No. 641,942. Patented Jan. 23, 1900.

W. J. DONALDSON & C. BORGNER.

BUILDING CONSTRUCTION.

(Application filed Jan. 10, 1899.)

(No Model.)

Fig. 1.

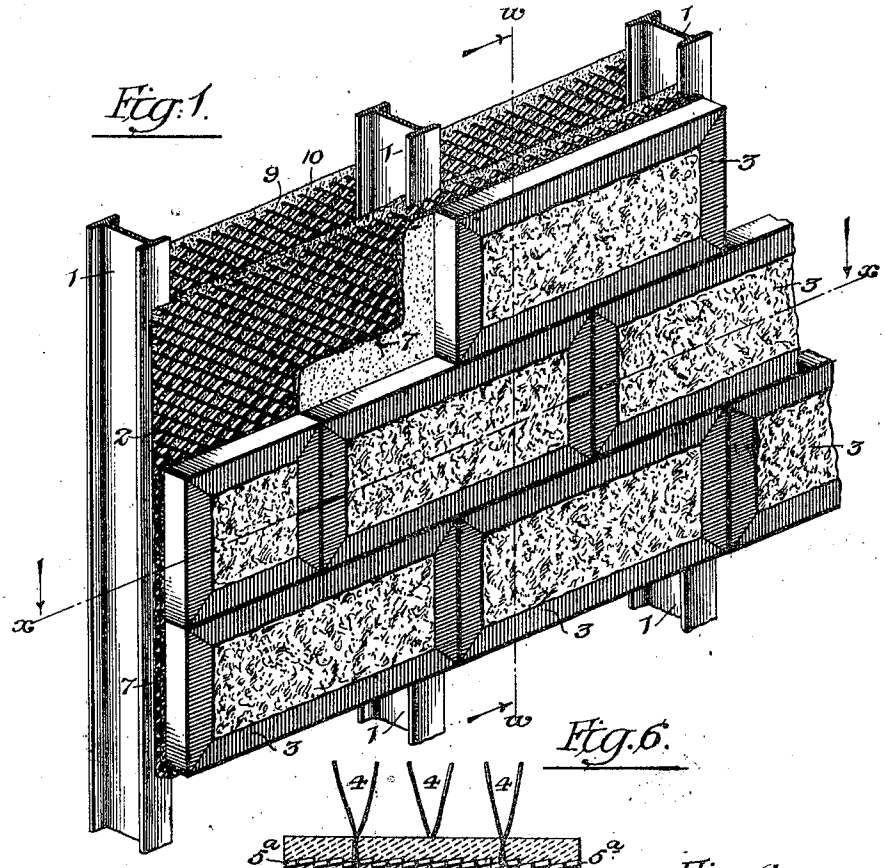


Fig. 6.

Fig. 4.

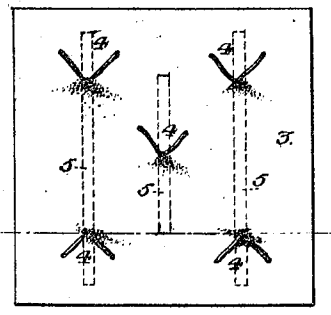


Fig. 5.

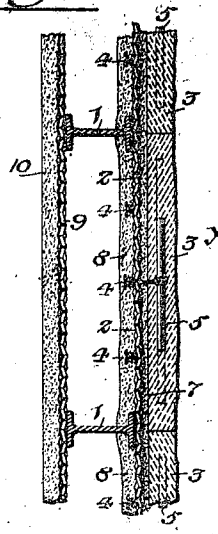


Fig. 2.

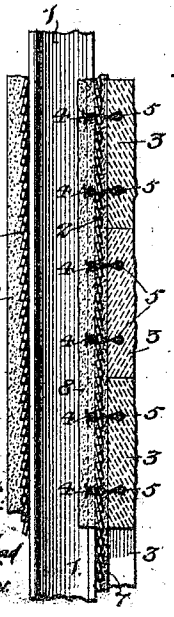
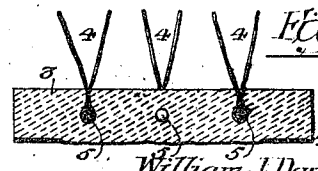


Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM J. DONALDSON AND CYRUS BORGNER, OF PHILADELPHIA, PENNSYLVANIA.

BUILDING CONSTRUCTION.

SPECIFICATION forming part of Letters Patent No. 641,942, dated January 23, 1900.

Application filed January 10, 1899. Serial No. 701,751. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM J. DONALDSON and CYRUS BORGNER, citizens of the United States, and residents of Philadelphia, Pennsylvania, have invented certain Improvements in Building Construction, of which the following is a specification.

The object of our invention is to construct a durable and fireproof wall or partition of a cheaper character than such as have heretofore been constructed and capable of ornamentation in any way which the architectural character of the building may require.

In the accompanying drawings, Figure 1 is a perspective view of part of a wall constructed in accordance with our invention. Fig. 2 is a vertical section of the same on the line *w w*, Fig. 1. Fig. 3 is a section on the line *x x*, Fig. 1. Fig. 4 is a rear view, on an enlarged scale, of one of the facing-blocks for the wall. Fig. 5 is a section of the same on the line *y y*, Fig. 4; and Fig. 6 is a view illustrating another form of block constructed in accordance with our invention.

In carrying out our invention we contemplate the use of molded blocks of artificial stone or cement permanently and rigidly secured to the wall or partition structure, these blocks as to their exposed faces being ornamented in any desired way, depending upon the architectural character of the building which is being erected.

In the drawings, 1 1 represent vertical beams of the wall structure, which in the present instance are shown as metal I-beams, but which may be beams, posts, or joists of wood or other available material capable of use for the framework of the building. To the outer sides of these beams is secured by wiring or in any other available manner metallic sheathing 2, which, as shown in the drawings, is of the character known as "expanded metal," although wire-netting, perforated sheet metal, laths, or other desired form of sheathing may be employed.

The facing-blocks 3 are molded in any desired size or shape, depending upon the architectural requirements of the building, and embedded in each of these blocks is a structure to which may be secured wires 4 of such length that the ends of the wires will project considerably beyond the rear face of the block, as shown, for instance, in Figs. 5 and 6.

The character of the embedded structure may vary without departing from our invention. For instance, in the block shown in Fig. 4 it consists of a series of rods 5, around which the wires are wrapped, so as to secure them thereto, while in the block shown in Fig. 6 the embedded structure consists of a sheet of expanded metal of the same character as is used for the sheathing of the wall.

The projecting wires 4 of the blocks 3 provide a ready means for securing said blocks to the sheathing 2 in their proper relative positions, the projecting ends of the wires being passed through the meshes of the sheathing and then twisted on the inner side of the same, as shown in Figs. 2 and 3.

When metallic sheathing is employed, the same should be protected from the air in order to prevent deterioration due to oxidation. Hence we prefer to embed the same in plaster or cement, which also serves as a means of securely uniting the facing-blocks to the wall.

As shown in Figs. 1, 2, and 3, a thin layer of cement or plaster 7 is spread over the metal sheathing before the application of the surface-blocks 3, the latter being set in position while this layer of plaster or cement is still plastic, so that they will firmly adhere thereto, the projecting wires 4 passing through the plaster for engagement with the metallic sheathing behind the same. We also prefer to apply a layer of plaster 8 to the inner side of the metallic sheathing, this plaster being applied while the outer layer 7 is still plastic, so that the inner and outer layers of plaster extend through the meshes of the metallic sheathing and unite one with the other, so as to form a body of plaster or cement completely enveloping the metallic sheathing, and consequently having a firm hold thereupon. In some cases one or the other of these masses of plaster may be omitted; but we prefer to employ both on account of the greater durability of the structure thereby secured. Metallic sheathing 9 is also applied to the inner faces of the beams 1, and cement

or plaster 10 is then laid upon the same, so as to form the internal finish of the wall. This, however, forms no essential part of our invention.

Our invention is applicable to the formation of internal partitions as well as external walls, such internal partitions being either vertical or horizontal.

Having thus described our invention, we claim and desire to secure by Letters Patent—

1. A wall or partition having beams with sheathing applied thereto, and facing-blocks having wires projecting in close proximity to each other at the rear face of the block, whereby they can be twisted together after engagement with said sheathing in order to hold the blocks in place, substantially as specified.

2. A wall or partition consisting of beams having sheathing thereon, and facing-blocks having structures embedded therein, and wires engaging with said embedded structures and having projecting portions in close proximity to each other at the rear face of the block, whereby they can be twisted together after engagement with the sheathing in order to hold the blocks in place thereon, substantially as specified.

3. A wall or partition consisting of beams having sheathing applied thereto, an external layer of cement or plaster applied to said sheathing, facing-blocks applied and adhering to said external plaster-coating, and wires projecting from said blocks and engaging with the sheathing, substantially as specified.

4. A wall or partition consisting of beams having sheathing applied thereto, facing-blocks having wires projecting therefrom and engaging with said sheathing, and a mass of plaster applied to the inner face of the sheathing and covering the engaging portions of the wires, substantially as specified.

5. A wall or partition consisting of beams with sheathing applied thereto, plaster or cement applied to the inner and outer faces of said sheathing so as to envelop the same, and facing-blocks seated against said external mass of plaster and having wires passing through the same and engaging with the sheathing, substantially as specified.

6. A wall or partition consisting of beams having sheathing applied thereto, a mass of plaster on said sheathing, facing-blocks having structures embedded therein, and wires engaging with said embedded structures and projecting from the blocks, the projecting portions of the wires engaging with the sheathing, substantially as specified.

7. A building-block having wires securely connected thereto, and having ends projecting therefrom, in close proximity to each other at the rear face of the block, whereby they can be twisted together as a means of securing blocks in place upon a wall or partition structure, substantially as specified.

8. A building-block having a structure embedded therein, and wires engaging with said embedded structure, and having ends projecting beyond the rear face of the block, in close proximity to each other at the rear face of the block, whereby they can be twisted together to secure the blocks in place upon a wall or partition, substantially as specified.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

WILLIAM J. DONALDSON.
CYRUS BORGNER.

Witnesses:
CHARLES DE COU,
F. E. BECHTOLD.