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(54) DRAINAGE TRAP

(71) I, BENGT SPANBERG, a Swedish national, of 275 00 Sjöbo, Sweden, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The present invention relates to a drainage trap.

These days stringent requirements are imposed upon drainage traps as regards various characteristics and properties such as compactness, limited depth, complete absence of difficulty in cleaning, and a design that ensures correct flow and correct pressure-variation; at the same time the traps should be easy to connect and are required to be heat-resistant and they should possess the necessary water-seal depth and transmission capacity.

The object of the present invention is to provide a drainage trap which improves on some of the above mentioned characteristics without adversely affecting others.

According to the invention, there is provided a drainage trap comprising an inlet part and at least one discharge pipe extending outwardly and laterally from the inlet part, an insert removably fitted in said inlet part and including a dip plate providing a water-seal, and at least one baffle disposed in the inlet part between a side wall of the inlet part from which the discharge pipe extends and the dip plate said at least one baffle extending upwardly from the bottom of the inlet part and being connected to the side wall on both sides of the discharge pipe.

The invention will now be described in greater detail by reference to the attached drawings, in which:—

Figure 1 is a section through a drainage trap in accordance with the invention;

Figure 2 is a section on the line II—II of Figure 1, and

Figures 3 and 4 are sections through drainage traps having differently formed bearing surfaces and snap-action retention means.

The drainage trap illustrated in the draw-

ings has an inlet part 1 having at least one discharge pipe 2 which extends outwardly and laterally therefrom. Fitted in the inlet part 1 is an insert 3, which is removable, incorporates a dip plate 4 providing a water-seal and comprises an inlet chamber 5 which has at least one upper inlet opening 6 and at least one lower through flow opening 7 which is delimited at the top by the lower edge 8 of the dip plate 4.

In order, on the one hand, to enable the discharge pipe 2 of a trap having the above-mentioned insert 3 to be effectively cleaned and, on the other hand, to obtain a small total depth of trap while maintaining the necessary water-seal depth, and furthermore to achieve the best possible throughflow and pressure-variation effects, the through-flow opening 7 of the insert 3 is delimited at the bottom by a part 9 of the outer wall 10 of the insert 3, said part 9 being disposed at lower level 11 than the lowest portion 12 of the discharge pipe 2.

The throughflow past the insert is improved and the prevention of backflow of water out of the discharge pipe 2 due to pressure variations is achieved by providing a baffle 16 between the discharge pipe 2 and the dip plate 4 in a portion of the inlet part 1 which is wider than the discharge pipe 2. Water is discharged into the upper part of the discharge pipe 2, through the space 17 above the baffle 16.

In order to obtain, in this arrangement, the best possible conditions for prevention of backflow of water, the baffle 16 is connected to a portion 18 of the bottom of the inlet part 1, which portion is disposed at a lower level than the lowest part 12 of the discharge pipe 2 so as to form a pocket 19 the lowest portion of which is disposed at a lower level than the lowest part 12 of the discharge pipe 2.

The baffle 16 preferably has a length substantially the same as or greater than the width of the opening of the discharge pipe 2 into the inlet part 1. Thereby the baffle 16 can be disposed in the proximity of the dip plate 4 without these parts causing a throttling action that would greatly reduce the flow

effect. As regards the manufacture of the drainage trap, it is advantageous if the baffle 16 is shaped to comprise two walls 20, which are parallel to each other and substantially parallel to the longitudinal axis of the discharge pipe 2, and it has an end-wall 21 which interconnects these parallel walls 20.

In order to provide the insert 3 with particularly advantageous flow paths and to render the inlet part particularly stable, the outer wall 10 of the insert 3 may extend substantially vertically at the top and thereafter follow an arc of uniform curvature until it assumes a substantially horizontal direction at the part 9, whereas the inlet part 1, to the exterior of the above-mentioned wall 10 of the insert 3, extends substantially vertically downwards and at the bottom is extended by way of a corner zone 22, as a planar lower wall part 18.

The insert 3 can be secured in the inlet part 1 in a simple and advantageous manner by forming a face 23 at the top of the inlet part 1 and interposing a sealing element 25 between the face 23 and a face 24 of the insert.

The rim 23 of the inlet part 1 for fitting the insert can be disposed nearer to the centre of the upper opening in the inlet part 1 than can another face 26, Figure 4 which forms a seat for clamping rings 27 for securing a covering material 29 and/or lifting rings for engaging the insert to be lowered into or lifted from the inlet part 1 without its being impeded by the fitted clamping rings 27.

To enable the insert 3 to be rapidly fitted and removed, the inlet part 1 and the insert 3 may each have snap-action retention means 30 and 31 which co-operate with each other when the insert is fitted in the inlet part 1. One of the snap-action retention means consists of catch portions 30, which project from the wall of the inlet part 1, and the other of recesses

and/or abutment edges 31 formed in or on the insert.

WHAT I CLAIM IS:—

1. A drainage trap comprising an inlet part and at least one discharge pipe extending outwardly and laterally from the inlet part, an insert removably fitted in said inlet part and including a dip plate providing a water-seal, and at least one baffle disposed in the inlet part between a side wall of the inlet part from which the discharge pipe extends and the dip plate, said at least one baffle extending upwardly from the bottom of the inlet part and being connected to the side wall on both sides of the discharge pipe.

2. A drainage trap according to Claim 1, wherein the baffle has a length substantially the same or greater than the width of the discharge pipe.

3. A drainage trap according to Claim 1 or 2, wherein the baffle is connected to a portion of the bottom of the inlet part which is disposed at a lower level than the lowest part of the discharge pipe so as to form a pocket the lowest portion of which is disposed at a lower level than the lowest part of the discharge pipe.

4. A drainage trap according to any one of Claims 1 to 3, wherein the baffle comprises two walls which are parallel to each other and substantially parallel to the longitudinal axis of the discharge pipe and an end wall which interconnects said parallel walls.

5. A drainage trap substantially as described with reference to the attached drawings.

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2. A drainage trap according to Claim 1, wherein the baffle has a length substantially the same or greater than the width of the discharge pipe.

3. A drainage trap according to Claim 1 or 2, wherein the baffle is connected to a portion of the bottom of the inlet part which is disposed at a lower level than the lowest part of the discharge pipe so as to form a pocket the lowest portion of which is disposed at a lower level than the lowest part of the discharge pipe.

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