

(No Model.)

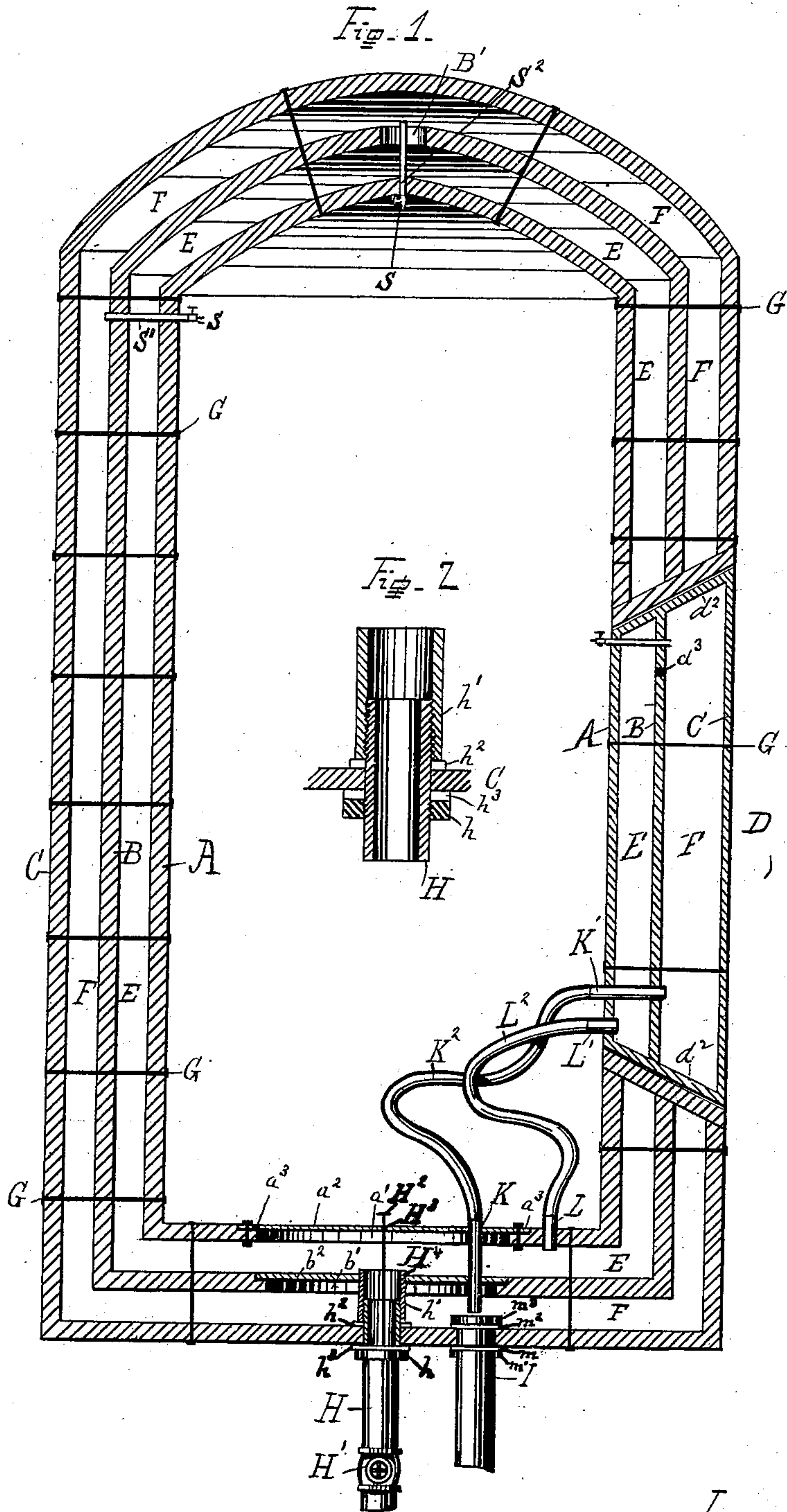
2 Sheets—Sheet 1.

W. P. WHITE.

FIRE AND BURGLAR PROOF SAFE.

No. 333,184.

Patented Dec. 29, 1885.



Attest
Jno. W. Strehlix
Chas. Hill

INVENTOR—
William P. White
per
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(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

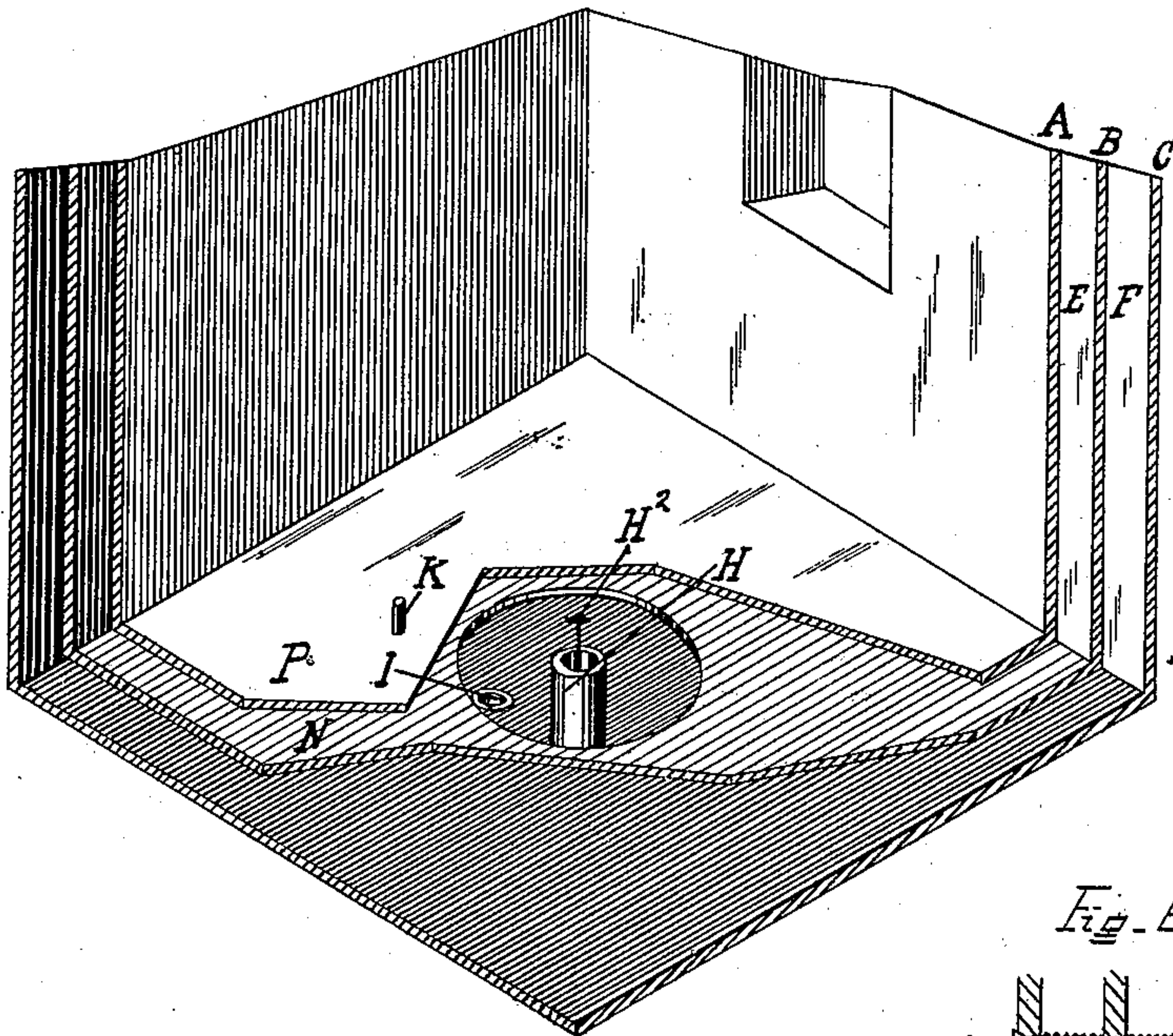


Fig. 4.

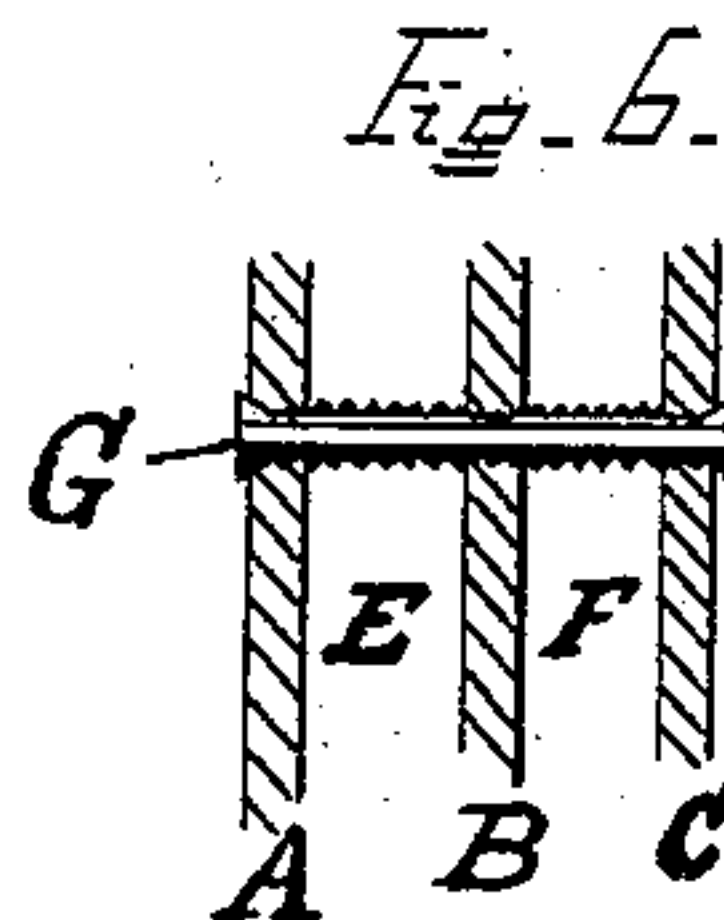
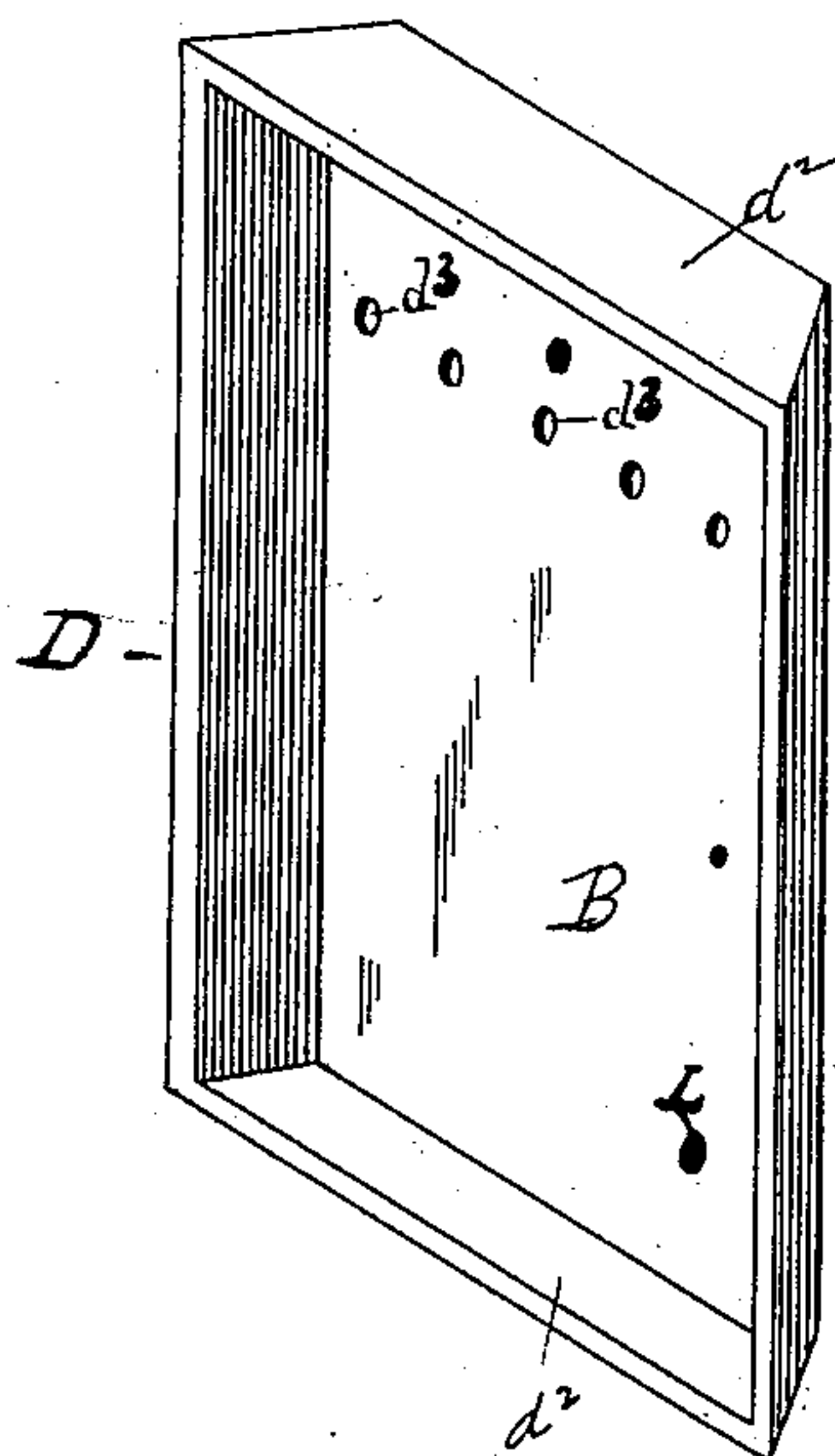
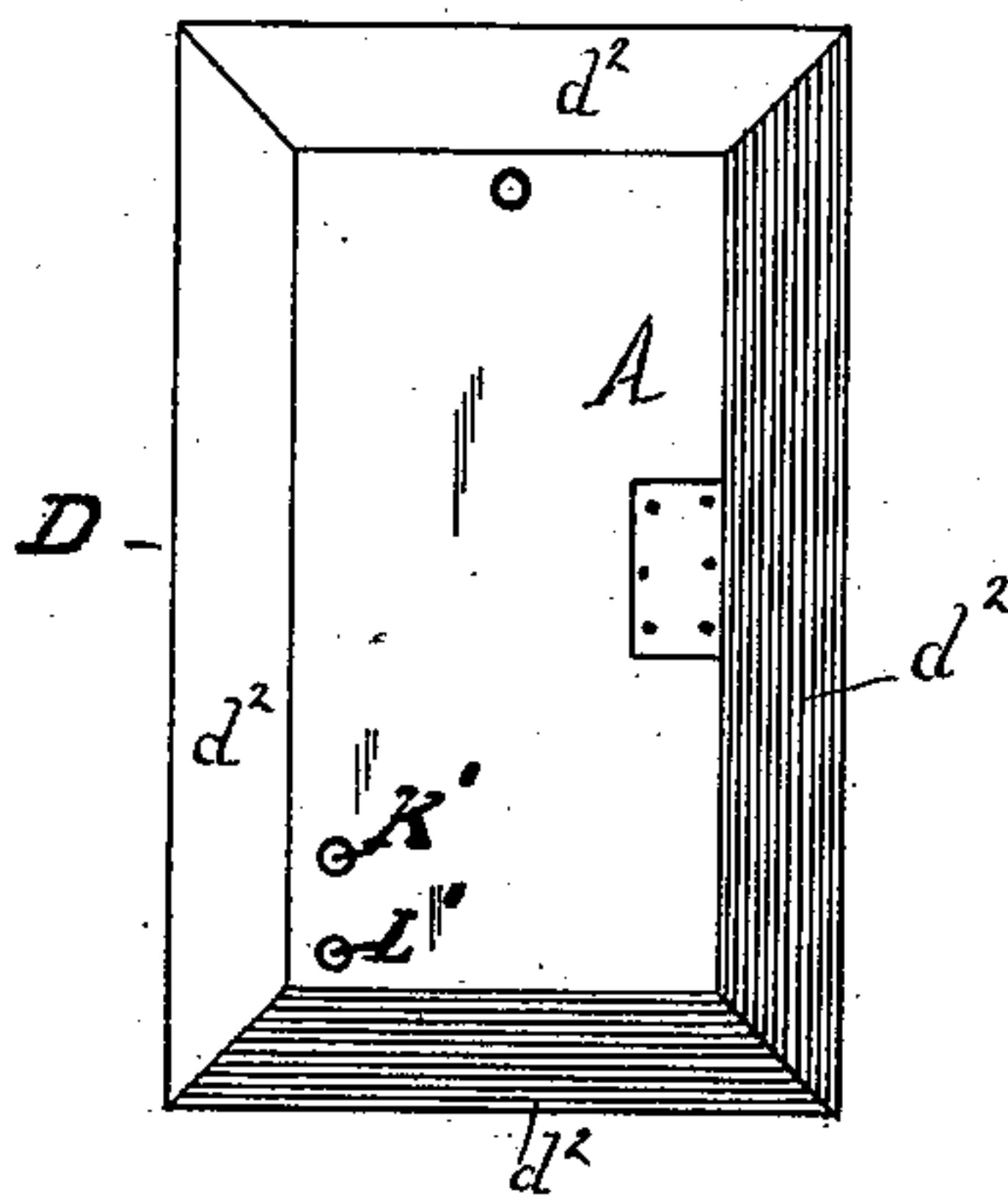


Fig. 5.



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UNITED STATES PATENT OFFICE.

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FIRE AND BURGLAR PROOF SAFE.

SPECIFICATION forming part of Letters Patent No. 333,184, dated December 29, 1885.

Application filed August 16, 1884. Serial No. 140,704. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM P. WHITE, a resident of Cincinnati, Hamilton county, and State of Ohio, have invented certain new and useful Improvements in Fire and Burglar Proof Safes, of which the following is a specification.

The several advantages resulting from the use of my invention will be apparent from the following description and claims.

In the accompanying drawings, Figure 1, Sheet 1, represents a central section from front to rear of a safe illustrating my invention. Fig. 2, Sheet 1, represents a detail of the joint made at the entrance of the inlet water-pipe into the safe. Fig. 3, Sheet 2, shows an isometric interior view of the bottom floor of the safe. Fig. 4, Sheet 2, represents a perspective view of the door, showing the openings in the middle plate of said door. Fig. 5, Sheet 2, represents an elevation of the inside face of the door. Fig. 6, Sheet 2, shows the relations of the plates to the stay-bolt, the plates being shown in section and the stay-bolt in elevation.

The safe consists of three iron plates or boxes placed one within the other, and separated from each other by spaces of considerable size. The inmost plate is marked A, the middle one B, and the outside one C.

E indicates the space between the plates A and B, and F represents the space between the plates B and C.

The door D is also preferably made of three plates, A, B, and C, united by ends and sides d^2 , forming two compartments or spaces, E and F, within the door. The three plates A, B, and C are held together, and at the same time held apart, forming a rigid whole, and the preferable means for thus securing them in such position are the stay-bolts G. Large numbers of these stay-bolts are put through the three plates and their ends headed. The door D is similarly held together, preferably by stay-bolts G.

Entering the safe at some convenient point, preferably in the bottom, is a pipe, H, which passes by means of its prolongation h' through the plates C and B, to open directly into the space E. This pipe H is connected with the water-main of the city, or an equivalent source from whence the water is supplied under

pressure. This pipe H has a valve, H' , in it, which controls the passage of the water through it into the safe.

The joint between the pipe H and the plate C must be water-tight, and is made in the following manner: The pipe H is first fitted as closely as possible into the opening in the plate C, and the preferable means for securing said pipe H in said plate and making it liquid-tight at its junction with the bottom plate is as follows: The collar h is screwed onto the pipe H, and compresses between itself and the bottom of the plate C the elastic washer h^3 . On the upper side of the bottom plate an elastic washer, h^2 , is slipped over the pipe H, and is compressed between the flange of pipe H and plate C by the short pipe H^4 , which screws down over the end of pipe H, and in this manner completes the joint.

In the bottom of the plate A is an opening, a' , covered by the plate a^2 , secured in a manner to be water-tight, and preferably adjustable to the plate A. The preferred means for rendering it water-tight consists of the elastic annular washer a^3 , interposed between the floor and plate, and the plate a^2 being bolted down, a joint is formed sufficiently tight to prevent the water entering the main cavity of the safe. Usually, the better to prevent lateral displacement of the plate a^2 and economize space, the plate a^2 is let down into the floor, as shown.

In the bottom of plate B is also an opening, b' , somewhat smaller than the opening immediately over it, so that its cover b^2 can be removed through the opening a' above it. The cover b^2 need not be bolted in position, as its own weight, coupled with a slightly greater water-pressure on its upper surface, will hold it in place. It is unnecessary to make a tight joint here, as a slight leakage is immaterial. For preventing lateral displacement of this cover b^2 , the latter fits within lugs or an annular flange projecting upward from the upper side of said cover, or is let down, into the plate B.

The pipe H is provided with a suitable stop-cock, and this is preferably arranged so that it can be operated only from within the safe. For example, the cock or valve H' cannot be turned outside of the safe; but a stem or turn-key, H^2 , rigidly attached thereto passes up through pipe H, and through the plate A up

into the interior of the safe, a stuffing-box or equivalent device, H^3 , being located at the point where said turn-key H^2 passes through said plate. By turning said key H^2 the supply of water to the chambers or spaces E and F can be opened, cut off, and otherwise regulated at will.

In the top portion of plate B is made an opening, B' , connecting the spaces E and F. An exhaust-pipe, I, leads away from the space F, through plate C, into the sewer or other wasteway, and this pipe is regulated by a suitable cock or plug, preferably placed in that portion of said pipe which is in the street. This pipe is also provided with suitable means for making it water-tight, and the preferable means for this purpose is the annular packing or washer m , interposed between the bottom of the plate C and a collar, m' , screwed up against said washer, and on the upper side of plate C and around pipe I is placed an elastic washer, m^2 , compressed by a collar, m^3 , screwed down against the washer m^2 .

Where, as will be usually the case, the door is to be provided with the same means in general for rendering it fire and burglar proof, its water supply and discharge pipes will preferably be located as follows: A short pipe, K, passes through the two plates A and B, the joints being made water-tight. A short pipe, L, also passes through the plate A, opening into space E. Corresponding pipes, $K' L'$, are put in the door D, the pipe L' connecting with space E, and pipe K' connecting with space F. Two pieces of hose or flexible pipe, $K^2 L^2$, long enough to allow the door to open, connect pipes L and L' and K and K' , respectively. Through the plate B of door D a series of openings, d^3 , connects the spaces E and F. At the inside of the safe are placed one or more vent-conduits, $S' S^2$, controlled by suitable cocks, S, for enabling the air in the spaces to pass out into the interior of the safe, and allow the water to flow into and more fully fill the chambers E and F.

The particular object of the vent-conduit S^2 is as follows: By keeping the conduit S' closed and the vent-conduit S^2 open the water will fill in the spaces E and F to the height of conduit S' , and then leave a certain quantity of air in the upper portion of the space. In case a burglar puts a plug or other cartridge in one or the other of the spaces, the presence of the air in the spaces will allow the water to give way by compressing the air, and thus lessen the chances of the exploding cartridge bursting the plates of the safe.

The construction of the safe in three plates also operates against the burglar as follows: An explosion in the space F could, at most, blow open only the outer plate, C, as the two plates B and A would present double the resistance of the plate C. In like manner a charge placed in space E would, at most, operate or blow open only the inner plate, A, as the two plates C and B would present double the resistance of the plate A.

The mode of operation is as follows: The valve H' is opened and the water flows into the space E, completely filling it, and then passes out through the opening B' into space F, which latter it fills. From space F the water finds its exit through the pipe I. The height of the water in space E forces water up through the pipes $L L^2 L'$ into the space E in the door, which it fills, and then passes through the openings d^3 into the space F, and out of this through the pipes $K' K^2 K$ into the space F, from which it wastes, as previously described.

The water will always be present in the safe, and under the same pressure as in the mains of the street or other source of supply. The water in the safe need not circulate through the safe, except in case of fire. At other times it is unnecessary and would be quite expensive; but in case of fire it is invaluable, as by means of it a constant stream of cold water is made to flow around the safe and keep its contents cool and prevent them being injured by the heat. The plug which controls the flow of water through the exit-pipe I, and which plug, as before stated, is usually located in the street and can be readily reached in case of fire, is opened, and the water will then circulate through the safe. As the water in the spaces is continually supplied from a street water-main or equivalent constant source of water-supply, it will present a great obstacle to the efforts of a burglar to break into the safe, for the reason that upon breaking into the space F, or both spaces F and E, the water will rush out and completely impede his efforts to break into the safe, and at the same time will flood the room and contribute to give outside notice that some improper source of water-supply has been opened.

The union of the plates A, B, and C is preferably strengthened, as afore mentioned, by suitable stay-bolts, G. The preferred mode of constructing said stay-bolts and applying them is as follows: The bolt is exteriorly screw-threaded, and the openings in each plate through which the bolt is passed are interiorly screw-threaded, and their openings at the outer face of plates A and C are countersunk. The bolt G is then screwed into said plates A B C, and each end of the bolt is then headed into its respective countersunk cavity. Such a combination makes a strong and durable connection, and one that is burglar-proof, as the burglar, after cutting off the head of the bolt, cannot drive it through the plates, because of its screw engaging the screw-thread in the plates.

The top of each plate or box is preferably arched or made in a conical shape, to impart additional strength to the safe, and the better enable it to resist the falling walls of the building in which the safe is located.

The safe should be placed on a solid foundation of suitable material, or built into the wall or walls of the building.

While the various features of my invention

are preferably employed together, one or more of said features may be employed without the remainder. In so far as applicable, one or more of said features may be employed in connection with safes other than the one herein particularly described.

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

1. In a safe, the three plates A, B, and C, plate B inclosing plate A and forming water-space E, plate C inclosing plate B and forming water-space F, inlet-pipe H, communicating with the lower space, E, and the exit-pipe I, communicating with space F, and opening B', located in the upper portion of plate B, substantially as and for the purposes specified.

2. In a safe, the combination of the three plates A, B, and C, forming the spaces E F, inlet-pipe H, communicating with space E, movable cover a^2 , located in the bottom of plate A, cover b^2 , located in the bottom of plate B, opening B', and exit-pipe I, substantially as and for the purposes specified.

3. In a safe, the combination of plates A, B, and C, forming spaces E F, and the pipe H, communicating with the space E and passing through the bottom of plate C, and the collar h , packing h^3 , packing h^2 , and pipe H^4 , substantially as and for the purposes specified.

4. In a safe, the combination of plates A, B, and C, forming spaces E F, and pipe H, communicating with space E and passing through the plate C, and collar h , packing h^3 , packing h^2 , and pipe H^4 , cover a^2 , located in the bottom of plate A, and cover b^2 , located in the bottom of plate B, the end of pipe H^4 passing through cover b^2 , and being located directly beneath the cover a^2 , substantially as and for the purposes specified.

5. In a safe, the combination of plates A, B, and C, forming chambers E and F, and pipe H, communicating with space E, exit-

pipe I, communicating with space F, and provided with collar m , packing m' , and collar m^2 , and packing m^3 , substantially as and for the purposes specified.

6. In a safe, the combination of plates A, B, and C, forming spaces E and F, for the circulation of water from one to the other, the door D, having partition B and spaces E F, and inlet and outlet pipes having flexible connections, substantially as and for the purposes specified.

7. In a safe between whose plates water circulates, the inlet-pipe H, provided with cock or valve H' and having turn-key H^2 passing up through said pipe and into the interior of said safe, substantially as and for the purposes specified.

8. In a safe, the plates A, B, and C, forming the spaces E and F, the inlet-pipe H, and vent-conduit S', substantially as and for the purposes specified.

9. In a safe, the plates A B C, forming spaces E and F, inlet-pipe H, vent-conduit S', cock S, opening B', and exit-pipe I, substantially as and for the purposes specified.

10. In a safe, the combination of plates A, B, and C, forming spaces E and F, and the inlet-pipe H and exit-pipe I, and door having spaces E F, and inlet and outlet pipes, said plates A B C having screw-threaded openings provided at their outer face with a counter-sunk cavity, and the stay-bolt exteriorly threaded and headed in each of said counter-sunk cavities, substantially as and for the purposes specified.

11. In a safe, the combination of the three plates A, B, and C, forming spaces E and F, inlet-pipe, and opening B', substantially as and for the purposes specified.

WILLIAM P. WHITE.

Attest:

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