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3,304,672

APPARATUS FOR RELIEVING BASEMENTS FROM EXTERNAL HYDROSTATIC PRESSURE

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Filed Jan. 6, 1964, Ser. No. 335,723

4 Claims. (Cl. 52-169)

My invention relates to method and apparatus for relieving basement walls and floors from pockets of hydrostatic pressure which build up exteriorly thereof due to accumulation of subsoil moisture.

The primary object of my invention is the provision of method and apparatus which is extremely easy to practice and install and which is highly effective in the elimination of seepage of water through the walls and under the floor due to pockets of hydrostatic pressure, and which may be maintained with a minimum of service.

A further object of my invention is the provision of apparatus of the type above described which may be installed with a minimum of skill, which is relatively inexpensive to produce, and which is durable.

A further object of my invention is the provision of apparatus of the type above described which may be formed so as to have an entirely pleasing appearance without in any way detracting from its utility.

The above and still further objects of my invention will become apparent from the following detailed specification, appended claims, and attached drawings.

Referring to the drawings wherein like characters indicate like parts throughout the several views:

FIG. 1 is a horizontal sectional view through a basement wall, looking downwardly, with the floor thereof shown in plan, some parts being broken away;

FIG. 2 is a greatly enlarged view in vertical section as seen from the line 2-2 of FIG. 1; and

FIG. 3 is an enlarged fragmentary view in perspective of a corner section of the basement structure of FIG. 1, portions thereof shown in section.

Referring with greater particularity to the drawings, the numeral 10 indicates a conventional cementitious wall of a basement, which wall is supported at its lower end by enlarged conventional footings 11. Immediately overlying the footings 11 and connecting the walls 10 is a floor 12, which may take any form, but which also is normally formed from pouring concrete. The subsoil, exteriorly of the wall 10, and largely comprising backfill, is identified by X; whereas the pockets in which hydrostatic pressure is built up due to accumulation of moisture therein, are identified by Y. The pressures built up within the pockets Y may cause moisture to enter the basement either through the lower end portions of the wall 10, or alternatively, to pass under the footings 11 and thereafter upwardly through the floor 12, obviously taking the path of least resistance.

To avoid the condition immediately above described, I form horizontally extended openings 13 in the wall 10, at longitudinally spaced points and at substantially the level of the floor 12. As shown, the openings 13 extend not only through the wall 10, but also for some distance into the subsoil X, as indicated at 14. The spacing between the apertures 13 and the wall 10 may vary, in direct proportion to the severity of the moisture condition involved. Normally, however, a six-foot spacing therebetween is found to be satisfactory.

Adapted to be supported by the basement floor and have sealing engagement with the lower end portion of the wall 10 is a primary conduit 15, which is molded from flexible plastic material to simulate a baseboard. Primary conduit 15 comprises an upstanding back wall element 16, having longitudinally spaced apertures 17 there-

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in which are spaced and positioned to align with the openings 13-14 in the wall 10 and subsoil X. Primary conduit 15 also includes an imperforate bottom wall 18 which rests upon the floor 12, and an upstanding front wall element 19, the upper end portion of which inclines upwardly as at 20, and is formed to define a vertically disposed lip 21 which engages the rear wall element 16. Preferably, and as shown, the rear wall element 16 at its extreme upper edge is formed to define an enlarged depending lip 22 which is yieldingly biased to overlie and engage lip 21.

Because of the flexible resilient nature of the material from which the primary conduit 15 is formed, the lips 21, 22 define therebetween a self-closing continuous mouth, indicated generally at 23, which mouth, as shown by dotted lines in FIG. 2, may be opened sufficiently to enable the operator to install branch conduits 24 through the aligned apertures 17 in the rear wall element 16 and the openings 13 in the wall 10. Branch conduits 24 may be formed from any suitable material, and preferably are formed at their inner ends to define diametrically enlarged heads 25 which overlap the rear wall element 16 adjacent the apertures 17 therein and have sealing engagement therewith. Branch conduits 24 which, as shown, project completely through the walls 10, are provided at their outer ends with perforate screen-like inserts 26, which prevent any undesirable accumulation of sand and gravel within the primary conduit 15.

As a final step in the practice of my novel method, with the apparatus above described, it is but necessary to connect the primary conduit 15 to a drain 27 below the level of the floor 12. As shown, this may be accomplished through a drain tube 28. It might here be stated that if and when it becomes necessary or desirable to remove any collected residue from the primary conduit 15, which may have collected therein due to unusual conditions, it is but necessary to open the mouth 23.

My invention has been thoroughly tested and found to be completely satisfactory for the accomplishment of the above objects; and while I have disclosed a preferred embodiment thereof, same may well be capable of modification without departure from the scope and spirit of the appended claims.

What is claimed is:

1. In basement construction which includes cementitious side walls which are supported on subterranean footings and which are connected by a subterranean floor immediately above the level of said footings, the improvements which comprise:

- (a) a plurality of longitudinally spaced apertures formed in at least one of said side walls each of which extends through said side wall generally at the level of said floor;
- (b) a substantially horizontally disposed elongated primary fluid conduit formed from flexible resilient material and including

- (1) an upstanding rear wall element, having sealing engagement with said one basement wall and having longitudinally spaced apertures therein in coaxial alignment with said apertures formed in said side wall,
- (2) an imperforate bottom wall, and
- (3) a front wall element the upper end portion of which has abutting relationship with the upper end portion of said rear wall element and defines therewith a self-closing continuous mouth;
- (c) one end of said primary conduit communicating with a drain below the level of said floor;
- (d) a plurality of branch conduits one each positioned within said coaxial apertures in said side wall and said rear wall element of said primary fluid conduit

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with the inner end of each branch conduit in communication with said primary conduit; and

(e) the outer ends of said branch conduits communicating with the subsoil exteriorly of said side wall through perforate end portions.

2. The structure defined in claim 1 in which said mouth is of a size when fully opened to permit insertion of said branch conduits into the apertures in the back wall element thereof.

3. The structure defined in claim 2 in which said branch conduits are formed to define diametrically enlarged head portions which overlap said rear wall element of said primary conduit adjacent said apertures and having sealing engagement therewith.

4. The structure defined in claim 2 in which one of said wall elements of said primary conduit is formed

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to define a lip which overlies the upper edge of the other of said wall elements.

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