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Remarks:

Claims filed after the date of filing of the application (Rule 68(4) EPC).

(54) **Reduced height drainage chute with built-in drain trap**

(57) It consists of an inlet gutter (1) which presents a catch basin (2) in its bottom in the central position, divided into three bodies by means of two partitions (3), with the central body presenting a horizontal outlet (4). A drain trap cover (5) fits into the catch basin (2), and presents two skirtings (6) which are introduced into the lateral bodies without reaching the bottom thereof and which are kept separated thanks to individual tabs (7).

Arranged on the inlet gutter (1) is a frame (9) provided with a flange (10), on which rests a grille (11) with a cross-section in "U".

Optionally, a conventional aeration valve (12) is provided on the drain trap cover (5).

The water circulating through the inlet gutter in opposite directions towards the lateral bodies of the catch basin (2) undergoes an acceleration which facilitates its discharge through the drain trap.

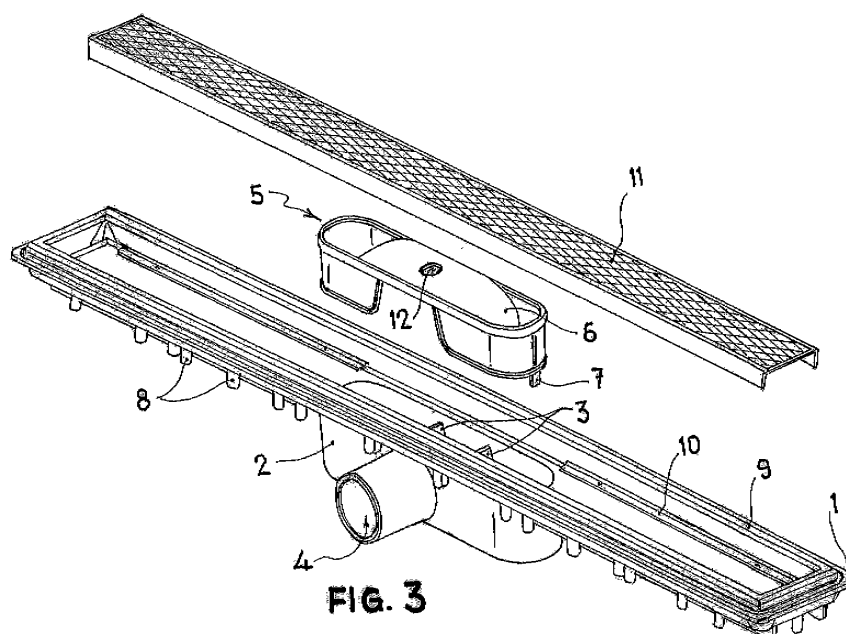


FIG. 3

Description

[0001] The present invention relates to a drainage chute for a liquid, particularly water, collected in a pavement and ducted to an outlet pipe via a drain trap, which permits sealing of the conduit.

[0002] Its field of application is that of drainage devices in general, especially in those cases in which the device is required to have a reduced height.

Background of the invention

[0003] Drainage devices are known in which a chute or catch basin is directly connected to a conventional drain trap. This type of solution can be adequate for a new work but it creates serious problems of space in the case of reform works.

[0004] Some specific devices have been developed with the aim of trying to solve the above problem. So, document EP 1 854 929 describes a drainage device that incorporates a vertical outlet drain trap. This allows working with a high overflow perimeter which, together with the arrangement in part of the overflow gutter at above the inlet level, slightly reduces the total height of the device. Nevertheless, the actual overflow gutter for the drain trap partially obstructs the inlet gutter, which makes it difficult for the water to circulate and complicates the cleaning, which therefore has to be carried out at frequent intervals.

[0005] Consequently, it is an objective of the invention to provide a reduced height drainage chute with a large water circulation capacity, which will allow easy cleaning of the inlet gutter.

Description of the invention

[0006] In order to achieve the proposed objective a drainage chute has been conceived formed from an inlet gutter, the bottom of which includes a three-body catch basin separated by two partitions. The central body presents a horizontal outlet, while the two lateral bodies receive water from the inlet gutter, and partially house individual skirtings presented by a drain trap cover that fits into the catch basin.

[0007] In this way, the effective height of the drain trap corresponds to the distance between the upper edge of the partitions of the catch basin and the lower edges of the skirtings presented by the drain trap cover. This cover is arranged to be flush with the inlet gutter and therefore does not interfere in the circulation of the water through the drain trap. The reduction in height of the cover for the drain trap with respect to the prior art is achieved at the cost of reducing the cross-section of passage of the overflow gutter for it, which is in turn possible thanks to the special arrangement of the water circulation. In fact, it has been found that the water circulating through the inlet gutter in opposite directions towards the lateral bodies of the catch basin undergoes an acceleration which fa-

cilitates its discharge through the drain trap. The effect is surprisingly efficient, and implies a great advantage over vertical discharge drain traps with revolving shapes, where the water circulates from different directions towards a central point.

[0008] The final effect is an overall reduction in the total height of the device, maintaining a good sealing capacity. In the event of its configuration causing any sharp depressions in the downpipe, it is possible for an aeration valve to be optionally incorporated into the drain trap cover.

[0009] The advantages of the inventive drainage chute are as follows:

- Reduced height.
- Good sealing.
- Inlet gutter that is clear, which facilitates the circulation of water and cleaning.

Brief description of the drawings

[0010] In order to complement the foregoing description, and with the aim of aiding a better understanding of the characteristics of the invention, a detailed description is going to be made of a preferred embodiment, on the basis of a set of plans accompanying this descriptive specification and in which the following has been represented in an illustrative and non-limiting basis

Figure 1 shows a half cross-section of the inventive chute, in elevation view.

Figure 2 shows a plan view of the inventive chute.

Figure 3 shows an exploded perspective view of the inventive chute as a whole.

Figure 4 shows a detail in cross-section of the three-body catch basin.

[0011] In the above figures, the numerical references correspond to the following parts and elements:

1. Inlet gutter.
2. Catch basin.
3. Partitions.
4. Horizontal outlet.
5. Drain trap cover.
6. Skirting.
7. Tabs.

- 8. Lugs.
- 9. Frame.
- 10. Flange.
- 11. Grille.
- 12. Aeration valve.

trap, of the kind that comprises an inlet gutter (1) provided with a catch basin (2), **characterised in that** the latter is divided into three bodies by means of two partitions (3), in order to configure a central body provided with a horizontal outlet (4) and two lateral bodies in which are partially introduced the corresponding skirtings (6) of a drain trap cover (5) arranged flush with the bottom of the inlet gutter (1).

Detailed description of a preferred embodiment

[0012] As can be seen in figures 1 to 4, the reduced height drainage chute of the invention is designed on the basis of an inlet gutter (1) which presents a catch basin (2) in its bottom in the central position, divided into three bodies by means of two partitions (3), with the central body presenting a horizontal outlet (4). A drain trap cover (5) fits into the catch basin (2), and presents two skirtings (6) which are introduced into the lateral bodies without reaching the bottom thereof and which are kept separated thanks to individual tabs (7). An array of lugs (8) facilitates the introduction of the screws which secure the usual waterproofing fabric, not represented here.

[0013] Arranged on the inlet gutter (1) is a frame (9) provided with a flange (10), on which rests a grille (11) with a cross-section in "U".

[0014] Optionally, a conventional aeration valve (12) is provided on the drain trap cover (5).

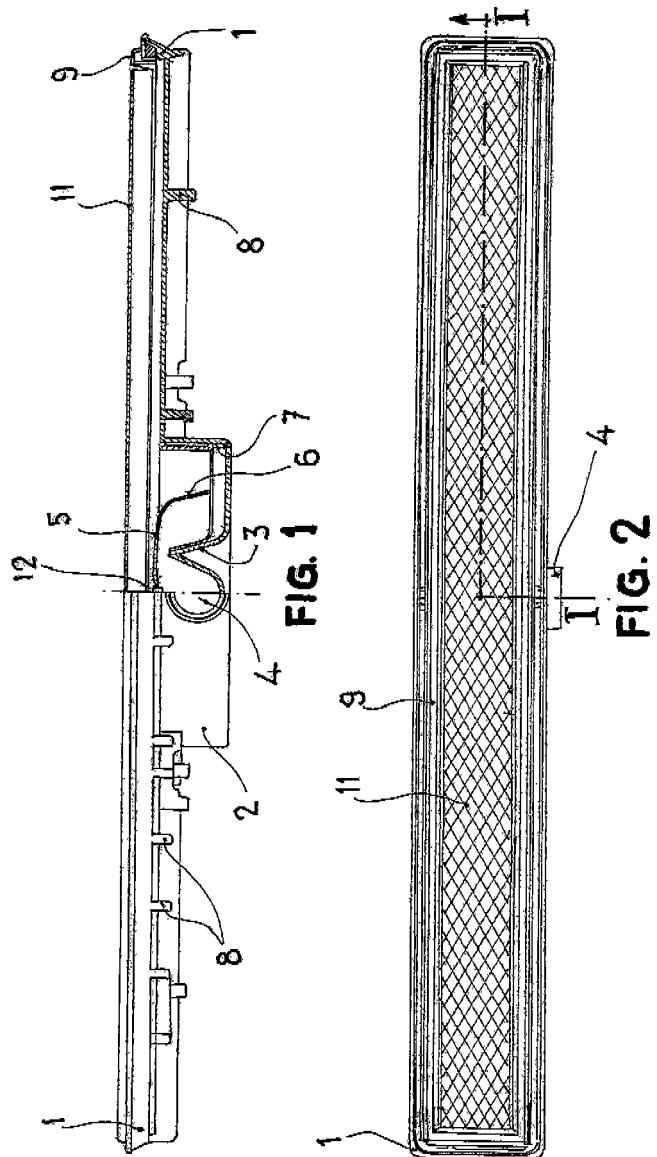
[0015] The functioning of the inventive chute is as follows. Water collected on the pavement is introduced into the inlet gutter (1) being directed towards the centre from each of its ends, and becoming introduced into the lateral bodies of the catch basin (2) guided by the skirtings (6), in order to overflow on the partitions (3) and be evacuated via the horizontal outlet (4). Once the flow of water has been halted, its level in the drain trap will be that of the partitions (3), ensuring a perfect sealing. If the chute incorporates an aeration valve (12), this will open when a certain depression appears in the horizontal outlet (4), preventing suction of the water stored in the drain trap and preventing the disappearance of the sealing.

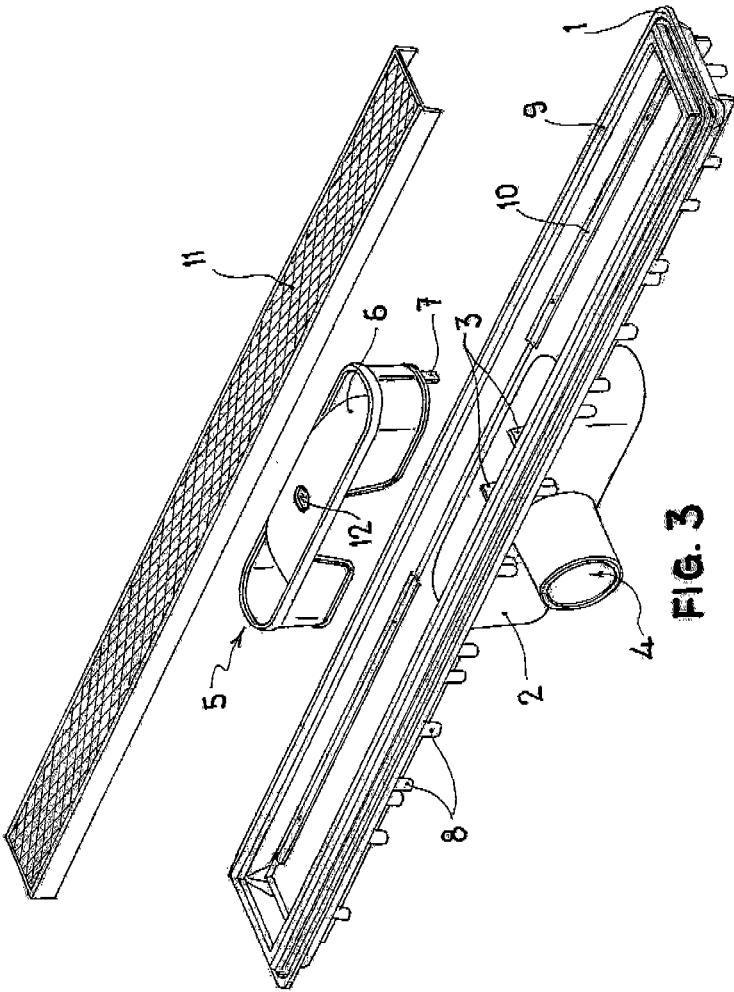
[0016] There are a series of variants that will be evident to an expert on the subject which, adapting the embodiment of the design and the means of production, respect the essence of the invention. So, advantageously, the inlet gutter (1) and the drain trap cover (5) will be made by plastic injection and the frame (9) in stainless steel, though other materials with suitable behaviour would also be feasible. The conventional aeration valve (12) can be produced with a lamina structure, spring-loaded ball or any other arrangement that will be thoroughly familiar to the expert on the subject.

- 2. Drainage chute according to claim 1, **characterised in that** a conventional aeration valve (12) is arranged on the drain trap cover (5).

Claims

- 1. Reduced height drainage chute with built-in drain





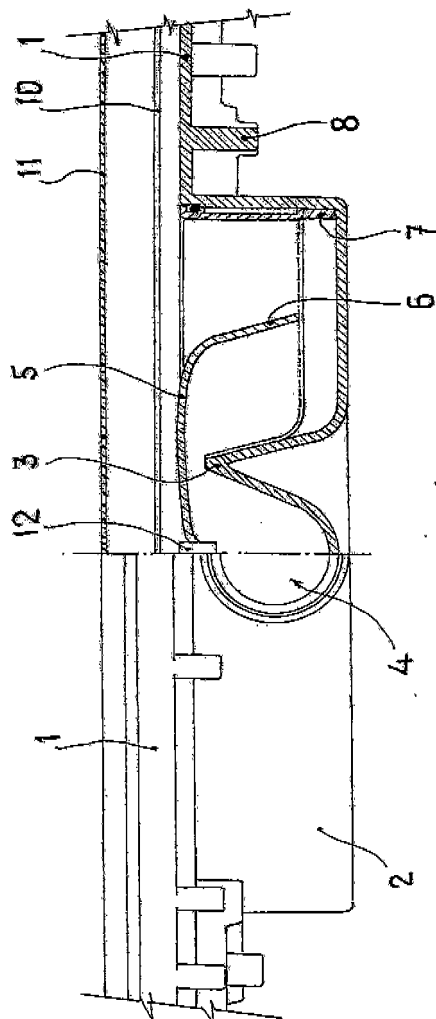


FIG. 4

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- EP 1854929 A [0004]