

Base : FAMPAT

SEARCH STRATEGY

SS Results

17	62	15 AND 16
16	47833739	PD<20141027
15	104	14 AND 7
14	51476	..SIMILARITY SS 13 RANKED 1
13	1	..SIMILARITY REFINE SS 12 RANKED 1
12	1	(WO201668431)/PN
11	32	10 AND 1 AND 2
10	228	9 AND 7
9	149637	8 AND 6
8	1782966	(BIOLOGIC+)/TI/AB/IW/CLMS/DESC/ODES/OBJ/ADB/ICLM/KEYW/TX
7	77694	(STEEL 1D PIPES+)/TI/AB/IW/CLMS/DESC/ODES/OBJ/ADB/ICLM/KEYW/TX
6	761845	SEWAG+ OR EFFLUENT OR SLUDGE/TI/AB/IW/CLMS/DESC/ODES/OBJ/ADB/ICLM/KEYW/TX
5	129745	CAST+ 1D CONCRETE/TI/AB/IW/CLMS/DESC/ODES/OBJ/ADB/ICLM/KEYW/TX
4	22790325	CONNECT+ OR JOIN OR PLUG+ OR PLUMB+ OR ATTACH+ OR LINK OR MERG+/TI/AB/IW/CLMS/DESC/ODES/OBJ/ADB/ICLM/KEYW/TX
3	786332	WATERPROOF+ OR WATERLIGHT OR RAINFPROOF+ OR IMPERMEAB+/TI/AB/IW/CLMS/DESC/ODES/OBJ/ADB/ICLM/KEYW/TX
2	5017686	DUMP+ OR EMPT+ OR TIP OR SLOP+/TI/AB/IW/CLMS/DESC/ODES/OBJ/ADB/ICLM/KEYW/TX
1	3885817	EXCAVAT+ OR DIG+ OR BURROW+ OR SINK+/TI/AB/IW/CLMS/DESC/ODES/OBJ/ADB/ICLM/KEYW/TX

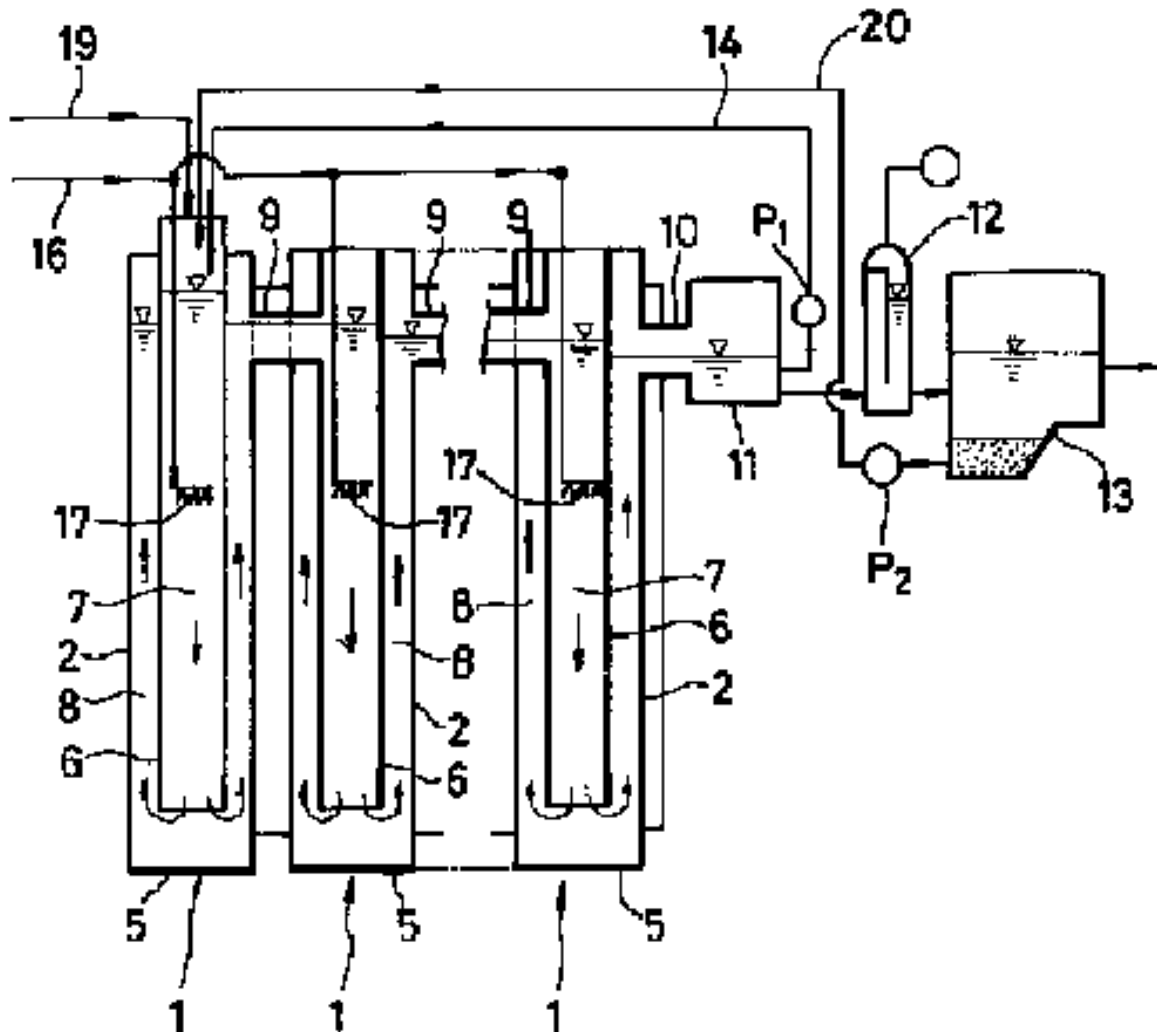
19 Documents

Publication numbers	Title	Current assignees
JP06299541 A	Sanitary sewage treatment device by use of steel pipe column earth retaining wall	KUBOTA
JP06299542 A	Sanitary sewage treatment device by use of steel pipe column retaining wall	KUBOTA
IT98MI2308 D0	Procedure and apparatus for the treatment of domestic sewage under extended aeration	NEGLIA STEFANO
CN101851043 A	Integrated air-lift circulating dynamic membrane bioreactor	TONGJI UNIVERSITY
WO9323340 A1	Apparatus for dissolving a gas into and mixing the same with a liquid	IDEC IZUMI
DE3803841 A1	Water activation device	WSW PLANUNGS
WO200063128 A1	Protection relay and protected control set with front wiring	OSWALD GREEN HOLDINGS, ...
JP2009061349 A	Sewage treatment method by membrane separation activated sludge process	TORAY INDUSTRIES
CN201217642U Y	Integral support mould structure of circular aeration tank	ZHONGSHE JIANGONG
CN201882972U U	Grid type aeration tank	HARBIN UNIVERSITY OF SCIENCE & TECHNOLOGY
JP2000354886 A	Method and apparatus for treating organic wastewater	UNITIKA
CN201932951U U	Novel lifting aerator	ZHEJIANG BOHUA ENVIRONMENTAL TECHNOLOGY & ENGINEERING
CN202610011U U	Stainless steel water collecting pipe	JIANGSU DAFU MEMBRANE TECHNOLOGY
JP2002239571 A	Slot type sedimentation tank	SEKISUI CHEMICAL
EP2508488 A1	Improved biological waste water purification reactor and method	VEOLIA WATER SOLUTIONS & TECHNOLOGIES
DE4203742 A1	Loop reactor for biological purification of polluted water.	STRABAG
WO201042330 A2	Method of remediating an effluent containing livestock waste using a stratified lagoon	VERDURE TECHNOLOGIES
JP2007000831 A	Organic wastewater treatment method and apparatus	NARASAKI SEISAKUSHO
JP11116368 A	Treatment of organic material-containing waste liquor and apparatus therefor	TOYO CLEAN KAGAKU

Family 1/19 - FAMPAT - ©Questel

Title

(JP06299541)

Sanitary **sewage** treatment device by use of **steel pipe** column earth retaining wall**Images**

Publication data including kind & date

[JPH06299541](#)

A 1994-10-25 JP06299541

**Abstract**

(JP06299541)

PURPOSE:To eliminate a specified installation site and reduce the construction cost of a sanitary **sewage** disposal device, by forming a plurality of aeration tanks by use of required number of **steel pipes** and purifying **sewage** **biologically** by making **steel pipes**.**CONSTITUTION:**Sanitary **sewage** is conducted from a pipe 19 to the upper part of the inner pipe 6 of a first aeration tank 1 to from a downward-stream 7 to the upward-stream 8 and then conducted to the upper part of the inner pipe 6 of a subsequent aeration tank 1. Thereafter, the same stream with the above is repeated by turns to flow from the overflow pipe 10 to a water pool 11. In this case, a part of the treated water in the water pool 11 is recycled through a pipe 14, while a gas containing oxygen is fed in the down-ward stream 7 from aerators 17 **connected** to a pipe 16 from an air compressor. Next, the sanitary **sewage** is **biologically** purified by microbes therein and the gas is emitted from the upward-stream 8 to the air. When the upper end of upward- stream 8 is closed, the gas is diffused to the air in the water pool 11. In this way, sanitary **sewage** is purified while passing through respective aeration tanks 1... in turn.

Inventors

SAKAMOTO NOBUO

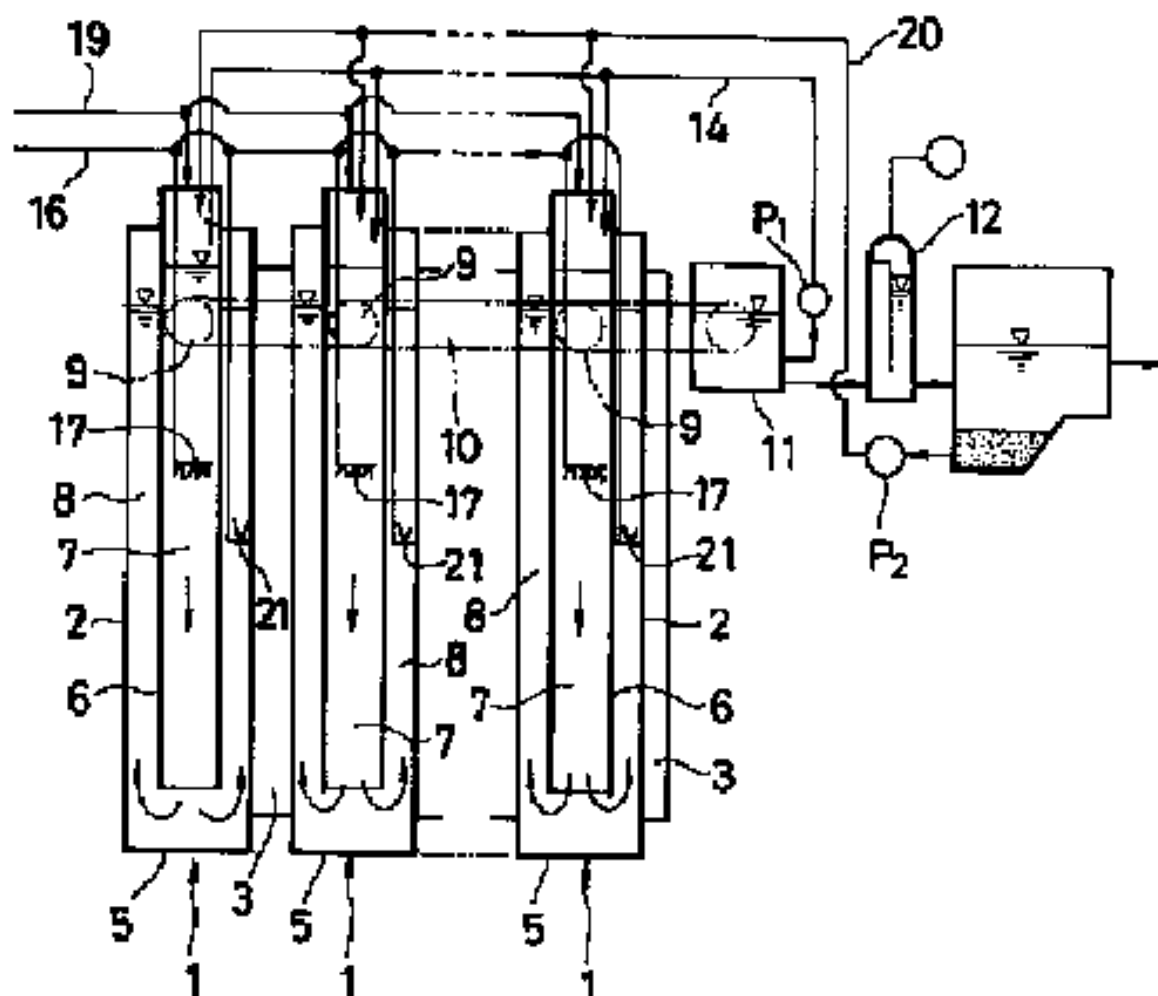
YASUTAKE MASATOSHI

Family 2/19 - FAMPAT - ©Questel

Title

(JP06299542)

Sanitary **sewage** treatment device by use of **steel pipe** column retaining wall**Images**



Publication data including kind & date

JPH06299542

A

1994-10-25

JP06299542



Abstract

(JP06299542)

PURPOSE: To eliminate a specified installation site and reduce the construction cost of a sanitary **sewage** disposal device, by forming a plurality of aeration tanks by use of required number of **steel pipes** and providing a discharge pipe at respective outer pipes and **connecting** to a separately installed water pool. **CONSTITUTION:** Aeration tanks 1 are independently formed at every outer pipe 2. Sanitary **sewage** from a pipe 19 is conducted from the downwardstream 7 to the upward-stream 8 through respective inner pipes and discharged from a discharge pipe 9. Thereafter, the discharged treated water is conducted from a combined pipe 10 to a water pool 11. In this case, a part of the treated water in the water

pool 11 is recycled through a pipe 14, while a gas containing oxygen is fed in the downward stream 7 from aerators 17 **connected** to a pipe 16 from an air compressor. Next, the sanitary **sewage** is **biologically** purified by microbes therein and the gas is emitted from the upward-stream 8 to the air. When the upper end of upward-stream 8 is closed, the gas is diffused to the air in the water pool 11.

Inventors

SAKAMOTO NOBUO

YASUTAKE MASATOSHI

Family 3/19 - FAMPAT - ©Questel

Title

(EP-997441)

Procedure and apparatus for the treatment of domestic **sewage** under extended aeration**Images**

specific gravity is deposited on the common bottom of the two zones; b) blowing air into the lower section of the inside cylindrical zone helps the bacterial growth and the aerobic attack of the material organic and allows the material to rise up because the action of the bacterial **digestion** and the absorption of the fermentation gases reduce its specific weight; c) maintaining the **sewage** in concentric zones, defined by two screens (13,14), one of average mesh size, the other of small mesh size, preventing the exit of the solid organic material of dimensions greater than the mesh until this solid organic material, due to the attack of the aerobic micro-organisms, under extended aeration, has reached lower dimensions than those of the smaller mesh screen, the material subjected to bacterial **digestion** being maintained inside the upper annular zones under agitation by air blown into the zone defined by the two screens in order to help the growth of the bacterial flora.

Inventors

NEGLIA STEFANO

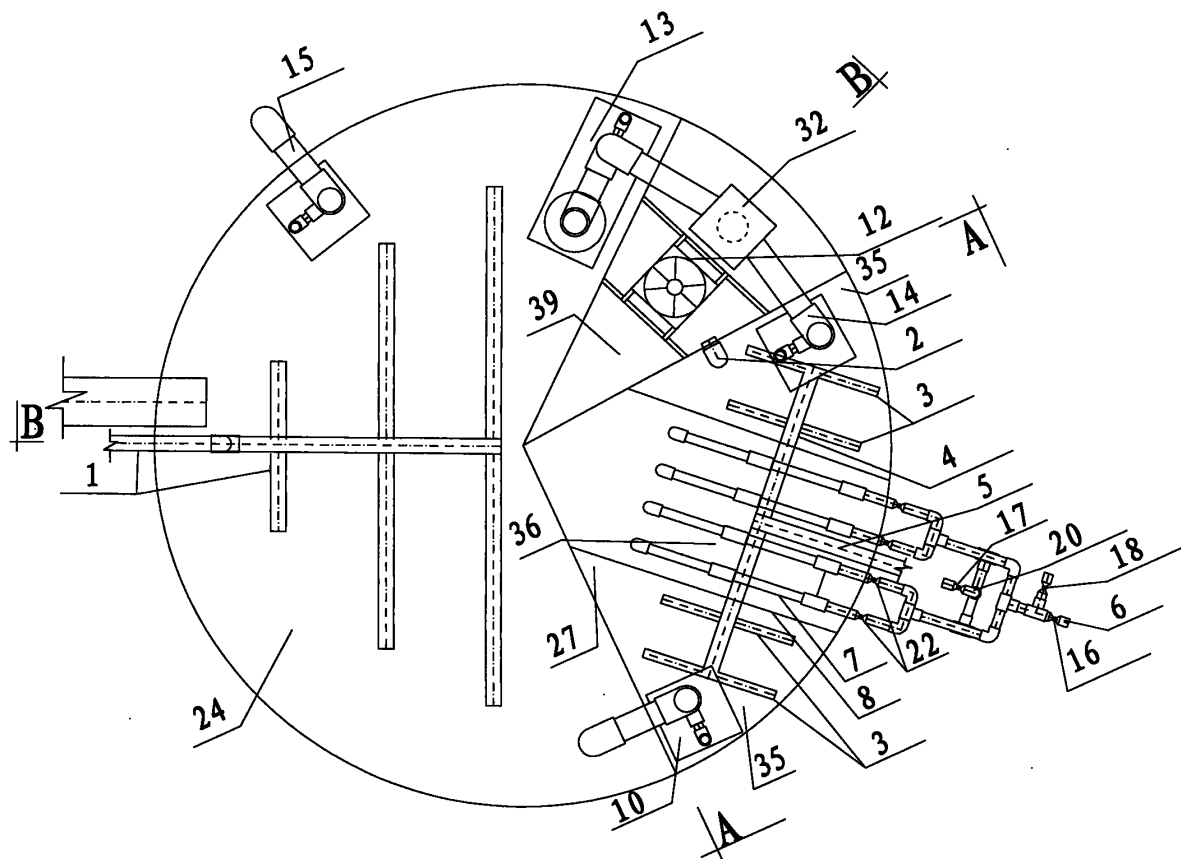
Family 4/19 - FAMPAT - ©Questel

Title

(CN101851043B)

Integrated air-lift circulating dynamic membrane bioreactor

Images



Publication data including kind & date

CN101851043	A	2010-10-06	CN101851043
CN101851043	B	2011-09-14	CN101851043B



Abstract

(CN101851043B)

The invention relates to an integrated air-lift loop dynamic membrane bioreactor, which is characterized in that the bioreactor is in a cylindrical platform shape, and the structure of the bioreactor is divided into an anaerobic regulating pool, an anoxia tank, an air-lift loop dynamic membrane bioreactor and other units; the anaerobic regulating pool has the functions of water quality and quantity regulation, anaerobic hydrolytic acidification of inlet water and **sludge** volume reduction, and the main body adopts a nitrogen and carbon removal operation mode by the A/O process; the air-lift loop dynamic membrane bioreactor is an air-lift loop aerobic bioreactor in which air at two sides lifts and air at the center

reflows, and filter components are arranged in a central region; and diatomaceous earth and other granular matters are added to form granular **sludge** so as to form the air-lift loop dynamic membrane bioreactor; and an air lifter is adopted to lift **sewage** and **sludge**, and has different functions of isolating oil and scum, exhausting and preventing a great deal of **sludge** at the bottom from being greatly lifted, and the like. The invention facilitates on-site installation and operation management, has good water inlet quality, stable operation and low cost, and can fully meet the actual requirements of decentralized wastewater treatment in rural areas.

Inventors

ZHOU XUEFEI

ZHANG YALEI

SU HONGYANG

ZHOUE JINGFEI

SUN XIAOYA

HU MAODONG

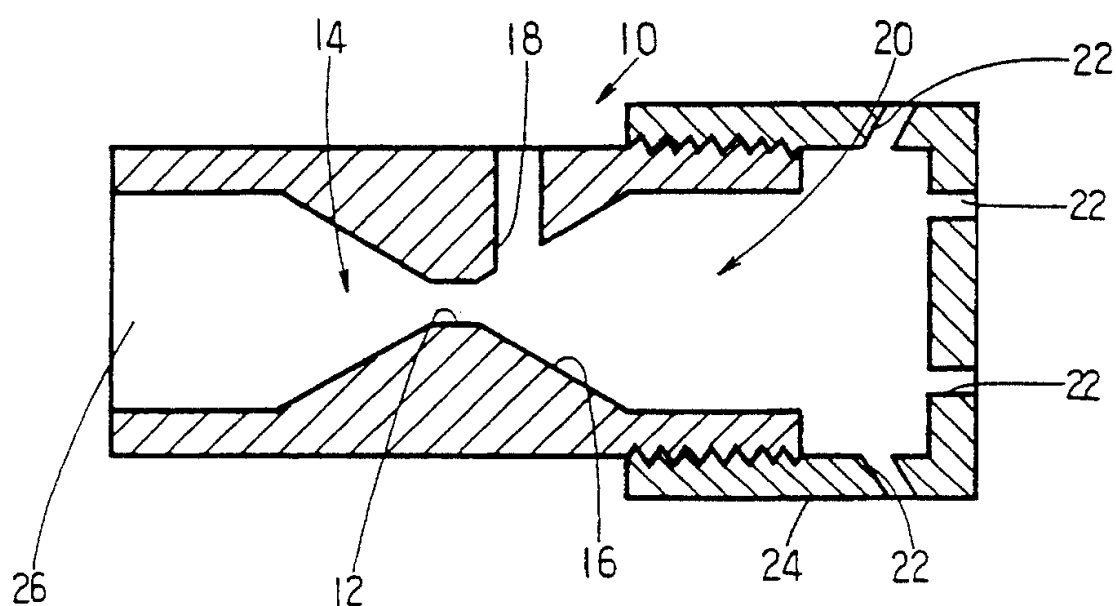
Family 5/19 - FAMPAT - ©Questel

Title

(EP-639160)

Apparatus for dissolving a gas into and mixing the same with a liquid

Images



Publication data including kind & date

WO9323340	A1	1993-11-25	WO9323340
JPH0663371	A	1994-03-08	JP06063371
JPH0699167	A	1994-04-12	JP06099167
JPH06285345	A	1994-10-11	JP06285345
JPH06285344	A	1994-10-11	JP06285344
JPH0693991	B2	1994-11-24	JP94093991
TW238259	B	1995-01-11	TW-238259
EP0639160	A1	1995-02-22	EP-639160
JP1962726	C	1995-08-25	JP1962726
US5514267	A	1996-05-07	US5514267
JP2529174	B2	1996-08-28	JP2529174
JP2554609	B2	1996-11-13	JP2554609
JP2554608	B2	1996-11-13	JP2554608



EP0639160	B1	2000-07-19	EP-639160
DE69329061	D1	2000-08-24	DE69329061
DE69329061	T2	2000-12-21	DE69329061

**Abstract**

(EP-639160)

A method and an apparatus for dissolving a gas into and mixing the same with a liquid is provided for mixing bubbles with and dispersing the same into a liquid and/or for dissolving a gas into a liquid efficiently. The apparatus comprises a throttled section (12) formed in a fluid flow passage, a gas inlet (18) provided slightly downstream of the throttled section (12), a widened section (16) continuous to the throttled section (12), a mixing section (20) provided downstream of the widened section (16), for mixing the gas introduced from the gas inlet (18) with the liquid in the fluid flow passage, and a nozzle section (24) provided on the outlet of the mixing section (20). The method is achieved by using this apparatus. The method and the apparatus are applicable to methods and apparatuses for dissolving ozone into a liquid, for dispersing bubbles in a liquid and floating small particles in the liquid, and the like methods and apparatuses.

Inventors

MACHIYA KATSUYUKI

HIRASAWA KIMIO

HORI TOKIO

KASHIWA MASAKAZU

KINOSHITA TAKAYUKI

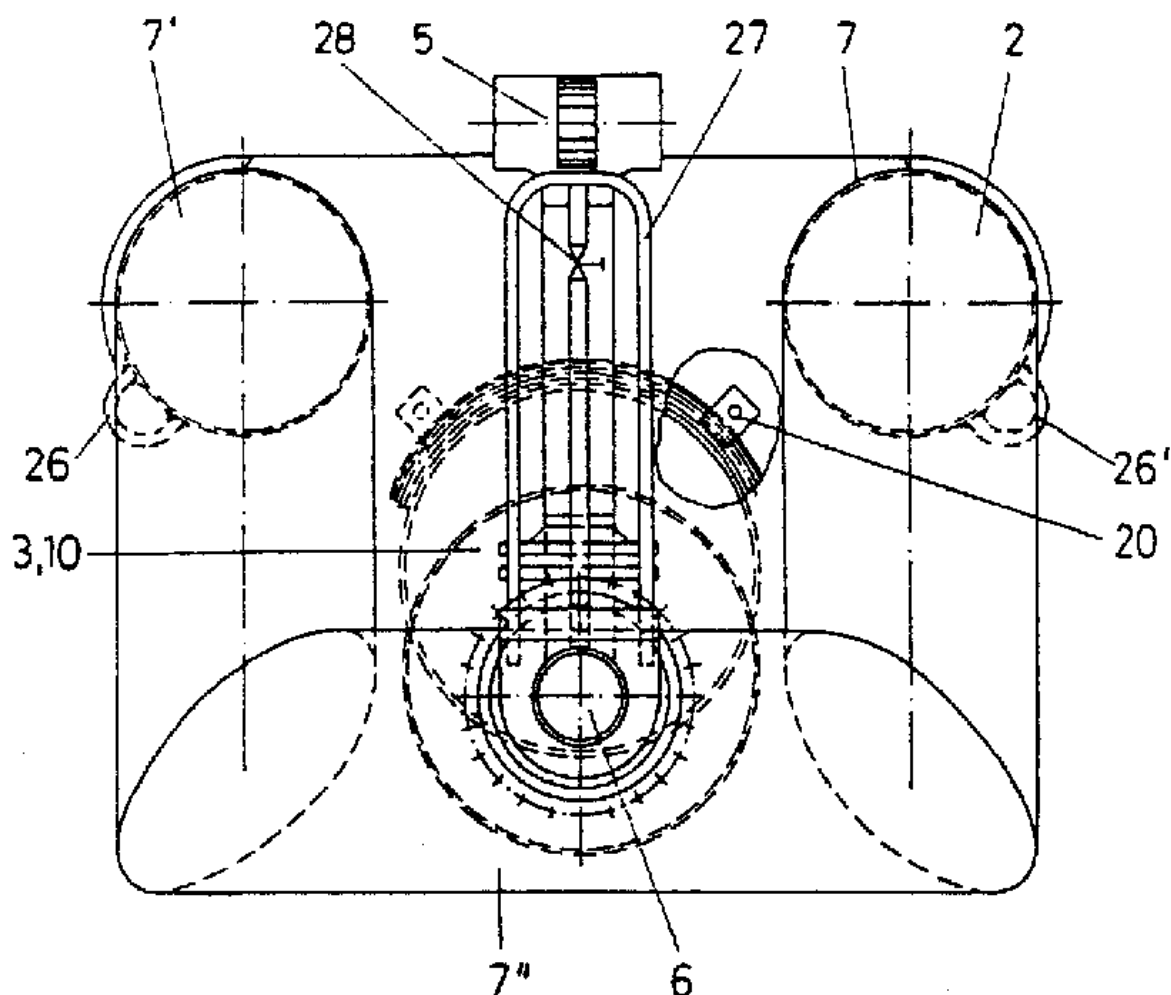
Family 6/19 - FAMPAT - ©Questel

Title

(DE3803841)

Water activation device

Images

Fig.4**Publication data including kind & date**

[DE3803841](#) A1 1989-08-17 DE3803841

[DE3803841](#) C2 1994-12-15 DE3803841

**Abstract**

(DE3803841)

A device provided with an underwater support frame serves to regenerate wastewater by a contact section being arranged at a slight incline to the water surface. In this contact section, care is taken that the wastewater-air mixture delivered via the pump and the air supply unit can flow as slowly as possible with retention of air bubbles which are as small as possible in order to enable optimal contacting of the air bubbles with wastewater and the bacteria contained therein. Both the air bubbles and the bacteria can advantageously collect in the contact section and the latter can also grow and multiply, since the contact section is formed by a, preferably, Plexiglas tube which is filled with mesh spheres. These mesh spheres have a multiplicity of mesh rods which have a rough surface. Moreover, these mesh rods are arranged at a spacing which hinders the water flow as little as possible. This design results in a water activation device of short structure, the particular design, the mesh spheres and the transparent design of the tube significantly promoting the growth of the bacteria. <IMAGE>

Inventors

STOG WILHELM DR

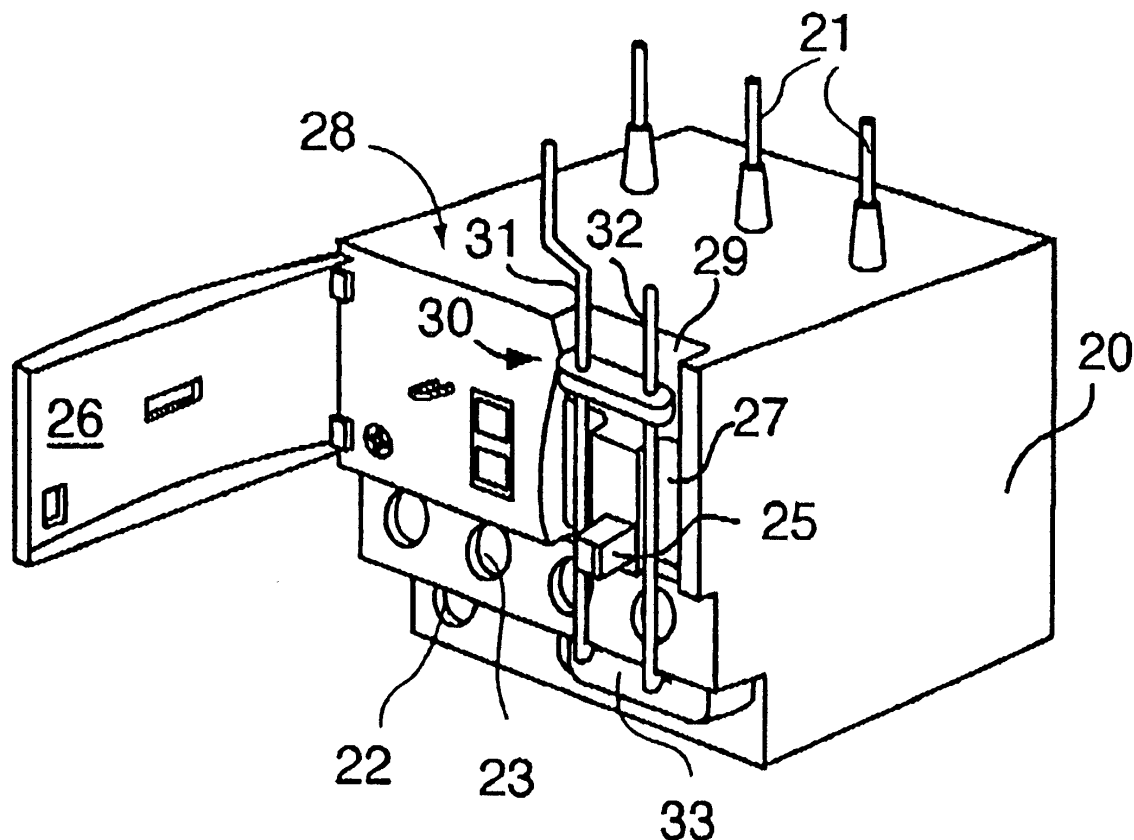
Family 7/19 - FAMPAT - ©Questel

Title

(EP1181704)

Protection relay and protected control set with front wiring

Images



Publication data including kind & date

WO200063128	A1	2000-10-26	WO200063128
AU4469800	A	2000-11-02	AU200044698
FR2793948	A1	2000-11-24	FR2793948
WO200072349	A1	2000-11-30	WO200072349
PE01412001	A1	2001-02-07	PE200100141
FR2793948	B1	2001-06-29	FR2793948
MA25358	A1	2001-12-31	MA--25358
WO200063128	A9	2002-01-31	WO200063128
BR0010761	A	2002-02-19	BR200010761
BRPI0010761	A1	2002-02-19	BRPI0010761
EP1181704	A1	2002-02-27	EP1181704
EP1181250	A1	2002-02-27	EP1181250
CN1353856	A	2002-06-12	CN1353856
TR200103304	T2	2002-06-21	TR200103304
US20020121477	A1	2002-09-05	US20020121477
ZA200108675	B	2002-12-24	ZA200108675
JP2003500817	A	2003-01-07	JP2003500817
US6512433	B1	2003-01-28	US6512433
EP1181704	B1	2003-04-16	EP1181704
DE60002196	D1	2003-05-22	DE60002196
ES2192525	T3	2003-10-16	ES2192525
DE60002196	T2	2003-10-16	DE60002196
NZ515190	A	2003-11-28	NZ-515190
CN1179392	C	2004-12-08	CN1179392C
US6852225	B1	2005-02-08	US6852225
RU2248061	C2	2005-03-10	RU2248061



AU780272	B2	2005-03-10	AU-780272				
EP1181250	A4	2005-04-20	EP1181250				
US6923906	B2	2005-08-02	US6923906				
JO2314	B1	2005-09-12	JO---2314				
SA1659	B1	2007-01-20	SA---1659				
IN1568/CHENP/2001	A	2007-03-09	IN2001CN01568				
IN1591/CHENP/2001	A	2007-03-09	IN2001CN01591				
IN211965	B	2008-01-11	IN-211965				
IN211968	B	2008-01-11	IN-211968				
JP4364442	B2	2009-11-18	JP4364442				
EP1181250	B1	2011-08-24	EP1181250				
AT521577	T	2011-09-15	ATE521577				
PT1181250	E	2011-10-12	PT1181250				
ES2371002	T3	2011-12-26	ES2371002				
BRPI0010761	A2	2013-05-14	BR200010761				
BR0010761	B1	2014-04-15	BR200010761				
CY1112074	T1	2015-12-09	CY1112074				

Abstract

(EP1181704)

The invention concerns a protection relay, in particular of the thermal type, recessed relative to its front face (24), a recess acting as through passage for interconnection of the conductors (C) between the terminals of the relay control (23) and of the contact switch (16). The recess (27) is concealed in normal operation by a shutter consisting of a flap (26) or a fixed part (26') of the housing (20). The interconnection conductors can consist of individual cables (C) or can be integrated to a precabling addition (40) housed in the recess.

Inventors

BOUCHARD DENIS

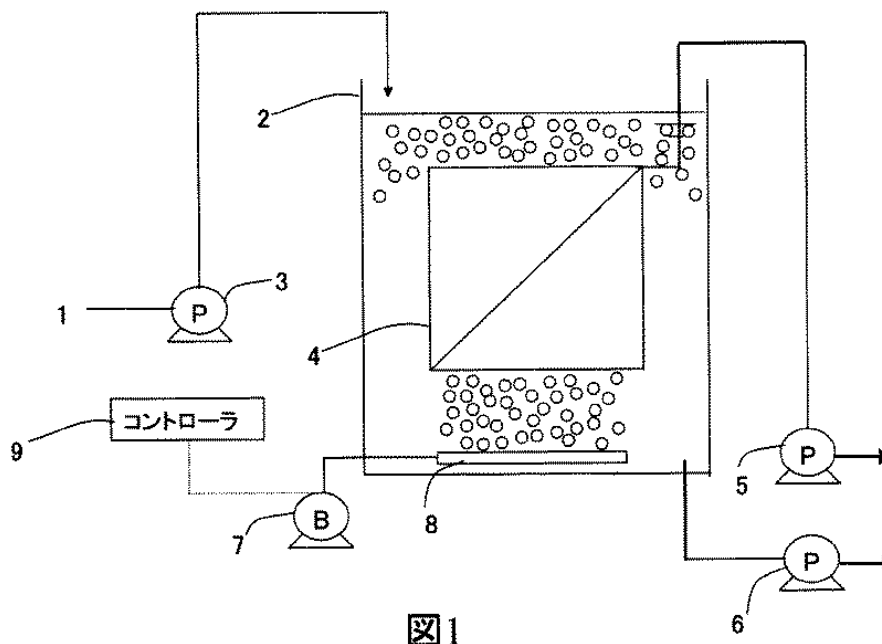
SINTHOMEZ DANIEL

Family 8/19 - FAMPAT - ©Questel

Title

(JP2009061349)

Sewage treatment method by membrane separation activated **sludge** process**Images**



Publication data including kind & date

JP2009061349

A

2009-03-26

JP2009061349



Abstract

(JP2009061349)

PROBLEM TO BE SOLVED: To reduce aeration cost, prevent membrane damage by aeration, and inhibit water quality deterioration of membrane-filtered water in a **sewage** treatment method where **sewage** containing organic pollutant components is treated with activated **sludge** in a **biological** treatment tank and the activated **sludge**-treated mixture liquid is subjected to membrane separation treatment by an immersion type separation membrane.

SOLUTION: In the **sewage** treatment method by a membrane separation activated **sludge** process where the immersion type separation membrane 4 is disposed in the **biological** treatment tank 2 treating raw water with activated **sludge**, an aeration device 8 is disposed below the immersion type separation membrane to perform continuous aeration, and the activated **sludge**-containing treated mixture liquid in the **biological** treatment tank is subjected to the membrane separation treatment by the immersion type separation membrane 4 in the **biological** treatment tank, when the inflow of the raw water into the **biological** treatment tank is stopped, filtration operation is stopped, the aeration by the aeration device 8 is switched to intermittent aeration at the stop of the filtration operation or after a prescribed time since the stop of the filtration operation, and a gas feed rate during the intermittent aeration is reduced in comparison with that during the continuous aeration.

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Inventors

KITANAKA ATSUSHI

SUGITA KAZUYA

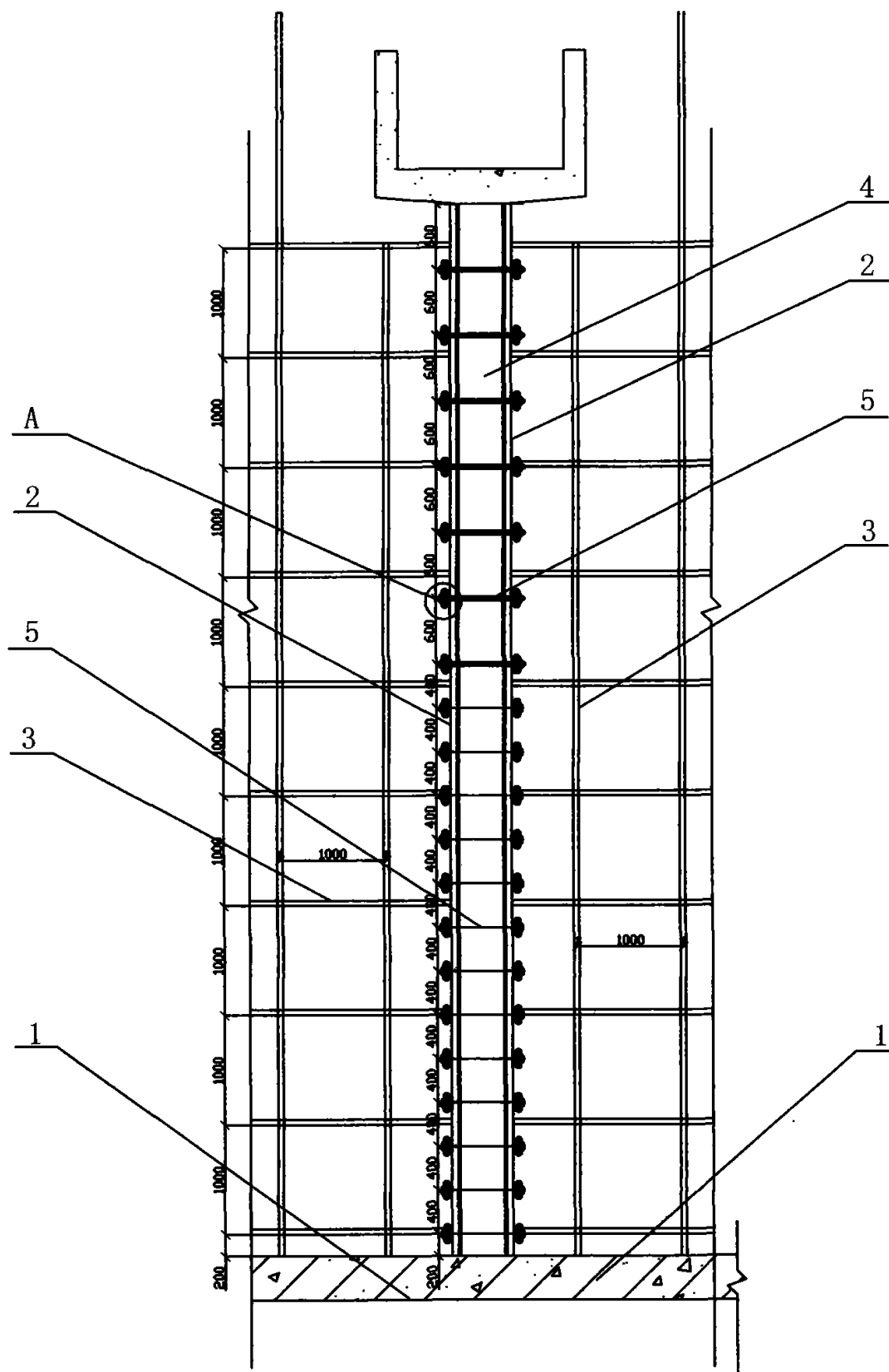
Family 9/19 - FAMPAT - ©Questel

Title

(CN201217642U)

Integral support mould structure of circular aeration tank

Images

**Publication data including kind & date**

CN201217642

Y

2009-04-08

CN201217642U

**Abstract**

(CN201217642U)

The utility model discloses an integral formwork support structure of an annular aeration tank, which belongs to the building technique field, and comprises a bottom plate poured and tamped by concrete, a formwork is arranged on the bottom plate, a supporting scaffold is disposed at both sides of the formwork, in order to control the tension of the formwork at both sides of the tank wall, wall bolts are adopted to reinforce the formwork at both sides of the tank wall, and the mounting means of

the wall bolts adopts horizontal up-and-down space of 400x400mm of screws under 6m; and horizontal up-and-down space of 600x600mm of screws above 6m, the bolts are fixed on the formwork at both ends thereof through a fixed pipe and a fixed plate, and the wall structure of the annular aeration tank formed by pouring and tamping has the greatly improved firmness by adopting the integral formwork support structure of the annular aeration tank, and the safety of the integral construction work is effectively guaranteed.

Inventors

WU YAOQING

XU LAISHUN

FU GUOJUN

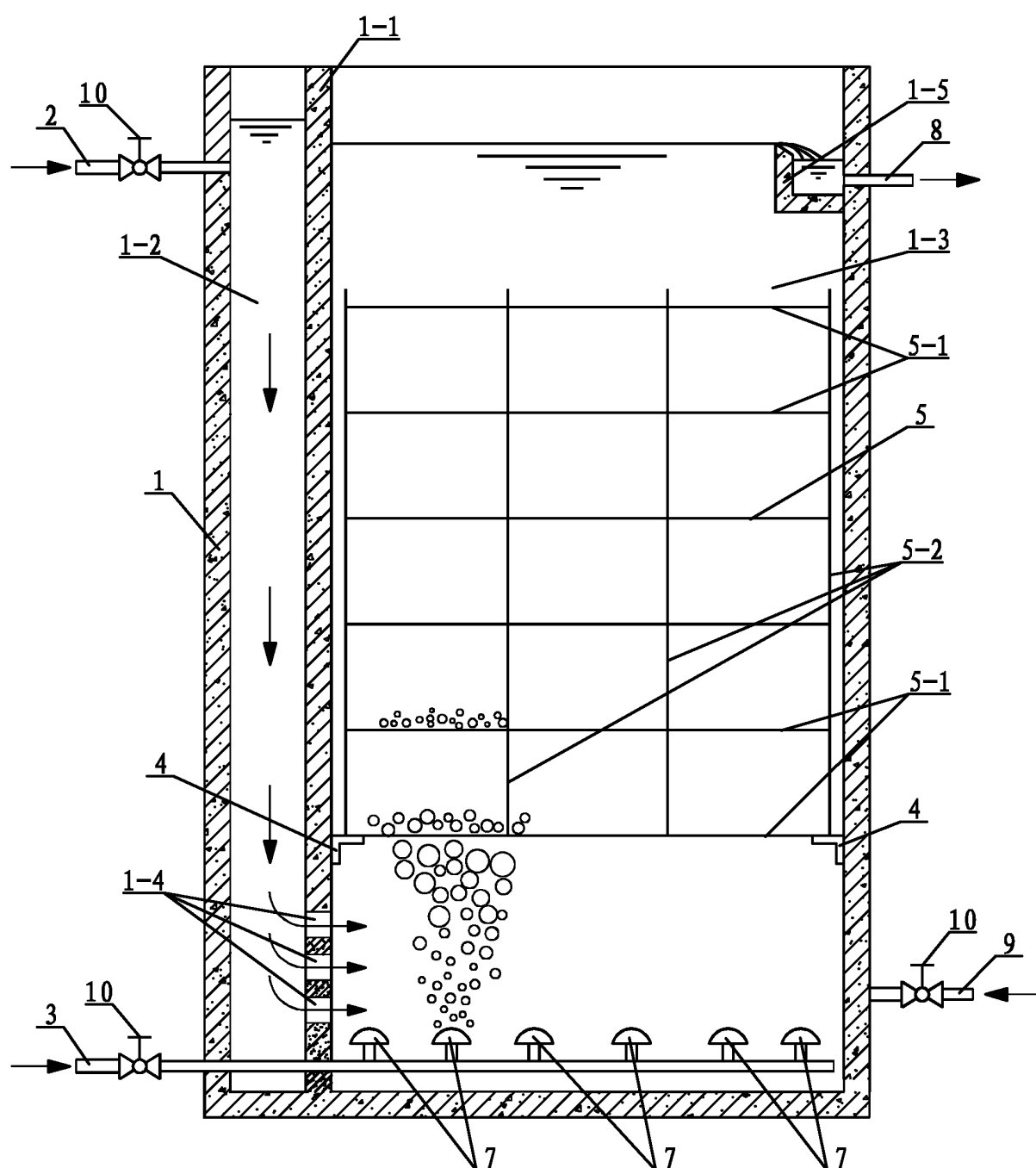
Family 10/19 - FAMPAT - ©Questel

Title

(CN201882972U)

Grid type aeration tank

Images



Publication data including kind & date

CN201882972

U 2011-06-29 CN201882972U



Abstract

(CN201882972U)

The utility model discloses a grid type aeration tank which relates to a **sewage** treatment unit, aiming at solving the problems of low utilization rate of activated **sludge** to dissolved oxygen, and high aeration energy consumption in running as grids are not arranged in a main reaction area of the existing aeration tank. A water inlet pipe of the grid type aeration tank is arranged at the upper end of a tank body and is communicated with a water distribution chamber, multiple layers of grids are parallel to on another and are arranged horizontally, a water grating component is arranged on a support, an air inlet pipe is arranged in a biochemical chamber and is positioned at the bottom of the biochemical chamber, a plurality of branching pipes are uniformly distributed at two sides of an air inlet pipe, each branching pipe is arranged vertical to the air inlet pipe, the branching pipes are all communicated with the air inlet pipe, each branching pipe is provided with at least two aeration heads; an area in the biochemical chamber, below the water grating component, is a water distribution area; an area occupied by the water grating component is an aeration main reaction area; an area in the biochemical chamber, above the water grating component, is a clear water area; an **effluent** weir is arranged at the clear water area in the biochemical chamber, and a liquid outlet pipe is arranged on a tank body wall corresponding to the **effluent** weir. The grid type aeration tank is used for the **sewage** treatment.

Inventors

AI HENGYU

MA YANHUA

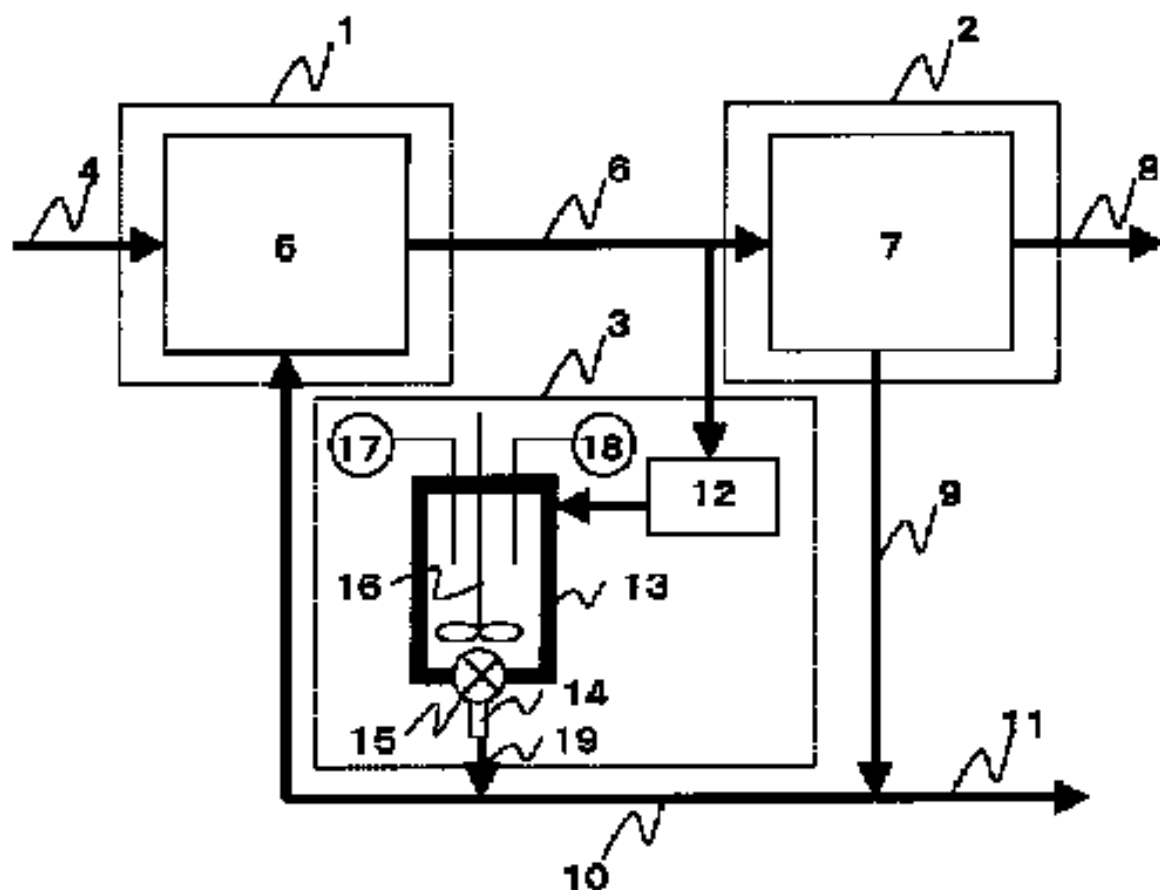
Family 11/19 - FAMPAT - ©Questel

Title

(JP2000354886)

Method and apparatus for treating organic wastewater

Images



Publication data including kind & date

JP2000354886

A

2000-12-26

JP2000354886



Abstract

(JP2000354886)

PROBLEM TO BE SOLVED: To economically reduce the generation amt. of excessive **sludge** at a time of the purification of org. wastewater by **biological** treatment. **SOLUTION:** In a treatment method of org. wastewater wherein org. wastewater 4 is **biologically** treated in a **biological** treatment tank 5 and the treated liquid 6 is subjected to solid-liquid separation treatment to discharge separated water as treated water 8 while returning separated **sludge** 9 to the **biological** treatment tank 5, a part or whole of the **sludge** from the **biological** treatment tank 5 is supplied to a heating container 13 to be heated for a stagnation time of 30 sea-20 min at 80-250 deg.C and the **sludge** in a pressurized state is discharged out of the

heating container 13 to be crushed before returned to the **biological** treatment tank 5.

Inventors

YAMADA KENJI

NAWA YOSHIHARU

IDE MIKIO

UENISHI AKIRA

Family 12/19 - FAMPAT - ©Questel

Title

(CN201932951U)

Novel lifting aerator

Publication data including kind & date[CN201932951](#)

U

2011-08-17

CN201932951U

**Abstract**

(CN201932951U)

The utility model relates to a novel lifting aerator, which comprises an aerator, a main air supply pipe, a plurality of branch air supply pipes and a fixing frame. The main air supply pipe is arranged on one side of the fixing frame which is positioned above a separating pool, the branch air supply pipes are parallel and arranged on the fixing frame, one ends of the branch air supply pipes are respectively communicated with the main air supply pipe, and a plurality of aerators are arranged inside the separating pool below the branch air supply pipes. Each aerator comprises two groups of microporous aerator pipes, a galvanized **steel pipe** and a flow dividing valve, an air inlet at the upper end of the flow dividing valve is communicated with the branch air supply pipes through the galvanized **steel pipe**, and two groups of the microporous aerator pipes are respectively transversely **connected** to dividing ports on two sides of the flow dividing valve. The novel lifting aerator is simple in structure, low in complication level of installation and maintenance and low in production cost. The problem of the aerator pipes can be easily found and the aerator pipes are convenient in replacement. Furthermore, the novel lifting aerator is wide in application range, is suitable for process with fillers or without fillers such as creature contacting oxidation process, activated **sludge** process and the like.

Inventors

CHEN HANGFEI

CHEN SHOUBING

YAO HUANGLI

HE CAICHANG

WANG YONG

CHEN JIE

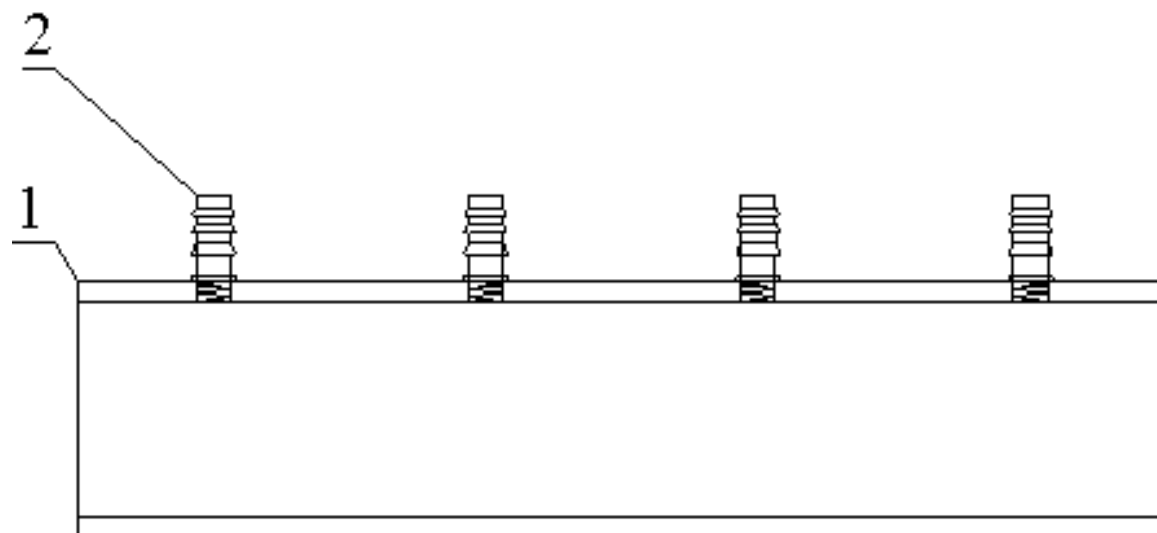
Family 13/19 - FAMPAT - ©Questel

Title

(CN202610011U)

Stainless steel water collecting pipe

Images

**Publication data including kind & date**[CN202610011](#)

U

2012-12-19

CN202610011U

**Abstract**

(CN202610011U)

The utility model discloses a stainless steel water collecting pipe, which comprises a water collecting pipe provided with a group of water collecting nozzles equidistantly distributed thereon. The stainless steel water collecting pipe disclosed by the utility model is simple in structure, large in water flow quantity, uniform in water distribution and not liable to fall off.

Inventors

SHAO MEISHENG

CHANG JIANG

SUN YUPING

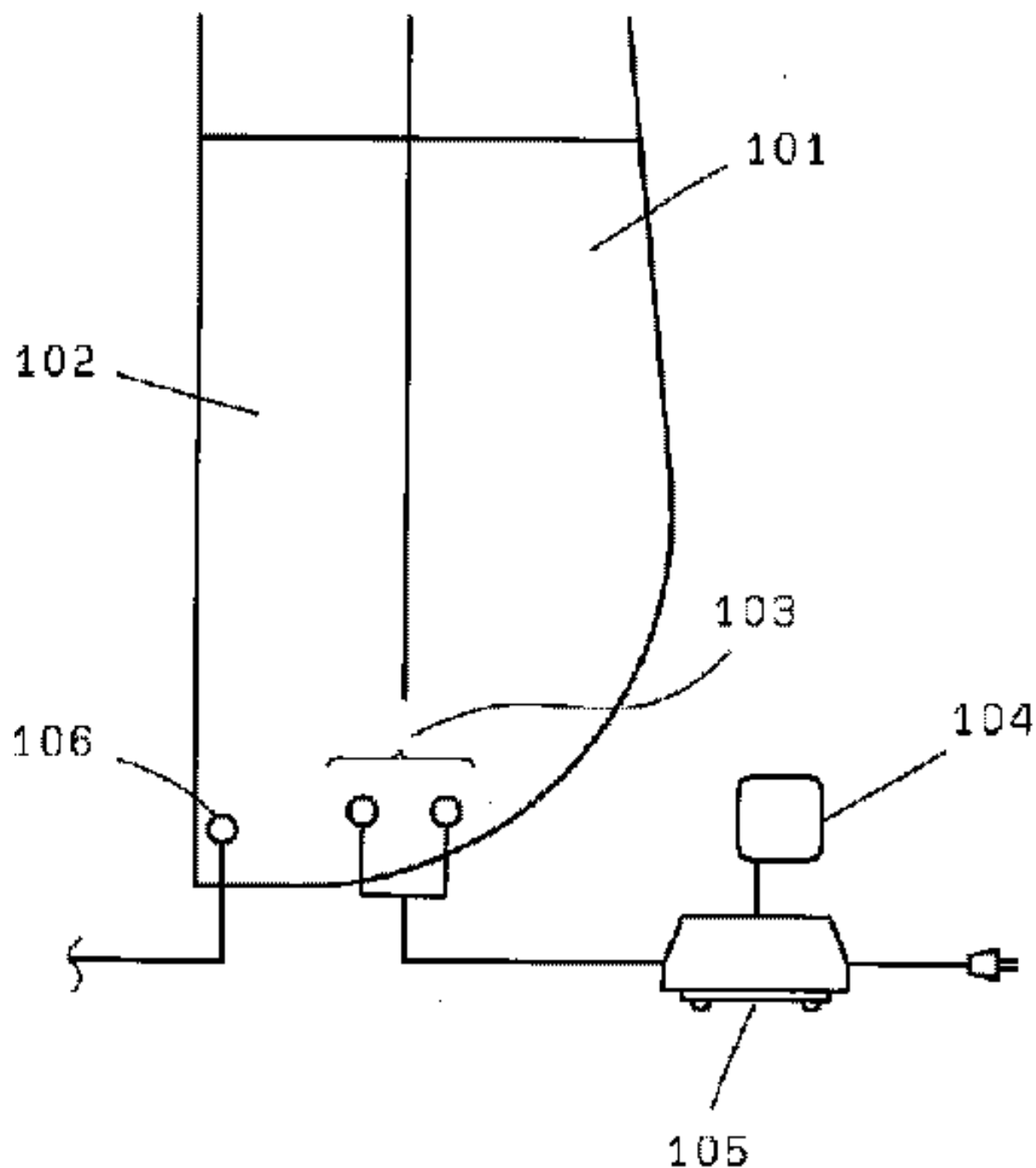
Family 14/19 - FAMPAT - ©Questel

Title

(JP2002239571)

Slot type sedimentation tank

Images

**Publication data including kind & date**[JP2002239571](#)

A 2002-08-27 JP2002239571

**Abstract**

(JP2002239571)

PROBLEM TO BE SOLVED: To provide a slot type sedimentation tank the supernatant of which is not contaminated with slurry even if the slurry concentration of an aeration tank becomes 3000 mg/L or more. **SOLUTION:** In a case of the slurry concentration in the aeration tank being 3000 mg/L or more, the slot type sedimentation tank has such a structure that said aeration tank is **connected** with the lower part of the sedimentation tank via a communication port, the water in the aeration tank is moved to the sedimentation tank by pushing out with the influent of a drained water to the aeration tank and the sedimentation slurry is simultaneously fed back to the aeration tank by an advective stream while allowing the supernatant

in the sedimentation tank to flow out by means of overflowing. Further an air diffusing tube that conducts the air diffusion to the sedimentation tank and another diffusing tube that conducts the air diffusion to the aeration tank are fitted respectively to a slot part under a partition board defining the sedimentation tank and the aeration tank. Thus, the slot type sedimentation tank conducts a sedimentation work and removes a deposition of the slurry in the slot part by diffusing an air intermittently.

Inventors

YAMANE TOSHIO

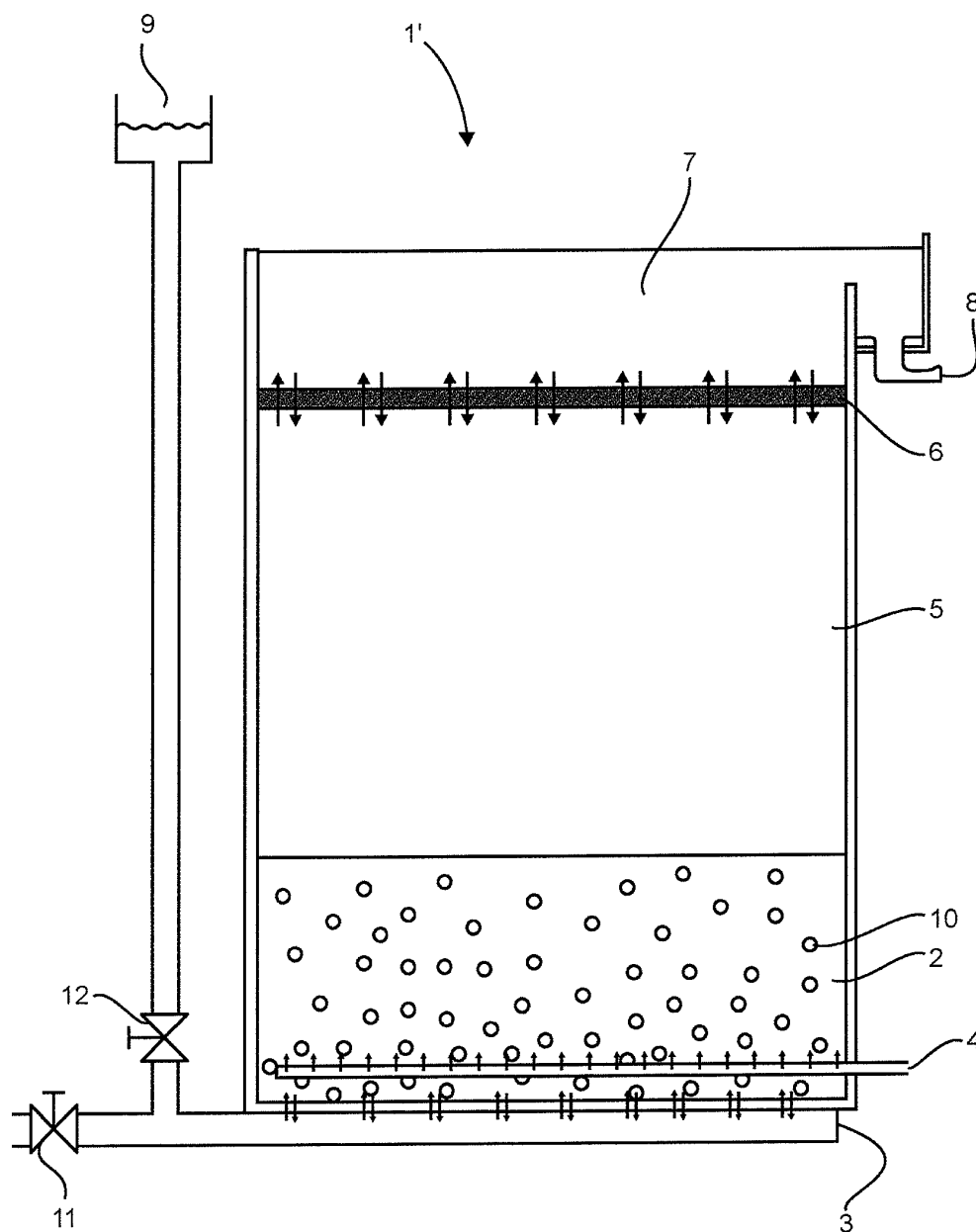
Family 15/19 - FAMPAT - ©Questel

Title

(EP2712355)

Improved **biological** waste water purification reactor and method

Images



Publication data including kind & date

EP2508488	A1	2012-10-10	EP2508488
CA2815778	A1	2012-10-11	CA2815778



WO2012136654	A1	2012-10-11	WO2012136654				
AU2012238719	A1	2013-10-31	AU2012238719				
MX2013011328	A	2013-11-01	MX2013011328				
AR085937	A1	2013-11-06	AR--85937				
CN103547535	A	2014-01-29	CN103547535				
KR20140022049	A	2014-02-21	KR20140022049				
US20140083941	A1	2014-03-27	US20140083941				
EP2712355	A1	2014-04-02	EP2712355				
JP2014509940	A	2014-04-24	JP2014509940				
RU2013148772	A	2015-05-10	RU2013148772				
EP2508488	B1	2015-06-10	EP2508488				
DK2508488	T3	2015-09-14	DK2508488T				
ES2546763	T3	2015-09-28	ES2546763				
PT2508488	E	2015-10-12	PT2508488				
EP2712355	B1	2016-09-14	EP2712355				
JP6038119	B2	2016-12-07	JP6038119				
CN103547535	B	2016-12-07	CN103547535B				
DK2712355	T3	2017-01-09	DK2712355T				
RU2606435	C2	2017-01-10	RU2606435				
PT2712355	T	2017-01-23	PT2712355T				
AU2012238719	B2	2017-02-16	AU2012238719				
MX346250	B	2017-03-13	MX-346250				
ES2610965	T3	2017-05-04	ES2610965				
BR112013025756	A1	2018-04-10	BR112013025756				
BR112013025756	A2	2018-04-24	BR112013025756				

Abstract

(EP2712355)

A **biological** purification reactor and process, wherein the water to be treated and oxygenated gas are sent in ascending co-currents in the same reactor comprising as a **biological** filtering material a packed bed and a volume of movable, hollow carriers having a protected surface area for growth of the microbial film. The purifying reactor (1) comprises a space for expansion and removal of **sludge** (2), a gas injection system (4), a fluid injection system (3), a **biological** filter comprising a packed bed (5) of particles retained in a lower part of said reactor by a perforated retention ceiling (6) against upward movement, and a volume of movable particles (10) located within the said space for expansion and removal of **sludge** (2). The movable particles have a higher density than the packed bed particles. The purifying method further comprises periodical back washing steps.

Inventors

LE TALLEC XAVIER

LINDEGAARD MORTEN

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Title

(EP-555743)

Loop reactor for **biological** purification of polluted water.

Images

AT126500

T 1995-09-15 ATE126500

DE59300467

D1 1995-09-21 DE59300467

**Abstract**

(EP-555743)

A loop reactor (1) for the **biological** purification of polluted water is composed of a closed cylindrical vessel (2) in which there is arranged concentrically a flow guide pipe (5) into which liquid can flow at the bottom and which can overflow at the top. Both the vessel (2) and the flow guide pipe (5) are composed of prefabricated reinforced concrete pipes of a uniform diameter in each case, which prefabricated pipes are **connected** together pressure-tightly at the ends with the insertion of joint seals. Both the vessel (2) and the flow guide pipe (5) rest on a shared foundation (3) and are covered by a lid (4). This loop reactor is suitable for temporary use for purification of soils or water on-site; it can be dismantled after completion of the work. <IMAGE>

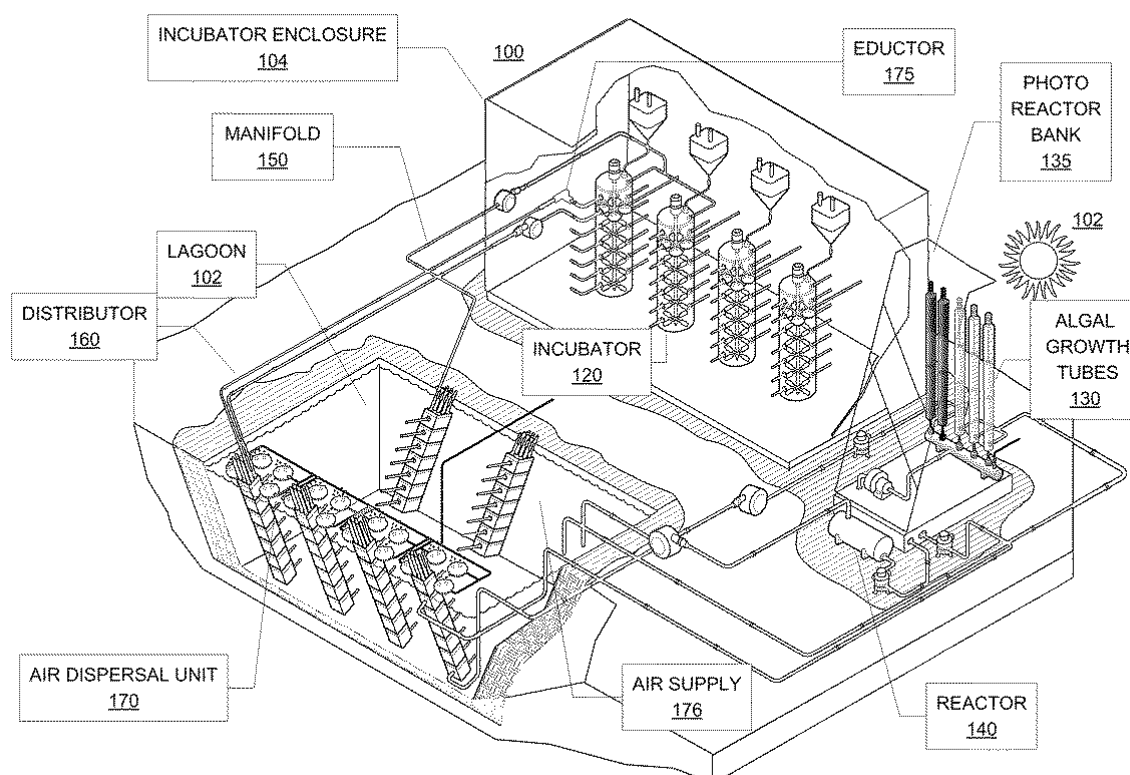
Inventors

VERZICHT DES ERFINDERS AUF NENNUNG

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Title

(EP2362858)

Method of remediating an **effluent** containing livestock waste using a stratified lagoon**Images****Publication data including kind & date**

WO2010042330

A2 2010-04-15 WO201042330

CA2739729

A1 2010-04-15 CA2739729

AU2009302686

A1 2010-04-15 AU2009302686

US20100089822

A1 2010-04-15 US20100089822

WO2010042330

A3 2010-07-01 WO201042330

US7879236

B2 2011-02-01 US7879236

EP2362858

A2 2011-09-07 EP2362858



MX2011003827	A	2011-10-03	MX2011003827				
CN102216228	A	2011-10-12	CN102216228				
IN2495/CHENP/2011	A	2012-03-02	IN2011CN02495				
NZ592206	A	2012-08-31	NZ-592206				
EP2362858	A4	2012-12-26	EP2362858				
UA100596	C2	2013-01-10	UA-100596				
CN102216228	B	2013-10-09	CN102216228B				
AU2009302686	B2	2014-08-28	AU2009302686				
CA2739729	C	2015-04-28	CA2739729				
EP2362858	B1	2015-07-08	EP2362858				
BRPI0914027	A2	2015-11-17	BR200914027				

Abstract

(EP2362858)

A lagoon of **effluent** is established, comprising a set of sub-portions at different levels in the lagoon associated with a corresponding set of concentrations of dissolved oxygen, each sub-portion of the lagoon having a different concentration of dissolved oxygen. An incubator comprising a set of sub-portions associated with said set of concentrations of dissolved oxygen is established, each sub-portion of the incubator having a different concentration of dissolved oxygen. A volume of **effluent** from each sub-portion of the lagoon is transmitted to a corresponding sub-portion of an incubator having a substantially similar concentration of dissolved oxygen as said sub-portion of the lagoon. A first remediated volume of **effluent** is generated in said corresponding sub-portion of the incubator responsive to proliferating a first microorganism which uses a first compound in said volume of **effluent** as substrate for growth, the first microorganism enabling a first chemical reaction which alters the first compound.

Inventors

TERRY MARK

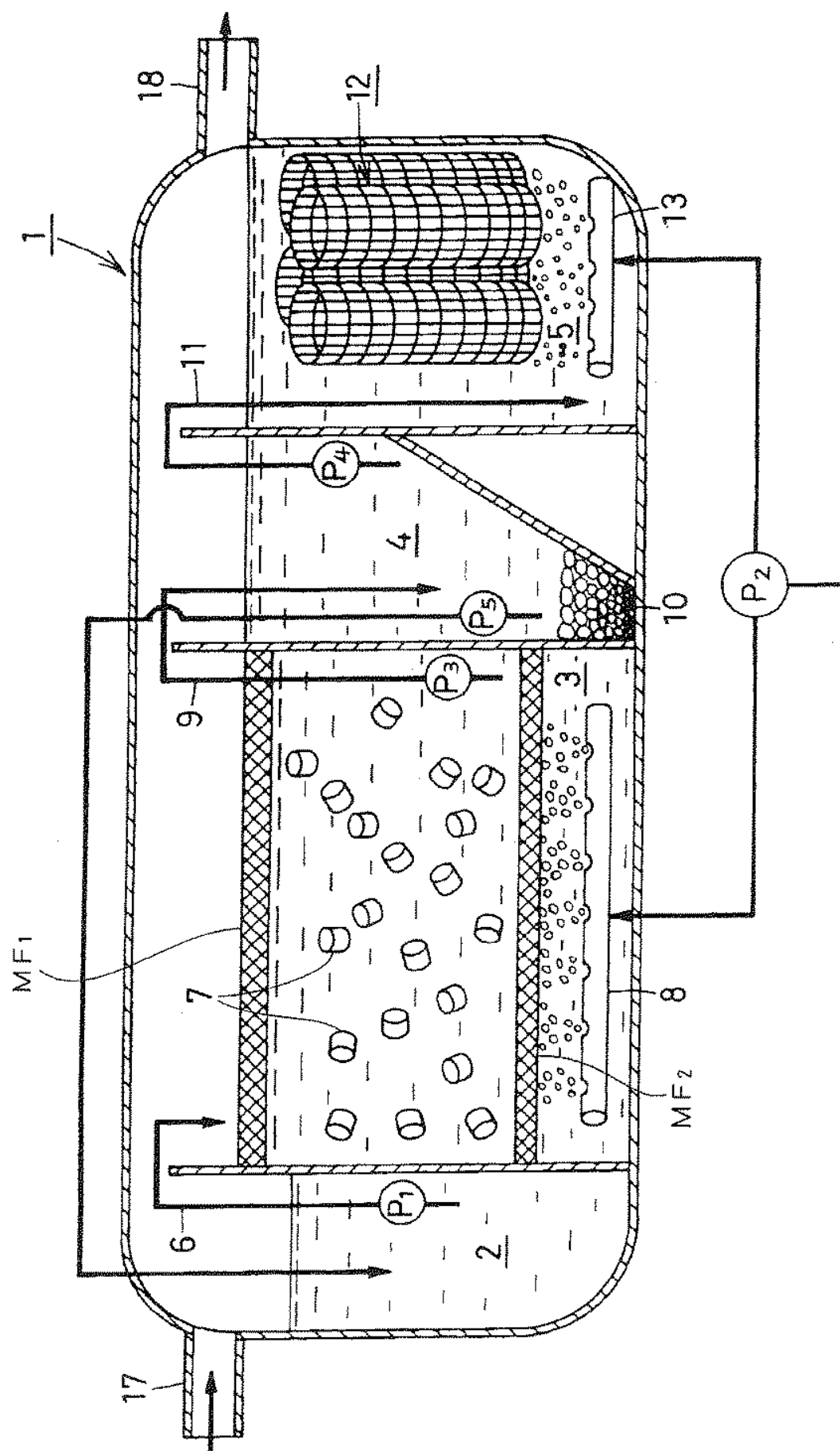
Family 18/19 - FAMPAT - ©Questel

Title

(JP2007000831)

Organic wastewater treatment method and apparatus

Images



Publication data including kind & date

[JP2007000831](#)

A 2007-01-11 JP2007000831



Abstract

(JP2007000831)

PROBLEM TO BE SOLVED: To provide a method for reducing pH, BOD, COD, SS, T-N, T-P in organic wastewater containing milking parlor wastewater to or to below the standard values prescribed by the Water Pollution Control Law with little generation of surplus **sludge** and offensive odors by **biological** treatment allowing easy maintenance.

SOLUTION: In a closed container 1, a first settling tank 2, a first contact oxidation tank 3, a second settling tank 4, and a second contact oxidation tank 5 are arranged so that their upper parts are communicated. Polymeric substances in the milking parlor wastewater from which solid contaminants have been removed are converted into low-molecular weight substances by a facultative anaerobic microorganism group in the first settling tank. Aeration with oxygen-enriched air is performed in the first contact oxidation tank to oxidize and decompose organic substances by an immobilized aerobic microorganism group adhering to PP. Liquid contaminants are concentrated by gravity settling in the second settling tank to separate the wastewater into **sludge** and a supernatant liquid. The organic wastewater is aerated in the second contact oxidation tank to oxidize and decompose the organic substances to water and carbon dioxide gas by an immobilized aerobic microorganism group adhering to activated carbon sticking to a three-dimensional structure. Hardly decomposable compounds which cannot be oxidized and decomposed by the aerobic microorganism group are adsorbed by porous carriers to be purified.

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Inventors

INOYA MASARU

SATO TAKANOBU

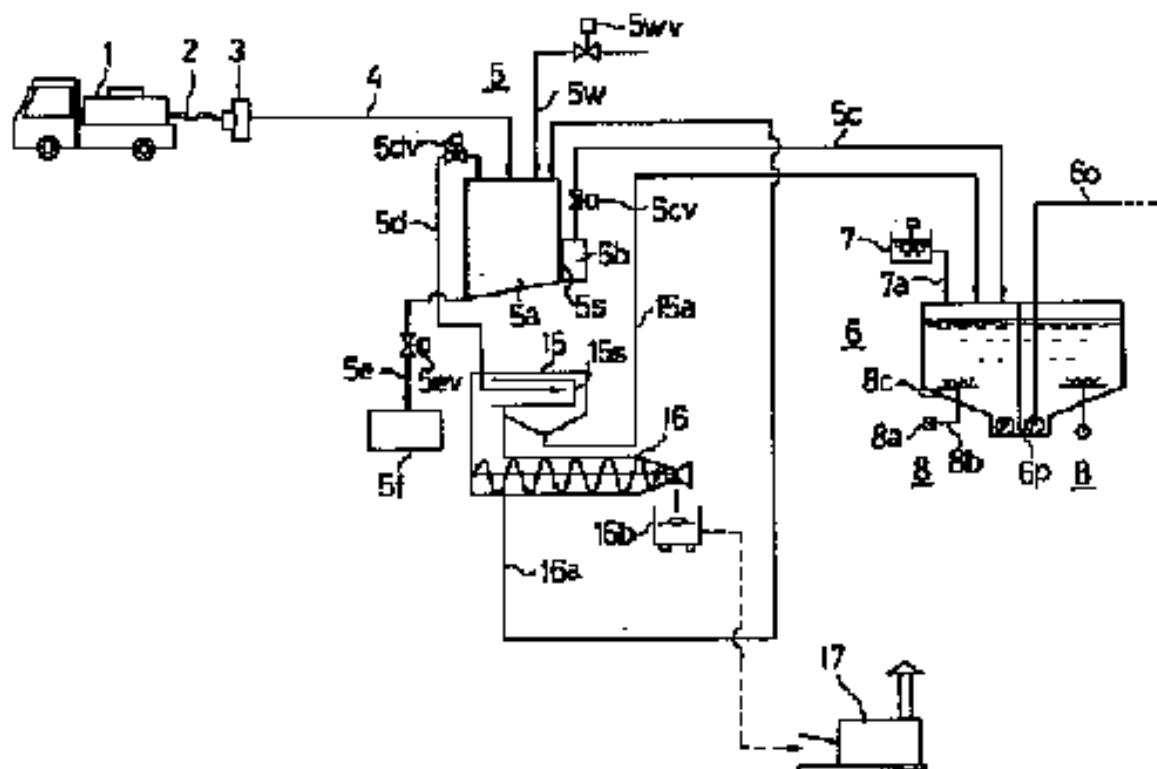
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Title

(JP11116368)

Treatment of organic material-containing waste liquor and apparatus therefor

Images



Publication data including kind & date

JPH11116368	A	1999-04-27	JP11116368
KR19990036792	A	1999-05-25	KR19990036792
TW513386	B	2002-12-11	TW-513386



Abstract

(JP11116368)

PROBLEM TO BE SOLVED: To provide a method for treating an organic material-containing waste liquor such as excrement capable of providing a compost or a liquid fertilizer of good quality by which removal or posttreating operations of a low-specific gravity coarse solid materials such as a rubber or a plastic floating on the liquid surface such as the excrement in a preparation tank by a hand are not required to prevent the unfermentable coarse solid materials from mixing

in a compost material or inorganic fine solid materials from mixing in a liquid fertilizer and an apparatus for treating the organic material-containing waste liquor. SOLUTION: Low-specific gravity coarse solid materials such as a rubber or a vinyl resin and high-specific gravity coarse solid materials such as metallic pieces or gravel are respectively made to be separated and recovered from an organic material-containing waste liquor such as excrement in the first solid-liquid separating step and device 5 and fine organic fibers which are not separated in the first solid-liquid separating step and device 5 are respectively made to be separated and recovered in the second solid-liquid separating step and device. Furthermore, posttreatment such as solid-liquid separation and dehydration and incineration treatment or the dehydration and composting treatment can separately and mechanically be carried out. The opening size or slit size of respective screens in the solid-liquid separating devices are numerically limited within the optimal ranges to perform the efficient solid-liquid separation with slight mutual mixing in of the solid and liquid materials.

Inventors

OCHI AKIHIRO

HARA TARO