G. O. SIMPSON.

CEMETERY STRUCTURE.

APPLICATION FILED MAR. 11, 1908.

934,764.

Patented Sept. 21, 1909.

3 SHEETS—SHEET 1.

Fig. 1.

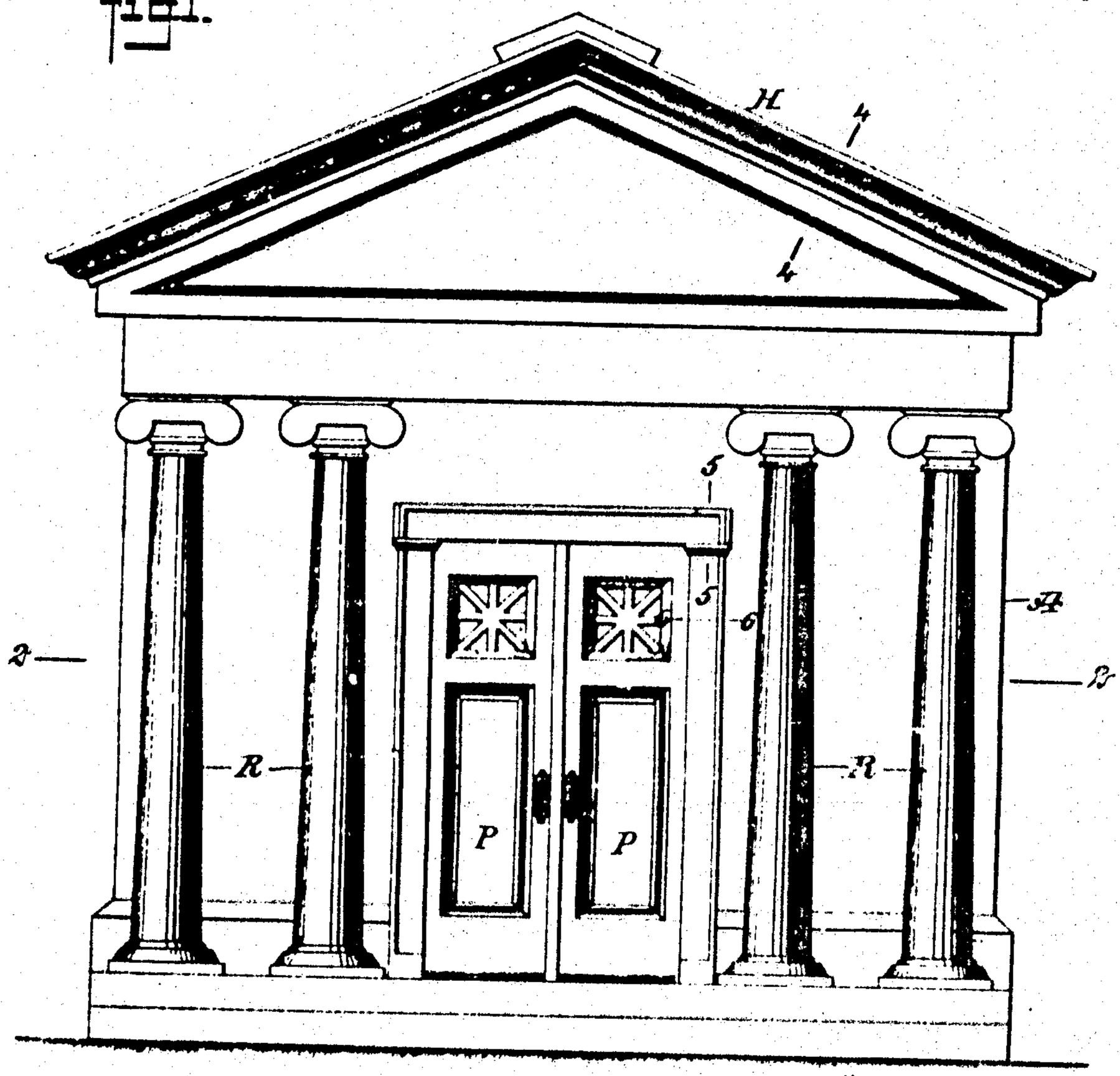


Fig. 4

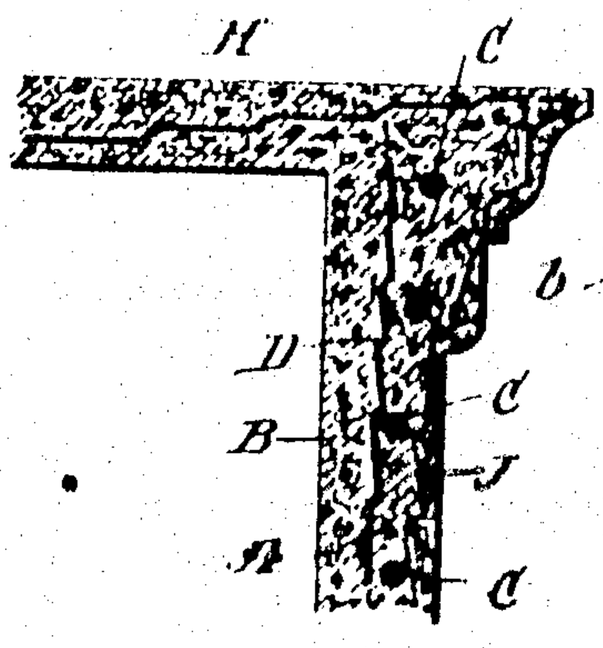
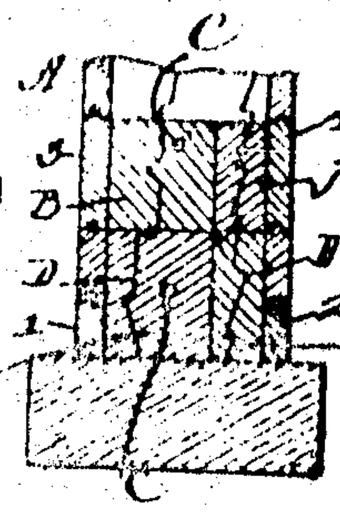


Fig. 7.



WITNESSES

INVENTOR

BY

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3 SHEETS—SHEET 2.

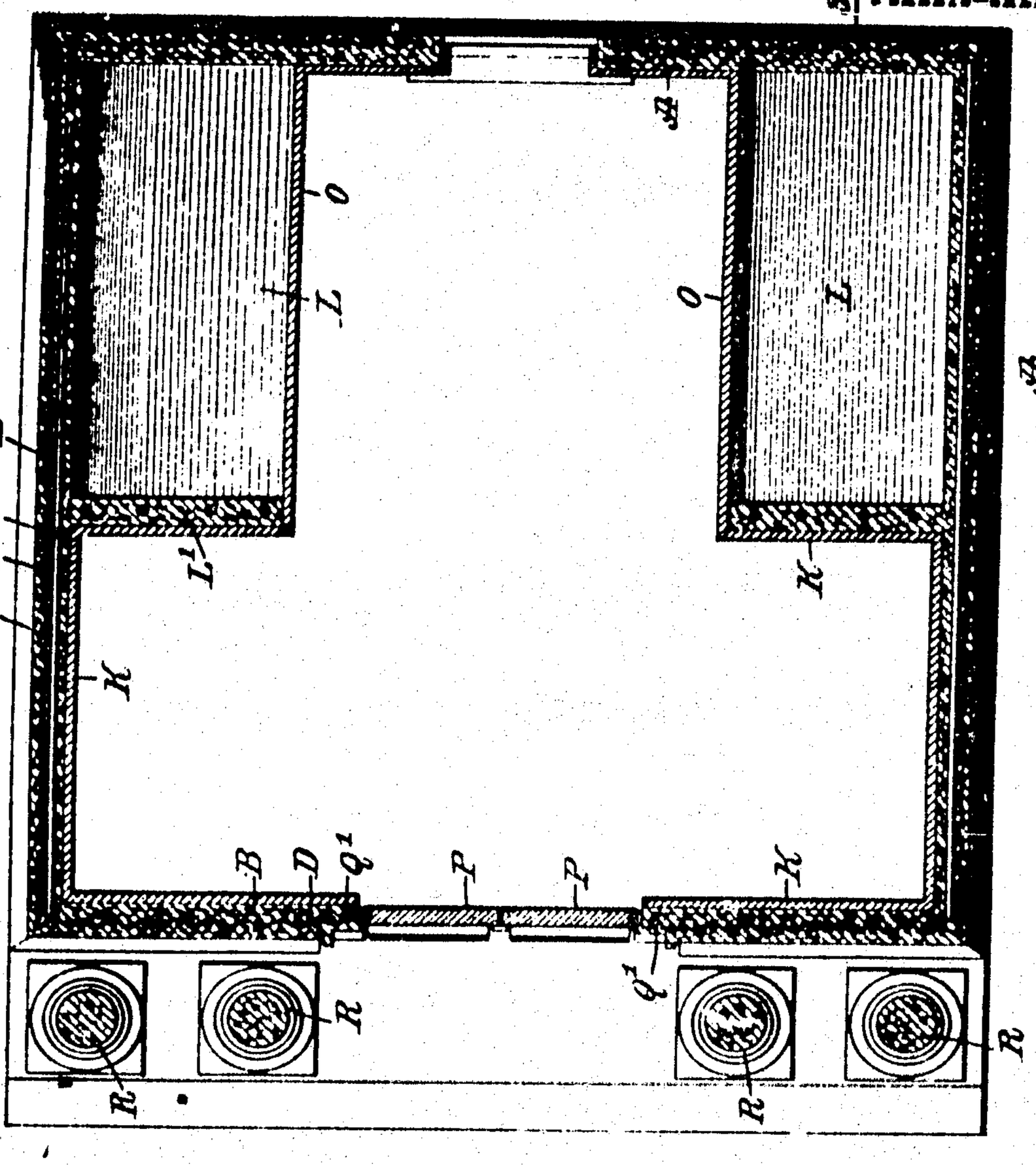

FIG. 2.

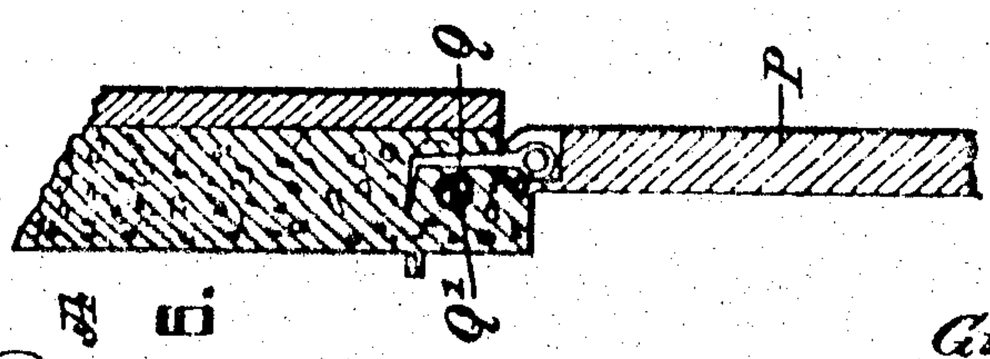

FIG. 3.

WITNESSES

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3 SHEETS—SHEET 2.

Fig. 3.

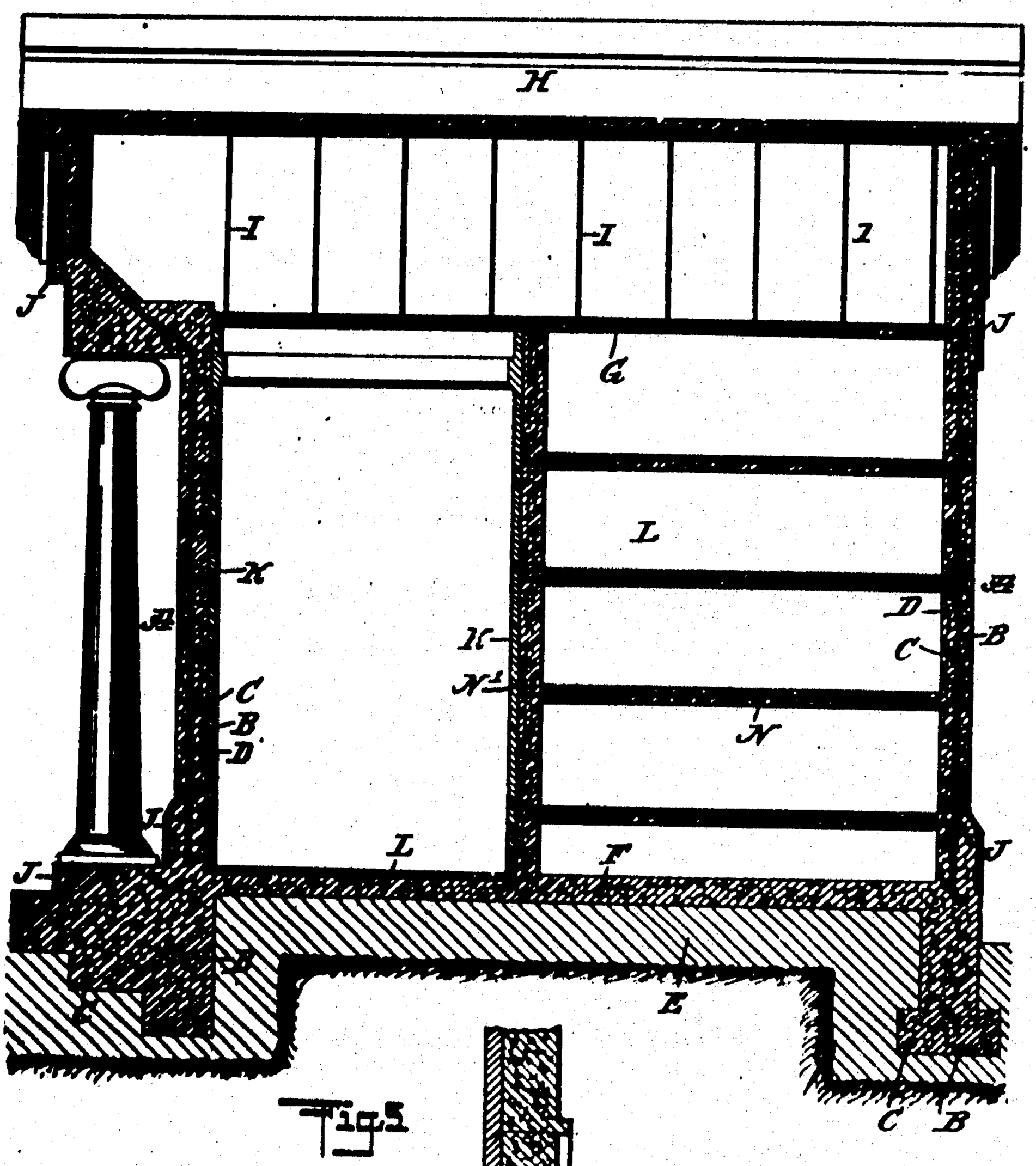

Fig. 5.

WITNESSES

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UNITED STATES PATENT OFFICE.

GUY CARLETON SIMPSON, OF WEST NEWTON, MASSACHUSETTS, ASSIGNOR TO ELMER C. WILLISON, OF BOSTON, MASSACHUSETTS.

CEMETERY STRUCTURE.

934,764. Specification of Letters Patent. Patented Sept. 21, 1909.

Application filed March 11, 1908. Serial No. 420,289.

To all whom it may concern:

Be it known that I, GUY C. SIMPSON, a citizen of the United States, and a resident of West Newton, in the county of Middlesex and State of Massachusetts, have invented a new and Improved Cemetery Structure, of which the following is a full, clear, and exact description.

The invention relates to reinforced concrete, and its object is to provide certain new and useful improvements in cemetery structures, such as mausoleums, memorials, burial vaults and the like, whereby the structure is rendered exceedingly durable and fireproof, can be cheaply erected, and enables the builder to provide any desired architectural features and an unlimited variety of designs and appearances.

The invention consists of novel features and parts and combinations of the same, which will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a front elevation of the improvement in the form of a mausoleum; Fig. 2 is a sectional plan view of the same on the line 2—2 of Fig. 1; Fig. 3 is a transverse section of the same on the line 3—3 of Fig. 2; Fig. 4 is an enlarged cross section of a portion of the front and roof, the section being on the line 4—4 of Fig. 1; Fig. 5 is an enlarged transverse section of part of the wall and the entrance door frame, the section being on the line 5—5 of Fig. 1; Fig. 6 is a sectional plan view of the same on the line 6—6 of Fig. 1; and Fig. 7 is an enlarged sectional elevation of the reinforced wall and the reinforced exterior grout coating.

The mausoleum illustrated in the drawings has the main walls A formed of concrete material B, in which are embedded horizontally disposed metal bars C and vertically arranged sheets D of expanded metal or the like, to strongly reinforce the concrete material and thus prevent cracking of the main walls A. The entire structure is erected on a suitable cinder foundation E. The floor F is of unreinforced concrete, finished preferably in cementine, granolith, terrazzo or mosaic. The ceiling G is preferably formed of cement, plaster or imitation marble, and is suspended from the roof H. The floor F, the ceiling G and the roof H are integrally connected with the main side walls A, and the said ceiling G and the roof H are connected with each other by vertical braces I in the form of metal rods having angular ends embedded in the ceiling G and the roof H (see Fig. 3). The roof H is of reinforced concrete material, rendered waterproof by the addition of a suitable waterproofing mixture. Said roof is formed of two slabs spanning from a central ridge beam to the side walls.

All finished exterior surfaces of the entire structure are covered exteriorly by a coating of grout or mortar, laid on at the time the wall is built up, so that the grout sets at the same time with the concrete material of the wall and hence becomes an integral part of the same. The mixture of the grout coating is waterproof and is such as to imitate any kind of stone or to give the mixture a cementine appearance in color. The grout coating is reinforced by expanded metal lath or the like, as all complex surfaces, to prevent cracking of the coating, and the coating is fashioned to represent any desired exterior decoration. Thus, for instance, the door frames, cornices, base bands, ornamental carvings and the like are fashioned integrally out of the coating according to a predetermined design. In that portion of the exterior surface where the design may call for it, this coating is to be finished by troweling or by any of the methods of tooling that are applied to building stones. Where carvings are to be rendered on this coating, said coating is molded approximately coarse, in such a way that the carving may be done to conform to the design desired. Where the design may call for it, other external and internal decoration, such as festoons, rosettes, busts, bas reliefs and the like, and preferably made of metal or other material, are embedded with their backs in the concrete main wall or the coating thereof.

The interior finish of the walls A is preferably by the use of slabs K of marble, plaster, imitation marble or the like, and within the structure are erected one or more crypts L, the backs and rear ends of which are formed by portions of the main walls A (see Fig. 2), while the other end L' is made

of reinforced concrete joining the corresponding wall A. Each of the crypts L is provided with a series of floors N, to divide each crypt into a series of compartments, one for a single coffin, and the fronts or entrances to the said compartments are closed by marble slabs O, removably held by suitable fastening devices in position. The floors N are made of reinforced concrete, as indicated in Fig. 3, and integrally joined with the walls, and anchors or dowel pins N' are anchored in the walls and the floors N, so as to give the desired support to the floors N. The doors P are hung on pivots attached to brackets formed preferably in the shape of hooks, and the portion of the main wall A for this bracket is reinforced by a heavy vertically-disposed metallic rod Q', as indicated in said Fig. 6. Columns and pilasters and their bases and capitals or similar ornamental features R, may either be made of concrete suitably reinforced and made an integral part of the structure, or may be of granite, marble, or any other material.

In building the walls A and their coatings J, use is made of suitable forms or molds into which the expanded metal lath grout reinforcement is placed a distance from the inner face of the form, equal to about one-half of the thickness of the required grout facing or coating J. The concrete wall A is placed in the forms, in successive layers about one foot deep each, in such a way as to occupy its portion of the entire wall and coating. As each layer of the concrete backing is placed, the grout coating is immediately poured into the space between the concrete already placed and the inside of the form. The forms are built up as the concrete is placed, so as not to interfere with the proper placing of the materials that compose the wall.

When the wall is entirely placed its sides are entirely inclosed in forms, but these forms are built up as the concrete and grout coating are placed. The vertical reinforcement (the metal fabric) for the wall proper and the grout is entirely placed when the lowest portion of grout in the concrete wall is placed. Assume footing of wall A, to have been placed before the construction of the wall proper is started. Forms 1 and 2 are placed and braced. The metal fabric D. D'. for vertical reinforcement is placed and braced. The lower portion *j* of the coating J is placed by being forced through the reinforcement D' against the boards 2 and before it falls away the concrete portion *b* is placed. These both are placed when in a plastic state and both take their initial and permanent set at same time. Immediately after concrete portion *b* is placed, a next layer is placed after the boards 3 and 4 are erected and so on until the entire wall is completed. The depth of the layers is determined by the ability to tamp the concrete properly. Each layer is placed before the layer below has taken its set.

Since the grout coating and the wall are placed at the same time, and since each successive layer is placed before the layer below has taken its initial set, the concrete wall is highly monolithic and the adhesion between the grout covering and the wall is the same as that between the particles of the grout covering or those of the walls.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A concrete structure comprising reinforced walls of plastic cementitious material and reinforced grout coatings of plastic cementitious material, the said walls being entirely monolithic, and the walls and coatings being integral and forming a homogeneous monolithic structure.

2. A concrete structure, comprising a wall and a coating for the same, the wall being formed of a plastic cementitious material, and a metallic reinforce embedded in the plastic material, and the said coating being formed of plastic cementitious material, the said wall being entirely monolithic, and the wall and coating being integral and forming a homogeneous monolithic structure.

3. A concrete structure comprising a wall and a coating for the same, the wall being formed of plastic cementitious material, and a metallic reinforce embedded in the plastic material, and the said coating being formed of plastic cementitious material and a metallic reinforce embedded in the said coating, the said wall being monolithic throughout, and the coating and the said wall being integral and forming a homogeneous monolithic structure.

4. A mausoleum, burial vault or like structure, comprising reinforced walls of plastic cementitious material, reinforced tooled or troweled grout coatings of plastic cementitious material covering the outer faces of the walls, the walls being entirely monolithic and the walls and coatings being integral and forming a homogeneous monolithic structure.

5. A mausoleum, burial vault, or like structure, comprising reinforced walls of plastic cementitious material, and exterior reinforced ornamentations for the walls, formed of ornamental grout coatings of plastic cementitious material, the said walls being entirely monolithic, and the said ornamentations and the said walls being integral and forming a homogeneous monolithic structure.

6. A mausoleum, burial vault or like structure, comprising reinforced concrete walls, a reinforced concrete roof, a ceiling of plastic material, the roof and the ceiling being integrally connected with the said walls, and

vertical braces comprising metal rods having angular ends and anchored at their ends in the said roof and the said ceiling.

7. A mausoleum, burial vault or like structure, comprising reinforced concrete main walls, crypts of reinforced concrete material built integrally with the said walls, each crypt having a plurality of compartments one above the other, the floors of the compartments being formed of reinforced concrete, and anchors connecting the floors with the crypt walls and the main walls to give support to the floors.

8. A mausoleum, burial vault or like structure, comprising reinforced concrete main walls, crypts of reinforced concrete material at opposite sides of the structure and built integrally with the said walls, the outer sides or backs and the rear ends of the crypts being formed by portions of the main wall, and the front ends of the crypts being formed of reinforced concrete joining the main wall, each crypt having a plurality of compartments one above the other, the floors of the compartments being formed of reinforced concrete and integral with the main walls and the crypt walls, the entrances to the said compartments being at the inner sides thereof, and stone slabs for closing the entrances.

9. A mausoleum, burial vault, or like structure, comprising reinforced concrete main walls, a reinforced concrete roof, a ceiling of plastic material connected by vertical braces to the said roof, a floor of concrete material, the floor, the ceiling and the roof being integrally connected with the main side walls, and crypts of reinforced concrete material built integrally with the said main walls.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GUY CARLETON SIMPSON.

Witnesses:

ELEANOR A. KLEIM,

ALFRED E. LUNT.