Nov. 23, 1943. E. T. LUFF 2,334,779

SPLASH BLOCK

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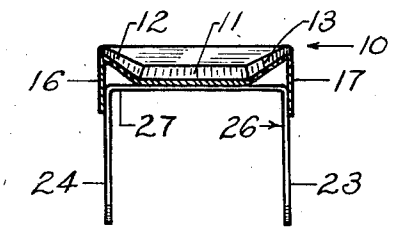

Fig. 2

Fig. 1

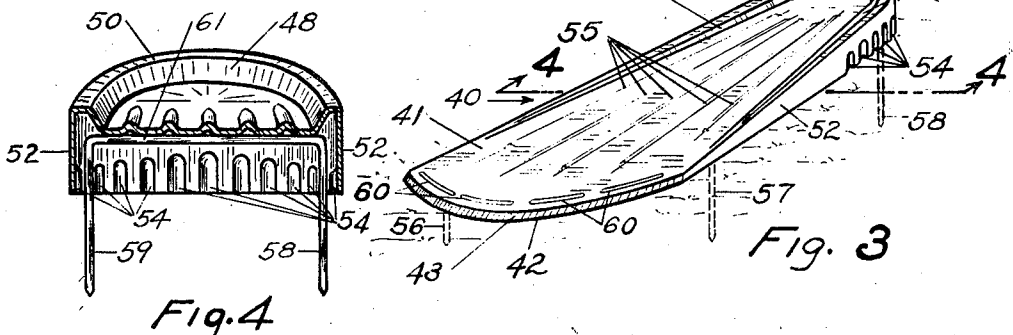

Fig. 3

Fig. 4

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SPLASH BLOCK

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3 Claims. (Cl. 94—33)

The present invention is concerned with a splash block and more particularly a preformed one of metal.

It is conventional practice to provide some means, usually termed a "splash block," to receive the rain water issuing from each down spout of building gutters and to carry this water away from the foundation to a point where it will cause no injury. Such a splash block is conventionally made of concrete and is molded in the desired position. The difficulty with this conventional type of splash block is that the block not only requires considerable labor to make but does not stay in the desired position due to the settling of the ground. Such splash blocks are usually laid just after the building is completed and on soil which has only recently been "filled in" around the foundation. In many cases, the resultant settling causes the splash block to change in position so much as to deflect the water towards the building instead of away from it. Furthermore, such blocks eventually often become cracked, necessitating their replacement.

An object of the present invention is to provide a preformed splash block of metal which has means to enable the splash block to be easily secured to the ground.

A further object of the present invention is to provide such a splash block in which the stream of water diverges as it approaches the outlet of the splash block so that the issuing stream is spread over a relatively wide area.

A further object of the invention is to provide a splash block in which the up-turned side walls bounding the fluid channel not only diverge from the inlet to the outlet but also decrease in depth so as to be entirely non-existant at the outlet end of the splash block.

A further object of the invention is to form such a splash block of sheet metal by either a bending or stamping operation.

Further objects of the present invention will be apparent from consideration of the accompanying specification, claims, and drawing, in which

Figure 1 is an isometric view of my splash block applied in position and secured to the ground underneath a rain down spout;

Figure 2 is a transverse sectional view of the splash block taken along the line 2—2 of Figure 1;

Figure 3 is an isometric view, corresponding to that of Figure 1, of a modified form of splash block; and

Figure 4 is a transverse sectional view of the splash block of Figure 3 taken along the line 4—4.

Referring to Figure 1, the conduit portion of the splash block is generally indicated by the reference numeral 10. This conduit portion is formed of sheet metal formed to provide a flat bottom wall 11. Along the sides of bottom wall 11, the sheet metal is bent up at an angle to form side walls 12 and 13. It will be noted that these side walls are bent along lines diverging from the center line as the outlet is approached. Furthermore, each of the wall portions 12 and 13 is in the form of a triangle so that the width of the wall decreases towards the outlet. These triangular walls 12 and 13, it will be noted, do not extend all the way to the outlet but entirely disappear at points 14 and 15 spaced a short distance from the outer end of the conduit 10.

The sheet metal beyond the side wall portions 12 and 13 is bent downwardly to form depending flanges 16 and 17. These depending flanges are again of a triangle shape converging toward the outlet side. Instead, however, of disappearing entirely before the outlet end of the conduit is reached, these flanges extend the full length of the conduit. The inlet end of the conduit has a portion 18 bent up to form an inner end wall which is suitably secured to the side walls 12 and 13.

A plurality of stakes 21, 22, 23, and 24 formed of metal are secured to the conduit portion 10 of the splash block. As best indicated in Figure 2 in connection with stakes 23 and 24, the stakes are formed in pairs, each pair of stakes constituting the two legs of an inverted U-shaped member 26. Thus, stakes 21 and 22 form the legs of one U-shaped member and stakes 23 and 24 the legs of a second U-shaped member. The horizontal portion 27 of each U-shaped member 26 is secured by spot welding or any other suitable method to the underside of the bottom wall 11 of the conduit portion 10. The flanges 16 and 17 are also preferably secured in a suitable manner to the upper portion of legs 21 and 22 and legs 23 and 24 of the U-shaped members 26. The U-shaped members 26 thus serve the dual purpose of providing pairs of stakes and also reinforcing the conduit portion of the splash block.

As will be evident in Figure 1, the splash block is secured in the ground by forcing the stakes 21 to 24 inwardly until the bottoms of the triangular side flanges 16 and 17 engage the ground. The splash block is placed in the ground at a position such that the inlet end is just back of the outlet of the down spout. Referring to the drawing, the down spout is indicated by the reference numeral 30. The rain spout is suitably secured by any conventional means to the wall of a building 31.

It is to be noted that by reason of the triangular form of the side walls 12 and 13 and by reason of the fact that they are bent along a diagonal line, the side walls gradually diverge towards the outlet to increase the width of the issuing stream. At the same time, they decrease in depth and entirely disappear short of the out-

let end so that the water is able to splash over the entire outlet end of the splash block. Thus, the water instead of all being directed onto one spot and creating an excessive amount of erosion of that one spot, is spread over a relatively wide area and is carried off without any damage to the surface on which it is directed.

It will be further seen that the process of installing the splash block is an extremely simple one. By reason of the relatively light weight of the splash block, the splash block will not increase in any way the tendency of the ground to settle. If the ground does settle so as to change the angular position of the splash block undesirably, the splash block can be readily pulled out of the ground and reinserted in such a manner that it properly directs the flow of water. It will be noted that the splash block in Figures 1 and 2 can be formed by simple bending operations from standard sheet metal stock. This enables the splash block to be formed readily in the factory under efficient production methods, thus decreasing the amount of labor which must be performed at the actual building site.

Species of Figures 3 and 4

In Figure 3 I have shown a slightly modified form of splash block. The splash block of Figure 3 is intended to be formed of lighter sheet metal and to be formed by a die stamping operation.

A conduit portion **40** of this splash block comprises a base portion **41** which is provided with a forward edge **42** which may, if desired, be curved as shown in the drawing. Extending downwardly and forwardly from this curved forward edge **42** is a downturned lip portion **43**.

Struck upwardly from the base portion **41** is a continuous wall comprising side walls **45** and **46** and a curved end wall **48**. The depth of this wall is greatest along the curved end wall **48** and gradually diminishes towards the outlet end of conduit portion **40** until the wall completely disappears short of the outlet end. Merging with this edge wall and extending in an inclined plane is a top wall portion **50** which similarly is of greatest width at a point adjacent the end wall **48** and gradually diminishes in width to a vanishing point as the outlet is approached. Extending down from the top wall **50** is a flange **52**. This flange extends continuously around the inlet end and sides of the bottom wall **41** and merges with the lip **43** at the outlet end. As is evident from the drawing, the depth of this flange **52** is greatest at the curved inlet end and gradually decreases towards the outlet end. The purpose of this, as in connection with flanges **16** and **17** of the species of Figures 1 and 2, is to insure that the bottom **41** is suitably inclined when the side flange engages the ground. In order to facilitate the stamping operation, grooves **54** are formed in the curved portion of the side flange **52**.

In order to increase the rigidity of the splash block, a plurality of ribs **55** are formed in the base portion **41**. These ribs act to stiffen the conduit and to generally increase its rigidity. Furthermore, they provide diverging channels to help spread out the stream of water as it approaches the outlet. Similar ribs **60** may be provided adjacent the outlet end of the base portion and extending parallel to the forward edge **42** of the base **41**.

As with the previously described species, a plurality of stakes **56**, **57**, **58**, and **59** are secured to the conduit portion **40** of the splash block. As with the other species, stakes **56** and **57** on the one hand and stakes **58** and **59** on the other hand each constitute two legs of a U-shaped member **61** the horizontal portion of which is secured to the under side of the base **41** of the conduit section **40**. A side flange **52** is secured to the stakes **58** and **59** so as to increase the rigidity of the splash block.

The splash block of Figures 3 and 4 possesses the various advantages set out for that of Figures 1 and 2. In other words, it is light in weight and causes no settling of the ground. Furthermore, the position of the splash block can be readily changed at any time when such a change is desirable. All of the work of forming is done at the factory and the only work of installation necessary is that of forcing the stakes into the ground. The splash block not only conveys the water away from immediately beneath the down spout but causes the stream of water to be so spread out as to cause no damage to the surface which it engages.

While I have shown certain specific embodiments of my invention for purposes of illustration, it is to be understood that the invention is to be limited only by the scope of the appended claims.

1. A splash block comprising a conduit member of sheet metal having edge portions first upturned to provide side walls and then downturned to provide outer angular side flanges, said upturned walls beginning at positions adjacent the outlet end of the splash block and increasing in depth and width towards the inlet end, said side flanges being of increasing depth towards the inlet end and adapted to engage the ground to fix the angular position of said conduit member, and a plurality of inverted U-shaped members the upper parts of which are secured to the bottom of said conduit and the downwardly extending legs secured to the inner sides of the said side flanges and extending downwardly for insertion into the ground.

2. A splash block comprising a conduit member of sheet metal having the edge thereof along all but adjacent the outlet end upturned to provide inside side and end walls, and then downturned to form outer angular side flanges, the two sides of said upturned portion diverging towards the outlet to increase the effective width of the conduit, diverging ribs formed in the bottom of said block to aid in spreading the stream of water and to reinforce the block, and a plurality of U-shaped members the upper parts of which are secured to the bottom of said conduit and the downwardly extending legs secured to the inner sides of the said side flanges and extending downwardly for insertion into the ground.

3. A splash block comprising a conduit member of sheet metal having the edge thereof first upturned along all but adjacent the outlet end to provide side and end walls and then downturned completely around the conduit member to form outer side flanges, and a plurality of inverted U-shaped members rigidly secured to the under side of said conduit with the legs of said U-shaped members extending downwardly between the outer side flanges and pointed to facilitate insertion in the ground.

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