J. J. HOPPES.

WEIR TANK.

APPLICATION FILED APR. 16, 1915.

1,239,601. Patented Sept. 11, 1917.

Fig 1

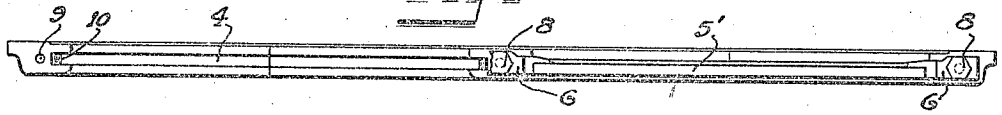


Fig 2

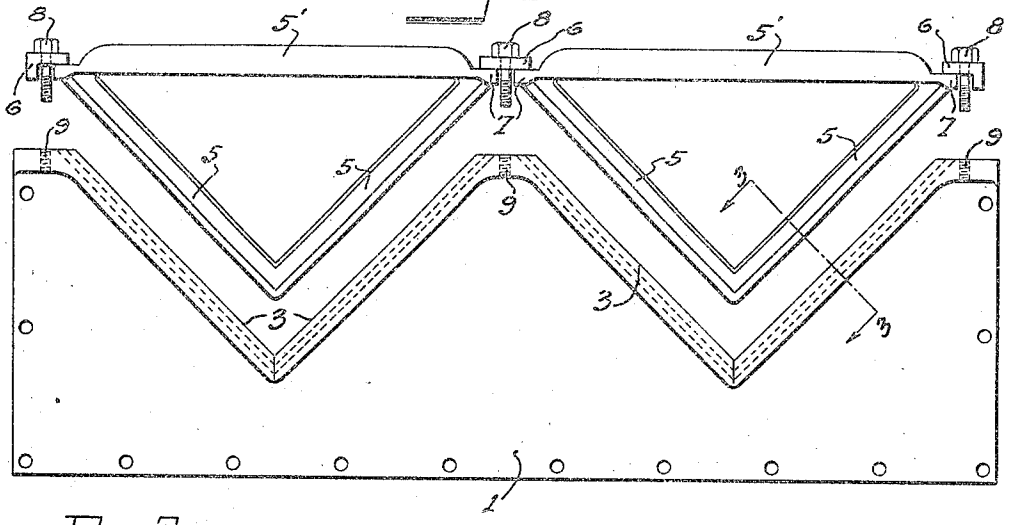


Fig 3

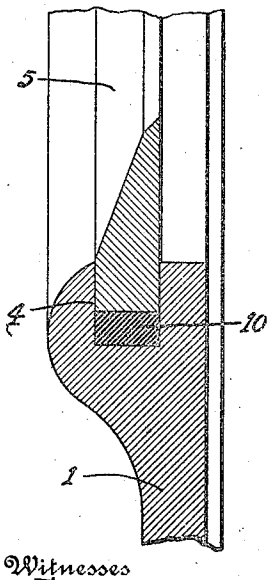


Fig 4

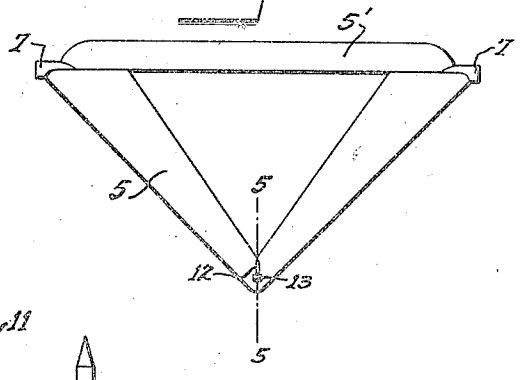
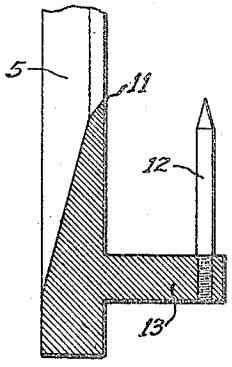


Fig 5



Witnesses

Edwin L. Beale

Chas. J. Orlich

Inventor

John J. Hoppes

By Dickey & Boarman

Attorneys

UNITED STATES PATENT OFFICE.

JOHN J. HOPPES, OF SPRINGFIELD, OHIO, ASSIGNOR TO THE HOPPES MANUFACTURING COMPANY, OF SPRINGFIELD, OHIO, A CORPORATION OF OHIO.

WEIR-TANK.

1,239,601. Specification of Letters Patent. Patented Sept. 11, 1917.

Application filed April 16, 1915. Serial No. 21,680.

To all whom it may concern:

Be it known that I, JOHN J. HOPPES, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Weir-Tanks, of which the following is a specification.

My invention relates to improvements in weir tanks such as are used in connection with the measurement of the flow of water, the invention relating more particularly to the construction of the notches of the weir board of such tanks.

In devices of this character it frequently becomes necessary to change the size of the notch to compensate for different rates of flow of the water.

The object of my invention is to form the notch in a separate member which may be readily attached to or removed from the weir board proper so that changes in the size of the notch to correspond with the rate of flow may be readily made without the necessity of changing the entire board.

A further object of my invention is to provide means for readily determining the height of the water relatively to the bottom of the notch for the purpose of properly setting the devices which are employed for registering or indicating the quantity of water passing through the notch.

In the accompanying drawings:—

Figure 1 is a top plan view of a weir board showing my removable notches applied thereto, some of the fastening devices being broken away and some removed.

Fig. 2 is a front elevation of the same showing the V-notches in detached position.

Fig. 3 is a section on the line 3—3 of Fig. 2 with the parts, however, in assembled position.

Fig. 4 is a rear elevation of one of the V-notches.

Fig. 5 is a section on the line 5—5 of Fig. 4.

Like parts are designated by similar characters of reference in the several views.

Referring to the drawings, 1 represents the weir board, which forms part of a partition in the weir tank. In the present case, I have shown this board provided with two notches although it will be understood that any suitable number may be employed, the usual number being from one to five. As these notched members are constructed in all respects exactly alike, but one will be described. The upper edge of the board 1 is formed with a V-shaped recess 3 for each notched member, the walls of which are provided with a groove 4 in Fig. 1 and also in detail in Fig. 3. This recess 3 and groove 4 receive the V-shaped frame sides 5 which form the notch, the upper ends of these sides being connected by an integrally formed cross-bar 5′ to lend strength to the structure. This notched frame is held in position by clamps 6 which engage projections 7 which extend laterally from the upper corners of the frame; bolts 8, passing through the clamps 6 and threaded in the screwthreaded openings 9 in the upper edges of the weir board 1, serving to firmly hold the frame in position. A packing 10 is preferably inserted in the bottom of the groove 4 to form a water tight joint between the frame and board.

Each of the recesses 3 will be of a uniform size and the outlines of each of the notched frames will also be uniform. The notches formed in these frames, however, will be of a size suitable to the rate of flow of the water. When it is desired to change the size of the notch, this can be readily accomplished by removing the clamps so as to permit the removal of the frame and then inserting another frame provided with a notch of a different size, or if desired a blank frame may be inserted in one of the recesses to entirely cut off the water at that point.

In setting the devices which are employed for registering or indicating the flow of the water, it is necessary that the water in the weir tank should be on a level with the bottom of the notch. Difficulty has been experienced in connection with this condition, however, as the water may be slightly above or slightly below the bottom of the notch without ordinarily being detected. In order that the height of the water may be readily determined, I have provided on the rear or up-stream side of the notched frame a vertically-arranged pointer 12, the upper pointed end of which stands exactly on a level with the bottom of the notch, that point in the notch being represented by 11. This pointer 12 may be constructed in any suitable manner but in the present case is shown threaded in a bracket 13 which

is preferably formed integral with the notched frame. By noting the position of the point of the indicator relatively to the level of the water, the proper level of the water for the setting of the registering and indicating mechanism can be obtained.

Having thus described my invention, I claim:—

1. In a device of the character described, a weir board, and a notched member having its sides arranged in permanent relation with each other, and removably secured to said board.

2. In a device of the character described, a weir board, the upper edge of said board having a recess, and a notched member having its sides arranged in permanent relation with each other and removably secured in said recess.

3. In a device of the character described, a weir board, the upper edge of said board having a recess, the walls of said recess having a groove, and a notched frame located in said groove and recess.

4. In a device of the character described, a weir board having a V-shaped recess, and a notched frame removably secured in said recess, said frame consisting of sides fitted to said recess and an upper cross-bar connecting the upper ends of said sides.

5. In a device of the character described, a weir board, the upper edge of said board having a recess, a notched member removably located in said recess, and clamping devices on the upper edge of said board for clamping said member in said recess.

6. In a device of the character described, a weir board, a notched frame removably secured to said board, and a pointer carried by said notched frame, said pointer standing on a level with the bottom of said notch, for the purpose specified.

7. In a device of the character described, a weir board, a plurality of notched frames removably secured to said board, and a pointer carried by each of said frames, said pointer standing on a level with the bottom of the notch of said frame.

In testimony whereof, I have hereunto set my hand this 9th day of April 1915.

JOHN J. HOPPES.

Witnesses:
CHAS. I. WELCH,
EFFA M. SMITH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."