Feb. 14, 1939. A. HENDERSON 2,147,035

DRAINAGE SYSTEM FOR BASEMENT WALLS

Filed April 27, 1938

Fig. 2.

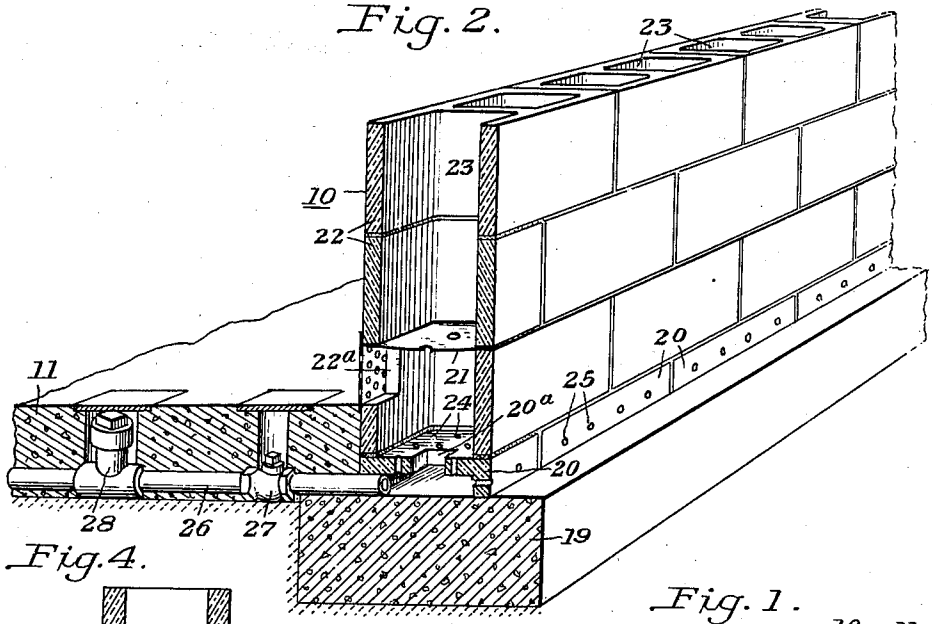


Fig. 4.

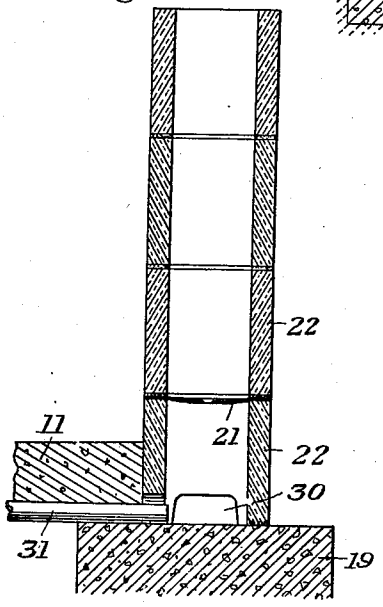


Fig. 1.

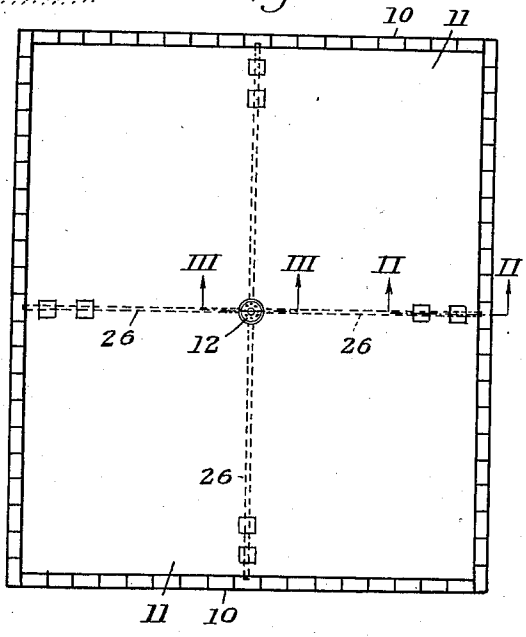
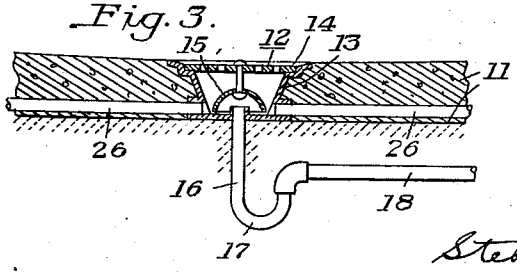


Fig. 3.



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DRAINAGE SYSTEM FOR BASEMENT WALLS

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11 Claims. (Cl. 72—10)

This invention relates to a system for draining seepage passing through basement walls and so disposing of it as to prevent water from collecting and standing on the basement floor.

The problem of seepage through basement walls is a very old one and many efforts have been made toward a solution thereof, without complete success so far as I am aware. Numerous schemes have been proposed and several patented, but none of these have come into very wide use because of certain inherent objectionable features.

It is an object of this invention, therefore, to improve upon drainage systems for basement walls as previously known and to provide an inexpensive yet highly effective system for collecting wall seepage and disposing of it without leaving a trace in the basement itself. In a preferred form of the invention, I utilize a course of footing slabs or blocks adapted to provide a passage or collecting conduit for moisture or seepage penetrating the outer surface of the wall. This course is placed on the ordinary poured concrete footing and the blocks composing the basement wall are laid up thereon in courses to the required height. I provide connections from this passage or conduit to the sewer through the drain usually installed in the lowest point of the basement floor. Further details of the invention and certain modifications thereof will be referred to in the course of the following complete description, and the advantages and novel features will be specifically pointed out in the appended claims.

The accompanying drawing illustrates a preferred embodiment of the invention and a modification. In the drawing:

Figure 1 is a plan view of a basement wall and floor rectangular in plan;

Figure 2 is a view partly in section along line II—II of Figure 1 and partly in perspective;

Figure 3 is a sectional view along the line III—III of Figure 1; and

Figure 4 is a sectional view such as would be taken along line II—II of Figure 2, showing a modified construction.

Referring now in detail to the drawing, a basement wall 10 encloses a floor 11 which is sloped toward a drain 12. The drain includes a bowl 13 and a removable grill 14 supporting a bell 15. The bell cooperates with the upper end of a drain pipe 16 to form a fluid seal. The pipe 16 is part of a trap 17 having a sewer connection 18.

The wall 10 rests on a footing 19 which may be of poured concrete or other suitable material. In building the wall, I lay a first course of blocks or slabs 20 on the footing. As best shown in Figure 2, these slabs are of channel section and are laid with their flanges face down on the footing. The joints between the ends of adjacent slabs or blocks are mortared only at the sides of the blocks or slabs, the end joints being left open on top of and between the blocks or slabs to permit entry of seepage.

The wall 10 is composed of blocks 22 of conventional shape laid up in courses on the blocks or slabs 20. The blocks 22 have vertical voids 23 therein and the joints therebetween are mortared at their front and rear walls. The wall 10 is built up to the desired height, although only a few courses thereof are shown in Figure 2. Continuous cover strips 21 of tar paper or similar material laid over the first course of blocks 22 hold any mortar falling through the voids 23 as the succeeding courses of blocks 22 are laid up. After completion of the wall, I punch through the strips to permit the drainage of water into the collecting conduit formed by the slabs 20. The lumps of mortar after hardening will not obstruct drainage as fresh mortar might. The cover strip serves after being punched to prevent leakage between joints and also to deflect seepage from the outer wall of the blocks toward the center of the voids. The strips may also be used at all horizontal joints between courses above the first.

If desired, the slabs 20 may be provided with holes 24 and 25 to facilitate entry of seepage into the collecting conduit. It will be apparent that moisture seeping through the outer walls of blocks 22 will run down through the voids 23 onto the top of the slabs 20 and will pass through the joints therebetween or the holes 24 to the space below the slabs. Similarly, ground water from outside the wall will be drained into the collecting conduit through the holes 25 and the open joints between slabs 20.

Drain pipes 26 extend inwardly from each side of the wall 10 to the floor drain 12. These pipes are preferably provided with check valves 27 to prevent back flow from the sewer and with clean-out connections 28. Clean out may also be effected by lifting the lid 14 and inserting a wire into the inner ends of pipes 26.

It will be apparent from the foregoing that the invention provides a simple and inexpensive yet highly effective system for draining off seepage passing through basement walls which would otherwise collect on the basement floor. The collecting conduit provided by slabs 20 is below the level of the floor 11, so there is no chance of any water standing on the latter. By leading the drain pipes 26 into the floor drain 12, the

latter is normally kept in sealing condition by the continuous collection of seepage therein.

One or more of the blocks **22** in the first course may be provided with a hand hole **22***a* and the slab **20** therebelow with a similar hole **20***a* whereby flushing of the collecting conduit by means of a hose may be accomplished in case of the collection of mud therein. The hole **22***a* may be screened and permits circulation of air through the wall to assist in drying out any dampness accumulating therein.

In a modified form of the invention shown in Fig. 4, I dispense with slabs **20** and lay the first course of blocks **22** directly on the footing **19**. I provide a collecting conduit by breaking out the bottom portions of the end walls and central web of each block in the first course as indicated at **30**. Drain pipes **31** communicating with the voids in the bottom course of blocks carry away the seepage collecting on top of the footing in the same manner as the drain pipes **26** of Figs. 1, 2 and 3.

Although I have illustrated and described herein but a preferred form of the invention and a modification thereof, it will be understood that changes in the construction and arrangement disclosed may be made without departing from the spirit of the invention or the scope of the appended claims.

I claim:

1. In a foundation wall, a plurality of courses of blocks having voids disposed vertically, a course of channel-section slabs below said first-mentioned courses to provide a collecting conduit for water seeping through said wall, and a drain conduit communicating with said collecting conduit, said slabs being disposed with flanges downwardly and being provided with holes to drain water collecting thereon into the said collecting conduit.

2. In a foundation wall, a plurality of courses of blocks having voids disposed vertically, and a course of channel-section slabs below said first-mentioned courses to provide a collecting conduit for water seeping through said wall, a drain conduit communicating with said collecting conduit, and a footing for said wall, said slabs being disposed on said footing with flanges down and provided with drain holes.

3. In a foundation wall, a plurality of courses of blocks having voids disposed vertically, and a course of channel-section slabs below said first-mentioned courses to provide a collecting conduit for water seeping through said wall, and a drain conduit communicating with said collecting conduit, said slabs being disposed with flanges downwardly and having holes in the outer flanges to permit ingress of water to said collecting conduit.

4. In a foundation wall, a plurality of courses of blocks having voids disposed vertically, a footing supporting said courses, a course of wall supporting members on said footing defining a conduit for collecting water passing through the blocks, a drain conduit communicating with said collecting conduit, a hand-hole in a block in one of said first-mentioned courses, and a hand-hole in the wall-supporting member therebelow to permit cleaning the collecting conduit.

5. In a foundation wall having a basement floor, a plurality of courses of blocks having voids disposed vertically, a footing supporting said courses and a course of wall supporting members on said footing defining a conduit, below the level of said basement floor, for collecting seepage passing through said wall and a drain communicating with said conduit.

6. A wall as defined by claim 5 characterized by a continuous flexible strip disposed between the horizontal joints in said blocks to prevent leakage therethrough.

7. A wall as defined by claim 5 characterized by means disposed between the horizontal joints in said blocks to prevent mortar from dropping on said conduit, said means being positioned at least one course above said conduit.

8. A wall as defined by claim 5 characterized means deflecting to the center of the voids seepage passing through joints of said blocks.

9. A wall as defined by claim 5 characterized by openings in some of the faces of the blocks for ventilating said voids.

10. In a foundation wall a plurality of courses of blocks having webs and voids disposed vertically, a foundation supporting said courses, the blocks of the bottom course having their webs cut to provide a communication between said voids and said foundation, and means for draining water seepage collecting from said voids.

11. In a foundation wall and a basement floor a plurality of courses of blocks having voids disposed vertically, said blocks being supported by a course of channel shaped slabs positioned below said basement floor level, said slabs defining a drain for water seepage entering said voids.

ALBERT HENDERSON.