United States Patent [19]

Guzzo

[11] **3,850,193**

[45] **Nov. 26, 1974**

[54] **EXPANSION JOINT AND DRAIN CONDUIT FOR FOUNDATION WALLS**

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[22] Filed: **Oct. 9, 1973**

[21] Appl. No.: **404,428**

[52] **U.S. Cl.** **137/362**

[51] **Int. Cl.** **E02d 52/302**

[58] **Field of Search** 137/362; 52/169

[56] **References Cited**

UNITED STATES PATENTS

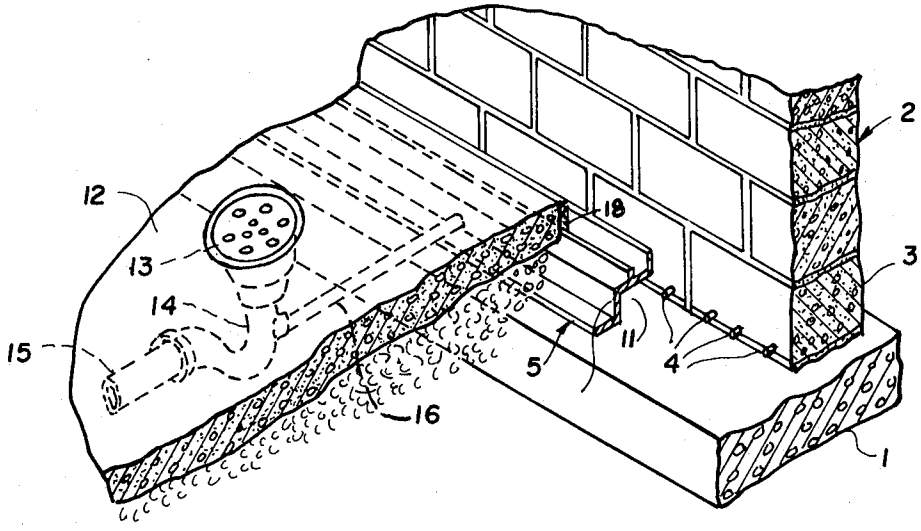
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Primary Examiner—Henry T. Klinksiek

[57] **ABSTRACT**

A combination drain conduit and expansion joint for foundation walls, which conduit is of stepped formation with the respective end flanges resting against a footer and a first course of concrete or cinder blocks. An integral upstanding flange is in spaced parallel relationship to that resting against the concrete block course to support an expansion strip to take up for expansion of the concrete floor under which said conduit is embedded. Drain holes at the bottom of the concrete block course will drain into the channel formed by said conduit, thence through a plurality of pipes connected to a sewer pipe so as to effectively drain water which seeps into the foundation walls.

2 Claims, 3 Drawing Figures



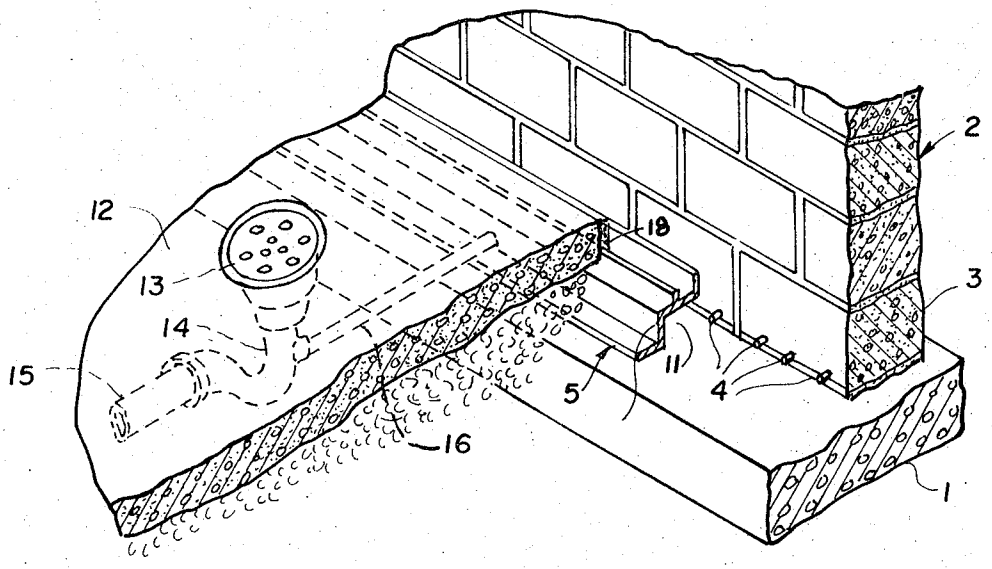
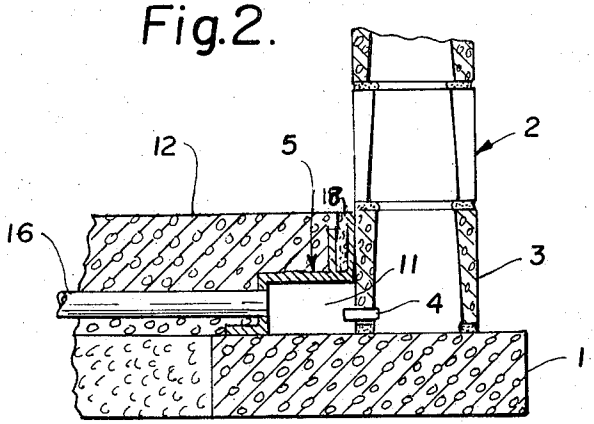


Fig. 1.

Fig. 2.



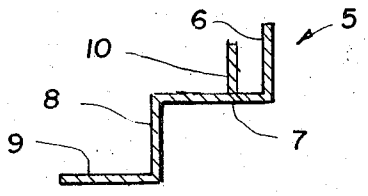


Fig. 3.

EXPANSION JOINT AND DRAIN CONDUIT FOR FOUNDATION WALLS

This invention relates to a drain conduit for foundation walls embodying an expansion joint.

In the past, damp proofing masonry structure to provide a dry basement in a dwelling or other building has been a continuous problem without a satisfactory solution. Since the floor slab is cast after the foundation has been set, a seam or crack is produced at the junction of the floor with the wall which often permits seepage of water into the basement. Moreover, most buildings are made of hollow cinder or concrete blocks which develop cracks so that water passes from the exterior of the building into hollow portions of the block, thence to the basement floor. Even without cracks, such blocks, particularly cinder blocks are subject to moisture seepage.

An object of the present invention is to overcome the abovementioned disadvantages by providing a novel and highly effective drain conduit and system that will eliminate the retention of moisture in the area of the foundation walls, particularly where they join the footer and floor slab.

Other objects and advantages will become more apparent from a study of the following description taken with the accompanying drawing wherein:

FIG. **1** is a perspective view, with parts shown broken away and in vertical cross-section, of a foundation wall which embodies a drain conduit according to the present invention;

FIG. **2** is a cross-sectional view thereof; and,

FIG. **3** is a cross-sectional view of the drain conduit, per se.

Referring more particularly to the drawing, numeral **1** denotes a cast concrete footer on which is supported a foundation wall, generally denoted by numeral **2,** of hollow concrete or hollow cinder block wherein the lowermost course of blocks **3** is provided with a plurality of horizontally spaced drain tubes **4** to allow rain or moisture that seeps to the interior of the blocks to drain into space **11** formed by a drain conduit, generally denoted by numeral **5.**

The drain conduit **5** is preferably made of metal, such as aluminum, or a plastic material and has integral flanges **6, 7, 8** and **9,** of stepped formation and an integral, vertically upwardly extending flange **10** in spaced parallel relation to flange **6** to permit introduction between it and flange **6,** of an expansion strip **18** of soft asphaltic material, styrofoam or similar material which yields upon expansion of the floor slab. Flange **10** may be shorter than flange **6** and both flanges may be shorter than the expansion strip to assure a leakproof joint at the floor surface. Flange **6** rests against the lower course of blocks **3** while flange **9** rests on the footer **1.**

Suitable dimensions of conduit **5** are about **2** inches for each of flanges **6, 7, 8, 9,** and a 3/4 inch spacing between flanges **10** and **6,** and about 1 ½ to 2 inches height for flange **10.** However, other dimensions may be equally suitable. The top edge of flange **6** may serve as a guide for finishing the surface of the concrete slab.

After conduit **5** is positioned like a baseboard, as illustrated in Fig. **1** a plurality of small tubes or pipes **16** are inserted into corresponding openings in the riser flange **8** of conduit **5** at a plurality of spaced points therealong, which conduits or pipes **16** are connected

to a sewer drain pipe **14** into which basement water drains, through a perforated cover **13,** which drainage is led out to a pipe **15** leading to a municipal drainage system. Scored circles may be provided in flange **6** which can be punched out when it is desired to connect tubes **16** thereto.

A concrete floor slab **12** is then cast in place and will cover the entire floor area with the exception of that covered by the expansion strip **18** extending along the perimeter of the floor between flanges **10** and **6,** whereby upon thermal expansion of the concrete floor **12,** such expansion will be taken up by compression of the material forming the expansion strip **18.** Likewise, when the floor slab contracts, then instead of leaving a crack or void space between it and the foundation walls, the expansion strip will expand to take up such space and prevent seepage of water between the floor and foundation walls.

In operation, as rain water or other moisture penetrates the interior of the foundation blocks **2,** it will collect at the bottom of the lowermost course of blocks **3** and will flow through drain tubes **4** into the space **11** formed by conduit **5,** thence through pipes **16** into the sewer system. No opportunity is provided for leakage through the space between the concrete floor slab and foundation walls because of the expansion strip **18.**

Thus it will be seen that I have provided a highly efficient drain conduit for continuously draining foundation walls of a building, irrespective of expansion and contraction of the floor slab, which conduit is of relatively simple and inexpensive construction and may be easily and quickly installed even by unskilled labor, and which is practically maintenance-free throughout the entire life of the building.

While I have illustrated and described a single specific embodiment of my invention it will be understood that this is by way of illustration only and that various changes and modifications may be contemplated in my invention and within the scope of the following claims.

I claim:

1. In a building having a footer, a foundation wall supported on said footer and a concrete floor having a perimetrical end supported on said footer; the improvement comprising a drain conduit of stepped cross-section having a horizontal end flange supported on said footer and a vertically upwardly extending end flange resting against the lowermost portion of said wall to provide a drain channel extending along the joint between said foundation wall and footer, a plurality of drain tubes connecting the riser flange of said drain conduit to a sewer, said drain conduit also having an integral vertically upwardly extending flange in spaced parallel relationship with said vertical end flange, and a strip of expansible material extending between said vertical flanges and between the perimeter of said floor slab and the interior vertical surface of said lowermost portion of the foundation wall so as to take up for thermal expansion and contraction of the floor slab to prevent formation of a leakage opening between said slab and foundation wall.

2. A foundation wall drain system as recited in claim **1** together with a plurality of drain openings formed on the interior surface of said lowermost portion of said foundation wall to drain seepage water into the space formed by said drain conduit.

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