

H. H. Bryant,
Fire-Proof Safe.

N^o 66,790.

Patented July 16, 1867.

Fig. 2.

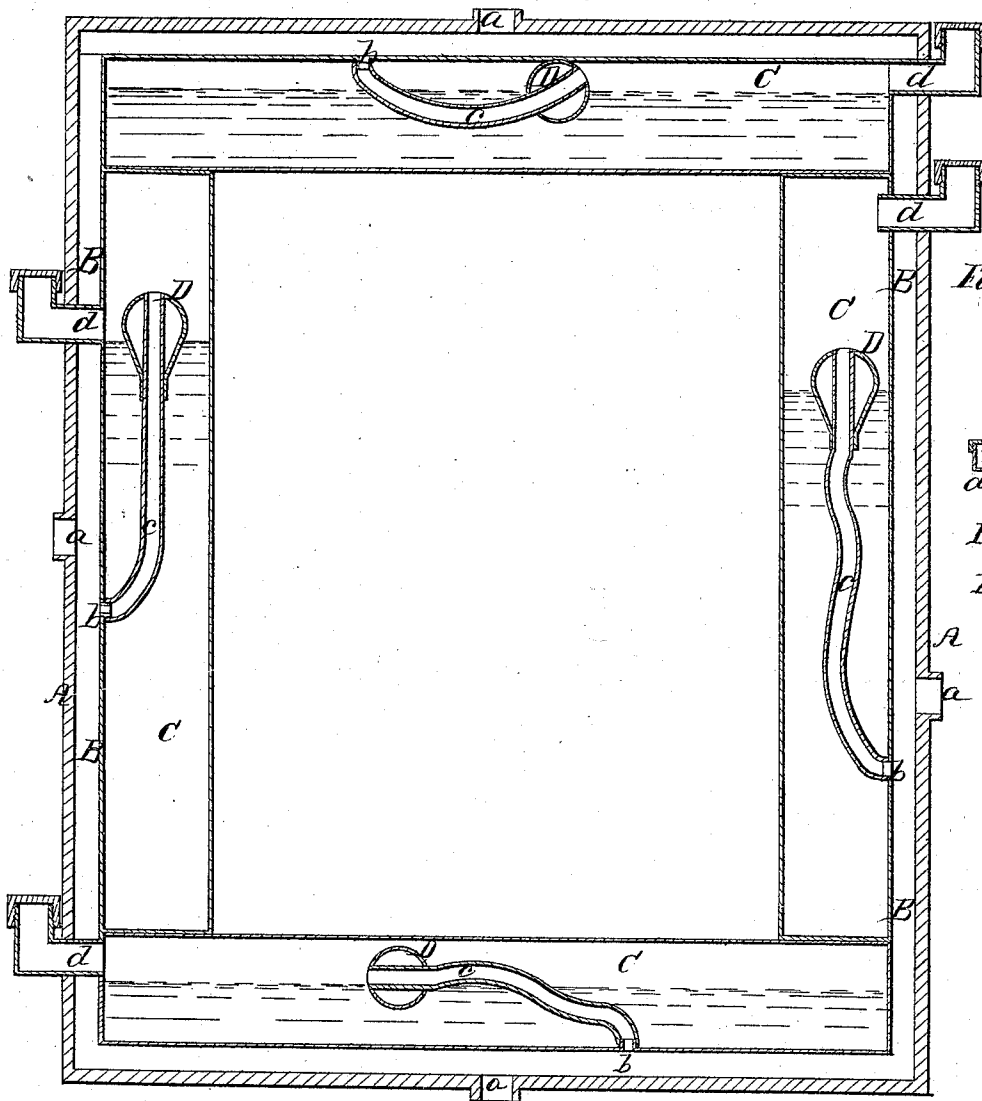
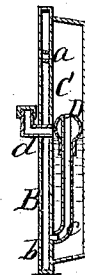


Fig. 1.



Witnesses,

J. L. Newton
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Inventor,

H. H. Bryant

United States Patent Office.

HEZEKIAH H. BRYANT, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 66,790, dated July 16, 1867.

IMPROVEMENT IN FIRE-PROOF SAFES.

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

TO WHOM IT MAY CONCERN:

Be it known that I, HEZEKIAH H. BRYANT, of Boston, in the county of Suffolk, and State of Massachusetts, have invented a new and improved Fire-Proof Safe; and I hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification, of which—

Figure 1 represents a vertical section of the door of the improved safe, showing the interior parts, &c.

Figure 2 is a vertical section of the safe, showing the interior vault and the compartments, and the other parts of the same.

The letter A represents the outer casing or shell of the structure, B its steam or air-circulating space or chamber, and *a a*, &c., outlets formed through the outer shell A, and communicating with the interior of the space B. C C C C are the steam-generators, *b b b*, &c., their vents; *c c c c* the flexible tubes connecting with such vents, and D D D, &c., the buoys or floats secured to the free ends of such tubes. *d d d*, &c., are the water-supply pipes for supplying water to the generators.

The plan of construction I propose to adopt in building my fire-proof safes, bank vaults, or other similar structures for the safe-keeping of valuable property or records, is the following, viz:

First, having constructed five sides of a case of metal or other suitable material, of any required dimensions, (see fig. 2,) I then build a tank of the same conformation in its exterior measurement, save that it is made enough smaller so that when it is placed in its proper position within the case mentioned it will leave sufficient space for the circulation of steam or air completely around it, so that every part, or nearly so, of the interior surface of the case mentioned, as well as the exterior surface of the tank, will come in contact with the air or steam, or both. This tank may contain one or more compartments. I prefer, however, to divide into five compartments, so that they represent its back, top, bottom, and two of its sides, each one of which I fill nearly full of water, for the purpose of generating steam whenever the structure may be subjected to a sufficient degree of heat. (See *c c*, &c., in the drawings, representing the several tanks or divisions of the same.) Each one of these compartments is provided with a vent or opening, *b*, leading therefrom into the space between the tank and the case A, before described. To this vent, within the compartment, I attach a flexible tube or hollow pipe, *c*, of a sufficient length to reach therefrom to any part of that compartment. To the other end of this flexible tube or pipe I fasten or attach a buoy, D, for the purpose of floating that end above the surface of the water, thereby providing a means of escape for the steam which may be generated through the vent just described, from whence it escapes through the vent or vents *a* provided in the first or outer case, or through a vent or vents that will admit it into the vault or place of deposit in the structure, and from thence through the crevices about the door. I prefer, however, to conduct the steam off into the open air without bringing it in contact with the interior of the vault, as the books or papers or other valuables deposited therein can be thus preserved unhurt and intact, whereas the action of the steam upon such books, &c., is, while leaving them still legible, to prevent them from being used in future. Each one of these compartments is also provided with a pipe, *d*, leading from the exterior surface of the first wall or case into said compartments, which pipes are so arranged as to admit as much water, and no more, to the compartments as each compartment will take and still leave the required space between the surface of the water and the walls of the compartment for the steam-escape tube to continue in working condition regardless of the position the structure may be placed in. In the remaining or sixth side of the case, first described, the door of the structure is made, upon the interior surface of which is placed a tank for water, arranged in such a manner as to allow a circulation of air and steam as described for the other portion of the structure. This is also provided with the vent, flexible tube, and buoys, shown in the several compartments before described.

The advantages which I claim, and can establish by practical tests, for my mode of building the structure herein described over those of any other manufacture now in use are these: first, that my mode of construction is cheaper than any other now in use; second, that in a given space (which is of great importance in these structures) used for water-tanks I put twice as much water as any other method, thereby more than doubling the resistance gained therefrom; third, that my mode saves the whole structure from anything more than an

unimportant damage whenever exposed to fire, while none other makes any attempt to save anything more than the deposit.

So long as the safe contains any water it will receive no more injury when subjected to the action of a heat than is received by an ordinary steam boiler.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A safe or similar structure, provided with chambers or vessels for holding water or other suitable liquid, and enclosed within an outer chamber or jacket for receiving the steam and vapor discharged from said chambers or vessels, as herein shown and set forth.

2. The combination, with one or more water-chambers or vessels, of an exterior steam or air-chamber or chambers under the arrangement herein described, so that the steam generated within the said water-chambers shall be discharged through suitable vents or valves into the exterior steam-chambers, and thence into the open air, substantially as and for the purposes specified.

3. Forming the walls of a safe or other similar structure of an inner water or other liquid-compartment, and an outer air or steam-chamber, communicating with each other and with the exterior of the structure, as and for the purposes herein shown and set forth.

4. In a safe or other similar structure, I claim the combination, with a water-chamber of suitable construction, of a flexible tube and float or buoy for conducting the steam from said chamber as herein shown and described.

5. The combination and arrangement, with the steam and water-chambers, of the vents or valves for the eduction of steam from said chambers, and for the introduction of the liquid into the water-chamber, substantially as shown and set forth.

6. The combination, with the body of a safe or similar structure of ordinary or suitable construction, of a door, in which air or steam and water-compartments are arranged, as herein specified, the said compartments being provided with vents or valves arranged to discharge the steam generated in the water-chambers in the manner described.

H. H. BRYANT.

Witnesses:

J. L. NEWTON,

F. H. APPLETON.