J. P. B. FISKE.

CORED CHANNEL BRICK AND WALL CONSTRUCTION.

APPLICATION FILED JULY 8, 1916.

1,377,572. **Patented May 10, 1921.**

Fig. 1.

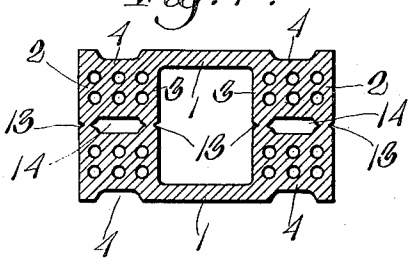


Fig. 4.

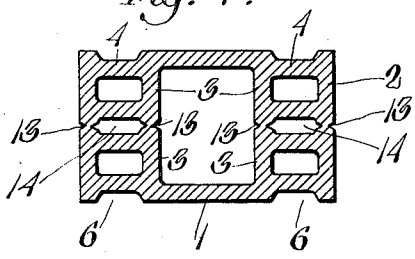


Fig. 2.

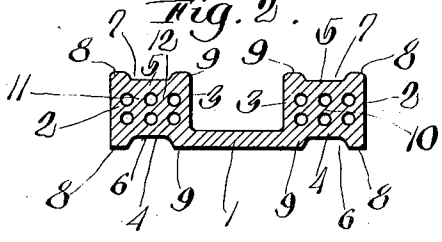


Fig. 5.

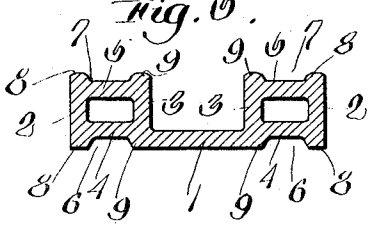


Fig. 3.

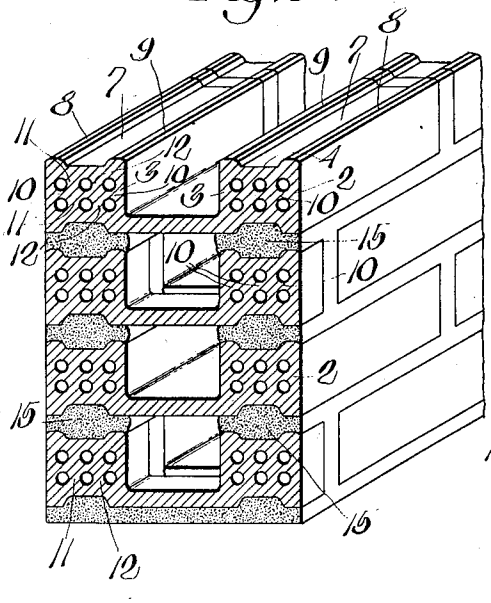
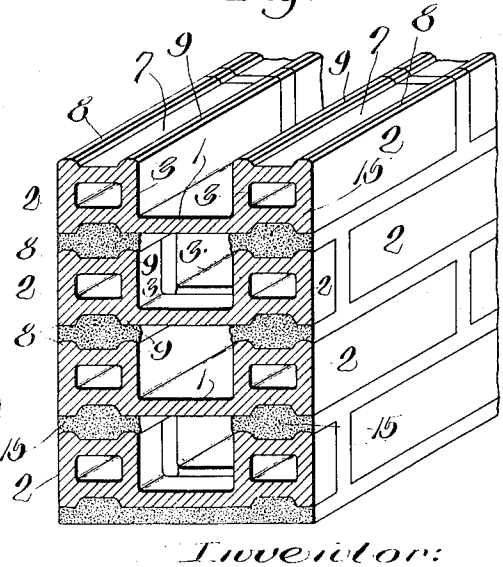


Fig. 6.



Inventor:
Jonathan P. B. Fiske,
by Geo. S. Maxwell,
Attorney.

UNITED STATES PATENT OFFICE.

JONATHAN P. B. FISKE, OF NEWTON, MASSACHUSETTS, ASSIGNOR TO FISKE & COMPANY, INC., A CORPORATION OF MASSACHUSETTS.

CORED CHANNEL-BRICK AND WALL CONSTRUCTION.

1,377,572. Specification of Letters Patent. Patented May 10, 1921.

Application filed July 8, 1916. Serial No. 108,159.

To all whom it may concern:

Be it known that I, JONATHAN P. B. FISKE, a citizen of the United States, and resident of Newton, county of Middlesex, and State of Massachusetts, have invented an Improvement in Cored Channel-Brick and Wall Constructions, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My present invention is an improved channel brick for use in hollow wall construction, of the type illustrated in my copending applications Serial Nos. 826,098, (which has matured into Patent No. 1,250,295 dated December 18, 1919,) and 826,099, both filed March 20, 1914, and No. 871,271, filed November 10, 1914 (which has matured into Patent No. 1,304,552 dated May 27, 1919). The object of the invention is to improve the channel brick type of wall construction for certain specific uses, and to provide a channel brick of novel form which will contain specially advantageous features for certain uses. It is desirable that such channel brick shall have the advantages incident to hollow, moisture-proof construction, interrupting the mortar joints transversely therethrough, and also being light in weight to save material, transportation, handling costs, etc., as well as to have capabilities for rapid building construction. In my present channel brick I provide a novel construction insuring extremely light weight, and a saving in the mass of mortar used, while preserving hollow wall construction, interrupted mortar joints, and the provision of means whereby the mortar course may be maintained upon the vertical rib-like portions adjacent each face of the brick, and furthermore to secure a mortar bearing between superimposed channel brick of greater area than the thickness of the riblike portions, together with features which give a mortar interlocking effect, a mortar receiving and retaining structure, and a self-seating capacity, whereby each wall section is firmly and rapidly seated on the mortar mass of the lower course. I accomplish the features above mentioned by forming the channel brick with the wall sections adjacent each face of the brick, having the internal portion cored as the clay material is forced through a suitable die in the brick making process. These cored portions result in saving material and lightening the completed brick, the resulting wall sections in each brick being firmly united and braced by the remaining brick material. On the contrary, the channel brick of my prior application No. 871,271 has the vertical wall sections or rib-like members united by the bonding material, and a considerable mass of mortar is utilized. In my present channel brick, I am enabled to use much less mortar and to save considerable weight, while still securing all the advantages of a channel brick construction, except, possibly, the load carrying capacity or compressive strain. For curtain walls, partitions, and the like, where great load-carrying capacity is not necessary, my present channel brick is preferable, with the wall sections cored and thus lightened, while the speed in laying up this type of channel brick is much greater than where a complete mortar filling is requisite. The economy in the wall construction, owing to saving in mortar and speed, is also appreciable, and is an important advantage in the present type over the channel brick of my prior application, Serial No. 871,271.

Referring to the drawings illustrating two forms of the invention, Figure 1 is a cross sectional view of a duplex cored block adapted to be cut in two longitudinally and form two complete channel bricks, each as shown in cross section in Fig. 2;

Fig. 3 is a perspective view illustrating a fragmentary wall structure formed with this type of channel brick;

Fig. 4 is a cross sectional view of a modified form of cored channel brick as the same are expressed from a die machine and cut into suitable lengths, being afterward split longitudinally to form two complete channel bricks, such as illustrated in Fig. 5;

Fig. 6 is a perspective view of wall construction with the type of cored channel brick of Figs. 4 and 5.

In the channel brick illustrated in the drawings, the exterior contours may be identical, the only modifications being in the size and number of the cored portions through the wall sections. These cored openings may be one or plural in number, and are of sufficient total extent to constitute substantial savings in the amount of

clay material used, as well as in the weight of the completed article. Such cored openings further serve to advantage in the kiln burning of the brick, enabling a uniformly burned and substantially vitrified product to be made.

In both forms the channel brick has a horizontal tie member or body portion 1, uniting the two wall sections, which inclose a central horizontal air space adjacent the body portion 1. The thickness of the wall sections and the extent of this central air space may be varied to suit any required conditions, the proportions herein illustrated being preferable only, and suitable for ordinary work when the article is made to interlock or match up with standard brick. Each wall section has outer and inner vertical extending rib-like members 2 and 3, respectively, united by horizontal web-like portions 4 and 5 respectively, which join the vertically extending rib-like members 2 and 3 at points removed from the extreme ends of said ribs, thus leaving mortar-receiving depressions 6 and 7 adjacent the horizontal webs 4 and 5 respectively and further defined by the projecting portions 8, 8 of the vertical ribs 2, and 9, 9, of the ribs 3. The completed channel brick is thus provided with a vertical wall section at each face of the brick, each wall section has the rib-like portions 2 and 3 extending vertically, and constituting exterior faces on each wall section, together with the central portion cored for lightness. As shown in Figs. 4, 5 and 6, this central core may be a large single opening, whereas in the form shown in Figs. 1, 2 and 3, the cores may be plural in number, leaving a horizontal web-like portion 10 in addition to the webs 4 and 5, and vertical stiffening rib-like parts 11 and 12. In this form the cored wall sections have considerable strength and are capable of a substantial amount of load-carrying strain in addition to the inner and outer rib-like portions 2 and 3. In the channel brick of Fig. 5, however, the principal compressive strength of the wall is borne by the ribs 2 and 3 with but little additional vertical strength imparted by the webs 4 and 5. These latter webs, however, serve a very important function, in both cases, of unifying the wall sections and of forming the mortar recesses 6 and 7 which enable a mass of mortar to be held on the projecting edges of the ribs 2 and 3. Without this feature it would be impractical to lay a thin ribbon of mortar on the projecting ridges 8 and 9.

By having the wall sections thus cored, and the mortar receiving recesses 6 and 7 therein, I am enabled to employ the economical die machines and wire cutters at present in general us in the manufacture of building brick, and furthermore, the mortar recesses 7 are peculiarly advantageous in enabling the production of the duplex channel brick block, as shown in Figs. 1 and 4, with the scorings 13 coöperating with the cored spaces 14 to enable the block to be split into two complete channel bricks, the spaces 14 resulting in the mortar recesses 7, in each section.

In utilizing this type of channel brick for wall structure, particularly for curtain walls carried by steel or other frames, and in partitions, the channel brick is preferably of suitable width for the thickness of the wall to be built, and with the outer faces of the ribs 2, 2, preferably of standard brick area, so that the channel brick may be built into a solid brick tier or otherwise matched in with common brick, as around windows, doors, openings, etc. The mason fills the recess 7 with a mass of mortar, which is retained thereon by the recess-like structure provided between the webs 5 and ridges 8 and 9 and the superimposed channel brick is seated on top of the mass of mortar, practically centering itself and pressing out the mortar mass over the edge portions 8 and 9 of both lower and upper brick courses, as clearly indicated at 15, Figs. 3 and 6.

The advantages of this type of channel brick and the wall constructed therewith will be readily appreciated, as the channel brick is light in weight, easy and economical to transport, capable of rapid handling by the mason with one hand, conserving the bonding material employed, facilitating rapid building, and insuring a moisture-proof wall structure, together with substantially fire-resisting vertical wall sections at each face of the wall, the wall sections of each brick being built into said wall faces, and being firmly united by the horizontal tie member or body portion 1.

While I have illustrated the wall structure, as shown in Figs. 3 and 6 with the body portion or tie member 1 in lowermost position, and the vertical wall sections extending upwardly therefrom, it will be appreciated that this type of channel brick is interchangeable in its capacity for wall structure either as shown in said Figs. 3 and 6 or in reverse position, *i. e.*, with the body portion at the top and the wall sections depending therefrom. Or the combination of such interchangeable positions may be employed, without impairing in the least the efficiency of the completed structure, and without the slightest indications of such alternating or changing of the exterior wall faces, and furthermore without injurious results in the physical condition of the wall itself.

My invention is further described and defined in the form of a claim as follows:

Hollow wall construction comprising twin walls composed of a plurality of channel bricks, each brick having a pair of wall sections connected by a body portion extending

from one wall section to the other across the inner air space, and disalined from the horizontal center of the brick, each wall section having a cored portion and two channel portions, at opposite sides, said channel portions comprising a mortar-receiving recess and a pair of spaced ribs, and mortar filling adjacent recesses of super-imposed brick and extending across the edges of the pairs of ribs of each channel, said mortar course being interrupted by the central air space extending from the body portion of one brick to the body portion of the superimposed brick in the wall.

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

JONATHAN P. B. FISKE.

Witnesses:
JAMES R. HODDER,
D. L. MACINTYRE.