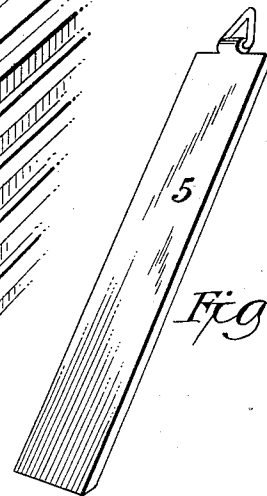
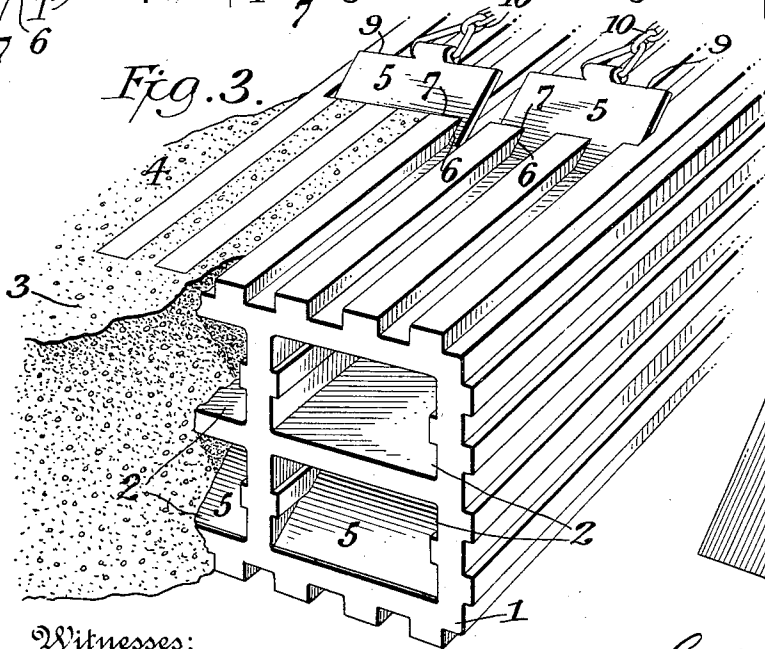
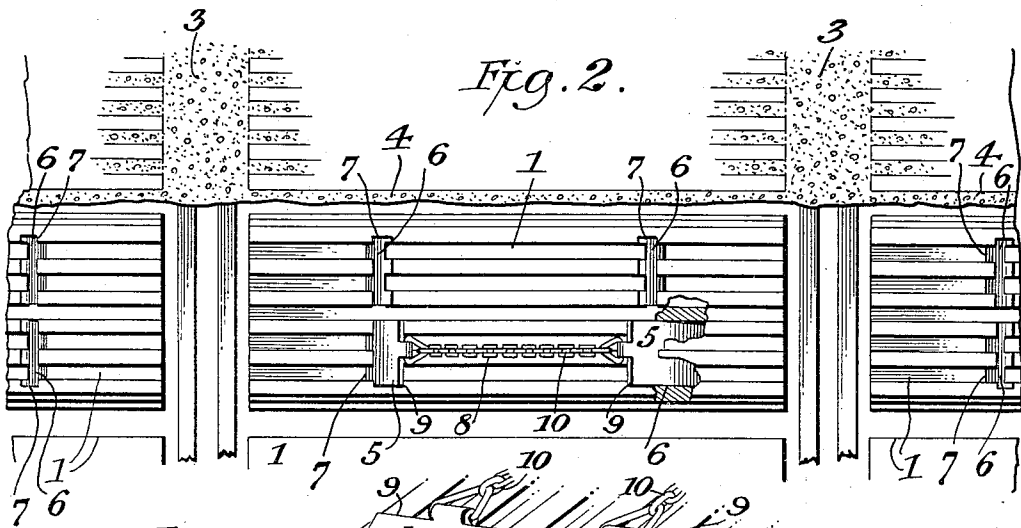
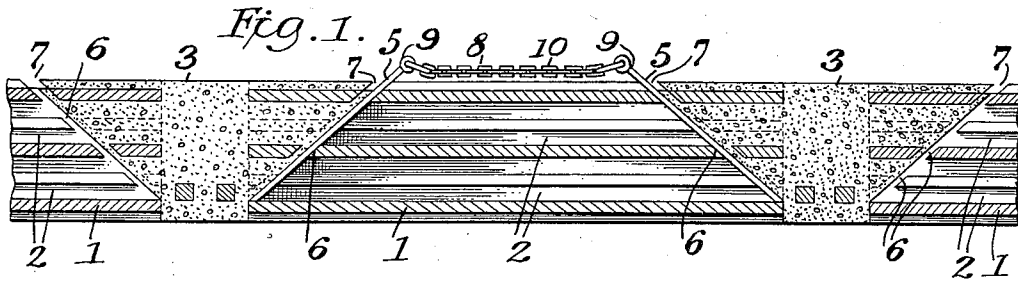


L. K. DAVIS.
BUILDING CONSTRUCTION.
APPLICATION FILED JUNE 29, 1911.

1,017,386.

Patented Feb. 13, 1912.



Witnesses:
A. R. Appelman
Bessie L. Stinson

Inventor
Lewis K. Davis
By his Attorney
J. H. Kees Littell

UNITED STATES PATENT OFFICE.

LEWIS K. DAVIS, OF NEW YORK, N. Y.

BUILDING CONSTRUCTION.

1,017,386.

Specification of Letters Patent.

Patented Feb. 13, 1912.

Application filed June 29, 1911. Serial No. 636,068.

To all whom it may concern:

Be it known that I, LEWIS K. DAVIS, a citizen of the United States, and resident of New York, in the county and State of New York, have invented certain new and useful Improvements in Building Construction, of which the following is a specification.

My improvements relate to building constructions, and have particular relation to the dams which are usually employed, in connection with building constructions comprising hollow blocks laid end to end a distance apart sufficient to permit the formation of a concrete beam between said ends, to prevent the concrete plastic from entering the ends of the hollow blocks a greater distance than that desired for the proper formation of such concrete beam.

Building constructions employing dams as above indicated are usually involved in fire-proof floor structures, such as that shown in my Patent No. 933,163, granted September 7, 1909, and my present improvements are adapted for effective use in relation to the construction of floor structures of the type shown in said patent or similar types of floor structures or analogous structures employing plastic beams intermediate of hollow blocks and intersecting the end portions of the bores or passages thereof.

The object of my present improvements is to provide means whereby building constructions using dams of the character above set forth may be more effectively, rapidly, and conveniently constructed, which will produce a more effective structural relationship between the concrete beam and hollow blocks, and which will insure economy in construction and use and possess advantages in point of general efficiency.

In the drawings, I have illustrated my improvements in their relation to the general character of floor structure such as that shown in my above-mentioned patent, and Figure 1 is a longitudinal vertical sectional view of a portion of a floor structure, transversely intersecting the intermediate concrete beams, and showing the dams in operative position. Fig. 2 is a top or plan view of the construction shown in Fig. 1, partly broken away and showing parts in section. Fig. 3 is a view in perspective and section, partly broken away, on the vertical longi-

tudinal plane of the concrete beam, showing the end construction where the blocks intersect said beam. Fig. 4 is a detail perspective view illustrating the removable dam device.

Corresponding parts in all the figures are denoted by the same reference characters.

In the type of floor construction with relation to which my improvements are herein illustrated, the hollow building blocks are provided with a plurality of internal longitudinal passages and are laid in parallel series with their opposite ends a sufficient distance apart to permit the formation of a supporting beam of concrete or other hardening plastic or cementitious material, which extends transversely of the parallel blocks, the construction being such that the blocks will form matrices for the plastic to connect the blocks into a rigid structure. For a more detail understanding of the type of building construction proper, to which my improvements are operatively applied, reference may be had to my above-mentioned patent showing one type of such structures.

Referring to the drawings, 1 designates the building block, and 2 the plurality of internal longitudinal passages or bores therein.

3 designates the intermediate concrete beams, and 4 designates a concrete filling which is set between the opposite faces of the parallel blocks and extends longitudinally thereof and intersects the transverse concrete beams at the ends of the blocks.

It will be understood that the outer faces of the blocks 1 are in practice provided with suitable ribs for engaging the longitudinal plastic filling 4 at the sides of the block and the usual plastic floor surface at the top of the blocks and the finishing plastic or ceiling surface at the bottom of the blocks, and that the side walls of the passages or bores 2 are provided with suitable ribs for engaging the portions of the concrete beams 3 which enter said passages. Heretofore, in the organization of such structures as that herein described, dams of suitable construction have been permanently placed in the ends of the passages 2 to limit and mold the portion of the plastic of the beams 3 which enters the passages, and such dams remain

permanently within the structure. These permanent dams thus entail a loss and waste of constructive material, and furthermore require excess time and labor in applying them to set position within the passages.

The permanent dams heretofore employed, as above set forth, have usually been structurally adapted to a condition in which the dams in the upper passages or bores 2 are set somewhat farther inward than are the dams in the lower passages, whereby the intermediate concrete beam 3 will be of a form substantially T-shape in cross-section, which form insures a higher efficiency in the office of the beam to support and connect the blocks in a rigid structure. My present improvements are designed not only to effectively meet all the general offices and purposes secured by the employment of the permanent dam devices as above set forth, but also to enable the formation of the concrete beam in a form substantially the same in effect as the T-shape form, just referred to, whereby the efficiency of the beam is enhanced.

In my present invention, I employ removable dams, 5, preferably constituted by metallic plates, slidably related to the body of the block 1. The block, which is usually of plastic material, such as vitrified clay, is provided in its end portions with slots, 6, opening at the top of the block, as at 7, and extending downwardly through the body of the block and transversely of and intersecting the passages or bores 2 therein. In the preferred construction, the slots 6 are inclined downwardly from the top opening 7 toward the lower end portion of the block, whereby the concrete beam 3 will be of substantially dove-tail form in cross-section, converging toward its lower portion, which approximates a T-shape and serves all the offices and advantages of such construction in which the upper part of the beam on cross-section is wider than the lower part. The removable dams 5 slidably co-act in the slots 6, and the constructional status of the latter is preferably such that the dam plates, when in operative position, will extend from the top of the block down to the bottom wall or lowermost passage 2 thereof, thus intersecting the plurality of passages which in the usual construction of the block are located one above the other. When the removable dams 5 are in operative position, their top portion projects above the block, to provide handle means, as at 8, whereby the dam plates may be withdrawn through the slots 6 and from the block after the plastic beam 3 has hardened. The preferred construction, for convenience, provides a connection between the projecting top ends, 9, of the removable dams 5 which are respectively employed at opposite ends of the block 1, whereby both of said dams may be

simultaneously withdrawn from the block in one movement, and this connection is preferably constituted by a flexible chain, 10, which will serve as a hand hold which can be grasped and pulled upwardly in the operation of withdrawing a pair of the dam plates.

The method of building construction, employing my improvements as herein set forth, is as follows: The blocks are first set in position (it being understood that a suitable temporary centering or support is provided for the ends of the blocks, which spans the space in which the concrete beam 3 is to be formed and which serves as a support for the plastic until it sets or hardens), and the removable dam plates 5 are then slid into operative position within the ends of the block. The plastic to form the intermediate beam 3 is then poured or placed into the space between the adjacent ends of the blocks and enters laterally into the passages or bores 2 so that it fills the space therein to the stop which is constituted by the removable dam plate 5. Then, when the plastic constituting the beam 3 has hardened, the dam plates are withdrawn from the block and the structure is in fixed and rigid homogeneous condition.

The advantages and operation relating to my present improvements will be readily understood by those skilled in the art to which my invention pertains. The removable dams can be quickly and conveniently employed, with economy in time and labor, and effectively serve all the purposes and offices of the fixed dams as heretofore employed, and waste or loss of constructional material is entirely avoided, as the dams do not become a permanent part of the building construction but are readily withdrawn after they have served their operative purpose and again repeatedly used in the construction process. My improvements are adapted to effect actual economy in the plastic material necessary for the formation of the intermediate beams 3, as the angle of the incline of the slots 6 and dam plates 5 could be so regulated that an effective cross-sectional form for the beam, with a top portion larger than the bottom portion, can be produced with less material than is ordinarily required for the cross-section of the beam formed by the permanent dams as herein referred to.

I do not desire to be understood as limiting myself to the detail features nor to the detail construction and arrangement of structural parts as herein described and shown, as it is manifest that variations and modifications therein may be resorted to, in the adaptation of my invention to varying conditions of use, without departing from the spirit and scope of my invention and improvements. I therefore reserve the right

to all such variations and modifications as properly fall within the scope of my invention and the terms of the following claims.

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

1. In a building construction comprising hollow blocks having passages open at their ends, the blocks being positioned with their adjacent ends spaced apart to permit the formation of an intermediate beam of hardening plastic extending in said space and into the interior passages of the blocks and said blocks having openings in their walls intersecting said passages at a point back from the end thereof, means mounted in said opening and intersecting said passages in a direct line at a point within the body of the block and back of the ends of said passages to limit the entrance of said plastic therein, said means being exposed with relation to the exterior face of the block to enable withdrawal thereof from the block in the plane of said direct line after the plastic has hardened.

2. In a building construction comprising hollow blocks having passages open at their ends, the blocks being positioned with their adjacent ends spaced apart to permit the formation of an intermediate beam of hardening plastic extending in said space and into the interior passages of the blocks and openings being provided in the walls of the block, means slidable through said opening and within the body of the block in a direct line on a plane crossing said passages to limit the entrance of said plastic therein, said means being projective with relation to the exterior face of the block to enable the slidable withdrawal thereof from the block in the plane of said direct line after the plastic has hardened.

3. In a building construction comprising hollow blocks having passages open at their ends, the blocks being positioned with their adjacent ends spaced apart to permit the formation of an intermediate beam of hardening plastic extending in said space and into the interior passages of the blocks, a slotted portion at the end of the block, said slots extending on a plane crossing said passages, and a dam slidably mounted in said slots to limit the entrance of said plastic within said passages and slidably removable from the block after the plastic has hardened.

4. In a building construction comprising hollow blocks having passages open at their ends, the blocks being positioned with their adjacent ends spaced apart to permit the formation of an intermediate beam of hardening plastic extending in said space and into the interior passages of the blocks, a slotted portion at the end of the block, said slots extending on a plane crossing said passages and inclined downwardly toward

the lower end portion of the block, and a dam slidably mounted in said slots to limit the entrance of said plastic within said passages and slidably removable from the block after the plastic has hardened.

5. In a building construction comprising hollow blocks having a plurality of passages open at their ends and located one above the other, the blocks being positioned with their adjacent ends spaced apart to permit the formation of an intermediate beam of hardening plastic extending in said space and into the interior passages of the blocks, a slotted portion at the end of the block, said slots extending on a plane crossing a plurality of said passages located one above the other, and a dam slidably mounted in said slots and intersecting said plurality of passages to limit the entrance of said plastic therein and slidably removable from the block after the plastic has hardened.

6. In a building construction comprising hollow blocks having a plurality of passages open at their ends and located one above the other, the blocks being positioned with their adjacent ends spaced apart to permit the formation of an intermediate beam of hardening plastic extending in said space and into the interior passages of the blocks, a slotted portion at the end of the block, said slots extending on a plane inclined downwardly toward the lower end portion of the block and crossing a plurality of said passages located one above the other, and a dam slidably mounted in said slots and intersecting said plurality of passages to limit the entrance of said plastic therein and slidably removable from the block after the plastic has hardened.

7. A building block comprising a hollow body having passages open at the end and a slotted end portion, said slots extending on a plane crossing said passages, and an insertible and removable dam slidably mounted within said slots.

8. A building block comprising a hollow body having passages open at the end and a slotted end portion, said slots extending on a plane crossing said passages and inclined downwardly toward the lower end portion of the block, and an insertible and removable dam slidably mounted within said slots.

9. A building block comprising a hollow body having a plurality of passages open at the end and located one above the other and a slotted end portion, said slots intersecting said plurality of passages respectively at different distances from the open end thereof, and means insertible and removable with relation to said slots to constitute dams respectively at different points within said plurality of passages.

10. A building block comprising a hollow body having passages open at the end

and a slotted end portion, said slots extending on a plane crossing said passages, and an insertible and removable dam slidably mounted within said slots and projecting beyond the body of the block when in position.

11. A building block comprising a hollow body having passages open at the end and a slotted end portion, said slots extending on a plane crossing said passages, and an insertible and removable dam slidably mounted within said slots, said dam having hand-hold means projecting exteriorly of the block when in inserted position.

12. A building block comprising a hollow body having passages open at the ends and openings or slots in its end portions intersecting said passages, a plurality of insertible and removable dams mounted in said openings or slots and crossing said passages in a direct line at a point within the body of the block and back of the ends of said passages at opposite ends of the block, said dams being projective with relation to the exterior face of the block to enable withdrawal thereof from the block in the plane of said direct line, and means connecting the projecting portions of said plurality of removable dams which extend from within the body of the block.

13. A building block comprising a hollow body having passages open at the ends and

slotted end portions, said slots extending on a plane crossing said passages and being open at the top of the block, a plurality of dams insertible and removable at said top openings and slidably mounted within said slots at the opposite ends of the block, and hand-hold means connecting said plurality of slidable dams externally of the block.

14. A building block comprising a hollow body having passages open at the end and a slotted end portion, said slots extending on a plane crossing said passages, and a member mounted in said slots and intersecting said passages and constituting a dam or closure therefor at a point back of the end thereof.

15. A building block comprising a hollow body having passages open at the end and a slotted end portion, said slots extending on a plane crossing said passages and inclined downwardly toward the lower end portion of the block, and a member mounted in said slots and intersecting said passages and constituting a dam or closure therefor at a point back of the end thereof.

In witness whereof I have signed my name in the presence of the subscribing witnesses.

LEWIS K. DAVIS.

Witnesses:

WILLIAM HECKMANN,
ETHEL V. HOPKINS.