No. 632,528. Patented Sept. 5, 1899.

W. S. HULL.

FIREPROOF STRUCTURE.

(Application filed June 12, 1899.)

(No Model.)

Fig. 1.

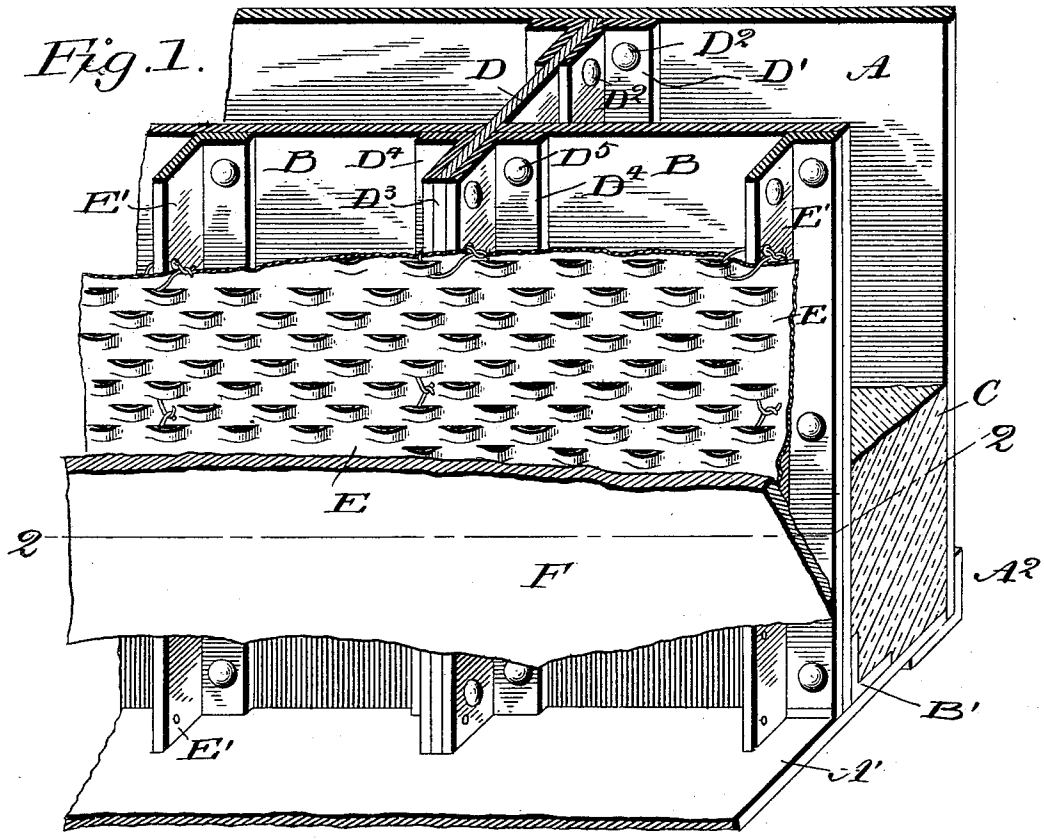
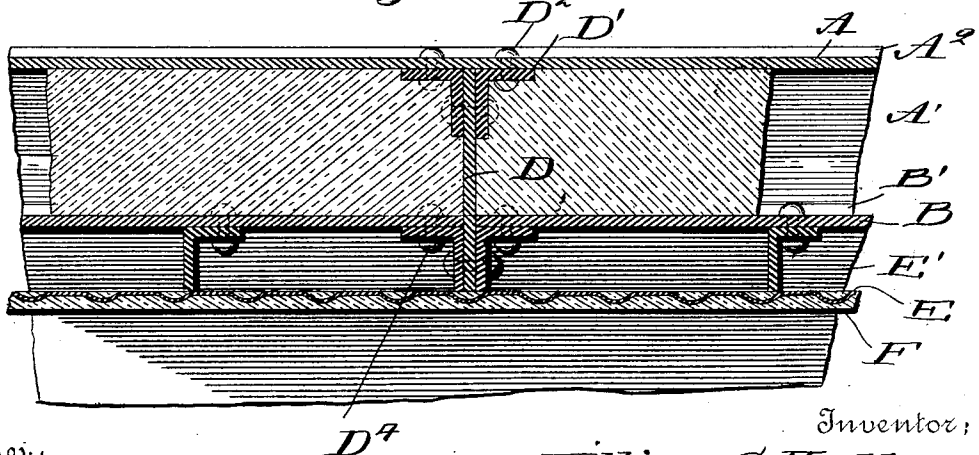


Fig. 2.



Witnesses
L. C. Hills,
Alfred T. Gage.

Inventor;
William S. Hull,
By E. B. Stocking
Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM S. HULL, OF JACKSON, MISSISSIPPI.

FIREPROOF STRUCTURE.

SPECIFICATION forming part of Letters Patent No. 632,528, dated September 5, 1899.

Application filed June 12, 1899. Serial No. 720,223. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. HULL, a citizen of the United States, residing at Jackson, in the county of Hinds and State of Mississippi, have invented certain new and useful Improvements in Fireproof Structures, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to fireproof structures, and particularly to a vault or compartment constructed of metallic plate and a suitable fireproof cement.

Heretofore in the construction of vaults lined with metallic plate the moisture in the air has condensed thereon and, flowing down the plates in streams or drops, becomes very troublesome in rendering the compartment damp and injurying by mold papers or other articles which may be stored in said vault. In the construction of vaults it has also been found difficult to prevent expansion and buckling of the plate by the force of the hot cement poured into the shell, and the construction herewith presented is adapted to form a thoroughly rigid and unyielding wall, preventing the buckling of the plate and cracking or fissures in the cement filling when it is dried out.

This invention has for its object to obviate the difficulties before mentioned and to provide a structure of plastered face supported at a distance from the metallic plate to prevent the deposit of moisture thereof and to form an air-space between said face and plate.

A further object of the invention is to provide a particular construction of parts whereby the vault may be readily and quickly constructed and the same divided into a series of compartments or spaces, whereby the cement will not be held in one continuous mass, which causes shrinkage and cracks, as before stated.

In the drawings, Figure 1 is a sectional perspective of one wall of a vault with parts broken away, and Fig. 2 is a horizontal section on the line 2 2 of Fig. 1.

Like letters of reference indicate like parts throughout both figures of the drawings.

The letter A designates the outer wall of a safe or vault, which is illustrated in the present instance as a suitable plate of steel or iron and is connected with a base-plate A′ in any suitable manner—for instance, by means of an angle-iron A^2—at the point of union between the two plates. An inner plate B is also provided, and the plates A and B constitute a shell, between which a suitable fireproof filling C, of cement or any suitable material, may be introduced. The wall B may be supported at its base by means of an angle-plate B′, connected to the base-plate A′ and to the lower portion of the plate B.

My improved method of connecting the plates A and B together and forming the compartments for the cement consists of the partition-plates D, located at suitable intervals from each other. These partition-plates are secured to the plate A by means of angle plates or irons D′, secured to the plate A by any suitable means—for instance, rivets or bolts D^2. The plates D extend beyond the inner plates B, as shown at D^3, and are secured thereto by angle-plates D^4 and suitable fastening devices D^5, as shown. This extended portion D^3 forms a projection or furring, to which a metallic lathing may be attached by any well-known means, and upon this lathing a suitable cement or plaster F is applied to form an inner face or covering for the wall B, which prevents the moisture of the atmosphere from coming into contact with the steel plate, and hence there is no condensation from the moist atmosphere, as the air-space between the plaster and the plate assists in keeping the plaster dry, and the confined air also resists the conduction of any heat through the cement, thus giving additional protection from fire.

In addition to the angle-plates D^4, secured to the plate D, other plates or bars E′ may be used to assist in supporting the metallic lathing and the coating thereon, which coating, it may be mentioned, is capable of receiving a much more artistic decoration or finish than the ordinary metallic plates forming the walls of the vault. It may here be stated that the vault may be incased with a brick or masonry wall upon all sides, as is usual in this class of structures.

The partition-plates D will be located at suitable intervals apart, so as to retain the cement in short blocks or sections, and the angle-plates for holding said partition greatly increase the strength and stiffness of the

walls, while the angles upon the inner plate form furring for the application of the metallic lathing, as described.

In the structure of this vault it will be seen that after the erection of the plate A the partition-plates may be applied and riveted in position, after which the inner plates B may be fitted between and secured to said partition-plates. The metallic lathing and plaster finish thereon can be then properly applied. This invention therefore applies a practical remedy for the wet or damp walls of the vault and materially increases the strength of said walls, while economizing the structural cost thereof. A better fire protection is also obtained by reason of the air-space between the plaster and steel wall and a practical surface for the purpose of decoration presented.

It is obvious that changes may be made in the material used, the details of construction, and the configuration of the several parts without departing from the spirit of the invention as defined by the appended claims.

The term "angle plate or iron" as referred to in the foregoing specification is intended to cover any form of plate or iron having one or more walls at an angle to each other—such, for instance, as channel-irons or Z-bars.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a fireproof structure, an outer wall-plate, an inner wall-plate, and a partition-plate extending between the same and beyond the inner face of the inner plate to provide a furring; substantially as specified.

2. In a fireproof structure, an outer wall-plate, an inner wall-plate, a partition-plate extending between the same and beyond the inner face of the inner plate, and a lathing secured to the inner end of said partition-plate; substantially as specified.

3. In a fireproof structure, an outer wall-plate, an inner wall-plate, a partition-plate extending between the same and beyond the inner face of the inner plate, angle-irons located upon the inner faces of both plates and secured to said partition, and a filler between said plates; substantially as specified.

4. In a fireproof structure, an outer wall-plate, an inner wall-plate, a partition-plate extending between the same and beyond the inner face of the inner plate, angle-irons located upon the inner faces of both plates and secured to said partition, a metallic lathing supported from the inner face of the inner plate, and a plaster or cement finish carried by said lathing; substantially as specified.

5. In a fireproof structure, an outer wall-plate, an inner wall-plate, a partition-plate extending between the same and beyond the inner face of the inner plate, angle-irons located upon the inner faces of both plates and secured to said partition, a metallic lathing supported from the inner face of the inner plate, a plaster or cement finish carried by said lathing, and angle-irons bolted to said inner plate between said partition-plates for supporting said lathing; substantially as specified.

6. In a fireproof structure, a base-plate, inner and outer wall-plates constituting the shell, a partition-plate between said wall-plates, a cement filler between said plates, angle-irons upon the inner face of the inner plate, a metallic lathing connected to said irons to form an air-space between said lathing and inner plate, and a plaster finish carried by said lathing; substantially as specified.

7. In a fireproof structure, an outer wall-plate, an inner wall-plate spaced therefrom, angle-irons secured to said inner plate and projecting inward therefrom, a lathing supported from said angle-irons, and a finishing-surface carried by said lathing; substantially as specified.

8. In a fireproof structure, an outer wall-plate, an inner wall-plate, angle-irons located on the inner face of both plates, a metallic lathing supported from the inner face of the inner plate, a plaster or cement finish carried by said lathing; substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM S. HULL.

Witnesses:
B. L. TODD,
A. S. J. MARTZ.