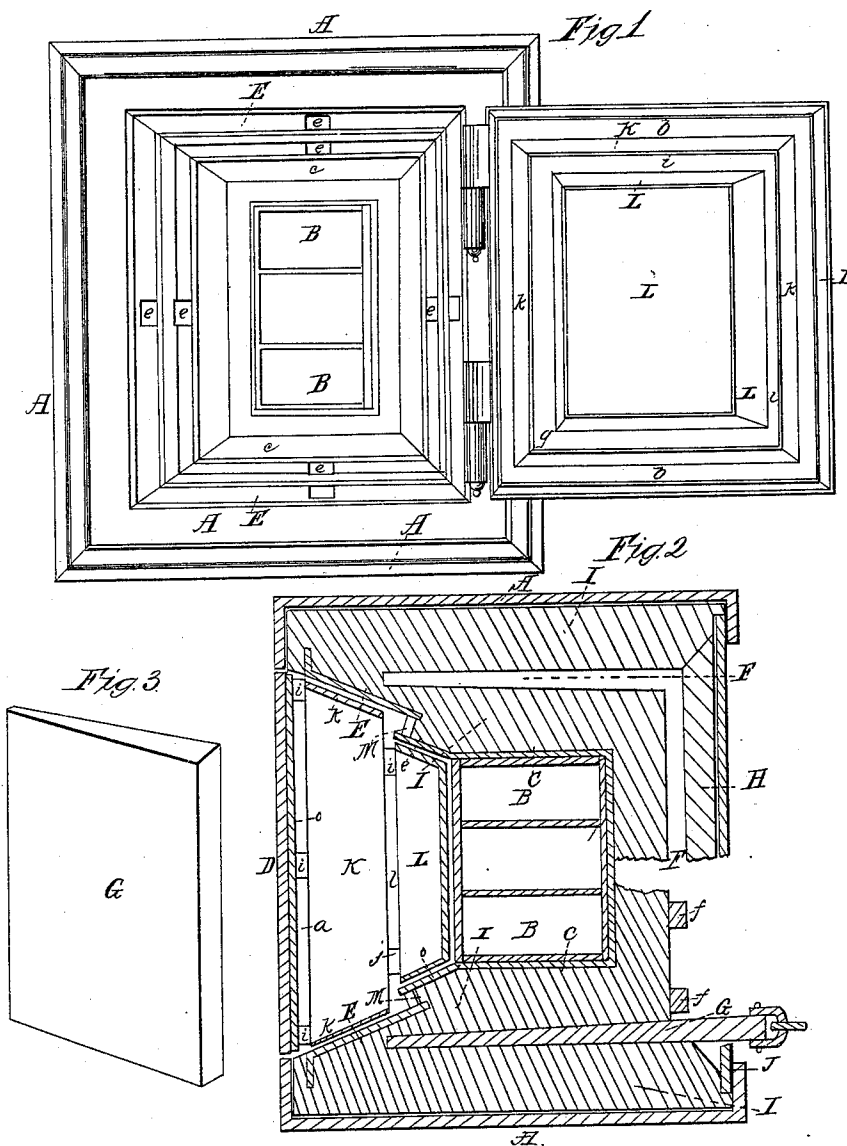


McFarland & Butler.

Fire-Proof Safe.

N^o 82,016.

Patented Sep. 8, 1868.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM MCFARLAND AND WILLIAM H. BUTLER, OF WILLIAMSBURG, N. Y.

IMPROVEMENT IN FIRE-PROOF SAFES.

Specification forming part of Letters Patent No. **82,016**, dated September 8, 1868.

To all whom it may concern:

Be it known that we, WILLIAM MCFARLAND and WILLIAM H. BUTLER, of Williamsburg, in the county of Kings and State of New York, have invented certain new and useful Improvements in Fire-Proof Safes, and methods of filling the same; and the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a front view with the door open, showing the recesses, the overlapping plates, and insulated jambs of both the body of the safe and the door. Fig. 2 shows a horizontal section through the safe, the metal plates, and interior wood-work, the filling substance, and the mode of forming spaces in the filling for containing vaporizing substances. Fig. 3 shows a perspective view of one of the wedge-shaped blocks, to be put in, the filling cast around, and then withdrawn, thereby leaving the spaces for containing the vaporizing substances.

To enable others to make and fill our improved fire-proof safe, we will describe it more in detail, referring to the drawings and to the letters thereon.

The object of our invention is the more thorough protection of books, papers, and other valuables from loss or damage by fire, which, in the safes as at present constructed, are very often found much damaged, and sometimes totally destroyed, in great conflagrations.

Our invention consists in insulating each section or recess of the door, leaving air-spaces, the plates being separated by blocks made of material which is a non-conductor of heat, so that there will be no continuation of metal or good heat-conducting substance from the outside covering to the inside receptacle.

Our invention further consists in the mode of forming cells or cavities in the concrete or filling material without the use of metal plates, and supplying the said cavities with vaporizing substance to expel the heat.

The outside case A A of our improved fire-proof safe is made of metal and put together in the usual manner. The inner portion or repository B B is also incased in metal, C C, on all sides, except for the door B, the plates C C extending forward, flaring outward, to form a portion of the jambs *ee*, which are connected to other plates,

E E, by placing blocks *eee* of some inferior conductor of heat, leaving air-spaces *dd*, or a place for the concrete or insulating substance used in filling around the repository B. The frame of plates E E, which form the greater portion of the jambs in the recess for the door D, is also made flaring, so that a sufficient opening is in front to get at the interior conveniently when the door is opened.

In order to insure the most perfect safety, the repository B is made small in proportion to the size of the body of the safe, thereby having a large space to be filled with concrete, composed of substances known to be the best non-conductors of heat, and also for forming air-spaces in the filling, or making cavities F F, which may be filled with vaporizing substance for expelling the heat, they being on all sides of the inner receptacle or repository B, except the side in which the jambs E E are fixed, in which the door D is fitted.

The cavities F F are formed in the following manner, as shown in Fig. 2: When the safe is made ready for the filling, the jambs E E are put into the outer metal case, and secured by the blocks *eee*. The inner metal case C C for the repository B is also placed in and secured to the jamb-frame E E with the non-conductor-of-heat-blocks *e*. The safe is then placed on the front for the filling process to take place, which is done as follows: Tapering pieces of hard wood G, as shown in Fig. 3, are set in, they being prepared and fitted so as to form a box on the two sides, top, and bottom, about midway in the space between the outside shell A A and the inside case C C. The concrete filling I I is then put in on both sides of the tapering blocks G, and when it becomes set the pieces are drawn out and a back board is laid in, covering the spaces F, and is then filled in over it until the outside shell is full. When the last filling has set, it is taken out and the board removed. Supporting-blocks *ff* are placed in, and the whole space around is filled with a vaporizing substance, and the last-formed slab of concrete H is put back in its place, and the back plate J of the safe is put in and secured, and the fire-proof safe completed.

The safe-door D is conducted so as to be equally defiant with the other portions of the safe, the front plate D' being of metal, the

same as the other portions of the outside, and stiffened up with a lining, *b*, next to which is an air-space, *a*, in which are placed the blocks *i i i*, which are non-conductors of heat, to which blocks the thick insulated section of the door *K* is secured, the jambs *k k* being beveled to correspond with and fit in close to the beveled jambs *E E* in the recess. Then inside of the thick section of the door *K* there is another air-space, *l l*, and another beveled section or box, *L*, filled with concrete, supported on blocks *j j*, so that there is no good heat-conducting connection between the outside shell of the safe and the inner case or repository.

Safes constructed and filled in the manner as above described have frequently been put to the most severe trial in burning warehouses, and have been subjected to the heat of a furnace for two days, and in every instance have stood the test, saving the contents from being in the least scorched or damaged in any manner.

Having thus fully described our improvements in the construction of fire-proof safes, and the mode of filling the same, what we

claim as new, and desire to secure by Letters Patent, is—

1. The insulation of each section or recess of the door, in combination with the air-spaces, as and for the purposes herein set forth.

2. The method of forming spaces in the filling of the safe, by inserting patterns of wood, to be withdrawn after the filling substance has set, and supplying said spaces with a vaporizing substance, substantially in the manner as and for the purposes herein described.

3. The manner of securing the separate sections of the doors by placing supporting-blocks made of material which is a non or inferior conductor of heat between them, so that there is no continuation of metal or good heat-conducting substance from the outside covering to the inside repository, as herein set forth.

In testimony whereof we hereunto subscribe our names.

WM. MCFARLAND.
W. H. BUTLER.

Witnesses:

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