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(54) A GULLY WITH POSSIBILITY FOR QUICK CLEANING.

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NL - A - 6 400 131
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en Waterbouw, volume 29, no. 21, October 16,
1974, The Hague (NL), "Straat-en
trottoirkolken", page 692, see page 692,
column 1, lines 1—21, figures</p> | <p>(73) Proprietor: Raatjes, Egbert Sijbolt
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A gully with possibility for quick cleaning

The present invention relates to a gully with possibility for quick cleaning, consisting of a lower gully body, provided with an outlet, and the topside of which is provided with a frame formed such that it cooperates with a cover or grate.

Such gullies are known from NL—A—64 00131. Said known gully has a lower gully body with circular cross-section and a somewhat convex bottom, which is quite well adapted to be emptied with the aid of an optional paddle device, but if, as is usual nowadays, one wishes to empty such gullies by removing the deposit, collected therein, with the aid of a vehicle which is provided with a suction pipe, while simultaneously injecting water under high pressure, then at a certain moment in addition to the earlier added mix water one will also suck-up an excess of, if not only, air, so that the mix water which is sucked up again implies a loss in storage capacity of the vacuum container, present on the vehicle. This will induce delay in work, when one realizes that because of the above fresh water will have to be taken in regularly elsewhere, and that huge numbers of such gullies will have to be emptied periodically it will be evident that such delays and unnecessary extra use of energy (fuel) should not occur.

The invention tends to provide an improvement for the above problem both for gullies with a lower gully body with circular cross-section and for gullies with a substantially rectangular or square cross-section. The invention also tends to provide a gully which enables the achievement of the optimal yield with the expensive suction-emptying devices and the personnel, so that in larger cities one could possibly work with a smaller crew.

According to the present invention all this is achieved by a gully consisting of a lower gully body, provided with an outlet, and the topside of which is provided with a frame formed such that it cooperates with a cover or grate, and is characterised in that the inner periphery of the lower gully body passes from a certain level below the outlet from a circular rectangular, square, or other regular polygonal cross-section to a circular cross-section, dimensioned to receive the outer diameter of the suction pipe of a gully emptier with tolerance.

In order to be able to always completely empty the gully in a reliable way, the circular cross-sections preferably extend as a cylindrical recess in the bottom.

The reduced chance, achieved by said configuration, that the dirt, collected in the sand trap, will be stuck and the cooperation of said configuration with the suction pipe both have the additional effect that it is possible to almost uninterruptedly suck-out dirt with hardly any suction of free air, and furthermore the injection of mix water has become superfluous.

This property can be used advantageously if, after a dry period, dirt with relatively little water is in the sand trap as a compact mass. This has as a consequence that the water storage tank on the gully emptier is no longer necessary, so that the vacuum container can have a larger size.

It is remarked that also NL—A—7111224 discloses a gully comprising a lower gully body provided with an outlet, but the inner periphery of this body starts changing to a circular cross-section directly below the frame, so that the above mentioned effects cannot be achieved.

It is remarked that the gully according to the present invention can be made both of concrete or of a synthetic or other material. Concrete, however, has the advantage that it is a relatively cheap and strong material which needs no special provisions in order to prevent "rise" or "freezing-over" of the gully because of its high specific weight and its usually rougher surface when compared to for instance synthetic material, which provides a better "adherence" to the surrounding ground.

The invention will be further elucidated hereinafter on the basis of the drawings in which by way of example an embodiment of the gully according to the invention is illustrated. In the drawings are shown:

Fig. 1 a vertical cross-section through a gully in the configuration of a pavement gully, and

Fig. 2 a cross-section according to line II—II of Fig. 1.

The gully as illustrated in the drawing consists of a lower gully body 1 with four perpendicularly positioned side walls 2—5 and a bottom wall 6 which are cast for instance, but not necessarily, in one and the same concrete section.

In Fig. 1 the side wall 4 is somewhat lower than the side walls 2, 3 and 5, so that some room is left for an intake opening 7, which is not relevant to the invention, either or not provided with bars, which adjoins the (not illustrated) pavement.

The top of the gully is formed such that it is arranged for receiving a cover or grate 8, usually by means of a frame 14 which is secured to the lower gully body by means of anchors 9, only one of which is visible. In the event of a road gully, the intake is provided in the horizontal surface in the configuration of various intake openings in the grate 8, in which event said grate is often secured pivotally in the frame 14, but that is not evident here and therefore it is not illustrated.

In the side wall 4 an outlet 11 is provided, equipped with a gully trap 10. It goes without saying that said outlet may also be provided in one of the other side walls, and it is generally known. The sand trap 12, below the level of the outlet 11, serves for collecting and retaining

sand and other dirt carried along and coming from the road.

As soon as the dirt, collected here in the course of time, has reached the level of the gully trap, it will prevent the exhaust of rain water and clog the gully, so that it will have to be emptied. In the event of a well organised, preventive road maintenance one will be sure that the gullies are emptied before they become clogged.

Emptying is done with the aid of a suction pipe of a certain diameter, for instance mounted on a gully emptier. In order to let the pipe suck in as little air as possible the inner walls of the lower gully body according to the invention should pass, from a certain level in the sand trap, from a rectangular, square or other regular polygonal, circular or elliptic cross-section respectively, into a circular cross-section, the diameter of which is somewhat larger than that of the suction pipe.

This is achieved by means of a truncated-conical transition section 13. As is already mentioned above, it has most advantageous effects if the bottom of the lower gully body is provided with a recess 15 with a circular cross-section. In the claims however, said recess is contained in a sub-claim, because even when only the said transition section 13 is used, considerably better results are achieved than were reached up till now.

In the event the diameter of the suction pipe is up to the same extent as the smallest inside size of a gully, the circular basic surface will almost contact the side walls of said gully when seen in plane view. The drawing might give the impression that the transition from the square to the circular cross-section consists of flat faces, but it is preferred to let the said transition 13 extend as much as possible along the surface of a truncated cone.

Claims

1. A gully with possibility for quick cleaning, consisting of a lower gully body (1), provided with an outlet (11), and the top side of which is provided with a frame (14) formed such, that it cooperates with a cover or grate (8), characterized in that the inner periphery of the lower gully body (1) passes from a certain level below

the outlet (11) from a circular, rectangular, square, or other regular polygonal cross-section to a circular cross-section dimensioned to receive the outer diameter of the suction pipe of a gully emptier with tolerance.

2. A gully according to claim 1, characterized in that the circular cross-section extends as cylindrical recess (15) in the bottom (6).

Revendications

1. Bouche d'égout à possibilité de nettoyage rapide, comprenant un corps inférieur (1) muni d'une évacuation (11) et une partie supérieure muni d'un châssis (14) conçu pour coopérer avec un couvercle ou une grille (8), caractérisé en ce que la périphérie intérieure du corps inférieur (1) passe, à partir d'un certain niveau au-dessous de l'évacuation (11), d'une section circulaire, rectangulaire, carrée ou polygonale quelconque à une section circulaire, dimensionnée pour recevoir le diamètre extérieur du tuyau d'aspiration d'un véhicule de vidange de voirie, avec une certaine tolérance.

2. Bouche d'égout selon la revendication 1, caractérisée en ce que la section circulaire se prolonge en une évidement cylindrique (15) dans la fond (6).

Patentansprüche

1. Sinkkasten mit der Möglichkeit zur Schnellreinigung, bestehend aus einem unteren Sinkkastenkörper (1), der mit einem Auslaß (11) versehen ist und dessen Oberseite mit einem derart geformten Rahmen (14) versehen ist, daß er mit einem Deckel oder Gitter (8) zusammenwirkt, dadurch gekennzeichnet, daß die innere Peripherie des unteren Sinkkastenkörpers (1) ab einer gewissen Höhe unterhalb des Auslasses (11) von einem runden, rechteckigen, quadratischen, oder anderen Querschnitt in Forme eines regelmäßigen Vieleckes in einen runden Querschnitt mit solchen Abmessungen, daß er den Außendurchmesser des Saugrohres einer Sinkkastenentleerungsvorrichtung mit Spiel aufnimmt, übergeht.

2. Sinkkasten nach Anspruch 1, dadurch gekennzeichnet, daß sich der runde Querschnitt als zylindrische Vertiefung (15) in den Boden (6) erstreckt.

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