May 9, 1939. A. HENDERSON 2,157,290

DRAIN FOR FOUNDATION WALLS

Filed Feb. 13, 1939

Fig. 1.

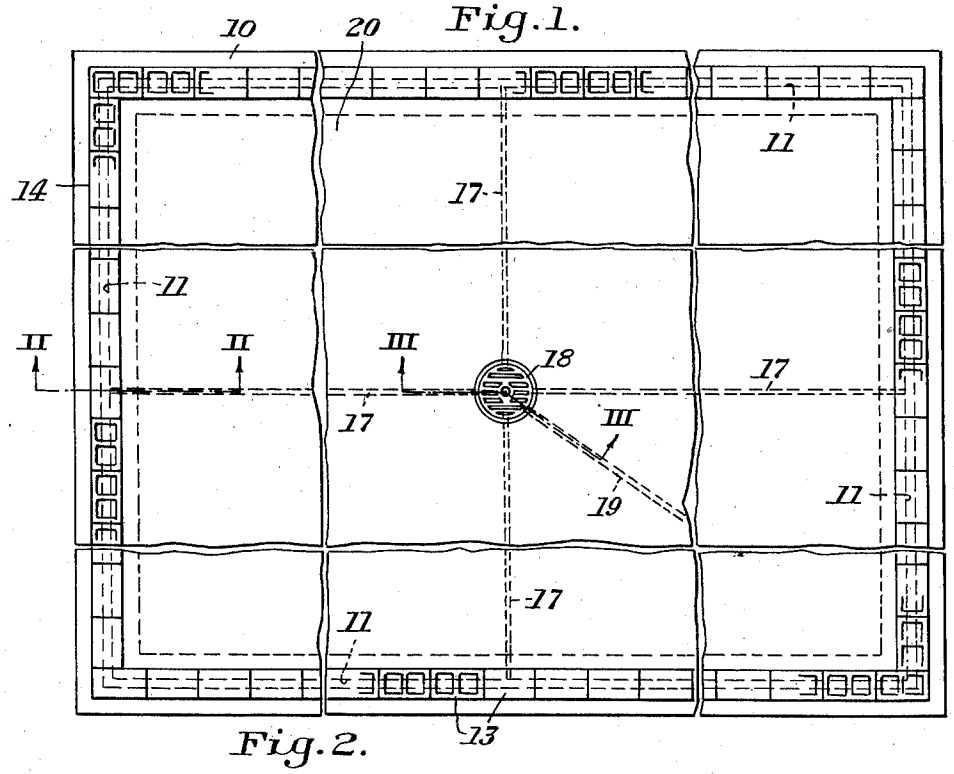


Fig. 2.

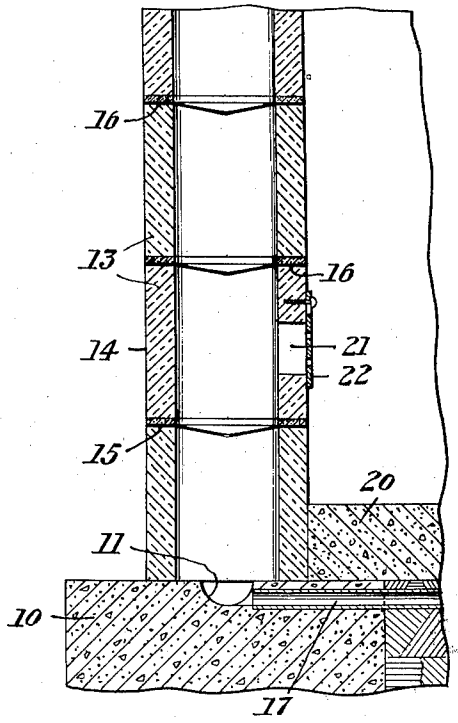
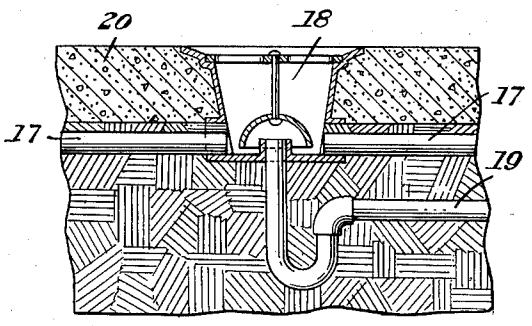


Fig. 3.



INVENTOR

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DRAIN FOR FOUNDATION WALLS

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Application February 13, 1939, Serial No. 256,189

6 Claims. (Cl. 72—126)

This invention relates to a drain for foundation walls and, in particular, to a drain for walls composed of concrete or the like blocks having voids extending therethrough.

Numerous expedients have been proposed heretofore for preventing moisture seeping through the foundation wall of a building from entering the basement or cellar. All such expedients with which I am familiar, however, are characterized by numerous objections in that they accomplish their object only imperfectly or materially increase the cost of construction.

I have invented a novel form of wall drainage system which is highly effective and relatively inexpensive to install. In a preferred form of the invention, I form a drainage channel in the top of a concrete wall footing which is cast in place, and lay up the blocks composing the wall in several courses on the footing in such position that any moisture seeping through the outer surface of the blocks will descend along the voids therethrough which are disposed vertically and collect in the channel on the footing. I provide suitable means for draining the moisture collecting in the footing into a sewer or other place of discharge. I also provide means for preventing mortar falling through the voids during the erection of the wall from blocking the channel in the footing and thereby rendering it useless.

A preferred embodiment of the invention is illustrated in the accompanying drawing to which the following detailed description refers. In the drawing:

Fig. 1 is a plan view of a foundation wall and supporting footing therefor embodying the invention;

Fig. 2 is a partial sectional view taken substantially along the plane of line II—II of Fig. 1; and

Fig. 3 is a partial sectional view taken substantially along the plane of line III—III of Fig. 1.

Referring now in detail to the drawing, a footing 10 preferably composed of concrete cast in place is constructed according to known methods around the excavation in which the foundation is to be erected. A drainage channel 11 is formed in the top of the footing and extends continuously therealong. The foundation wall proper is composed of a plurality of blocks 13 laid up in successive courses. These blocks are preferably cored concrete blocks or the like having their voids disposed vertically, the blocks in each course being staggered relative to those in adjacent courses. In this manner, the voids are located in substantial alinement and thus provide vertical drain passages extending the full height of the wall.

In laying up the wall indicated generally at 14, I lay sheets of tar-paper or the like 15 over the blocks of the bottom course to act as a stop for mortar droppings which may fall through the vertical passages formed by the alining voids as the wall is being laid up. The sheets 15 may be perforated to permit drainage therethrough, without interfering with their effectiveness as a mortar stop.

Between the courses of blocks 13 above the first, I insert strips 16 of any suitable material, such as tar-paper or the like, which serve somewhat in the manner of gaskets to seal the horizontal joints against leakage. These strips may be the full width of the wall and if so, should be perforated to facilitate the passage of seepage downwardly therethrough. In this case, the mortar dropped in the laying of each course is caught on the tar-paper strip therebelow. The weight of such droppings and any water seepage introduces a slight sag in the sheets 15 or strips 16 which deflects seepage away from the sides of the blocks and toward the center of the vertically disposed voids therethrough. Should the tar-paper sheets and strips disintegrate eventually, the collection of hardened mortar droppings on the footing 10 within the voids of the bottom course of blocks will not tend seriously to obstruct drainage through the channel 11 as would the accumulation of such droppings therein while plastic.

Drain pipes 17 communicate with the channel 11 at various points in the length thereof and are connected to any convenient point of discharge such as a floor drain 18 having an outlet 19 to the sewer. As shown in the drawing, the drain 18 is installed in the basement floor 20 which is above the channel 11. The drain pipes 17 will, obviously, be embedded in the footing 10 when the latter is poured. The channel 11 is also formed at this stage by any convenient procedure such as forcing a suitably shaped form into the concrete while it is still plastic.

Certain of the blocks in one of the courses adjacent the floor 20 are preferably provided with hand-holes 21 to facilitate the cleaning out of the channel 11 in case of need, e. g., by the insertion of a flushing hose. A cover plate 22 is normally disposed over each of the openings 20 and may be perforated to ventilate the voids in the wall.

It will be apparent that the invention disclosed provides a simple, yet efficient, system of drainage for foundation walls having numerous advantages over anything of similar character known

heretofore. The location of the drainage channel 11 below the surface of the basement floor insures against collection of drainage water on the latter. The tar-paper sheets 15 prevent blocking of the drainage channel by mortar droppings, and the drainage pipes 17 carry away the seepage collected in the channel 11 to the sewer. The connection of the drain pipes to the floor drain 18, furthermore, tends to maintain a water-seal in the latter continuously.

Although I have illustrated and described but one preferred form of the invention, it will be understood that changes therein may be made within the scope of the appended claims.

This application is directed to an improvement of the device disclosed in my copending application, Serial No. 204,584, filed Apr. 27, 1938, which eventuated into Patent No. 2,147,035 of Feb. 14, 1939.

I claim:

1. A building construction comprising a footing having a drainage channel formed in the upper surface thereof, a plurality of courses of cored blocks laid on said footing with their voids disposed vertically over said channel and providing continuous drainage passages extending upwardly from the channel through the wall, and a mortar stop laid over one of said courses to prevent mortar droppings falling through said passages from blocking said channel.

2. A building construction comprising a footing having a drainage channel formed in the upper surface thereof, a plurality of courses of cored blocks laid on said footing with their voids disposed vertically over said channel and providing continuous drainage passages extending upwardly from the channel through the wall, a mortar stop laid over one of said courses to prevent mortar droppings falling through said passages from blocking said channel, and a floor inside said wall, the surface of the floor being above said channel in at least the portions thereof adjacent said wall.

3. A construction as defined by claim 1 characterized by a sealing strip disposed in the joints between said courses to limit leakage therethrough.

4. A building construction comprising a footing having a drainage channel formed in the upper surface thereof, a plurality of courses of cored blocks laid on said footing with their voids disposed vertically over said channel and providing continuous drainage passages extending upwardly from the channel through the wall, and a floor inside said wall, the surface of the floor being above said channel in at least the portions thereof adjacent said wall.

5. A building construction comprising a footing having a drainage channel formed in the upper surface thereof, a plurality of courses of cored blocks laid on said footing with their voids disposed vertically over said channel and providing continuous drainage passages extending upwardly from the channel through the wall, and means at the joints between adjacent courses for deflecting water seeping therethrough toward the center of said passages.

6. A building construction comprising a footing having a drainage channel formed in the upper surface thereof, a plurality of courses of cored blocks laid on said footing with their voids disposed vertically over said channel and providing continuous drainage passages extending upwardly from the channel through the wall, and openings in the inner sides of certain of said blocks giving access to said passages from the inner side of said wall.

ALBERT HENDERSON.