

**UNITED STATES DISTRICT COURT
DISTRICT OF MINNESOTA**

WIMCO, LLC,

Case No.: 09-cv-3102 JNE/JJG

Plaintiff,

v.

FIRST AMENDED COMPLAINT

Royal Environmental Systems, Inc.,

Defendant.

Plaintiff WIMCO, LLC (“WIMCO”), for its First Amended Complaint against Defendant Royal Environmental Systems, Inc. (“Royal”), states and alleges as follows:

THE PARTIES

1. Plaintiff WIMCO is a Minnesota limited liability company whose principle place of business is located at 799 Theis Drive, Shakopee, Minnesota 55379. WIMCO is engaged in the manufacture and sale of sediment control devices, among other things.

2. Defendant Royal is a Minnesota corporation with its principle place of business located at 30622 Forest Boulevard, Stacy, Minnesota 55079. It is engaged in the manufacture and sale of sediment control devices, among other things.

JURISDICTION AND VENUE

3. This action arises under the patent laws of the United States, 35 U.S.C. §§ 271 *et seq.* This Court has subject matter jurisdiction over the patent infringement claims herein under 28 U.S.C. § 1331, in that this action involves questions of federal law, and

has subject matter jurisdiction over the patent infringement claim herein under 28 U.S.C. § 1338(a).

4. Royal is selling its infringing products within the State of Minnesota and this judicial district, maintains business operations in Minnesota, and therefore Royal is subject to the jurisdiction of this Court.

5. Venue is proper in this district under 28 U.S.C. § 1391 (b) and (c), and 28 U.S.C. § 1400 (a) and (b) in that Royal is subject to personal jurisdiction in this district.

U.S. Patent No. 7,052,207

6. On May 30, 2006, United States Patent No. 7,052,207 (hereinafter “the ‘207 Patent”) entitled “Sediment Control Drain And Method Of Construction” was duly and legally issued by the United States Patent and Trademark Office (“USPTO”) to Brian J. Wimberger. WIMCO is the owner of all rights, title, and interest in the ‘207 Patent by assignment.

7. On April 5, 2010, Royal filed a Request for *Ex Parte* Reexamination of the ‘207 Patent seeking reexamination of claims 1-12 in the ‘207 Patent.

8. On April 22, 2010, the USPTO granted the Request for Reexamination.

9. Following various submissions and Office Actions, claims 1-12 were rejected. WIMCO appealed this rejection. On September 26, 2011, the Board of Patent Appeals and Interferences issued its Decision on Appeal. The Board affirmed the rejection of claims 1-5 and 9-12, but reversed the rejection of claims 6-8.

10. On December 15, 2011, the USPTO Examiner issued a Notice of Intent to Issue Ex Parte Reexamination Certificate canceling claims 1-5 and 9-12, and confirming

claims 6-8. On January 31, 2012, the Reexamination Certificate was issued confirming claims 6-8. A true and correct copy of the '207 Patent, including the Reexamination Certificate, is attached hereto as Exhibit A.

U.S. Patent No. 7,488,414

11. On February 10, 2009, United States Patent No. 7,488,414 (hereinafter "the '414 Patent") entitled "Storm Water Filter For Positioning Within A Storm Water Inlet" was duly and legally issued by the United States Patent and Trademark Office to Brian J. Wimberger. WIMCO is the owner of all rights, title, and interest in the '414 Patent by assignment.

12. On April 5, 2010, Royal filed a Request for Ex Parte Reexamination of all claims in the '414 Patent. The Request was granted on May 7, 2010. Subsequently, WIMCO submitted a response on July 7, 2010 asserting that there was no significant new question of patentability based on the art submitted by Royal, and the USPTO agreed. The USPTO issued its Notice of Intent to Issue Ex Parte Reexamination Certificate on October 6, 2010. The USPTO issued the Ex Parte Reexamination Certificate on January 11, 2011.

13. On May 19, 2011, WIMCO submitted a Request for Ex Parte Reexamination of claims 1-7 and 9-14 of the '414 Patent. On June 29, 2011, the USPTO Examiner issued an Order Granting the Request for Ex Parte Reexamination as to claims 1-7 and 9-14. Claims 8 and 15-19 were not subject to reexamination.

14. Following various submissions and Office Actions, claims 1-7 and 9-14 were rejected. WIMCO appealed this rejection. On December 18, 2013, the Patent Trial

and Appeals Board issued its decision affirming the rejection of claims 1-7 and 9-14. Claims 8 and 15-19, however, remain. A true and correct copy of the '414 Patent is attached hereto as Exhibit B.

COUNT I – Infringement of the '207 Patent

15. WIMCO incorporates by reference the above stated paragraphs.

16. Royal has, and still is, directly, knowingly and actively infringing claims 6-8 of the '207 Patent and is inducing and contributing to the infringement of claims 6-8 the '207 Patent. Such acts of infringement include, but are not limited to, making, using, selling, and/or offering for sale within this District and elsewhere its "Infra Safe Debris Collection" sediment control drain product, and/or other such products incorporating WIMCO's patented sediment control drain as claimed in the '207 Patent. Such illegal patent infringement activities have caused and will continue to cause monetary loss and injury to WIMCO.

17. Royal has in the past manufactured, sold, distributed in this District and elsewhere its "Infra Safe Debris Collection" sediment control drain product and/or other such products which literally or under the doctrine of equivalents infringe claims 6-8 of the '207 Patent, and, upon information and belief, the manufacture, sale, distribution and offering of said products continues. Further, Royal manufactures, sells, distributes and offers a new, alternative design of its "Infra Safe Debris Collection" sediment control drain product which infringes claims 6-8 of the '207 Patent under the doctrine of equivalents. Such illegal patent infringement activities have caused and will continue to cause monetary loss and injury to WIMCO.

18. Royal's infringement has been and continues to be intentional, knowing, willful, and deliberate, without license, and with full knowledge of WIMCO's rights.

19. Royal has derived, received, and will continue to derive and receive profits from its acts of infringement in amounts not presently known to WIMCO. By reason of Royal's acts of infringement, WIMCO has been and will continue to be damaged.

20. Royal's wrongful conduct has been willful, intentional and without justification, and therefore WIMCO is entitled to recover three times its damages as well as costs, attorney fees, and investigative fees.

21. WIMCO is entitled to have and recover its monetary damages as a result of Royal's infringement of the '207 Patent.

COUNT II – Infringement of the '414 Patent

22. WIMCO incorporates by reference the above stated paragraphs.

23. Royal has, and still is, directly, knowingly and actively infringing claims 16-19 of the '414 Patent and is inducing and contributing to the infringement of claims 16-19 of the '414 Patent. Such acts of infringement include, but are not limited to, making, using, selling, and/or offering for sale within this District and elsewhere its "Infra Safe Debris Collection" sediment control drain product, and/or other such products incorporating WIMCO's patented sediment control drain as claimed in the '414 Patent. Such illegal patent infringement activities have caused and will continue to cause monetary loss and injury to WIMCO.

24. Royal has in the past manufactured, sold, distributed in this District and elsewhere its "Infra Safe Debris Collection" sediment control drain product and/or other

such products which literally or under the doctrine of equivalents infringe claims 16-19 of the '414 Patent, and, upon information and belief, the manufacture, sale, distribution and offering of said products continues. Further, Royal manufactures, sells, distributes and offers a new, alternative design of its "Infra Safe Debris Collection" sediment control drain product which infringes claims 16-19 of the '414 Patent under the doctrine of equivalents. Such illegal patent infringement activities have caused and will continue to cause monetary loss and injury to WIMCO.

25. Royal's infringement has been and continues to be intentional, knowing, willful, and deliberate, without license, and with full knowledge of WIMCO's rights.

26. Royal has derived, received, and will continue to derive and receive profits from its acts of infringement in amounts not presently known to WIMCO. By reason of Royal's acts of infringement, WIMCO has been and will continue to be damaged.

27. Royal's wrongful conduct has been willful, intentional and without justification, and therefore WIMCO is entitled to recover three times its damages as well as costs, attorney fees, and investigative fees.

28. WIMCO is entitled to have and recover its monetary damages as a result of Royal's infringement of the '414 Patent.

PRAYER FOR RELIEF

WHEREFORE, WIMCO prays for relief as follows:

1. That Royal and its agents, officers, directors, employees, and all persons acting in concert with it directly or indirectly, contributorily and/or by inducement be adjudged to have infringed United States Patent Nos. 7,052,207 and 7,488,414.

2. That Royal be adjudged to have willfully and deliberately infringed United States Patent No. 7,052,207 and 7,488,414.

3. That WIMCO have and recover its monetary damages as a result of the infringement by Royal.

4. That Royal and its agents, officers, directors, employees, and all persons acting in concert with them directly or indirectly be permanently enjoined from directly or indirectly infringing, inducing others to infringe, or contributing to the infringement of United States Patent No. 7,052,207 and 7,488,414.

5. That pursuant to 35 U.S.C. § 284, this Court award WIMCO its actual and treble damages for Royal's infringement of United States Patent No. 7,052,207 and 7,488,414, together with pre-judgment and post-judgment interest.

6. That this Court declare this case exceptional under 35 U.S.C. § 285 and order Royal to pay WIMCO's costs, expenses, disbursements, and attorney fees.

7. That this Court award such other relief to WIMCO which the Court deems just and reasonable.

JURY DEMAND

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, WIMCO hereby demands a jury trial as to all issues so triable.

Dated: May 21, 2014

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s/Brent A. Lorentz

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Exhibit A



US007052207B1

(12) **United States Patent**
Wimberger

(10) **Patent No.:** **US 7,052,207 B1**
(45) **Date of Patent:** ***May 30, 2006**

(54) **SEDIMENT CONTROL DRAIN AND METHOD OF CONSTRUCTION**

(76) Inventor: **Brian J. Wimberger**, 817-12th Ave. SE., Apt. 301, Minneapolis, MN (US) 55414-1482

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **10/453,562**

(22) Filed: **Jun. 3, 2003**

Related U.S. Application Data

(63) Continuation of application No. 09/756,565, filed on Jan. 8, 2001, now Pat. No. 6,609,852.

(51) **Int. Cl.**
E02B 11/00 (2006.01)
E01F 5/00 (2006.01)
E01C 11/22 (2006.01)

(52) **U.S. Cl.** **405/40; 405/36; 405/41; 405/48; 405/52; 404/2; 404/5; 210/163; 210/170**

(58) **Field of Classification Search** **405/36, 405/39, 40, 41, 43, 45, 46, 48, 52, 53, 118; 404/2-5; 210/163-166, 532.1**

See application file for complete search history.

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OTHER PUBLICATIONS

Wimco Road Drain Brochure; page labeled p. 2 identified as "Road Drain Top Slab" illustrates a product that is admitted prior art and disclosure published undated.

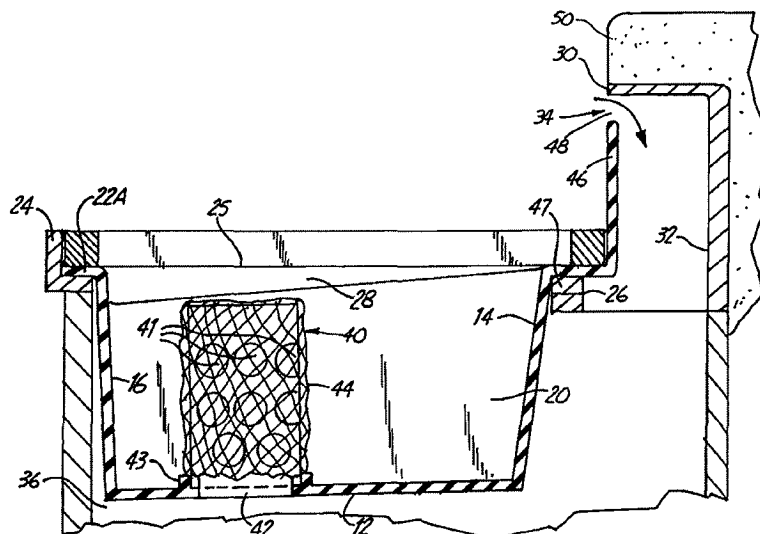
Primary Examiner—Jong-Suk (James) Lee

(74) *Attorney, Agent, or Firm*—Westman, Champlin & Kelly, P.A.

(57) **ABSTRACT**

An erosion control basin is a molded open topped receptacle that has support flanges that will support the basin on the interior of a storm drain grate frame. A filter is formed around an upright perforated drain pipe that is on the interior of the basin and which opens to an outlet. The basin catches debris and silt but permits water to drain out. The top of the drainpipe is left open for overflow purposes.

12 Claims, 3 Drawing Sheets



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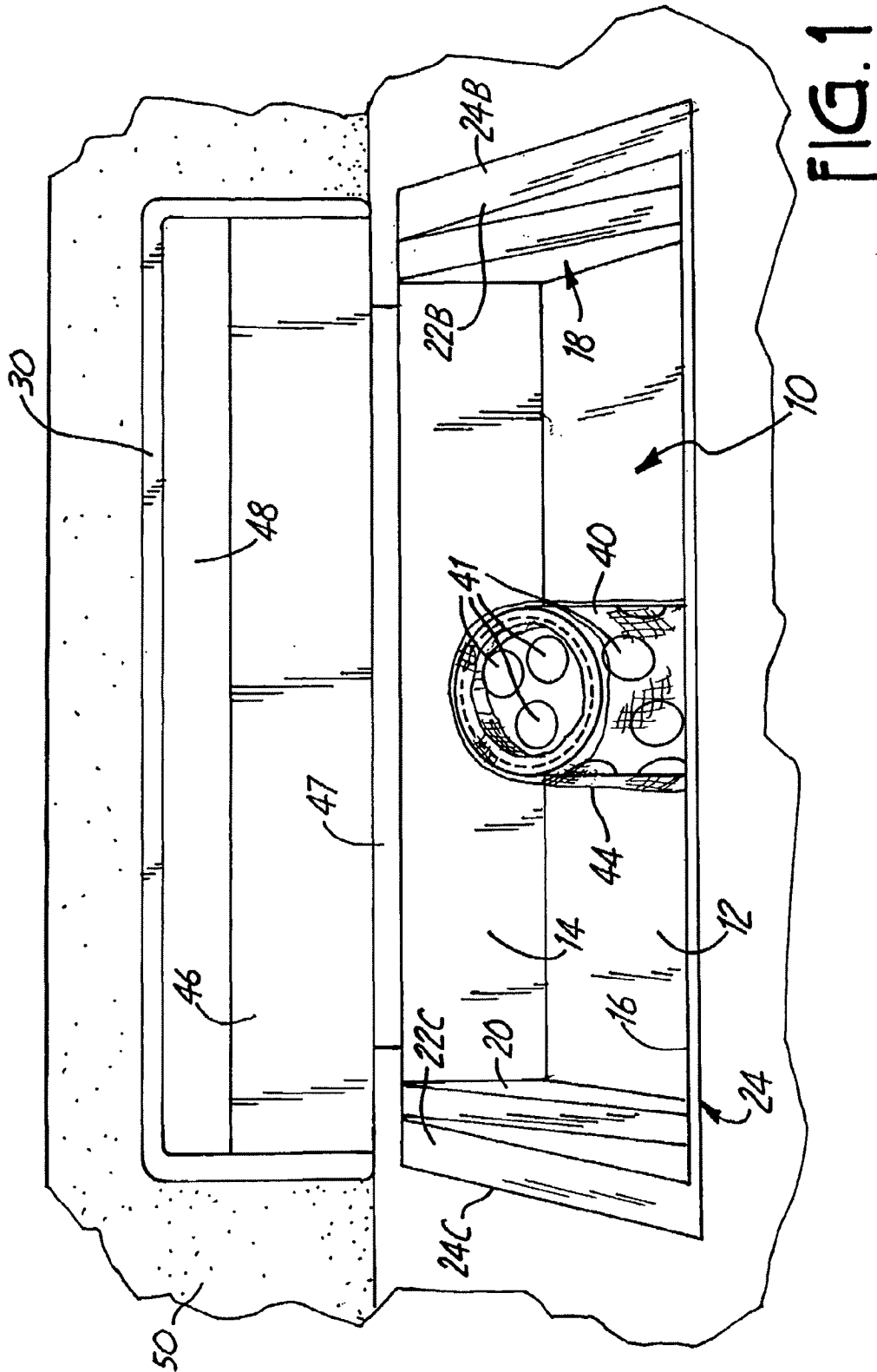
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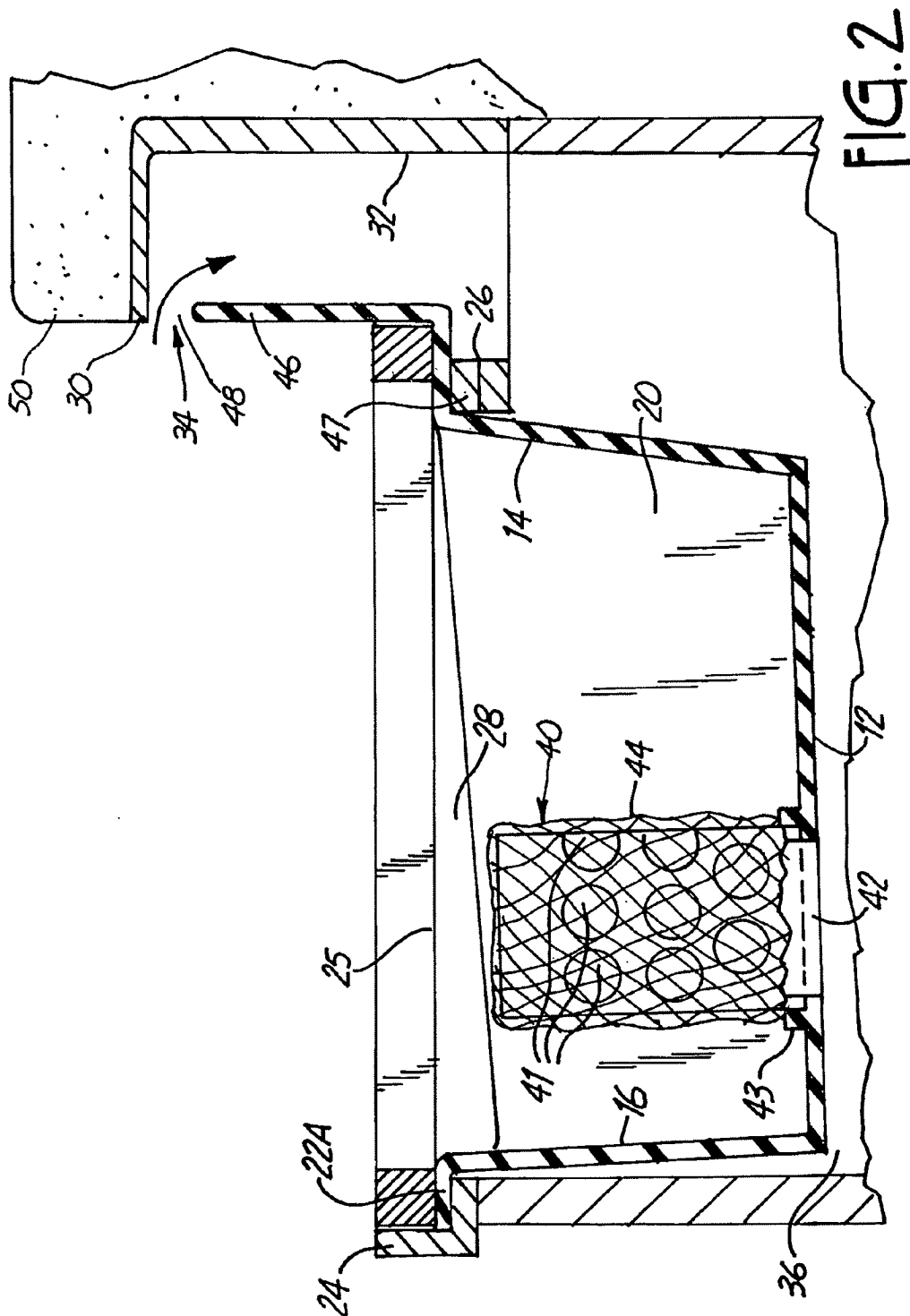
U.S. Patent

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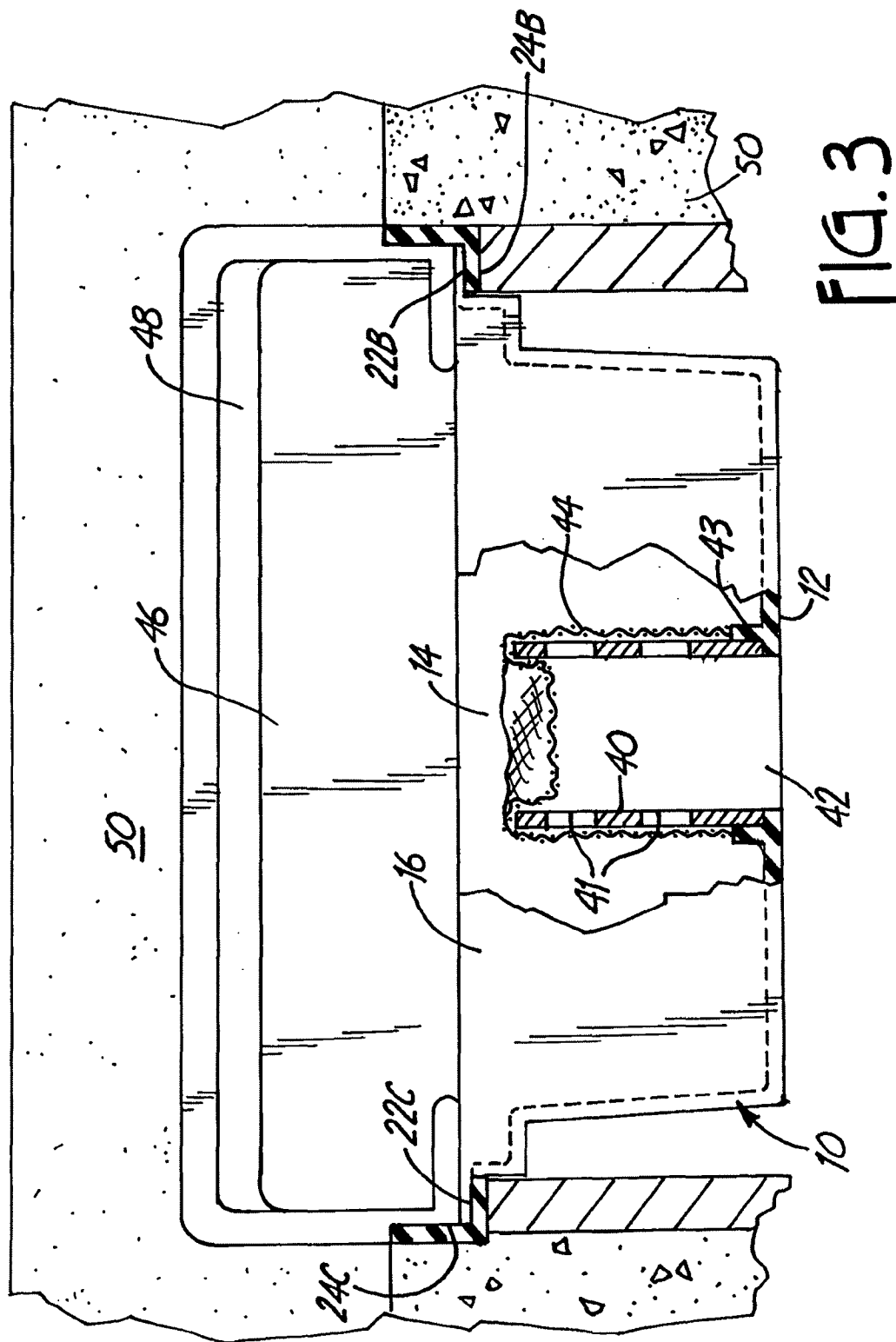


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**SEDIMENT CONTROL DRAIN AND
METHOD OF CONSTRUCTION**

This is a continuation of my application Ser. No. 09/756, 565, filed Jan. 8, 2001, now U.S. Pat. No. 6,609,852 B2 and priority is hereby claimed on application Ser. No. 09/756, 565.

BACKGROUND OF THE INVENTION

The present invention relates to an erosion control basin and drain that is used during construction for preventing debris and sediment from entering the storm sewer. A basin that is provided will fit into a frame that will be used for the normal storm sewer drain grate, and will provide for catching debris, yet permitting water to be drained out.

Presently, when road and utility construction is undertaken, particularly in new building developments, a frame is put into place at storm sewer drains that are along the curb and gutters of streets. These frames are mounted onto the storm sewer stand pipes that have been previously installed, and in the normal process, the gutters are then formed around these frames. The curb and gutter around the grate and the curb box are generally hand formed, and during this process waste concrete that may be troweled off during finishing, or dropped, will enter the storm sewer structure, and it must be removed at the end of the installation. Additionally, during construction, particularly in new developments, if heavy rains occur, a large amount of debris and silt will be washed into the storm sewers all to the detriment of environmental conditions.

It is, however, during the forming of the curb and gutter around the storm sewer grate and frame that when concrete is most likely to fall into the storm sewer. The present device provides a simple, easily used insert basin and drain to be supported on the frame during construction to catch concrete, and other debris.

SUMMARY OF THE INVENTION

The present invention relates to a drain catch basin formed in a suitable manner, that will fit into a storm sewer drain frame, and which will catch and retain concrete waste, and other debris. The catch basin has a center perforated tube forming a drain tube, that is covered with a filtration sock, or fine mesh, to filter out large debris but yet let water pass through for draining as necessary. The upper opening of the tube, which forms a standpipe type structure, is left open so that in cases where heavy rains or heavy runoff is present, and the water starts to back up, there is a larger opening for permitting draining without flooding the street. Additionally, for overflow, a curb box is provided. The curb box is a frame laterally offset from the grate frame and around which the curb is formed. The curb box forms a passageway which is also open to the storm sewer. The curb box is only partially blocked with a wall of the basin of the present invention, so that there is an open space above the wall to provide for overflow into the curb box.

The basin, with its drain capabilities is left in place until the turf or other landscaping has been established around the curb, and the curb has been formed.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a top front perspective view of a catch basin made according to the present invention in a partially installed curb and gutter;

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FIG. 2 is a schematic sectional view showing the catch basin installed in a frame, after using a curb box, and after a curb and gutter has been formed; and

FIG. 3 is a front view of the catch basin of the present invention with parts broken away.

**DETAILED DESCRIPTION OF THE
PREFERRED EMBODIMENTS**

A catch basin forming an erosion control device is illustrated generally at 10, and made according to the present invention. The basin 10 is an open topped basin that has a bottom wall 12, a rear wall 14, a front wall 16, and side walls 18 and 20. The side walls and the front wall have flanges or lips 22 that are used for supporting the basin 10 in a frame 24 that is designed for containing a slated grate 25 for overlying the inlet to a storm sewer pipe shown schematically at 26. The frame 24 has a cross section shaped like an angle iron along the front and sides, and has a front member 24A that supports the flange 22A of the basin. The frame 24 has side members 24B and 24C which support flanges 22B and 22C. The rear cross member 26 of the frame 24 can be utilized. As shown a curb box 30 is part of the frame 24, and is made so that it will provide a shield wall 32 and an opening 34 leading into the storm sewer chamber 36.

The basin 10 has offset wall sections 28 between flanges 22B and 22C and the side walls that position the bottom wall 12 hold the bottom wall to be generally horizontal. A standpipe or drainpipe 40 is positioned to align over an opening 42 in the bottom wall 12. As shown the drainpipe 40 fits into a collar 43 formed on the bottom wall 12, and extends upwardly therefrom. The opening 42 at the bottom of the drain pipe 40 leads to the storm sewer pipe. The drainpipe 40 is a perforated plastic drain pipe with large holes 41 in it, and it is covered with a filter material or a filter sock 44 that is a mesh or other filter material that will filter out debris and sediment before the material enters into the interior of the drain 40. Water drains through the opening 42 into the storm sewer cavity 36.

The basin 10 can be made out of a suitable plastic material or formed metal, and the drainpipe 40 is then cemented in place or otherwise securely fastened. The collar 43 can be molded to the bottom wall 12, for holding the drainpipe in position, if desired.

The basin also has a sediment deflection wall shown at 46 at the rear or curb end. The plate 46 is offset from the rear wall with a flange 47 that can rest on frame cross member 26. The wall 46 fits into the inlet opening in the curb box 30 to partially block the opening. A space shown at 48 is left so that if serious flooding occurred, this space or gap would permit water to go through the curb box and into the storm sewer.

The top of the drain pipe 40 is left uncovered so it forms an opening, so that if water fills the basin it can overflow through the opening at the top of the drain pipe into the interior of the drain pipe and out the drain opening 42, to take care of storms or excessive drainage.

When the curb and gutter is formed, which is shown in FIG. 1, at 50, it is made of concrete, and is hand formed around the curb box or other structure, after the frame 24 for the grate 25 has been put into place. In other words, the frame 24 is supported on the frame cross member 26, and the concrete curb and gutter 50 is formed around the frame.

The basin 10 is put into place on the frame 24 before the curb and gutter is formed, and if any concrete or sand, or the

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like from the formation of the curb is broken off or discarded, it will not go down the storm drain, but rather will be caught in the basin 10.

Additionally, runoff water that may be carrying debris or other materials will be prevented from going directly into the storm drain, by the standpipe 40 and filter sock 44 that is used in the basin 10.

The basin 10 forms an open topped receptacle, with the bottom wall, side walls, and front and rear walls as shown. The basin can be designed in shape so that it will fit into the various types of frames used for storm sewer grates, as well as the rectangular form shown. Storm sewer frame castings are available in many shapes and sizes, and each erosion control basin then would be designed to fit into the frame with which it is used.

The frame 24 for the drain is set into place on the previously installed storm sewer, and supported in place. Then the basin 10 is put into the frame 24, and is supported on the lips that extend around at least three walls. The rear wall of the basin can be supported on a cross member of the frame 24 as well. Then the curb and gutter 50 is formed around the frame for the storm drain, and the basin 10 acts as a trap for debris or material that may be loosened or dropped when the concrete work is being done.

The basin is permitted to stay in place until the landscaping is completed to collect debris, salt, and other material that may be washed into the drain opening. The basin can be removed and dumped if it fills. The basin is removed when construction is completed.

Although the present invention has been described with reference to preferred embodiments, workers skilled in the art will recognize that changes may be made in form and detail without departing from the spirit and scope of the invention.

What is claimed is:

1. An erosion control basin for mounting in a grate frame used for a storm sewer grate, said grate frame having front, rear and side frame members defining a grate opening, the frame members having support flanges thereon, the basin comprising a single open topped receptacle fitted in the grate frame, and having wall portions forming a continuous peripheral wall and a bottom wall defining the single open topped receptacle, the receptacle being inside the grate frame, and flange members on the basin for supporting the basin on support flanges of the grate frame, and a drain from the basin comprising an upright pipe within the open topped receptacle and spaced from the continuous peripheral wall and having an interior forming a passageway opening to an outlet in the bottom wall of the receptacle, said upright pipe having a wall with a plurality of openings therethrough, and a sock filter surrounding said upright pipe and the openings in the wall of the pipe so that liquid in the receptacle is filtered through the sock filter before entering the interior of the pipe to exit from the outlet, the single, open topped receptacle being free of dividing walls between any portions of the peripheral wall such that all water entering the grate frame enters only the single receptacle.

2. The erosion control drain of claim 1, wherein the wall portions include a rear wall adjacent an overflow outlet of the storm sewer grate and a deflection plate attached to the rear wall along a flange that is substantially perpendicular to the rear wall, so the deflection plate is offset from the rear wall.

3. The erosion control basin of claim 2, wherein the basin is made of molded plastic.

4. The erosion control basin of claim 2, wherein the basin is made of metal.

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5. In combination with a metal storm sewer grate frame defining a storm sewer drain opening, said grate frame being substantially at ground level, a basin supported within the grate frame and including a bottom wall that is positioned below ground level, said basin having walls that extend upwardly from the bottom wall which are supported on the grate frame, the basin comprising a single open top receptacle fitted in the grate frame, and having a continuous peripheral upright side wall surrounding and joined to the bottom wall to define an open top receptacle within the grate frame, the continuous peripheral wall having a flange for supporting the basin on the grate frame, the bottom wall having a drain outlet therein, an upright pipe supported on the bottom wall and surrounding the drain outlet, the upright pipe having an interior opening forming a passageway opening to the drain outlet in the bottom wall, and having a plurality of openings in the wall of the pipe such that water in the receptacle passes through the openings in the wall of the pipe to be carried out through the drain outlet, and a fabric type filter surrounding said pipe and the openings in the pipe so that water in the basin is filtered through the filter before entering the interior of the pipe to exit from the drain outlet in the bottom wall, the basin being the only receptacle for liquid within the opening of the grate frame to provide a sediment filter for all water exiting out through the drain outlet in the bottom wall.

6. An erosion control basin for mounting in a grate frame used for a storm sewer inlet laterally adjacent a street curb, the grate frame having front, rear and side frame members defining an upwardly facing grate opening in a street gutter, and the storm sewer inlet having an opening on a lateral side of the grate frame above the grate opening and defined in the street curb, the erosion control basin comprising an open top receptacle of size to fit into the grate frame and be supported thereon, a filtered drain from the erosion control basin to filter water draining from the open top receptacle including a filter supported in the basin below a top opening of the open top receptacle, and a substantially imperforate deflector wall along one side of the erosion control basin and at least partially blocking the opening on the lateral side of the storm sewer inlet to deflect water into the erosion control basin.

7. The erosion control basin of claim 6, wherein the deflector wall extends generally uprightly from a generally horizontal plane of the grate frame.

8. The erosion control basin of claim 7, wherein the deflector wall extends over the opening on the lateral side of the grate frame and is a generally planar wall.

9. An erosion control housing for mounting a grate frame used for a storm sewer inlet, the grate frame having peripheral members defining an upwardly facing grate opening positioned laterally of a street curb and in a street gutter, and the storm sewer inlet having a lateral opening on a lateral side of the grate frame and extending upwardly from the grate opening, the erosion control housing having an open top and being of size to fit into the grate frame and having flanges that rest on the grate frame to be supported thereon, a drain opening defined by the erosion control housing, the erosion control housing having a filter support to support a filter to filter water entering the open top and exiting the drain opening, and a deflector wall along one side of the erosion control housing and at least partially blocking the

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lateral opening of the storm sewer inlet to deflect water into the open top of the erosion control housing.

10. The erosion control housing of claim 9, wherein the deflector wall is supported on a flange of the erosion control housing, and the flange comprising an upright wall offset laterally from the open top of the erosion control housing.

11. The erosion control housing of claim 9, wherein the flanges of the erosion control housing are configured to

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include portions to support a slated grate that overlies the grate frame.

12. The erosion control housing of claim 9, and an opening for overflow defined by portions of the erosion control housing below the open top and above the drain opening to form a drain when water level in the erosion control housing exceeds a pre-determined level.

* * * * *



US007052207C1

(12) **EX PARTE REEXAMINATION CERTIFICATE** (8833rd)**United States Patent****Wimberger**(10) **Number:** **US 7,052,207 C1**(45) **Certificate Issued:** ***Jan. 31, 2012**(54) **SEDIMENT CONTROL DRAIN AND METHOD OF CONSTRUCTION**(75) **Inventor:** **Brian J. Wimberger, Minneapolis, MN (US)**(73) **Assignee:** **Wimco, LLC, Shakopee, MN (US)****Reexamination Request:**

No. 90/009,717, Apr. 5, 2010

Reexamination Certificate for:

Patent No.: **7,052,207**
 Issued: **May 30, 2006**
 Appl. No.: **10/453,562**
 Filed: **Jun. 3, 2003**

(*) **Notice:** This patent is subject to a terminal disclaimer.**Related U.S. Application Data**

(63) Continuation of application No. 09/756,565, filed on Jan. 8, 2001, now Pat. No. 6,609,852.

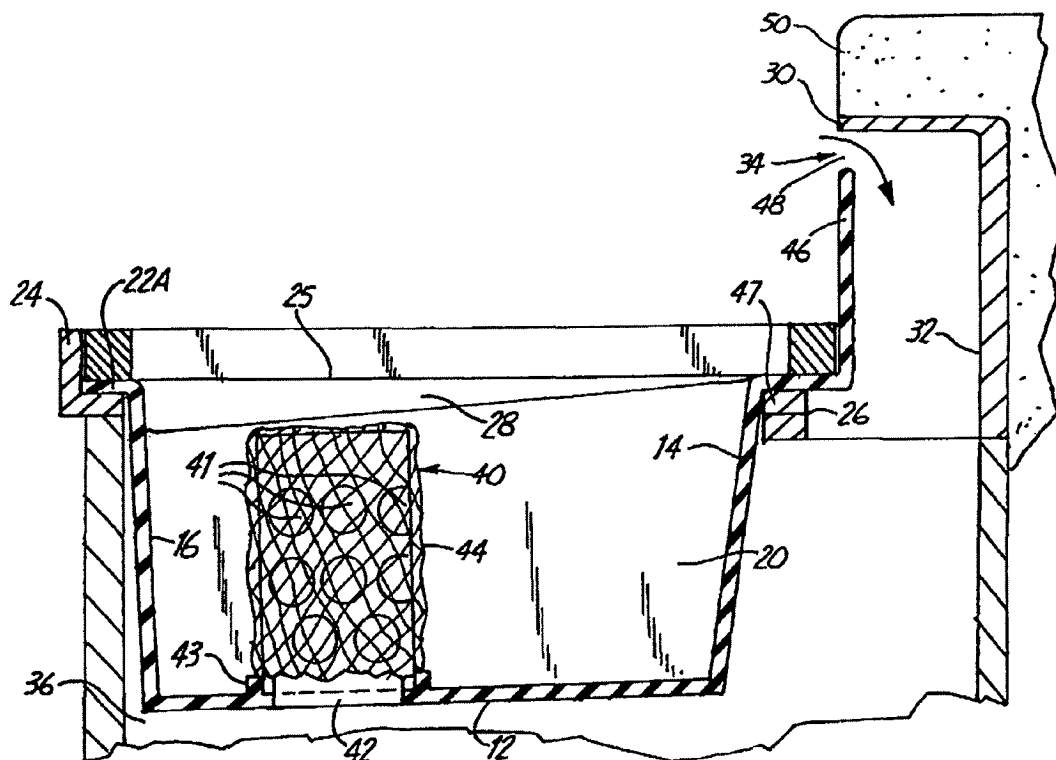
(51) **Int. Cl.**
E02B 11/00 (2006.01)
E01F 5/00 (2006.01)
E01C 11/22 (2006.01)

(52) **U.S. Cl.** **405/40; 405/36; 405/41; 405/48; 405/52; 404/2; 404/5; 210/163; 210/170.03**(58) **Field of Classification Search** **None**
See application file for complete search history.(56) **References Cited**

To view the complete listing of prior art documents cited during the proceeding for Reexamination Control Number 90/009,717, please refer to the USPTO's public Patent Application Information Retrieval (PAIR) system under the Display References tab.

Primary Examiner—Jeffrey L. Gellner(57) **ABSTRACT**

An erosion control basin is a molded open topped receptacle that has support flanges that will support the basin on the interior of a storm drain grate frame. A filter is formed around an upright perforated drain pipe that is on the interior of the basin and which opens to an outlet. The basin catches debris and silt but permits water to drain out. The top of the drainpipe is left open for overflow purposes.



US 7,052,207 C1

1
EX PARTE
REEXAMINATION CERTIFICATE
ISSUED UNDER 35 U.S.C. 307

THE PATENT IS HEREBY AMENDED AS
INDICATED BELOW.

2
AS A RESULT OF REEXAMINATION, IT HAS BEEN
DETERMINED THAT:

5 The patentability of claims **6-8** is confirmed.
Claims **1-5** and **9-12** are cancelled.

* * * * *

Exhibit B



US007488414B2

(12) **United States Patent**
Wimberger

(10) **Patent No.:** **US 7,488,414 B2**
(45) **Date of Patent:** ***Feb. 10, 2009**

(54) **STORM WATER FILTER FOR POSITIONING WITHIN A STORM WATER INLET**

(76) Inventor: **Brian J. Wimberger**, 817 - 12th Ave. SE, Apt. 301, Minneapolis, MN (US) 55414

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(Continued)

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(21) Appl. No.: **12/136,363**

(22) Filed: **Jun. 10, 2008**

(65) **Prior Publication Data**

US 2008/0237100 A1 Oct. 2, 2008

Related U.S. Application Data

(63) Continuation of application No. 11/440,427, filed on May 24, 2006, now Pat. No. 7,396,471, which is a continuation of application No. 10/453,562, filed on Jun. 3, 2003, now Pat. No. 7,052,207, which is a continuation of application No. 09/756,565, filed on Jan. 8, 2001, now Pat. No. 6,609,852.

(51) **Int. Cl.**
E03F 5/14 (2006.01)

(52) **U.S. Cl.** 210/163; 210/164; 210/170.03; 210/434; 210/474; 404/4; 405/41

(58) **Field of Classification Search** 210/163, 210/164, 165, 166, 170.03, 434, 474, 532.1, 210/747, 767; 404/4, 5; 405/36, 40, 41, 405/43

See application file for complete search history.

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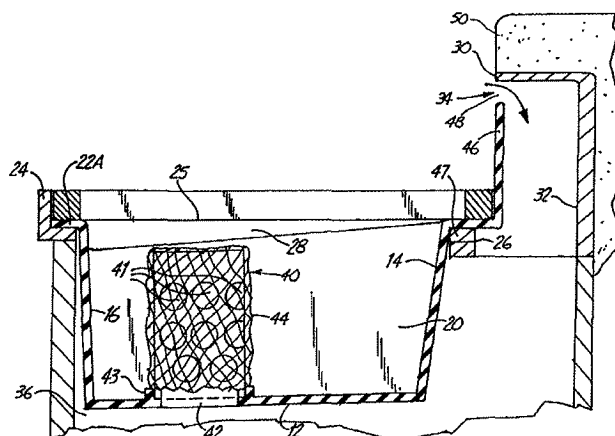
Primary Examiner—Christopher Upton

(74) *Attorney, Agent, or Firm*—Westman, Champlin & Kelly, P.A.

(57) **ABSTRACT**

An erosion control basin is a molded open topped receptacle that has support flanges that will support the basin on the interior of a storm drain grate frame. A filter is formed around an upright perforated drain pipe that is on the interior of the basin and which opens to an outlet. The basin catches debris and silt but permits water to drain out. The top of the drainpipe is left open for overflow purposes.

19 Claims, 3 Drawing Sheets



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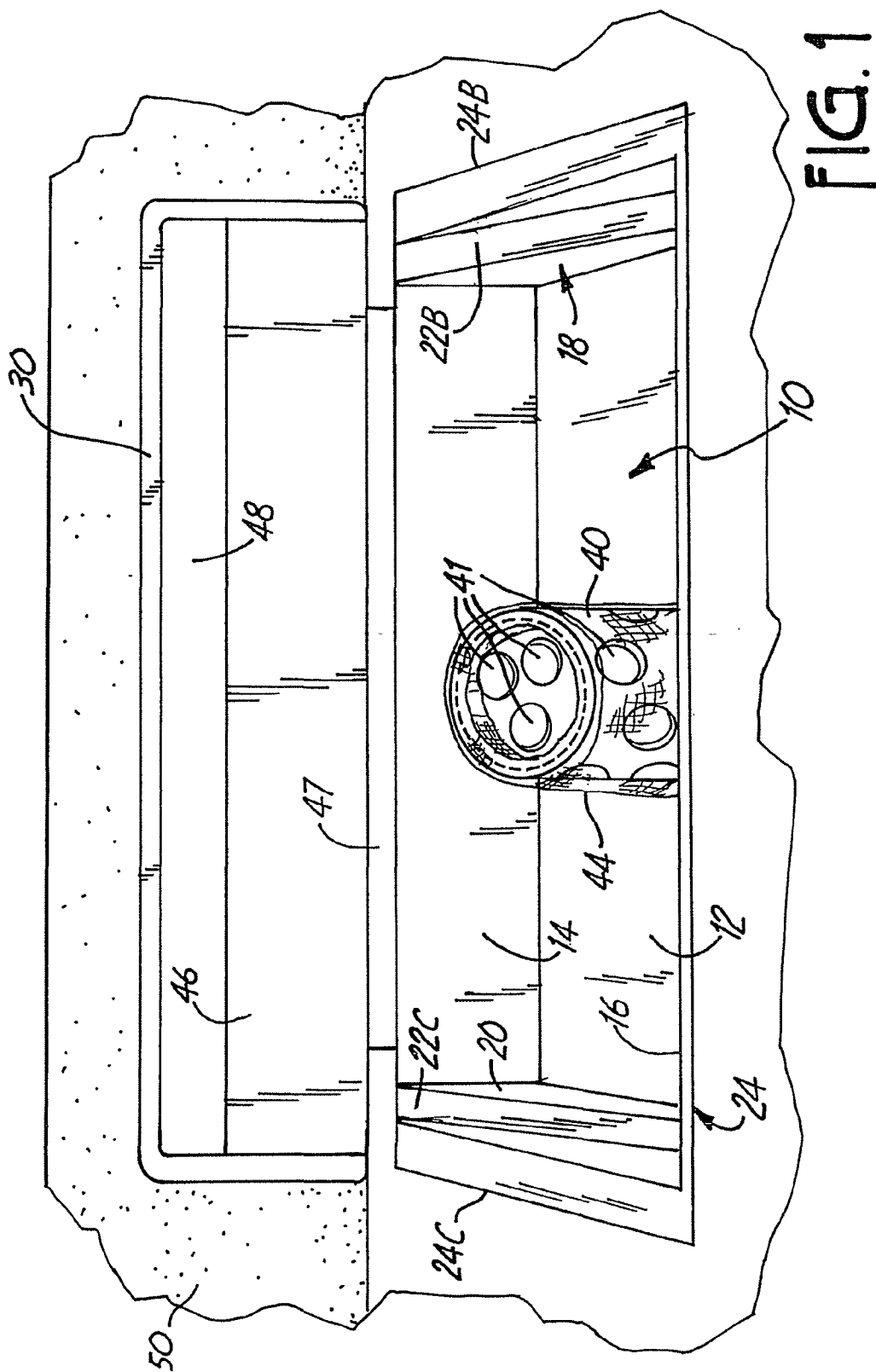
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U.S. Patent

Feb. 10, 2009

Sheet 1 of 3

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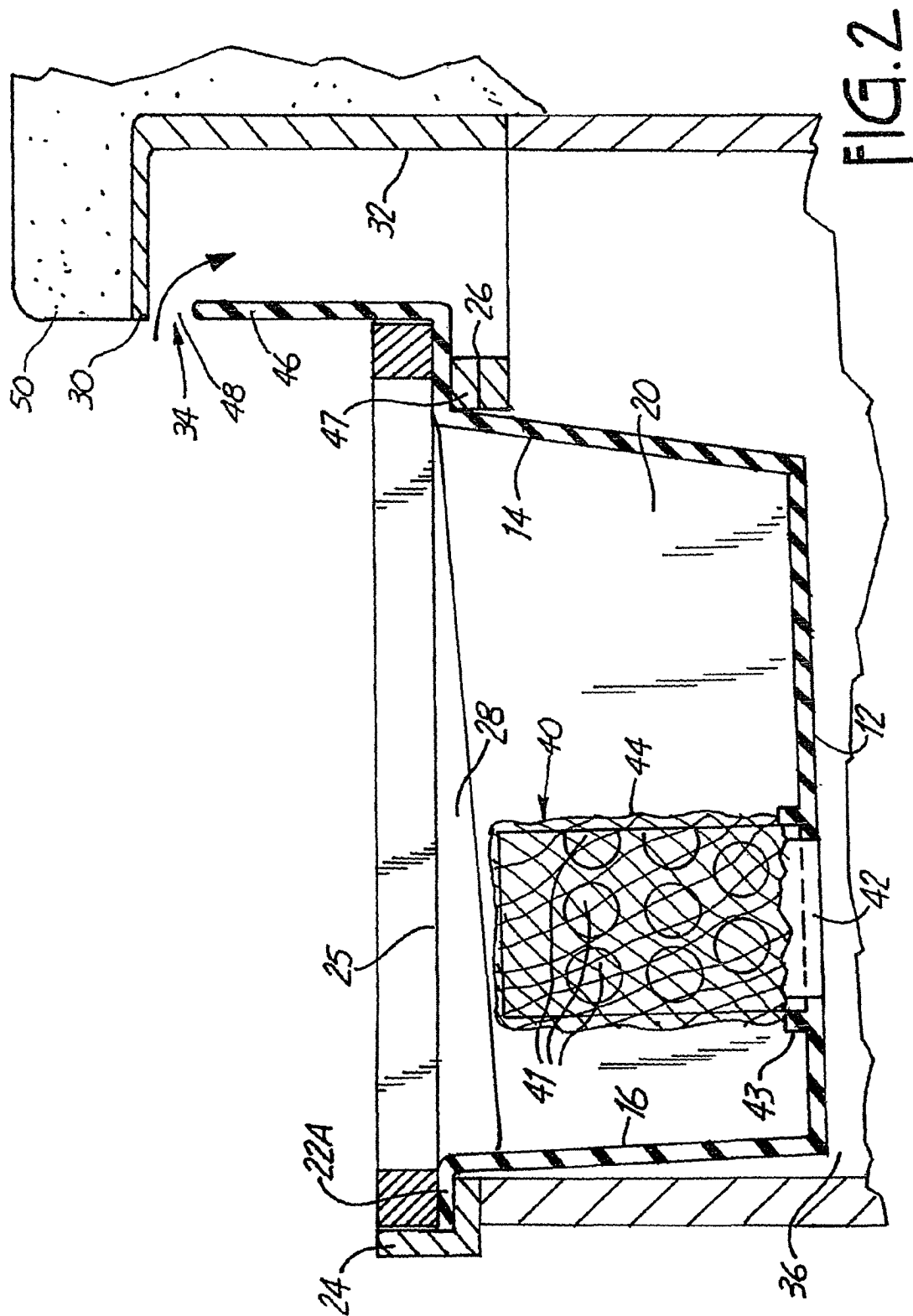


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Feb. 10, 2009

Sheet 2 of 3

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Sheet 3 of 3

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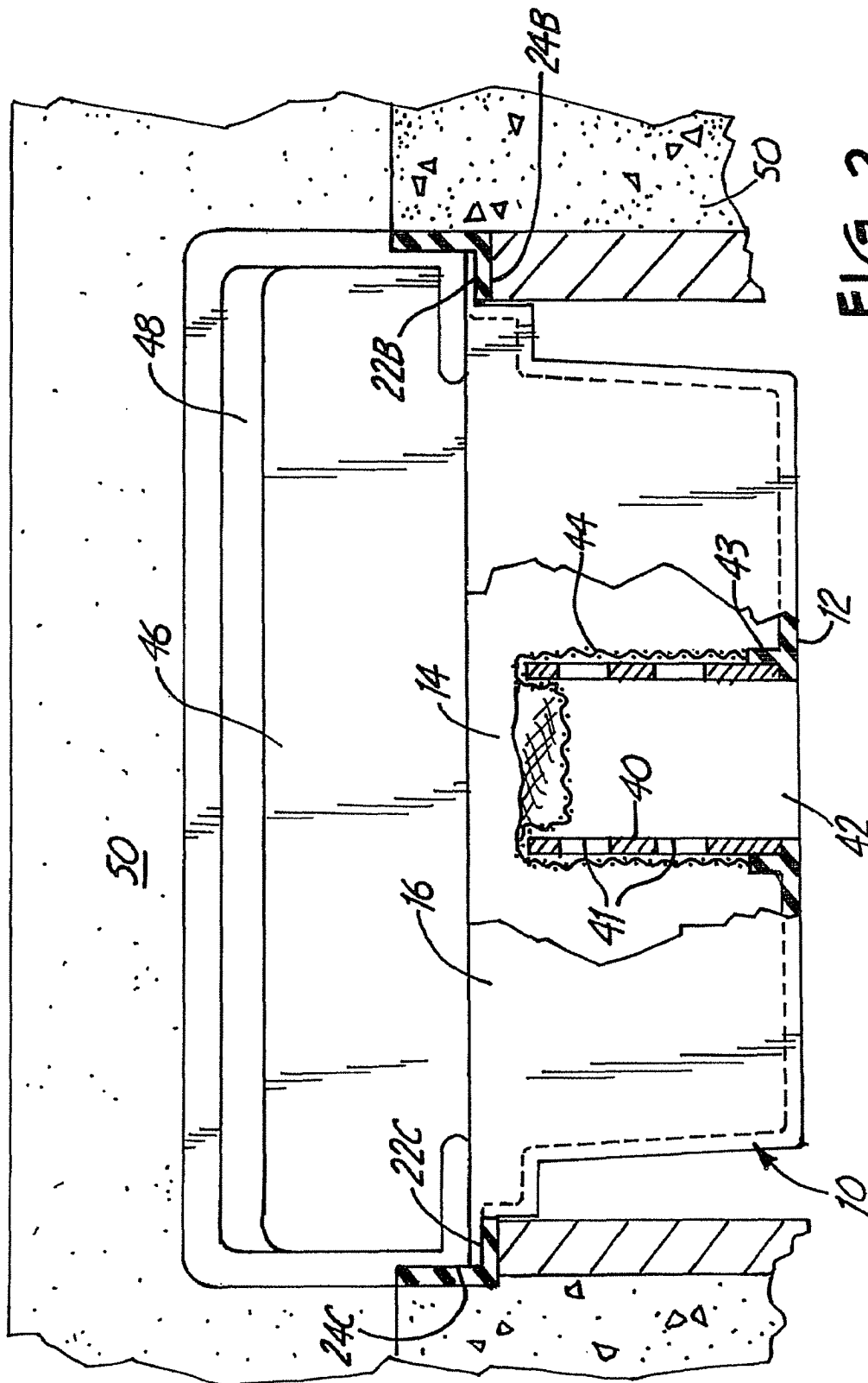


FIG. 3

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**STORM WATER FILTER FOR POSITIONING
WITHIN A STORM WATER INLET****CROSS-REFERENCE TO RELATED
APPLICATION**

The present application is a continuation of and claims priority of U.S. patent application Ser. No. 11/440,427, filed May 24, 2006, which is a continuation of Ser. No. 10/453,562, filed Jun. 3, 2003, which issued into U.S. Pat. No. 7,052,207 which is a continuation of Ser. No. 09/756,565, filed Jan. 8, 2001, which issued into U.S. Pat. No. 6,609,852, the contents of each are hereby incorporated by reference in its entirety.

BACKGROUND OF THE INVENTION

The present invention relates to an erosion control basin and drain that is used during construction for preventing debris and sediment from entering the storm sewer. A basin that is provided will fit into a frame that will be used for the normal storm sewer drain grate, and will provide for catching debris, yet permitting water to be drained out.

Presently, when road and utility construction is undertaken, particularly in new building developments, a frame is put into place at storm sewer drains that are along the curb and gutters of streets. These frames are mounted onto the storm sewer stand pipes that have been previously installed, and in the normal process, the gutters are then formed around these frames. The curb and gutter around the grate and the curb box are generally hand formed, and during this process waste concrete that may be troweled off during finishing, or dropped, will enter the storm sewer structure, and it must be removed at the end of the installation. Additionally, during construction, particularly in new developments, if heavy rains occur, a large amount of debris and silt will be washed into the storm sewers all to the detriment of environmental conditions.

It is, however, during the forming of the curb and gutter around the storm sewer grate and frame that when concrete is most likely to fall into the storm sewer. The present device provides a simple, easily used insert basin and drain to be supported on the frame during construction to catch concrete, and other debris.

SUMMARY OF THE INVENTION

The present invention relates to a drain catch basin formed in a suitable manner, that will fit into a storm sewer drain frame, and which will catch and retain concrete waste, and other debris. The catch basin has a center perforated tube forming a drain tube, that is covered with a filtration sock, or fine mesh, to filter out large debris but yet let water pass through for draining as necessary. The upper opening of the tube, which forms a standpipe type structure, is left open so that in cases where heavy rains or heavy runoff is present, and the water starts to back up, there is a larger opening for permitting draining without flooding the street. Additionally, for overflow, a curb box is provided. The curb box is a frame laterally offset from the grate frame and around which the curb is formed. The curb box forms a passageway which is also open to the storm sewer. The curb box is only partially blocked with a wall of the basin of the present invention, so that there is an open space above the wall to provide for overflow into the curb box.

The basin, with its drain capabilities is left in place until the turf or other landscaping has been established around the curb, and the curb has been formed.

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BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a top front perspective view of a catch basin made according to the present invention in a partially installed curb and gutter;

FIG. 2 is a schematic sectional view showing the catch basin installed in a frame, after using a curb box, and after a curb and gutter has been formed; and

FIG. 3 is a front view of the catch basin of the present invention with parts broken away.

**DETAILED DESCRIPTION OF THE PREFERRED
EMBODIMENTS**

A catch basin forming an erosion control device is illustrated generally at 10, and made according to the present invention. The basin 10 is a open topped basin that has a bottom wall 12, a rear wall 14, a front wall 16, and side walls 18 and 20. The side walls and the front wall have flanges or lips 22 that are used for supporting the basin 10 in a frame 24 that is designed for containing a slated grate 25 for overlying the inlet to a storm sewer pipe shown schematically at 26. The frame 24 has a cross section shaped like an angle iron along the front and sides, and has a front member 24A that supports the flange 22A of the basin. The frame 24 has side members 24B and 24C which support flanges 22B and 22C. The rear cross member 26 of the frame 24 can be utilized. As shown a curb box 30 is part of the frame 24, and is made so that it will provide a shield wall 32 and an opening 34 leading into the storm sewer chamber 36.

The basin 10 has offset wall sections 28 between flanges 22B and 22C and the side walls that position the bottom wall 12 hold the bottom wall to be generally horizontal. A standpipe or drainpipe 40 is positioned to align over an opening 42 in the bottom wall 12. As shown the drainpipe 40 fits into a collar 43 formed on the bottom wall 12, and extends upwardly therefrom. The opening 42 at the bottom of the drain pipe 40 leads to the storm sewer pipe. The drainpipe 40 is a perforated plastic drain pipe with large holes 41 in it, and it is covered with a filter material or a filter sock 44 that is a mesh or other filter material that will filter out debris and sediment before the material enters into the interior of the drain 40. Water drains through the opening 42 into the storm sewer cavity 36.

The basin 10 can be made out of a suitable plastic material or formed metal, and the drainpipe 40 is then cemented in place or otherwise securely fastened. The collar 43 can be molded to the bottom wall 12, for holding the drainpipe in position, if desired.

The basin also has a sediment deflection wall shown at 46 at the rear or curb end. The plate 46 is offset from the rear wall with a flange 47 that can rest on frame cross member 26. The wall 46 fits into the inlet opening in the curb box 30 to partially block the opening. A space shown at 48 is left so that if serious flooding occurred, this space or gap would permit water to go through the curb box and into the storm sewer.

The top of the drain 40 is left uncovered, so that if water fills the basin it can overflow into the interior of the pipe, to take care of storms or excessive drainage.

When the curb and gutter is formed, which is shown in FIG. 1, at 50, it is made of concrete, and is hand formed around the curb box or other structure, after the frame 24 for the grate 25 has been put into place. In other words, the frame 24 is supported on the storm drain pipe 26, and the concrete curb and gutter 50 is formed around the frame.

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The basin 10 is put into place on the frame 24 before the curb and gutter is formed, and if any concrete or sand, or the like from the formation of the curb is broken off or discarded, it will not go down the storm drain, but rather will be caught in the basin 10.

Additionally, runoff water that may be carrying debris or other materials will be prevented from going directly into the storm drain, by the standpipe 40 and filter sock 49 that is used in the basin 10.

The basin 10 forms an open topped receptacle, with the bottom wall, side walls, and front and rear walls as shown. The basin can be designed in shape so that it will fit into the various types of frames used for storm sewer grates, as well as the rectangular form shown. Storm sewer frame castings are available in many shapes and sizes, and each erosion control basin then would be designed to fit into the frame with which it is used.

The frame 24 for the drain is set into place on the previously installed storm sewer, and supported in place. Then the basin 10 is put into the frame 24, and is supported on the lips that extend around at least three walls. The rear wall of the basin can be supported on a cross member of the frame 24 as well. Then the curb and gutter 50 is formed around the frame for the storm drain, and the basin 10 acts as a trap for debris or material that may be loosened or dropped when the concrete work is being done.

The basin is permitted to stay in place until the landscaping is completed to collect debris, salt, and other material that may be washed into the drain opening. The basin can be removed and dumped if it fills. The basin is removed when construction is completed.

Although the present invention has been described with reference to preferred embodiments, workers skilled in the art will recognize that changes may be made in form and detail without departing from the spirit and scope of the invention.

What is claimed is:

1. An apparatus for positioning within an inlet to a storm sewer having a frame supporting a grate, and a curb box, the apparatus comprising:

a structure engaging the frame such that the structure is suspended beneath an area covered by the grate, the structure comprising a filtered outlet; and

an imperforate deflecting wall attached to the structure and substantially across a length of the frame and extending upwardly into the curb box and behind the grate when positioned on the frame and wherein storm water enters the structure through the grate and the water flows through the filtered outlet to remove sediment and debris from the water entering the storm sewer and wherein the deflecting wall extends into the curb box to deflect water into the structure while allowing water to overflow the deflecting wall in the event that the filtered outlet plugs or a street floods due to excessive amounts of water flowing into the sewer.

2. The apparatus of claim 1 and wherein the structure extends beneath substantially all of the area of the storm sewer covered by the grate.

3. The apparatus of claim 1 and wherein the structure is sufficient to support a weight of the water within the structure and/or a weight of the debris retained in the structure as the water is filtered.

4. The apparatus of claim 3 and wherein the structure is constructed of metal or plastic.

5. The apparatus of claim 1 and wherein the structure comprises a basin.

6. The apparatus of claim 1 and wherein the structure comprises a bottom wall and a plurality of side walls extend-

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ing from the bottom wall and wherein the bottom wall includes the opening for discharging the filtered water from the apparatus.

7. The apparatus of claim 1 and further comprising a filter supported by the structure wherein the filter allows water to flow therethrough prevents debris and sediment from entering the storm sewer.

8. The apparatus of claim 7 and wherein the filter comprises a stand pipe having perforations therein.

9. An apparatus for positioning within an inlet to a storm sewer having a frame supporting a grate, and a curb box, the apparatus comprising:

a structure engaging the frame such that the structure is suspended beneath an area covered by the grate, the structure comprising a filtered outlet, wherein the structure comprises a bottom wall and a plurality of side walls extending from the bottom wall and wherein the bottom wall includes the opening for discharging the filtered water from the apparatus; and

a deflecting wall attached to the structure and substantially across a length of the frame and extending upwardly into the curb box and behind the grate when positioned on the frame and wherein storm water enters the structure through the grate and the water flows through the filtered outlet to remove sediment and debris from the water entering the storm sewer and wherein the deflecting wall extends into the curb box to deflect water into the structure while allowing water to overflow the deflecting wall in the event that the filtered outlet plugs or a street floods due to excessive amounts of water flowing into the sewer.

10. The apparatus of claim 9 and wherein the structure extends beneath substantially all of the area of the storm sewer covered by the grate.

11. The apparatus of claim 9 and wherein the structure is sufficient to support a weight of the water entering the structure and/or a weight of the debris retained in the structure as the water is filtered.

12. The apparatus of claim 11 and wherein the structure is constructed of metal or plastic.

13. The apparatus of claim 9 and wherein the structure comprises a basin.

14. The apparatus of claim 9 and further comprising a filter supported by the structure wherein the filter allows water to flow therethrough prevents debris and sediment from entering the storm sewer.

15. The apparatus of claim 14 and wherein the filter comprises a stand pipe having perforations therein.

16. An apparatus for positioning within an inlet to a storm sewer having a frame supporting a grate, and a curb box, the apparatus comprising:

a structure engaging the frame such that the structure is suspended beneath an area covered by the grate, the structure comprising a filtered outlet and a first overflow mechanism; and

a deflecting wall attached to the structure and substantially across a length of the frame and extending upwardly into the curb box and behind the grate when positioned on the frame and wherein storm water enters the structure through the grate and the water flows through the filtered outlet to remove sediment and debris from the water entering the storm sewer and wherein the deflecting wall

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extends into the curb box to deflect water into the structure wherein the first overflow mechanism is positioned below the grate to allow unfiltered water to flow into the storm sewer.

17. The apparatus of claim 16 and wherein the deflecting wall extends into the curb box to deflect water into the structure while allowing water to overflow the deflecting wall to provide a second overflow mechanism to allow unfiltered water into the storm sewer in the event that the first overflow

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mechanism does not have the capacity to discharge the unfiltered water and water begins to flood the street.

18. The apparatus of claim 16 and wherein the structure extends beneath substantially all of the area of the storm sewer covered by the grate.

19. The apparatus of claim 16 and further comprising a filter supported by the structure wherein the filter allows water to flow thcrethrough prevents debris and sediment from entering the storm sewer.

* * * * *



US007488414C1

(12) **EX PARTE REEXAMINATION CERTIFICATE** (7983rd)**United States Patent**
Wimberger(10) Number: **US 7,488,414 C1**
(45) Certificate Issued: **Jan. 11, 2011**(54) **STORM WATER FILTER FOR POSITIONING WITHIN A STORM WATER INLET**(51) Int. Cl. **E03F 5/14** (2006.01)(75) Inventor: **Brian J. Wimberger**, Minneapolis, MN (US)(52) U.S. Cl. **210/163; 210/164; 210/170.03; 210/434; 210/474; 404/4; 405/41**(73) Assignee: **Wimco, LLC**, Shakopee, MN (US)(58) **Field of Classification Search** None
See application file for complete search history.**Reexamination Request:**

No. 90/009,716, Apr. 5, 2010

(56) **References Cited****U.S. PATENT DOCUMENTS**

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6,294,095 B1	9/2001	Lewis

Primary Examiner—Terrence R Till(57) **ABSTRACT**

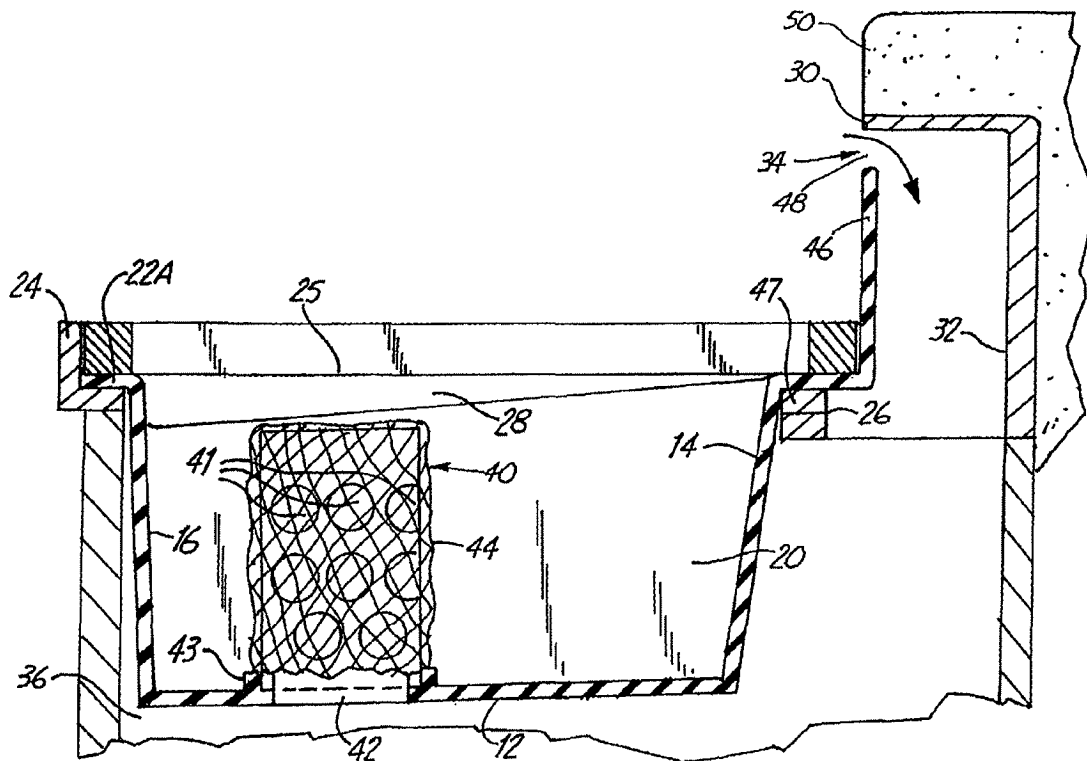
An erosion control basin is a molded open topped receptacle that has support flanges that will support the basin on the interior of a storm drain grate frame. A filter is formed around an upright perforated drain pipe that is on the interior of the basin and which opens to an outlet. The basin catches debris and silt but permits water to drain out. The top of the drainpipe is left open for overflow purposes.

Reexamination Certificate for:

Patent No.: **7,488,414**
 Issued: **Feb. 10, 2009**
 Appl. No.: **12/136,363**
 Filed: **Jun. 10, 2008**

Related U.S. Application Data

- (63) Continuation of application No. 11/440,427, filed on May 24, 2006, now Pat. No. 7,396,471, which is a continuation of application No. 10/453,562, filed on Jun. 3, 2003, now Pat. No. 7,052,207, which is a continuation of application No. 09/756,565, filed on Jan. 8, 2001, now Pat. No. 6,609,852.



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EX PARTE
REEXAMINATION CERTIFICATE
ISSUED UNDER 35 U.S.C. 307

NO AMENDMENTS HAVE BEEN MADE TO
THE PATENT

2
AS A RESULT OF REEXAMINATION, IT HAS BEEN
DETERMINED THAT:

5 The patentability of claims 1-**19** is confirmed.

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US007488414C2

(12) **EX PARTE REEXAMINATION CERTIFICATE** (10100th)
United States Patent
Wimberger

(10) **Number:** **US 7,488,414 C2**
 (45) **Certificate Issued:** ***Apr. 3, 2014**

(54) **STORM WATER FILTER FOR POSITIONING WITHIN A STORM WATER INLET**

(76) **Inventor:** **Brian J. Wimberger**, Minneapolis, MN (US)

Reexamination Request:
 No. 90/011,700, May 19, 2011

Reexamination Certificate for:
 Patent No.: **7,488,414**
 Issued: **Feb. 10, 2009**
 Appl. No.: **12/136,363**
 Filed: **Jun. 10, 2008**

Reexamination Certificate C1 7,488,414 issued Jan. 11, 2011

(*) **Notice:** This patent is subject to a terminal disclaimer.

Related U.S. Application Data

- (63) Continuation of application No. 11/440,427, filed on May 24, 2006, now Pat. No. 7,396,471, which is a continuation of application No. 10/453,562, filed on Jun. 3, 2003, now Pat. No. 7,052,207, which is a continuation of application No. 09/756,565, filed on Jan. 8, 2001, now Pat. No. 6,609,852.

(51) **Int. Cl.**
E03F 5/14 (2006.01)

(52) **U.S. Cl.**
 USPC **210/163**; 210/164; 210/170.03; 210/434; 210/474; 404/4; 405/41

(58) **Field of Classification Search**
 USPC 210/170.03; 404/4, 5; 405/48, 87
 See application file for complete search history.

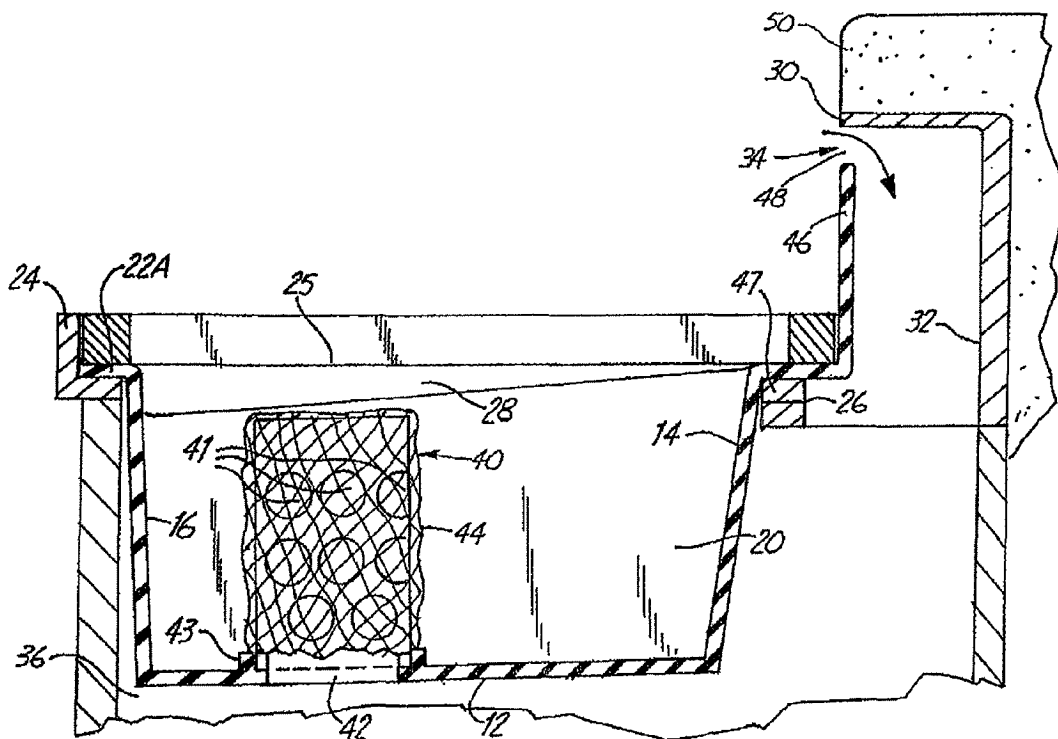
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To view the complete listing of prior art documents cited during the proceeding for Reexamination Control Number 90/011,700, please refer to the USPTO's public Patent Application Information Retrieval (PAIR) system under the Display References tab.

Primary Examiner — Robert M. Fetsuga

(57) **ABSTRACT**

An erosion control basin is a molded open topped receptacle that has support flanges that will support the basin on the interior of a storm drain grate frame. A filter is formed around an upright perforated drain pipe that is on the interior of the basin and which opens to an outlet. The basin catches debris and silt but permits water to drain out. The top of the drainpipe is left open for overflow purposes.



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**EX PARTE
REEXAMINATION CERTIFICATE
ISSUED UNDER 35 U.S.C. 307**

5

THE PATENT IS HEREBY AMENDED AS
INDICATED BELOW.

AS A RESULT OF REEXAMINATION, IT HAS BEEN
DETERMINED THAT:

10

Claims **1-7** and **9-14** are cancelled.

Claims **8** and **15-19** were not reexamined.

* * * * *