liquid to escape. No more can pass out any time than that which is received into that part of the pipes below its surface, and which have their mouths or openings similarly located. This much would only escape when the position of the vessel was changed, and as accident could not occasion many such changes, any such loss would be quite immaterial.

These vessels or generators are intended for use in combination with safes, however named or constructed, that are intended to be made more or less fire-proof by the application of steam and otherwise. They can be suitably filled with a liquid, or with a combination thereof with any absorbent substance, as is more fully set forth in a specification made by me, describing an invention relating to safes, and which said specification was forwarded about the date of July 24, A. D. 1867, to the Commissioner of Patents, praying that Letters Patent might be granted to me for said invention.

The mouths of the pipes without the generator may be sealed with a fusible substance that will fuse at the temperature of boiling water, or they can be left open, as may be desired, or as the construction of the safe may require. Governed by the same considerations, the generator may be furnished with a pipe for supplying the liquid, as provided by my construction of a safe, patented July 16, A. D. 1867. There can be a pipe of a similar construction provided to draw the water off from the vessel, if it should be thought advisable at any time to introduce a fresh supply.

Having fully described my invention, I wish it clearly understood that I do not claim any particular number of pipes; nor the exact arrangement herein shown; nor any peculiar formation of the vessel or generator; but what I do claim, and desire to secure by Letters Patent, is—

In combination with a safe or other structure of a similar nature, the use of one or more vessels or chambers, used as steam or vapor-generators, that are provided with a suitable number of pipes, *a*, arranged substantially as and for the purpose set forth.

Witnesses:

EDMUND H. HEWINS,  
CHAS. L. TURNER.

H. H. BRYANT.