

R. J. SCHWAB.
BUILDING BLOCK AND WALL.

APPLICATION FILED FEB. 23, 1905.

2 SHEETS—SHEET 1.

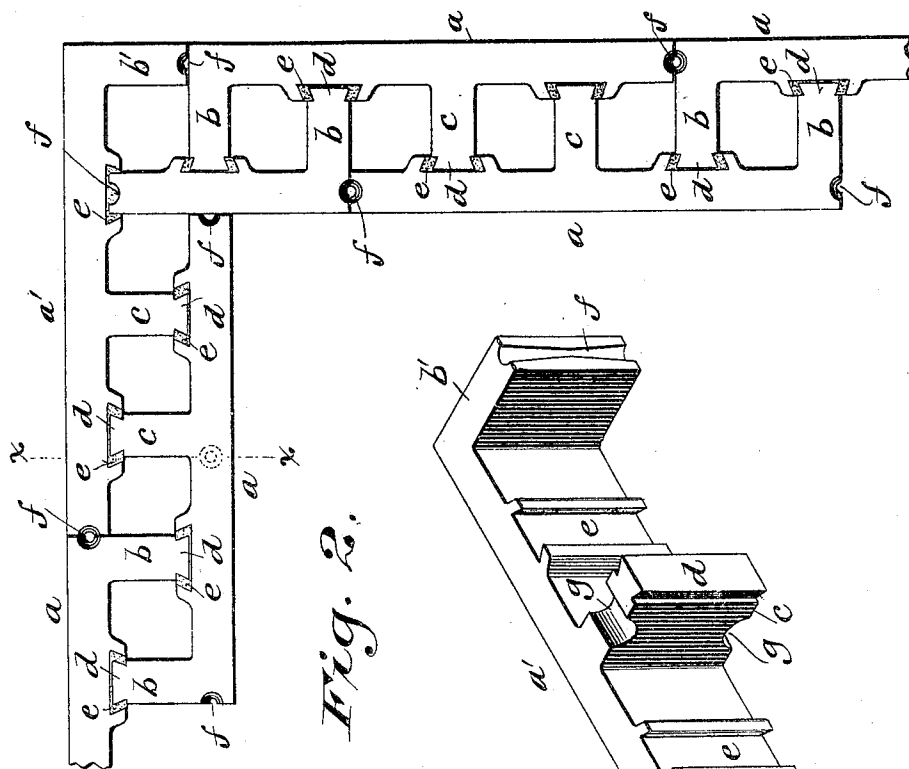


Fig. 2.

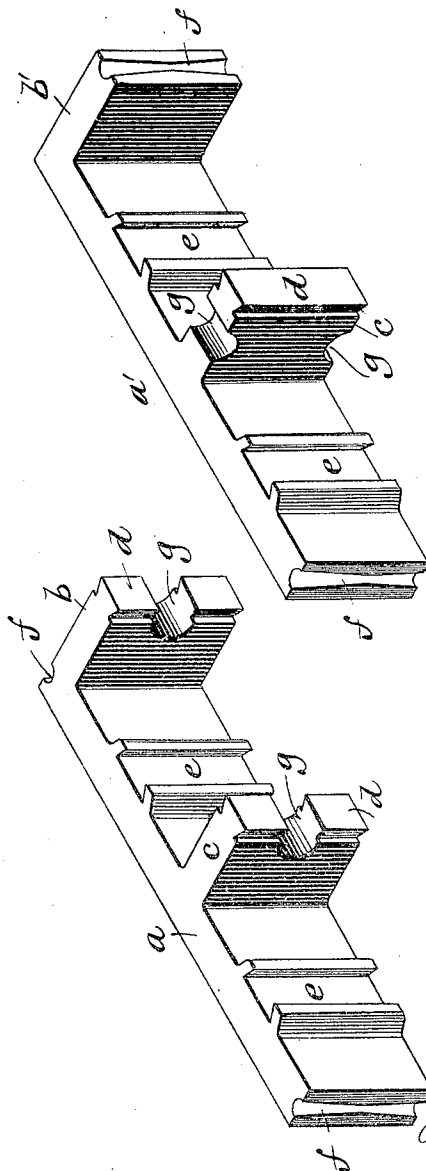


Fig. 1.

Fig. 4.

Witnesses:

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Chas. L. Low.

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No. 801,920.

PATENTED OCT. 17, 1905.

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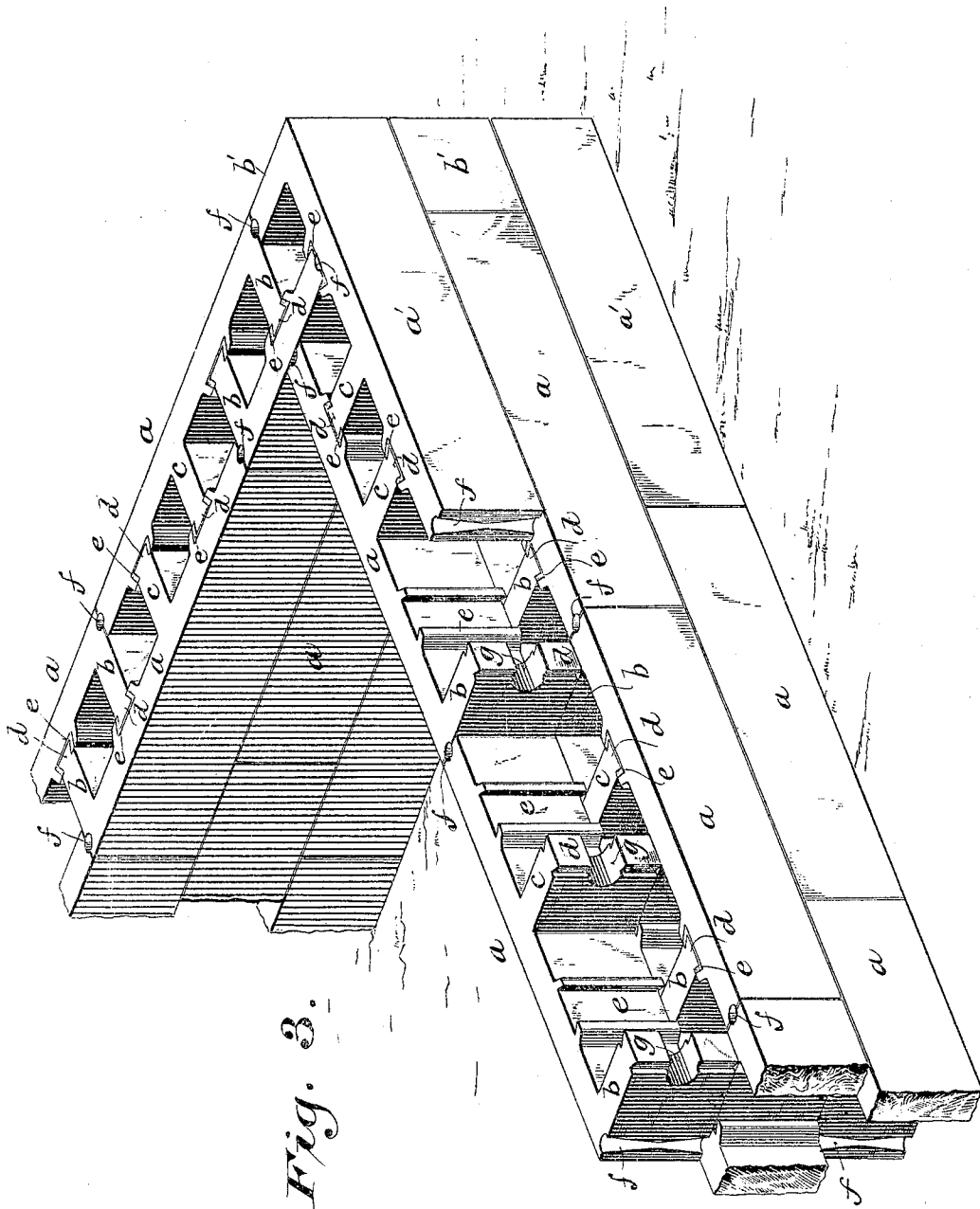


Fig. 3.

Witnesses:

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UNITED STATES PATENT OFFICE.

RUDOLPH J. SCHWAB, OF MILWAUKEE, WISCONSIN.

BUILDING BLOCK AND WALL.

No. 801,920.

Specification of Letters Patent.

Patented Oct. 17, 1905.

Application filed February 23, 1905. Serial No. 246,943.

To all whom it may concern:

Be it known that I, RUDOLPH J. SCHWAB, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Building Blocks and Walls, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

This invention relates more particularly to so-called "two-piece" building-blocks and to walls constructed of such blocks with internal air-spaces, each course or tier consisting of two rows of blocks, forming the outer and inner faces or parts of a wall, which are separated from each other by the intervening air-spaces.

The main objects of the invention are to key or fasten each block to adjoining blocks and securely bind and hold it in place in a wall, to interlock and bind the inner and outer parts of the wall together and at the same time insulate them from each other as completely as possible, thereby making the wall impervious to moisture without impairing its strength and stability, and generally to facilitate and improve the construction of building blocks and walls of this class.

It consists in certain novel features in the construction of the blocks and in the peculiar arrangement of such blocks in the formation of walls, as hereinafter particularly described, and pointed out in the claims.

In the accompanying drawings like characters designate the same parts in the several figures.

Figure 1 is a perspective view of a standard full-sized block embodying the invention. Fig. 2 is a like view of a slightly-modified form of the block for turning corners in a wall. Fig. 3 is a fragmentary perspective view showing the arrangement of such blocks in the construction of a wall, and Fig. 4 is a plan view of a course of blocks arranged to break joints with the top course shown in Fig. 3.

The standard full-sized block *a*, constructed in accordance with my invention, as shown in Fig. 1, is formed on one side at one end and near the center with cross-webs *b* and *c* of equal length and of the same height as the body of the block. These webs on the regular standard block employed in the construction of straight walls both terminate with dovetailed tenons *d*. About midway between the central web *c*

and opposite ends of the block it is formed on the inner side with vertical dovetailed recesses *e*, corresponding in shape with but somewhat wider than the terminal tenons *d* of the cross-webs, so that in assembling the blocks the tenons can be entered into the recesses or the recesses placed over the tenons sidewise without lifting and lowering the blocks vertically into place and without displacing or disturbing the blocks already in position.

Semifunnel-form cavities *f* are made in the ends of the standard blocks to receive and hold mortar or cement and form with corresponding cavities in the ends of adjoining blocks keys for holding the blocks in place and closing the joints between them. These cavities are preferably gradually expanded or enlarged from points at or near the horizontal center of the block in opposite directions toward its top and bottom faces, so as to facilitate slushing or filling them with mortar or cement and to more effectively hold the mortar or cement in place therein.

To connect and establish communication between the adjacent vertical air-spaces in walls constructed of these blocks and to interrupt and prevent the passage of moisture from the outer to the inner parts of the wall, the cross-webs are formed with transverse channels *g*. These channels may be formed in the ends of the webs, as shown in Fig. 1, or they may be made in their upper or lower faces or in both, as shown in Fig. 2. In some cases they may, if desired, be altogether omitted.

For turning corners blocks *a'* are made, the end webs *b'* of which do not have dovetailed tenons like those of the ordinary blocks for straight walls, but are formed, as shown in Fig. 2, with cavities *f*, like those in the ends of the standard block. In other respects the corner-blocks are essentially like the standard blocks. (Shown in Fig. 1.)

In the construction of walls with these blocks, as shown in Fig. 3, half or fractional blocks, which may be made by dividing the full-sized blocks, as indicated by the dotted line *x x* on Fig. 4, are preferably employed for turning corners and are useful in locating door and window openings. These half-blocks may be conveniently made by placing in the molds for the regular full-sized blocks thin parting plates or partitions provided on opposite sides with cores to produce the funnel-form cavities *f*, the standard block when

so divided making two half-blocks exactly alike. Walls may, however, be laid and corners turned so that the blocks in the rows of each course and of adjoining courses will break joints without using the half-blocks. When the half-blocks are employed, they are preferably placed in the inner rows of each course adjacent to corners and are reversed in position in adjoining or successive courses, as shown in Figs. 3 and 4. The blocks are laid in each row to break joints with the other row in the same course and with corresponding rows in adjoining courses, thereby forming effective bonds between adjoining blocks and the inner and outer parts of the wall. The crevices or spaces between the dovetailed tenons *d* and the recesses *e* in which they are inserted being filled with mortar or cement securely and permanently tie the inner and outer blocks and parts of the wall together, producing a strong, stable structure. The webs of the blocks in each course alternating with and overlapping the webs on the blocks of adjoining courses strengthen the bonds between the inner and outer parts of the wall and form continuous vertical air spaces or passages, which are connected by and communicate with each other through the transverse channels *g* in the webs. Thus a comparatively light and at the same time a strong, substantial, and durable wall is made.

The blocks constructed as herein shown and described are light and easy to handle and lay. The funnel-form cavities *f* being filled with mortar or cement form keys which securely hold the adjoining ends of the blocks together and effectively close the joints between them, and as the blocks in each row and course break joints with the blocks of the adjoining rows and courses of the wall there can be no possibility of an open joint or crevice for the passage of wind or air through the wall.

Various changes in minor details of construction and in the arrangement of the blocks may be made without departing from the principle and intended scope of the invention.

I claim—

1. A building-block formed on one side at one end and near the center with cross-webs and on opposite sides of the central web with recesses to receive the ends of cross-webs on adjoining blocks, substantially as described.
2. A building-block formed on one side, at one end and near the center with cross-webs terminating in dovetailed tenons and on opposite sides of the central web with dovetailed

recesses to receive the tenons on adjoining blocks, substantially as described.

3. A building-block formed on one side at one end, and near the center with cross-webs of equal length and of the same height as the body of the block, and on opposite sides of the central web with vertical dovetailed recesses, the central web terminating in a dovetailed tenon, substantially as described.

4. A building-block having semifunnel-form cavities at the ends and formed on one side, at one end and near the center with cross-webs and on opposite sides of the central web with vertical recesses arranged to receive the ends of cross-webs on adjoining blocks, substantially as described.

5. A building-block formed at one end and near the center with cross-webs and on opposite sides of the central web with vertical recesses arranged to receive the ends of cross-webs on adjoining blocks, the cross-webs having transverse channels for connecting the adjacent air-spaces in walls constructed of such blocks, substantially as described.

6. A building-block formed at one end and near the center with vertical cross-webs and on opposite sides of the central webs with vertical recesses arranged to receive the ends of cross-webs on adjoining blocks, the central cross-web having a transverse channel or passage connecting the spaces on opposite sides of said web, substantially as described.

7. A building-block formed on one side, at one end and near the center with vertical cross-webs and on opposite sides of the central web with vertical recesses and having semifunnel-form cavities in its narrow end and in the end of its terminal web, substantially as described.

8. A wall composed of blocks each having cross-webs on one side at one end and near the center and recesses on opposite sides of the central web to receive the ends of webs on adjoining blocks, the blocks of each row being laid to overlap and break joints with those in adjoining rows of the same and other courses, and fractional blocks each having a cross-web at one end and a recess on the same side between its ends, said fractional blocks being laid alternately in reversed positions in successive courses adjacent to corners of the wall, substantially as described.

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

RUDOLPH J. SCHWAB.

Witnesses:

CHAS. L. GOSS,
BERNARD C. ROLOFF.