No. 890,573. PATENTED JUNE 9, 1908.

J. M. PHELAN.

REINFORCED CEMENT OR CONCRETE CATCH BASIN AND SEWER PIPE.

APPLICATION FILED MAR. 6, 1906.

FIG. 1.

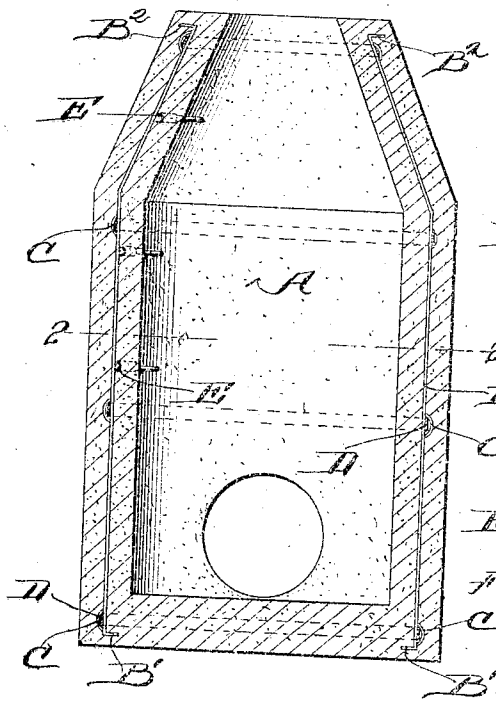


FIG. 2.

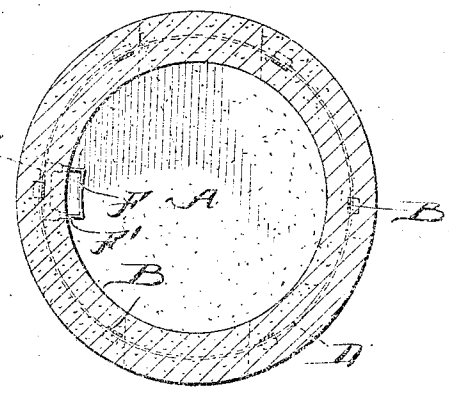


FIG. 4.

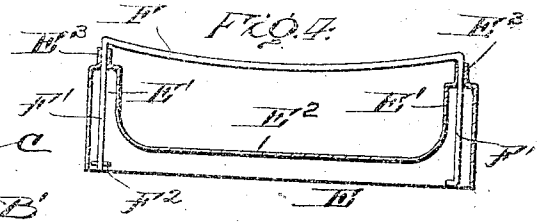


FIG. 7.



FIG. 8.

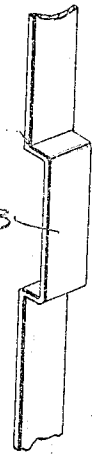


FIG. 3.

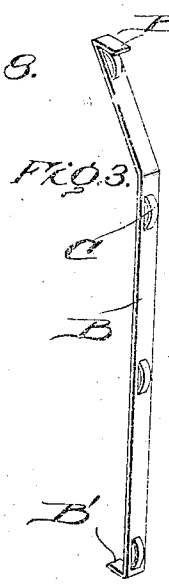


FIG. 5.

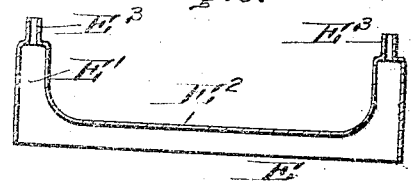
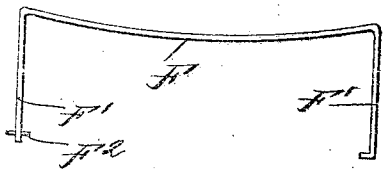


FIG. 6.



WITNESSES:

Louis H. Schmidt.

C. B. McBath

INVENTOR

John M. Phelan

BY

Mears & Brock

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN M. PHELAN, OF JACKSON, MICHIGAN, ASSIGNOR TO REINFORCED CONCRETE PIPE COMPANY, OF JACKSON, MICHIGAN, A CORPORATION OF OHIO

REINFORCED CEMENT OR CONCRETE CATCH-BASIN AND SEWER-PIPE.

No. 890,573. Specification of Letters Patent. Patented June 9, 1908.

Application filed March 6, 1906. Serial No. 304,582.

To all whom it may concern:

Be it known that I, JOHN M. PHELAN, a citizen of the United States, residing at Jackson, in the county of Jackson and State of Michigan, have invented certain new and useful Improvements in Reinforced Cement or Concrete Catch-Basins and Sewer-Pipe, of which the following is a specification.

The object of my present invention is to provide a catch basin and a sewer pipe which will be reinforced both transversely and longitudinally thereby providing an exceedingly strong and durable article.

Another object of the invention is to provide a catch basin which in addition to being reinforced will be provided with castings carrying steps which can be pushed in or out as desired, and which when pulled out will serve as a ladder by means of which descent into and ascent from the catch basin can be conveniently had.

With these objects in view my invention consists in providing longitudinal and transverse reinforcing strips or bands which are embedded in the cement or concrete when the catch basin or pipe is formed, and the invention consists also in the employment of castings which are also embedded in the cement or concrete of the catch basin and which have the steps or ladder rungs connected thereto, said steps or rungs being adapted to be pulled out or pushed in as desired.

The invention also consists in certain details of construction hereinafter fully described and pointed out in the claims.

In the drawings forming a part of this specification:—Figure 1 is a vertical sectional view of a catch basin constructed in accordance with my invention. Fig. 2 is a transverse sectional view taken on line 2—2 of Fig. 1. Fig. 3 is a detail perspective view of one of the longitudinal reinforcing bands or strips. Fig. 4 is a detail sectional view of the casting with the adjustable step or rung arranged therein. Fig. 5 is a detail sectional view of the said casting the step or rung being removed. Fig. 6 is a detail view of the rung or step detached from the casting, and Figs. 7 and 8 are detail views of the reinforcing strips or bands employed in connection with a cement or concrete sewer pipe.

Referring to the drawings A indicates a cement or concrete catch basin which may be any size desired and may be made with a conical or dome shaped contracted top as preferred. This catch basin, it will be understood, is made in a mold or form especially adapted for the purpose and for the purpose of reinforcing said catch basin, I arrange a plurality of metallic reinforcing strips B bent at an angle as shown at B′ at its lower end and also bent at an angle at its upper end as shown at B^2. These metallic strips B have one or more straps C punched therefrom at intervals for the purpose of receiving and holding the transverse or circumferential reinforcing bands D, which are passed through the loops produced by punching the strap portion C outwardly and by arranging the reinforcing strips and bands in the mold before the cement or concrete is poured in, and it will be seen that a metallic skeleton frame is provided around which the catch basin is formed and which is securely embedded in the walls and bottom of the catch basin and constitutes a reinforcing frame.

In Figs. 7 and 8 I have shown two forms of reinforcing strips which can be used in making cement sewer pipes, the form shown in Fig. 7 being a flat twisted strip and the form shown in Fig. 8 being a flat strip provided with offset portions. Both forms serve to prevent the reinforcing strips pulling out or working loose.

In addition to providing the catch basin with reinforcing metallic frame work, I arrange a series of castings preferably upon opposite sides and arrange them so that their extreme inner ends are flush with the inner walls of the catch basin. The castings E comprises the hollow end portions E′ and the solid connecting bar E^2 the inner ends of the hollow portions being contracted as shown at E^3.

F indicates the step or ladder rung curved to conform to the curve of the catch basin and having its ends F′ bent and adapted to slide in the hollow portions E′ of the castings E, and in order to prevent the step or rung being completely withdrawn from the casting, I preferably pass a cross pin F^2 through the ends as shown which cross pin will prevent the said step or rung being pulled out after the casting with the step or rung has once been inserted in the wall of the basin. Instead of passing a cross pin the extreme end of the member F may be bent over and serve the same purpose.

From the foregoing description taken in

connection with the accompanying drawing, it will be seen that I provide an exceedingly strong and durable catch basin thoroughly reinforced throughout, and also that I provide a ladder upon the interior of the catch basin the steps or rungs of which can be pushed in when not desired for use and pulled out ready for use whenever desired. It will be understood, of course, that manholes and other openings can be provided at any point desired. It is also obvious that the reinforcing principle herein set forth can be applied to cement or concrete sewer pipes.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. The combination with a cement or concrete catch basin, of a plurality of castings embedded in the side wall of the said catch basin, the end portions of said castings being hollow, and the steps shaped as described and having their ends slidably mounted in the hollow portion of the castings as set forth.

2. A cement or concrete cylindrical body provided with a plurality of castings embedded in its walls, each casting having a hollow end portion and a solid connecting bar, the inner ends of the hollow end portions being contracted, the steps or rungs having their ends bent and inserted in the hollow end portions of the castings, and means to prevent the withdrawal of the said bent ends from the castings.

3. The combination with a cement or concrete cylindrical body, of the metallic steps having end portions, and the intermediate curved portion, the curved portions of said step corresponding with the curve of the cylindrical body, and the castings inserted in the sides of the cylindrical body and in which the end portion of the steps are slidably mounted, as set forth.

JOHN M. PHELAN.

Witnesses:
JAMES M. ADAMS,
NATHAN E. BAILEY.