

E. S. VAUGHAN.
Basement Floors.

No. 137,740.

Patented April 8, 1873.

Fig: 1

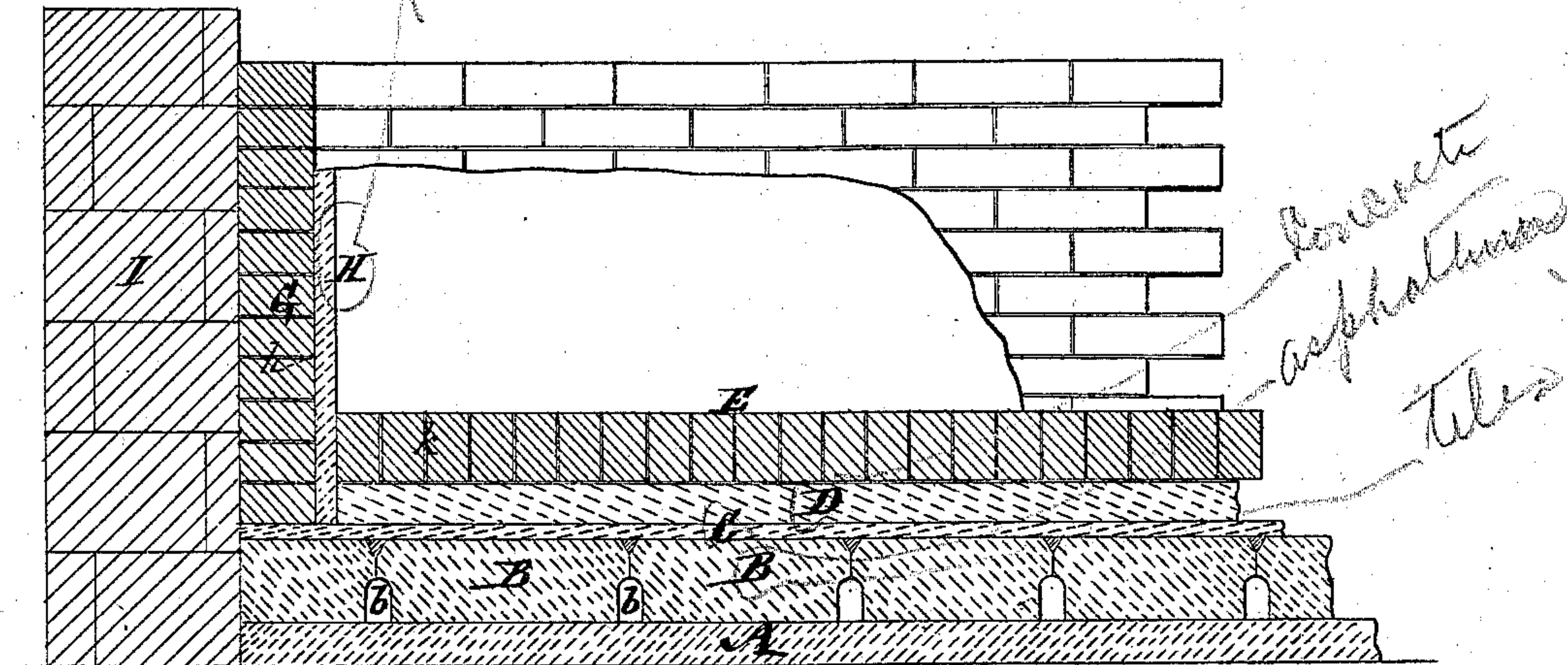


Fig: 2

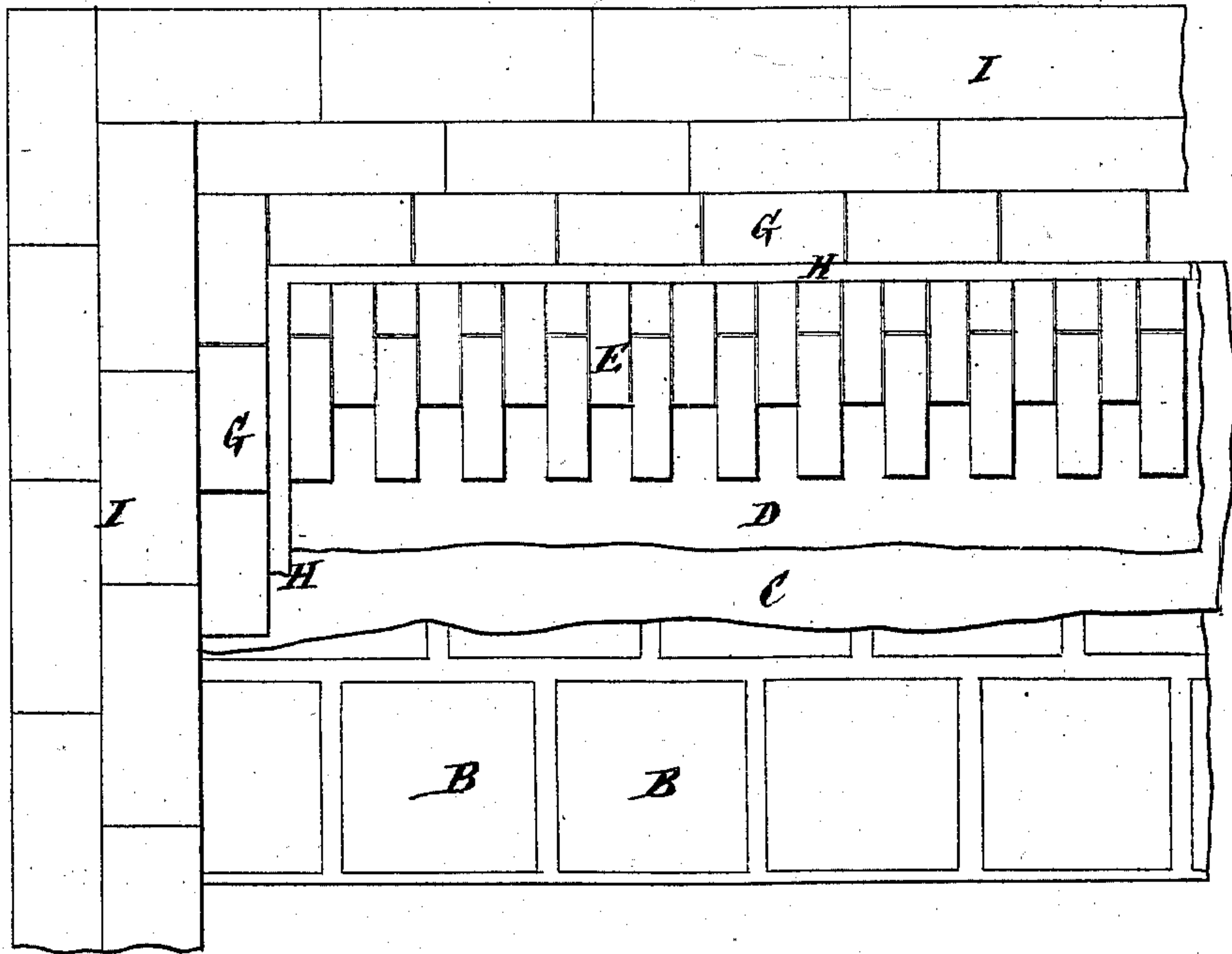
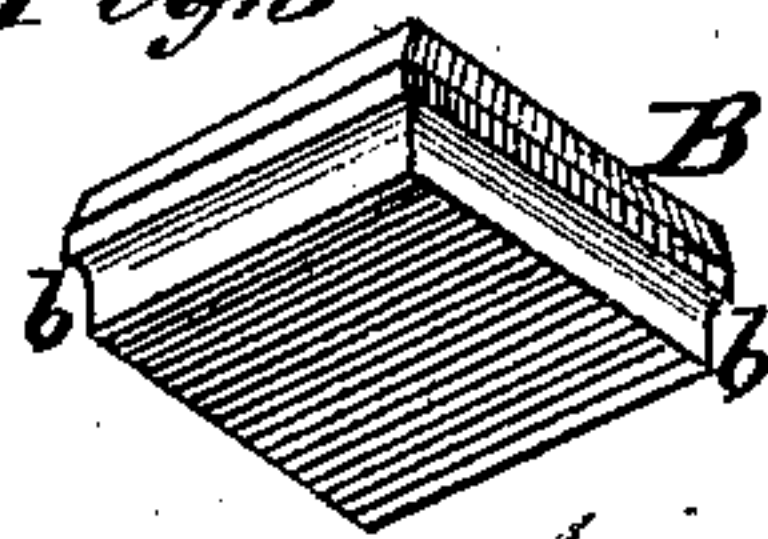


Fig: 3



Witnesses:
Dust Hump
Olerd Auch

E. S. Vaughan
per Walter Brown & Allen
Attorneys

UNITED STATES PATENT OFFICE.

ELEAZAR S. VAUGHAN, OF FLATBUSH, NEW YORK.

IMPROVEMENT IN BASEMENT-FLOORS.

Specification forming part of Letters Patent No. 137,740, dated April 8, 1873; application filed February 5, 1873.

To all whom it may concern:

Be it known that I, ELEAZAR S. VAUGHAN, of Flatbush, in the county of Kings and State of New York, have invented an improvement in the construction of floors or bottoms and inner walls of basements, cellars, vaults, and other apartments, places, or structures, to render them impervious to water and to protect them from dampness, of which the following is a specification:

This invention, which is especially, but not exclusively, applicable to basements, cellars, and other like structures, consists mainly in a novel construction of the floors or foundations thereof by means of tiles or blocks made to form, when laid, a close or approximately close joint at or near their upper edges, but grooved or reduced below the latter all around to provide for drainage, and thereby to facilitate the laying of the upper stratum or strata, and whereby, on removing or leaving unlaid one or more of said tiles, a pump, if necessary, may readily be applied to draw off accumulating or accumulated water during the progress of the work. The invention also consists in certain combinations, with said tiles, of different strata used to complete the floor and superstructure or inner walls of the structure.

In the accompanying drawing, which forms part of this specification, Figure 1 represents a vertical section of a cellar, in part, with the bottom and walls constructed in accordance with my invention, and Fig. 2 a broken sectional plan of the same. Fig. 3 is a perspective view of one of the floor-tiles.

Similar letters of reference indicate corresponding parts.

A is the bed, which may either be solid ground or any made or artificial substratum suitable to receive tiles or blocks B upon it. These tiles may be made of stone, cement, gravel and sand, clay and sand, or any other suitable plastic substance or compound, and are shaped to match or fit so as to form a close surface or floor, with cement introduced between them at their upper edges, but with the under portion of their sides reduced or cut away to form grooves or channels *b* all around them, for the purpose of providing perfect drainage to facilitate laying the upper strata, or, by simply taking out one of the tiles, to provide for the attachment of a pump to draw off incoming water. This will be

found of great advantage in the construction of cellars or other structures, the bottoms of which are below tide-water or beneath the regular drainage or sewerage level. Upon this tile-base is placed a layer, C, of asphaltum or other bituminous or water-proof substance, and upon this a layer, D, of concrete or other heavy substance, including flags, to resist the upward pressure of water. Upon this last layer D is the upper surface of the cellar-floor, consisting of a course, E, of bricks bedded in and having their joints filled with hydraulic cement *k*. The inner side walls G are built up in bricks laid in asphaltum, and united with the stratum C of asphaltum, and, when laid, coated on the inside with a layer, H, of asphaltum.

Metallic hold-fasts may be used to secure the inner side walls with the outer walls I of the structure.

By this improvement the difficulty which is so frequently experienced in keeping the water from rising and interfering with the progress of the work is greatly lessened, especially when the drainage level of the floor or bottom is below the sewer, in which case great weight or strength of material is necessary to prevent incoming water from lifting the floor or bottom. By it, also, the cellar or other structure may be kept free from dampness, and much labor will be economized in the execution of the work, thereby reducing its expense materially.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The tiles B, constructed so that when laid they form water ways or channels *b* all around them below their upper edges, substantially as and for the purpose herein set forth.

2. The combination, with the tiles B, reduced around their edges to form grooves or channels, as described, of the water-proof layer C and upper stratum D of concrete or other weighty material, essentially as specified.

3. The inner side walls G, laid in and coated with asphaltum *h* H, in combination with the floor-layers C D E and base-tiles B, constructed to effect drainage, as described.

ELEAZAR S. VAUGHAN.

Witnesses:

MICHAEL RYAN,
HENRY T. BROWN.