

No. 637,906.

Patented Nov. 28, 1899.

V. VENEZIA.
FIREPROOF PARTITION WALL.

(Application filed Apr. 3, 1899.)

(No Model.)

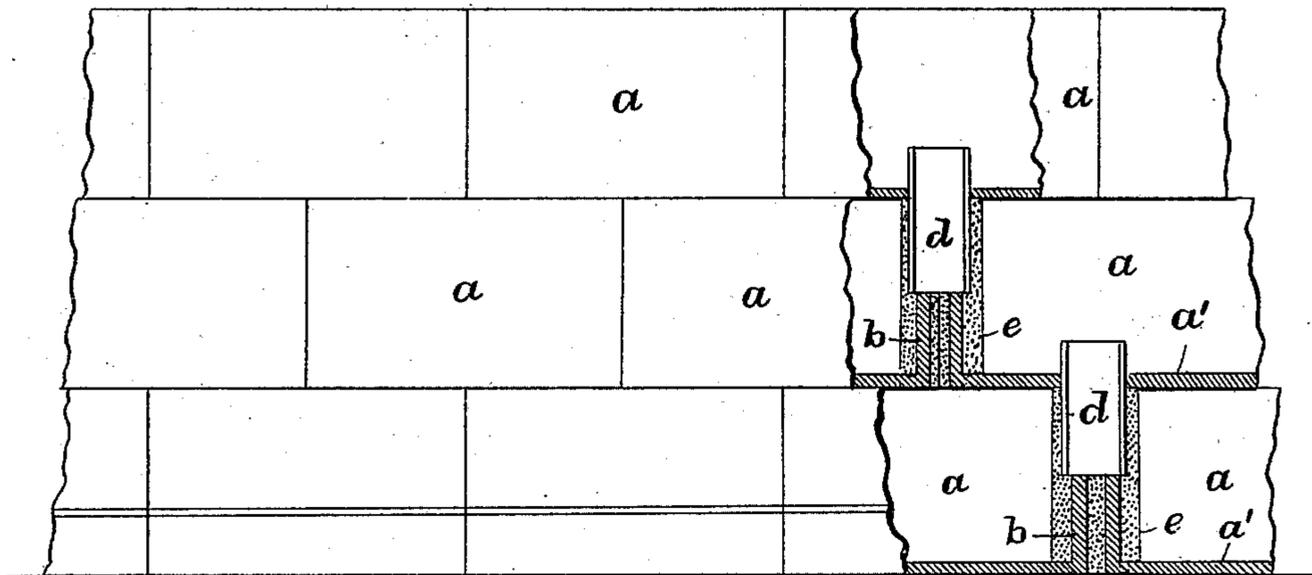


Fig. 1

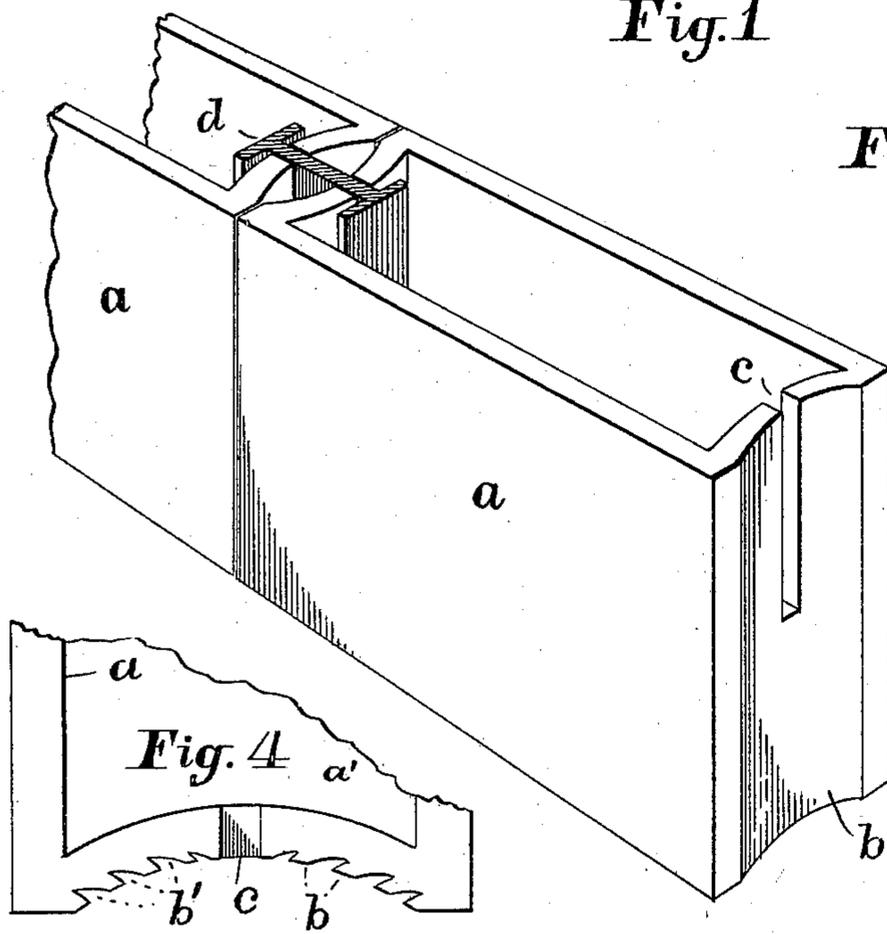
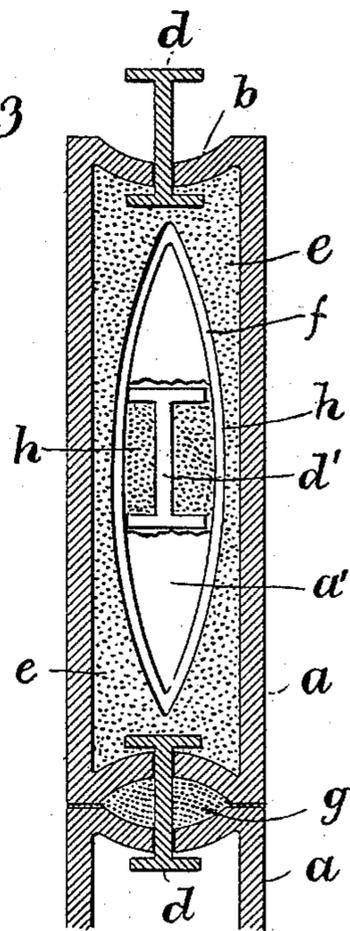


Fig. 2

Fig. 3



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FIREPROOF PARTITION-WALL.

SPECIFICATION forming part of Letters Patent No. 637,906, dated November 28, 1899.

Application filed April 3, 1899. Serial No. 711,534. (No model.)

To all whom it may concern:

Be it known that I, VINCENT VENEZIA, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Fireproof Partition-Wall, of which the following is a full, clear, and exact description.

This invention appertains to that class of partition-walls which are built up from separate blocks; and the objects of my invention comprise means whereby such blocks may be solidly secured together, whereby the blocks themselves may be light and easily handled, and, further, whereby such a wall may not require plastering.

Referring to the drawings forming part of this specification, Figure 1 is an elevation of a partition-wall, partly broken away, as built up from the blocks forming the subject-matter of this application. Fig. 2 is a perspective view of one of the blocks. Fig. 3 is a sectional plan view of a portion of a wall thus built up, and Fig. 4 is a detail top view of one end of a block.

The block itself consists of a shell of plaster-of-paris *a*, open at the top, recessed at the ends, as *b*, and formed with the long vertical notches or slots *c* in the upper half of each end. The purpose of said slots is to receive the T-irons *d*, the upper ends of which are adapted to project a short distance above the tops of the two blocks with which each T-iron is engaged. This is illustrated in Fig. 1, but not in Fig. 2, in the latter case the said iron being represented as cut off flush with the top of the blocks in order to more clearly show the latter.

The surface of the recess *b* at each end of the block is usually undercut more or less, as at *b'*, Fig. 4, in order to give the liquid plaster better hold when the same is poured into the space between two adjacent blocks, as shown in Fig. 3.

My method of forming the complete wall is as follows: Having laid a single horizontal row of blocks with the T-irons *d* inserted therein, elliptical molds *f* are placed within the said blocks, as shown in Fig. 3, and a mixture *e*, of cement and certain other ingredients to be hereinafter named, is poured into the space included between the outer surface of each of said molds and the block-shell *a*, as *e*, Fig. 3.

So soon as this cement has set the said molds are removed and a second row of blocks *a* laid and filled with a similar strengthening quantity of cement. As each row is laid, however, a quantity of plaster is poured into the spaces between the ends of the blocks, as *g*, Fig. 3, the object of which is to cause the block ends and the T-irons to be rigidly united and for filling the cracks between the blocks. This causes each row of blocks to be practically a single elongated body.

It should be further stated that the mold *f* is formed with comparatively thin sides or walls, which fit in between the flanges of the T-iron, as *d'*, Fig. 3, and the inner face of each block *a*. After the cement has set and the mold is removed I fill in the spaces *h* between such flanges and this newly-set quantity of cement. The object of this is to bind strongly together the different rows of blocks, the ends of the T-irons of one row being cemented within the lower part of the row above.

The purpose of the elliptical form of the mold is to give an arched contour to the cement *e*, and thereby give the sides of each block the maximum of strength with the minimum of material.

In the construction previously described the block *a* is apparently open at both top and bottom. I prefer, however, to form the shell or block with a closed bottom *a'*, the thickness of which is somewhat less than that of the sides. In laying the upper rows of these blocks I break an opening through this bottom shell sufficient to receive the ends of the T-iron beneath, as indicated in Figs. 1 and 3. I prefer to thus break a suitable opening rather than cast the same in the original formation of the block, because of the variation in size and positions of the various T-irons, it being easier to break an opening at the desired point and of the required size with a blow or two of the mason's hammer than it is to try to fit such iron into a wrongly-located and wrongly-proportioned hole. The object of this bottom *a'* is to hold the cement in place when being applied to the upper rows of blocks. Without the same such cement would flow down into the spaces within the lower rows.

The mixture above referred to consists of

Portland cement, volcanic sand, and coarse plaster in substantially equal proportions or with the volcanic sand somewhat exceeding in quantity each of the other ingredients.

5 The function of this volcanic sand is to render the mixture fireproof, for I have discovered that with this sand introduced in the cement the action of fire simply serves to strengthen the resisting strength of the wall
10 composed thereof. With the plaster and cement alone fire calcines the wall formed thereof and soon brings it down in ruins.

What I claim as my invention, and for which I desire Letters Patent, is as follows,
15 to wit:

1. The combination in a fireproof wall, of the hollow block or shell formed with the vertical slots in its ends, and the T-iron adapted to enter the slots of two adjacent blocks and
20 bind the same together, substantially as set forth.

2. The combination in a fireproof wall, of the hollow block or shell having its ends vertically slotted and recessed, and the T-iron
25 exceeding in length said slots, substantially as and for the purpose set forth.

3. The combination in a fireproof wall, of the hollow blocks, means for securing their ends together, and the hardened mixture in

said blocks, such mixture being formed with
30 the elliptical space at the center of each block, substantially as and for the purpose set forth.

4. The combination in a fireproof wall, of the hollow blocks, means for securing them to-
35 gether, and the hardened mixture within each of said blocks, such mixture being composed of Portland cement, volcanic sand and coarse plaster, substantially as and for the purpose
40 set forth.

5. The combination in a fireproof wall, of the hollow block formed with the plane sides, the recessed ends and the bottom, the material thereof being plaster-of-paris and said
45 ends being formed with the deep notches or slots extending half-way down the same, the T-iron adapted to enter said slots and to reach above the top of said block, and the centrally-apertured filling of cement for said
50 block, substantially as set forth.

In testimony that I claim the foregoing invention I have hereunto set my hand this 29th day of March, 1899.

VINCENT VENEZIA.

Witnesses:

GUY H. HOLLIDAY,
A. B. UPHAM.