



New connection on: : 16-05-2018 : 21:42:18 - Last disconnection on: : 16-05-2018 : 19:57:20

V 4.0.0.44358(LP,U,linux) (Rev:43856 2017-04-27 09:03:29 +0200#(D201802)) (RPM D201802)

Welcome to EPOQUE Rebuild under the Production Environment

[EPODOC: SS 13] ..fi EPODOC

 Database: EPODOC

[EPODOC: SS 13] (sewer AND cover) AND (theft OR safe+) AND (pin OR lever OR handle) AND ("L" AND shape)

Results in EPODOC 0

[SS 14] "L" AND shape

Results in EPODOC 70.314

[SS 15] (sewer AND cover) AND (theft OR safe+) AND (pin OR lever OR handle)

Results in EPODOC 52

[SS 16] (sewer AND cover) AND (theft OR safe+) AND (pin OR lever OR handle) AND ("L" AND shape) AND "L"

Results in EPODOC 0

[SS 17] (sewer AND cover) AND (theft OR safe+) AND (pin OR lever OR handle) AND "L"

Results in EPODOC 1

[SS 18] ..v

[EPODOC: SS 18] (sewer AND cover) AND (theft OR safe+) AND (pin OR lever OR hand+ OR toggle)

Results in EPODOC 58

[SS 19] ..v



1/58 © EPODOC / EPO

- PN - [CN206902901U](#) U 20180119
- PR - CN20172792328U 20170703
- AP - CN20172792328U 20170703
- DT - I
- PA - YANGZHOU JINYANGGUANG CASTING CO LTD
- TI - Easy -to -use type **sewer cover** plate prevents burglary
- AB - The utility model discloses an easy -to -use type **sewer cover** plate prevents burglary, including **sewer cover** plate shell body, fixing bearing and fixed apron, the bottom of **sewer cover** plate shell body is provided with shell body top dead **lever**, the top of shell body top dead **lever** is provided with the apron support frame, the top of apron support frame is provided with and moves down moving gatecheck apron, the top that moves down moving gate check apron is provided with center post, design portable apron with current **sewer cover** plate, be provided with the rotation pulley in the below, whenpedestrian's article drop in the **sewer**, the pedestrian can directly pull open **sewer cover** plate take out article can, simple and convenient to be provided with on **sewer cover** plate and rotate pulleyresistance groove and fix the apron, can on the **sewer cover** plate support frame, can do not not stolen at will by illegal personnel, thereby reach convenience simple to use, **safe** purpose of preventingburglary moving the restriction of moving gate check apron.

2/58 © EPODOC / EPO

- PN - [CN206767919U](#) U 20171219
- PR - CN20172478899U 20170502
- AP - CN20172478899U 20170502
- DT - I
- PA - BEIJING TOIJET TECH CO LTD
- TI - Formula dung dewatering machine in bags
- AB - The utility model relates to a formula dung dewatering machine in bags, including **sewer** line, nonrust steel **cover** board, quick -witted case, filter vat, motor, control system, **sewer** line connects the top opening of blowdown mouth, **sewer** line lower extreme junctor case, the filter vat is installed to the machine incasement, and filter vat upper end opening was equipped with the filter bag in the filter vat, filter vat bottom mounting flange, the bottom of machine case one end is equipped with the motor cabinet, is fixed with the motor on the motor cabinet, and motor output shaft connects pivot, shaft ends fixed connection flange, the bottom intercommunication sewage collecting vat of the machine case other end, the motor passes through cable connection control system. The utility model discloses simple efficient **handling** of excrement and urine need not the septic tank, need not the pipe network and connects, crosses the filter bag and changes the convenience, and the solid -state thing moisture content of isolating is low, and the transportation of being convenient for is **handled**, easily clears up and **safeguards** that the environmental protection is harmless to ecological environment.

3/58 © EPODOC / EPO

PN - [CN106869176](#) A 20170620
PR - CN20151911185 20151210
AP - CN20151911185 20151210
DT - I
CNOI - [E02D29/1481](#)
PA - AIHUASHENG
TI - Anti-**theft sewer cover**
AB - The invention relates to equipment for a city underground pipe network, in particular to an anti-**theft sewer cover**. According to the design of the anti-**theft sewer cover**, a high-voltage electric shock device and an alarm device are arranged on the bottom face of the **sewer cover**, and a keyset is arranged at the joint of the edge of the **sewer cover** and a **sewer** and is powered by a damp-proof battery. When lawless persons pry off the **sewer cover**, the high-voltage electric shock device and the alarm device are connected through the keyset, on the one **hand**, the lawless persons are electrically shocked, and on the other **hand**, an alarm is given out. The anti-**theft sewer cover** has the beneficial effects of being simple in structure and low in cost.

4/58 © EPODOC / EPO

PN - [CN206189466U](#) U 20170524
PR - CN20162946166U 20160817
AP - CN20162946166U 20160817
DT - I
PA - LIU LIPING
TI - From locking -type **sewer** well lid
AB - The utility model discloses a from locking -type **sewer** well lid, including the lid, be equipped with criss -cross through -hole in the lid, still be equipped with the cavity in the lid, the through -hole passes the cavity setting, be equipped with from the locking **lever** in the through -hole, from the one end setting of locking **lever** in the cavity, be equipped with self -locking spring between tip from the locking **lever** and cavity, still be equipped with transverse strut on the locking **lever**, be equipped with in the cavity and stir the ball, the motor end cap comprises a **cover** body, stir the center of ball and rotate the setting in the cavity through the pivot, transverse strut sets up with the pivot across, it stirs the hole with the cavity is linked together to be equipped with at the top surface of lid, surface stirring the ball is equipped with rod inserting hole. The utility model has the advantages of simple structure, convenient to use is swift, and auto -lock that can effectual completion lid when using is at the **sewer** well head to being equipped with from the locking **lever**, can effectually improving the compressive property of lid and the performance of guarding against **theft**, the suitability is good, and the practicality is strong.

5/58 © EPODOC / EPO

PN - [CN206090629U](#) U 20170412
PR - CN20162933254U 20160825

AP - CN20162933254U 20160825

DT - I

PA - ZHENG BORUI

TI - **Sewer** well lid that municipal administration was used

AB - The utility model discloses a **sewer** well lid that municipal administration was used, including base, upper **cover**, connecting seat and electronic box, install the gusset on the base, the base side -mounting has the connecting seat, install on the connecting seat the upper **cover**, the upper **cover** surface is provided with the signal lamp, the signal lamp next door is provided with the **handle**, the upper **cover** below is provided with the electronic box, the electronic box next door is provided with the buckler, the inside battery case that is provided with of electronic box, the battery case next door is provided with the electron chip, electron chip next door is provided with wireless transmitter, the wireless transmitter next door is provided with answers the force sensor ware, answer force sensor ware next door to be provided with the wire. Beneficial effect lies in: the utility model discloses bearing capacity that can the real - time supervision well lid makes things convenient for maintenance person person in time to change the well lid, avoids causing the traffic accident, improves factor of **safety**.

6/58 © EPODOC / EPO

PN - [CN205990657U](#) U 20170301

PR - CN20162664992U 20160624

AP - CN20162664992U 20160624

DT - I

PA - SONG WEI

TI - Adjustable offal road junction protector

AB - The utility model relates to an adjustable offal road junction protector, it includes, protective column, fixed lid, fixed station, telescopic link, dead **lever**, protective column is middle cylindric for the hollow, and fix and **cover** the one end that sets up at protective column, the centre of a circle position of fixed lid is provided with the fixed station, be provided with the telescopic link on the fixed station, the top of telescopic link is provided with the dead **lever** perpendicularly, the utility model discloses the length that can adjust the telescopic link makes three telescopic link can block the edge at offal road junction, because the diameter of fixed lid is greater than the offal road junction, fixed lid can be put on the offal road junction, and columniform protective column can stop the potential **safety** hazard that people fell into the offal road junction in can preventing that people from falling into the **sewer**.

7/58 © EPODOC / EPO

PN - [CN205677064U](#) U 20161109

PR - CN20162615873U 20160615

AP - CN20162615873U 20160615

DT - I

PA - CHEN ZHENWEI

TI - Ware is extracted to pipeline

AB - The utility model discloses a ware is extracted to pipeline, including mobile jib, rocking **handle** and flexible wire rope, the mobile jib adopts the telescopic link, and the rocking **handle** is installed in the one end of mobile jib and the flexible wire rope winding on the rocking **handle**, is provided with locking means on the rocking **handle**, and the other end of mobile jib is provided with the aperture, and flexible wire rope passes the aperture and forms steel wire winding **cover**. The device simple structure, reasonable in design, low in production cost, the fault rate is low, and the **safety** in utilization is good, the device's mobile jib adopts the telescopic link, and people can adjust the length of mobile jib according to actual conditions, is applicable to different long pipeline or **sewer**, thereby can also reduce the mobile jib shrink the device's area when people do not use, the device easy operation is convenient, only need sway the size that the steel wire sleeve circle can be controlled to the rocking **handle**, is applicable to and extracts the not debris or the plastic bottle of equidimension, excellent in use effect.

8/58 © EPODOC / EPO

PN - [CN205014376U](#) U 20160203

PR - CN20152789488U 20151014

AP - CN20152789488U 20151014

DT - I

PA - HUNAN HOUHUA ENVIRONMENTAL TECHNOLOGY CO LTD

TI - Flue gas treatment device

AB - The utility model provides a flue gas treatment device, a serial communication port, including burning burning furnace, a flue gas process chamber, secondary flue gas process chamber, change the cigarette ware, including a motor, an end cap, a controller, and a **cover** plate, fan and the pipeline of connecting each part, it passes through the blast pipe and is connected with a flue gas process chamber to burn burning furnace, a flue gas process chamber passes through the ventilation pipe and is connected with the fan, the fan passes through the ventilation pipe and is connected with secondary flue gas process chamber, it is connected with external with the drain pipe to be equipped with the blast pipe on the secondary flue gas process chamber, of being equipped with cigarette ware in the secondary flue gas process chamber, it is connected with the motor to change the cigarette ware, all be equipped with spray set in flue gas process chamber and the secondary flue gas process chamber, spray set and water piping connection. Above -mentioned all parts of flue gas treatment device can use whole case and bag to adorn, and amortization, **safety** have also avoided direct and external contact to lead to the fact the damage of equipment, and only a small amount of sewage enters the **sewer** in the whole processing procedure, and is less to the pollution of all ring edge borders, and the flue gas after burning is **handled** the back through the recycle and is discharged, can not lead to the fact the pollution to big flag.

9/58 © EPODOC / EPO

PN - [CN105275078](#) A 20160127

PR - CN20141265080 20140616

AP - CN20141265080 20140616

DT - I

PA - LI YAN

TI - **Sewer** well

AB - The invention relates to the municipal facility field, and especially discloses a **sewer** well comprising a well **cover** and a well wall; the well wall is provided with a plurality of splay projection grooves uniformly arranged along the periphery of the well wall; the top of the protrusion groove is sealed, and the bottom is an opening; a rotary rod penetrates the center of the well **cover**, and the top of the rotary rod is provided with a rotary **handle**; the rotary **handle** is arranged on the top surface of the well **cover**; the bottom of the rotary rod is provided with a plurality of rotary wings, and the rotary wings and the protrusion grooves are equal in quantity; the rotary wing is lower than the bottom of the protrusion groove; the top edge of the well wall is provided with a lighting device; the **sewer** well can prevent the well **cover** from being flushed away, and can warn passengers to pay attention on **safety**.

10/58 © EPODOC / EPO

PN - [CN204510272U](#) U 20150729

PR - CN2015230411U 20150116

AP - CN2015230411U 20150116

DT - I

PA - QUZHOU XUYANG NEW MATERIAL TECHNOLOGY CO LTD

TI - Novel steel fibre well lid

AB - The utility model discloses a novel steel fibre well lid, including well lid main part and runner band, the well lid main part is the steel fibre well lid, in the well lid main part is provided with sealing washer, drainage inner circle and pull **handle**, the drainage inner circle is located the middle part of well lid main part, circle in the drainage is provided with drainage lid and filter screen, on the pull **handle** is provided with the **handle**, the side of runner band is provided with the reflector layer, the novel steel fibre well lid simple structure, the drainage is good, effectively improves the displacement, prevents the surface gathered water, and leakproofness and filterability are good, have the function of filtering debris, can prevent that debris from entering the **sewer**, and the well lid is convenient for pry open not having the area sled **cover** under the condition of instrument the can also by convenient to use, and the security is strong, can provide passerby and driving, improvement road **safety** at light beam under the condition that the well lid is thrown.

11/58 © EPODOC / EPO

PN - [CN204456409U](#) U 20150708

PR - CN2015242893U 20150121

AP - CN2015242893U 20150121

DT - I

PA - LIU YIXIAO; LIU YILI

TI - Manually-controlled opening and closing type catch basin **cover**

AB - The utility model provides a manually-controlled opening and closing type catch basin **cover**. The manually-controlled opening and closing type catch basin **cover** comprises a main **cover** body, wherein the main **cover** body comprises a top **cover** and

a **cover** ring; a supporting rod is fixedly arranged at the side edge of the bottom surface of the top **cover**; a supporting arm is fixedly arranged on the side surface of the **cover** ring and movably connected with the supporting rod of the top **cover**; the supporting rod is sequentially connected with a first connecting rod, a **lever** mechanism, a second connecting rod and a pedaling plate; the second connecting rod, the **lever** mechanism, the first connecting rod and the supporting rod are controlled according to the **lever** principle, and then the top **cover** can be controlled to open and close; in case of large drainage, the pedaling plate is treaded to manually open the top **cover** to form a large water feeding channel, so that rainwater can be conveniently and timely drained, unsmooth draining can be avoided, a wellhead is prevented from being blocked by sundries, and pedestrians and vehicles can be prevented from falling down into the wellhead. The manually-controlled opening and closing type catch basin **cover** is simple in structure, convenient to operate and high in efficiency, the problems of draining of the city in rainy season and blocking of a **sewer** can be effectively solved, and thus the **safety** of going out can be improved.

12/58 © EPODOC / EPO

PN - [CN104389335](#) A 20150304

PR - CN20141609905 20141103

AP - CN20141609905 20141103

DT - I

CT - || STSE (A)

[CN202809723U](#) U 20130320 [X] (NANJING PPW CO LTD)

[X] 1-5

* 参见说明书具体实施方式及附图1 *;

[GB191021601](#) A 19110720 [A] (NEWTON EDGAR)

[A] 1-5

* 全文 *;

[CN204266313U](#) U 20150415 [R] (NANJING FANSKI IND CO LTD)

[R] 1-5

* 权利要求1-5 *;

[CN104110055](#) A 20141022 [A] (WENZHOU MUXIN SANITARY WARE DESIGN CO LTD)

[A] 1-5

* 全文 *;

[US3787905](#) A 19740129 [A] (CURZON J)

[A] 1-5

* 全文 *

CNOI - [E03C1/122](#)

PA - NANJING FANSKI IND CO LTD

TI - Novel **sewer** structure

AB - The invention discloses a novel **sewer** structure which is characterized by comprising a turning plate type flange (1), a locking **hand** wheel (2), a sealing pad (3), an upper connector (4), a tube body (5), a lower connector (6), a decoration **cover** (7) and a rubber plug (8). Considering the practical use operation and **safety**, the **sewer** structure is relatively attractive and integral, particularly, the cost is reduced, the situation of the prior art that multiple problems, for example, the assembling is not matched and the cost is relatively high, can be caused as components are respectively purchased and

assembled is mainly solved, and the effect of instant use is achieved as a **sewer** pipe is integrally combined with the turning plate type flange.

13/58 © EPODOC / EPO

- PN - [CN203846600U](#) U 20140924
- PR - CN20142286245U 20140602
- AP - CN20142286245U 20140602
- DT - I
- PA - LU YIFENG
- TI - Opening and closing device of **sewer cover**
- AB - The utility model provides an opening and closing device of a **sewer cover**. The opening and closing device comprises two frameworks, two **cover** bodies, at least one connection block, at least one pivot piece and at least one plug **pin**. The opening and closing device is structurally characterized in that one side of each framework is provided with a first hole, each framework is combined with one **cover** body, one side of each **cover** body is provided with a second hole corresponding to the corresponding first hole, the connection blocks are arranged between the two frameworks, the two side faces of each connection block are welded to two opposite sides of the frameworks respectively, the connection blocks are respectively provided with one pivot portion corresponding to the corresponding first hole, each pivot portion is provided with a clamping hole, each pivot piece sequentially penetrates through the corresponding first hole and the corresponding second hole, each pivot piece is provided with a pivot hole, and the plug pins penetrate through the clamping holes and the pivot holes respectively and are buried in the clamping holes. The opening and closing device is effectively anti-**theft** and brings convenience to constructors.

14/58 © EPODOC / EPO

- PN - [CN203821451U](#) U 20140910
- PR - CN20142187562U 20140417
- AP - CN20142187562U 20140417
- DT - I
- PA - UNIV GUANGXI
- TI - Inspection well **cover** with function of preventing drifting caused by anti-surge
- AB - The utility model discloses an inspection well **cover** with the function of preventing drifting caused by anti-surge. The inspection well **cover** comprises a well **cover** body (1) and a well **cover** base plate (4), wherein well **cover** ear clips (2) are arranged on the edge of the well **cover** body (1), ear clip open channels (6) and ear clip covered channels (8) which are matched with the well **cover** ear clips (2) in use are formed in the well **cover** base plate (4), and ear clip locking pieces (7) are mounted at the ear clip open channels (6) through locking piece **pin** shafts (5); the well **cover** ear clips (2), the ear clip open channels (6), the ear clip covered channels (8) and the ear clip locking pieces (7) are matched mutually to form a well **cover** buckling and locking mechanism. The inspection well **cover** has the advantages that the structure is simple, the manufacture is easy, and the **safety** and the reliability are good; meanwhile, the inspection well **cover** has the good function of preventing drifting caused by anti-surge, so that the inspection well **cover** has important significance on the improvement of the

municipal **sewer** belonging to municipal construction and the protection of people's life **safety**.

15/58 © EPODOC / EPO

- PN - [CN103586253](#) A 20140219
- PR - CN20121294410 20120815
- AP - CN20121294410 20120815
- DT - I
- CT - || STSE (A)
[CN2243339Y](#) Y 19961225 [A] (CHANGZHOU UNIVERSAL ELECTRONIC [CN])
[A]
[JPH10323576](#) A 19981208 [A] (SEKISUI CHEMICAL CO LTD)
[A]
[CN1257756](#) A 20000628 [X] (WANJIA ELECTRIC APPLIANCES GRO [CN])
[X]
[CN201400923Y](#) Y 20100210 [A] (XIAOCHUN MA)
[A]
[KR20110029859](#) A 20110323 [A] (BIONTECH CO LTD [KR])
[A]
[CN2266463Y](#) Y 19971105 [A] (XI ZHIBIN [CN])
[A]
[CN2216435Y](#) Y 19960103 [A] (SINO AMERICAN CORP HARBIN HUAY [CN])
[A]
[US6007006](#) A 19991228 [A] (ENGEL LISA M [US], et al)
[A]
- PA - ZHU YIMING
- TI - Movable kitchen waste pulper
- AB - The invention provides a movable kitchen waste pulper. According to the invention, a small direct current or alternate current motor is used to drive a cutter, the pulper utilizes a centrifugal force to crush waste in a crushing chamber, then water and a power supply are cut off, and the kitchen waste ground into a pasty small particle is discharged into a **sewer**. The cutter is provided with two or four impact heads capable of revolving at an angle of 180 DEG, so the cutter is **safe**, durable and maintenance-free. It should be noted that gummy substances, metals, batteries and the like should not be added into the pulper, thereby preventing pollution to the environment. During running of the pulper, one should not open the **cover** of the pulper or stretch his **hand** to a deep position in the pulper.

16/58 © EPODOC / EPO

- PN - [CN203403439U](#) U 20140122
- PR - CN20132344018U 20130617
- AP - CN20132344018U 20130617
- DT - I
- PA - UNIV GUANGXI
- TI - Tri-proof inspection well **cover**

AB - The utility model discloses a tri-proof inspection well **cover**. The tri-proof inspection well **cover** comprises a well **cover** (1), a well **cover** tray (6) and a locking device, wherein the locking device mainly comprises buckle pins (3) which are fixed and mounted on a cold side of the well **cover** (1) and buckle eyes (7) which are arranged on the well **cover** tray (6); the buckle **pin** (3) is a bolt with one end larger than the other parts; the shape of the buckle eye (7) is in a shape with a large end and a small end and adapted to the buckle **pin** (3) to form the locking. Compared with the existing well **cover**, the tri-proof inspection well **cover** has the function of preventing the **sewer** rainwater from reversely surging and crashing over the well **cover** and moreover has the function of preventing the cargo truck from rolling and damaging the well **cover**. The tri-proof inspection well **cover** has features of good anti-**theft** function, simple structure, and low manufacture cost.

17/58 © EPODOC / EPO

PN - [CN203238762U](#) U 20131016

PR - CN20132236516U 20130506

AP - CN20132236516U 20130506

DT - I

PA - HU LIANG

TI - **Sewer** base manhole **cover** device

AB - The utility model relates to a **sewer** base manhole **cover** device which comprises bases and a main manhole **cover**. The **sewer** base manhole **cover** device is characterized in that the bases are provided with a secondary manhole **cover** provided with spring bases and anti-**theft** pins, the anti-**theft** pins are provided with anti-**theft** keys and **pin** heads, and alarm springs coated with colorful fluorescent paint are arranged inside the spring bases. The main manhole **cover** is provided with anti-**theft** key grooves. The main manhole **cover**, the secondary manhole **cover** and the bases are connected through the anti-**theft** pins. The **sewer** base manhole **cover** device is simple in structure, and convenient and rapid to install and connect, the main manhole **cover** and the secondary manhole **cover** can be rapidly and fixedly arranged on the bases only through a special spanner corresponding to the **pin** heads, connection reliability is good, the main manhole **cover** will not be lost easily, and anti-**theft** performance is good. When the main manhole **cover** is damaged, the alarm springs on the secondary manhole **cover** pop out by 0.5m, the colorful fluorescent paint emits light to give an alarm signal to pedestrians and vehicles, and the pedestrians and the vehicles are prompted to travel in a detouring mode. Meanwhile, the secondary manhole **cover** further has the dropping-preventing function, prevents people from falling into a manhole, and improves **safety** and reliability of the **sewer** base manhole **cover** device.

18/58 © EPODOC / EPO

PN - [CN202023203U](#) U 20111102

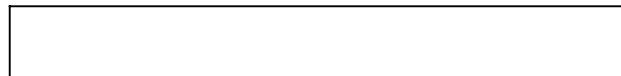
PR - CN2011256602U 20110307

AP - CN2011256602U 20110307

DT - I

PA - CHUNPING MO

TI - **Sewer** manhole **cover**



AB

- The utility model relates to an anti-**theft sewer** manhole **cover** which is formed by the assembly and the connection of an embedded outer ring, a manhole **cover**, a password knob, groove wheels and a manhole **cover** latch, wherein the password knob passes through a password knob hole of the manhole **cover** to be connected with the groove wheels; the manhole **cover** latch is slidably arranged inside a manhole **cover** latch groove; when the manhole **cover** is in use, one end of the manhole **cover** is firstly clamped at one side of the embedded outer ring, wherein the end of the manhole **cover** is with a bayonet **pin**, then the manhole **cover** is covered on the embedded outer ring, and at this moment, double ends of the manhole **cover** latch of the manhole **cover** are inserted in grooves of the two groove wheels; when the manhole **cover** needs to be locked, the manhole **cover** latch is moved along the periphery direction of the manhole **cover** to be inserted under the embedded outer ring, so as to lock the other side of the manhole **cover**, and then the locked manhole **cover** can not be opened; and when the manhole **cover** needs to be opened, the worker rotates the password knob in accordance with password and moves the manhole **cover** latch to be inserted into the grooves of the groove wheels, so that the locked manhole **cover** is unlocked, and the manhole **cover** can be opened.

PN - [KR200403178Y](#) Y1 20051208
PR - KR20050026064U 20050909
AP - KR20050026064U 20050909
DT - I
TI - MANHOLE **COVER** FOR
WATERWORKS **SEWER** AND
ELECTRICITY AND
COMMUNICATION WITH **SAFETY**
PIN

20/58 © EPODOC / EPO

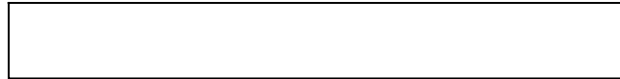
PN - [CN101974916](#) A 20110216
PR - CN20101521781 20101027
AP - CN20101521781 20101027
DT - I
PA - WENJUN XIE
TI - Novel **sewer** well **cover**
AB - The invention discloses a
novel **sewer** well **cover** and
provides a municipal facility
with strong anti-**theft** function.
The conventional **sewer**
well **cover** is improved, an
internal thread structure and a
locking hook structure are
utilized for realizing double anti-
theft functions, and an
external **handle** bolt, a flat open
slot and a special slot structure
are utilized to improve the **safety**
and operability; the operating
cost is not increased and
the **sewer** well **cover** can be
normally opened and closed
only by several special tools;
meanwhile, the **sewer** well **cover**
becomes a signboard by
methods such as seal cutting,
laminating and the like, so the
aesthetic perception is
enhanced, the maintenance cost
is reduced and the service life of
the well **cover** is effectively
prolonged.

21/58 © EPODOC / EPO

PN	- CN201687009U U 20101229
PR	- CN20102214591U 20100603
AP	- CN20102214591U 20100603
DT	- I
PA	- MIN JI
TI	- Rectangle join seat type anti- theft iron manhole cover
AB	- The utility model relates to a rectangle join seat type anti- theft iron manhole cover , which is a device for sealing the used to seal the sewer wellhead. The rectangle iron manhole apparatus on the prior road surface, the iron cover and the cover seat are separated, is easy to be stolen by persons. The utility model can solve this problem. The utility model drills out two through-holes at both sides of the manhole seat close to the end-face point, two diameters and a manhole seat are drilled out at position of both sides of the manhole corresponding to the through- holes at both sides of the manhole seat, a pin is penetrated in the hole, the pin hinges the manhole and the manhole seat, the manhole can rotate on the manhole seat to realize the switching movement of the manhole. A soft metal block is riveted on the ingress of the manhole seat hole, the pin is closed in the hinge hole. If the robber has to chiseling the road surface after taking off the manhole, the pin is taken out by knocking the soft metal block to steal the manhole, this process takes a long time, has large sound and requires various tools, so that the robber is difficult to implement, thereby preserving the manhole.

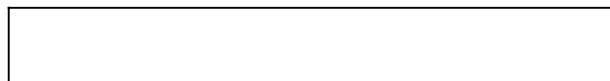
22/58 © EPODOC / EPO

PN - [CN201679056U](#) U 20101222
PR - CN20102136783U 20100317
AP - CN20102136783U 20100317
DT - I
PA - ZENG LONGYUAN; DAXIANG SHI
TI - Structure of floor drain **cover**
AB - The utility model relates to the structure of a floor drain **cover**, which mainly comprises an outer frame, a movable **cover**, a **safety pin**, a spring and a rubber cushion, wherein the side edge of the outer frame is provided with a fixed piece, a net board is sheathed on the outer frame, and the lower end of the outer frame is provided with a fixed seat to be arranged in a **sewer** pipe; the movable **cover** is arranged at the bottom of the outer frame, and one side of the movable **cover** is provided with a connecting board which is movably connected with the fixed seat; the **safety pin** penetrates through the connecting board to be fixed with the fixed seat; the spring is sleeved on the **safety pin** and is provided with an lengthening end to resist the movement of the movable **cover**; and the rubber cushion is arranged between the movable **cover** and the outer frame to increase the fitting performance. The **sewer** pipe is provided with the floor drain **cover** to **cover** a discharging port, therefore, the structure achieves the effect that the indoor environment is polluted caused by the countercurrent of the sewage of the **sewer** pipe.



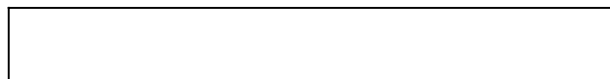
23/58 © EPODOC / EPO

PN - [CN201581414U](#) U 20100915
PR - CN20092268327U 20091119
AP - CN20092268327U 20091119
DT - I
PA - LVHUIXUAN
TI - **Safety sewer cover**
AB - The utility model discloses a **safety sewer cover**, which belongs to a communal facility and comprises a manhole **cover** and a base. The **safety sewer cover** is characterized in that the manhole **cover** is connected with the base through a hinge; an elastic piece is fixed on the inner side of the base; and an upward small **hand** with a warning reflective layer is arranged at the end part of the elastic piece. The manhole **cover** is connected with the base through the hinge, so that the manhole **cover** cannot be taken away on the premise of not damaging the base; and if the manhole **cover** does not exist, the small **handle** with the warning reflective layer extends for warning vehicular traffic and passengers. The utility model is applicable for drain wells, communication wells and the like.



24/58 © EPODOC / EPO

PN - [CN101723151](#) A 20100609
PNFP - CN101723151B B 20130306
PR - CN20081155238 20081011
AP - CN20081155238 20081011
DT - I
PA - (A)
RUGAO POWER SUPPLY
COMPANY OF
- (B)
RUGAO POWER SUPPLY
COMPANY OF JIANGSU ELECTRIC



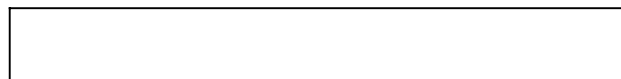
POWER COMPANY

- TI - (A B)
Portable oil storage barrel
- AB - (A)
The invention relates to a portable oil storage barrel for temporarily storing oil when equipment is overhauled in the electric industry, comprising a base, guide rods, a barrel periphery, an upper **cover**, a **handle**, an oil inlet valve, a respirator, an oil drain valve and a **sewer** valve, wherein the base is provided with a plurality of guide rods; the lower end of the barrel periphery is fixed with the base; the base is respectively provided with the oil drain valve and the **sewer** valve; the upper ends of the guide rods are connected with the upper **cover**; the upper end of the barrel periphery is fixed with the upper **cover**; and the upper **cover** is respectively provided with the **handle**, the oil inlet valve and the respirator. The barrel periphery is designed into an organ folding type structure form, thus the transportation is convenient; the guide rods are arranged, thus the barrel periphery is difficult to tilt and **safe** and reliable to use; the inner bottom surface of the base is designed into a concave structure form, and the base is provided with the **sewer** valve, thus insulating oil is effectively precipitated and keeps clean; and the respirator is arranged, thus the drying degree inside the oil storage barrel is ensured.

25/58 © EPODOC / EPO

PN - [CN201395832Y](#) Y 20100203

PR - CN2009291517U 20090526



AP - CN2009291517U 20090526

DT - I

PA - CONGHUI ZHOU

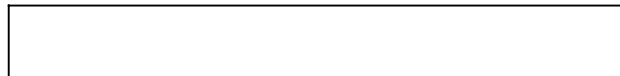
TI - Floater water seal type floor drain

AB - The utility model relates to a floater water seal type floor drain, which can effectively solve the problem of potential **safety** hazard caused by the damaged water seal due to moisture evaporation and barometric fluctuation in pipelines in the prior floor drain and the lost function of obstructing poisonous gas in sewage drainage pipelines. The utility model adopts the technical proposal that the floor drain comprises a floor drain **cover**, a floor drain main body and a **sewer** pipe, wherein the floor drain **cover** is arranged at the upper part of the floor drain main body, the **sewer** pipe communicated with a drainage pipeline is arranged at the lower part of the floor drain main body, a floater is arranged on a water outlet in a water trough at the lower part of the floor drain main body, and a balance **handle** is mounted at the lower part of the floater, and is penetrated into the **sewer** pipe. The floor drain has the advantages of simple design and easy material availability, and the fatal defect of air leakage of the traditional floor drain in case of no water is overcome, thereby having obvious economical and social benefits.

26/58 © EPODOC / EPO

PN - [CN201256618Y](#) Y 20090617

PR - CN2008258741U 20080522



AP - CN2008258741U 20080522

DT - I

PA - SHANGHAI WANGXIN BEAN
PRODUCTS [CN]

TI - Marinating boiler

AB - The utility model discloses a
stewing pot which comprises a
stander, a water drain valve, a
pot body lining, an insulating
material, an air inlet pipe,
a **handle**, a **sewer** valve, a
positioning **pin** and a
cylindrical **pin**, wherein a
pot **cover** is arranged on the pot
body lining, and a **lever** is fixed
on a pot **cover**; one end of
the **lever** is movably connected
with an upright post through the
cylindrical **pin**, and the other end
of the **lever** is movably
connected with a positioning
rod; a positioning groove on the
positioning rod is buckled on the
positioning **pin**, and a pull rod is
movably connected with the
positioning rod, can move on a
fixed frame and is supported by
the fixed frame. The utility model
overcomes the defects of a
traditional technological method
for stewing and processing and
realizes processing in a sealed
environment. Due to effective
temperature control, the utility
model improves the product
quality, saves energy resources
by 30 percent, ensures food to
reach the food hygienic
standard, ensures the
food **safety** and is favorable to
the body health of people.

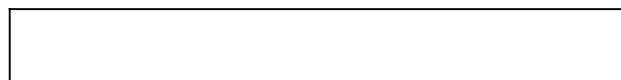
27/58 © EPODOC / EPO

PN - [CN201245844Y](#) Y 20090527

PR - CN2008214198U 20080721

AP - CN2008214198U 20080721

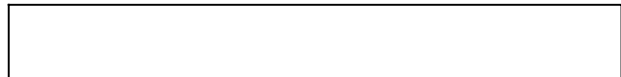
DT - I



PA - GONGWEN REN [CN]
 TI - **Theft**-proof manhole **cover**
 AB - The utility model relates to an anti-**theft** well **cover**, which is characterized in that a concave surface is formed on the upper surface of a disc-shaped iron plate; a moving **handle** is arranged on the concave surface; a lock head is arranged inside the disc-shaped iron plate; and the key hole of the lock head is formed on the surface of the iron plate. When in use, the disc-shaped iron plate is locked on a **sewer** to enhance the **safety** coefficient and prevent **theft**. The upper **cover** can be opened by unlocking the lock head and pulling the **handle** without the need of other tools. The anti-**theft** well **cover** has the advantages of reasonable structure, convenient and practical use, good appearance, unique shape, etc., and can prevent **theft**.

28/58 © EPODOC / EPO

PN - [US5727351](#) A 19980317
 PR - US19940329064
 19941020; US19930068053
 19930526
 AP - US19940329064 19941020
 DT - *; Rep
 CT - || STSE (A)
[US374458](#) A 18871206 [];
[US606554](#) A 18980628 [];
[US1384712](#) A 19210712 [];
[US1959171](#) A 19340515 [] (MAYER NORMAN C);
[US2576353](#) A 19511127 [] (WALTER NELSON OSCAR);
[US3046853](#) A 19620731 [] (CYRILLE LEGENDRE);
[US3490177](#) A 19700120 [] (PERRION DANIEL C);



[US3712009](#) A 19730123 [
] (CAMPAGNA B);
[US3920347](#) A 19751118 [
] (SAURIOL JOHN T, et al);
[US4067659](#) A 19780110 [
] (CAMPAGNA JR SAMUEL A, et al);
[US4101154](#) A 19780718 [
] (KAGSTROM RUNE);
[US4171851](#) A 19791023 [
] (SCRUGGS CHARLES [US]);
[US4649674](#) A 19870317 [
] (GAUL CRAIG S [US], et al);
[US4650365](#) A 19870317 [
] (RUNNELS FRANKLIN D [US]);
[US4915336](#) A 19900410 [
] (HANDY KEITH [GB]);
[US4919564](#) A 19900424 [
] (NEATHERY DAVID L [US], et al);
[US4957389](#) A 19900918 [
] (NEATHERY DAVID L [US]);
[US5070712](#) A 19911210 [] (FOX
 DAVID [CA]);
[US5197307](#) A 19930330 [
] (ABBOTT JR MERLE L [US]);
[US5328291](#) A 19940712 [
] (WISNIEWSKI ROBERT S [US]);
[CH41210](#) A 19090102 [
] (FRIEDRICH ALFRED MAURER
 [CH])

CCI - [E02D29/12](#) ; [E02D29/14](#)

CCA - [Y10T70/483](#) ; [Y10T70/5566](#) ;
[Y10T292/1071](#)

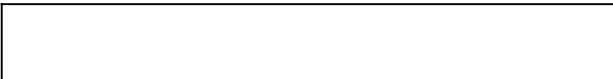
TI - Manhole insert and tether and
 method

AB - A watertight manhole insert and
 tether apparatus designed to
 prevent rainwater from entering
 sanitary **sewer** or other systems
 through a manhole closed by a
 manhole **cover**. The manhole
 insert is located beneath the
 manhole **cover** and is connected
 directly to the manhole by a
 tether mounted in the manhole,
 to plug the manhole and
 prevent **theft** of the manhole
 insert. The manhole insert is
 characterized by a pan-shaped

insert body having a flat insert bottom and a pressure-relief valve, one or more lift straps optionally provided with a warning tag, and an upward-standing, sloping or perpendicular side wall fitted with an outwardly-extending top rim for engaging a shoulder shaped in the manhole to support the manhole insert. One end of the flexible stainless steel tether is connected to the manhole wall and the opposite end first extends through a grommet in the insert bottom and subsequently through a **lever** bar locking device. According to the method of this invention when the manhole insert is placed in the manhole, the tether is pulled upwardly through the grommet and the **lever** bar locking device is slipped along the tether and locked at the insert body to seat the manhole insert on the manhole shoulder. The **lever** bar locking device operates to crimp the tether and the hasp of a padlock may be extended through registering lock openings provided in the **lever** bar locking device and locked, to prevent access to the manhole and **theft** of the manhole insert.

29/58 © EPODOC / EPO

PN	- KR100653922B B1 20061128
PR	- KR20060029980 20060403
AP	- KR20060029980 20060403
DT	- I
CNOI	- E02D29/1481
CNOA	- E02D2200/1671 ; E02D2600/20 ; E02D2600/40
PA	- SHI HEUNG CO LTD [KR]; DOHWA CONSULTING ENGINEERS CO [KR]



- TI - MANHOLE **COVER** FOR WATERWORKS **SEWER** AND ELECTRICITY AND COMMUNICATION WITH **SAFETY PIN**
- AB - A manhole **cover** for water and sewage, electricity and communication having a **safety pin** is provided to prevent a manhole **cover** from opening and to prevent the accompanying accidents by inserting a **safety pin** to a manhole **cover** and suspending on a hanging piece of a manhole **cover**, and limiting the rotation of the manhole **cover**. A manhole **cover** for water and sewage, electricity and communication having a **safety pin** contains: a manhole frame(1) installed on the upper part of a structure to keep airtight, coupled with a manhole **cover** and provided with reinforcing ribs(14) formed on the edge of a support panel (13) having many connecting holes(131) at regular intervals to support a seating part(11), which has many primary guide projections(12) to lock up a manhole **cover**; a manhole **cover** (2) provided with an end projection(22) having the smaller diameter than a manhole **cover** body(21), secondary guide projections to press-fit to the lower part of the primary guide projections, many nonskid projection(23) formed on the manhole **cover** body to prevent traveling vehicles from sliding while applying the brake, primary ring grooves(24,24') having primary hanging pieces (241,241') and a **pin** groove(32) formed between the primary ring grooves; a hanging piece(31) formed on the manhole frame to

prevent the manhole **cover** from rotating backward and opening by the frictional force with tires while a traveling vehicle applies the brake; and a **safety pin**(33) composed of a hanging body (331) and a hanging head(332), inserted to the **pin** groove of the manhole **cover** and formed to be longer than the vertical length(L) from the seating part to the hanging piece to make the bottom suspended on the side of the hanging piece.

30/58 © EPODOC / EPO

PN - [CN200961269Y](#) Y 20071017
 PR - CN20062108503U 20061010
 AP - CN20062108503U 20061010
 DT - I
 PA - ZHU FUGUI [CN]
 TI - Self-locking anti- **theft** manhole **cover**
 AB - A self-locking closed type anti-**theft** inspection well **cover** is used to prevent the **sewer** inspection well and the manhole well **cover** employed to store underground establishment and needed to go to the ground from being stolen, including a well crib, a bulge ring on the inner wall of the well crib, a well **cover** could be arranged on the bulge ring in the well crib, a well crossbar fixed on the bottom of the well **cover**, and two symmetrical slots provided on the bulge ring in the well crib. The outer rotation diameter of the well crossbar is larger than the inner diameter of the bulge ring in the well crib, but can pass through the slots. Bottom of the well crib is connected to a slide board via a **pin** shaft fixed on the well crib. The slide board



is provided with a movable device and a circular runner. The **pin** shaft is arranged in the runner. Compared with the present technology, the utility model with simple structure and convenient installation will not be opened anyway, if the method of opening the **cover** is not known, wherefore, it with good effect in anti-**theft** is suitable to be generalized.

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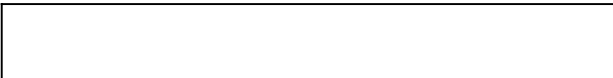
PN - [CN101190110](#) A 20080604
PR - CN20061164318 20061129
AP - CN20061164318 20061129
DT - I
PA - ZHUZHONG LONG [CN]
TI - Crouching type bed-pan sanitation device
AB - The invention relates to a squat-style bedpan cleaner of environment friendly sanitary appliance of daily necessities. The current squatting pan are universally open, which is neither in good taste nor healthy and **safe**. As most of middle-income or low-income families in our country have small housing area, one room is used as toilet, bathroom and washing room, **sewer** is blocked by towel, socks, etc. lost when pouring water after washing caused by no **cover** on the bedpan; many people once lost mobile and lighter when going to a toilet; more than ninety percent of people once lost toilet soap when having a bath; a plurality of people once lost rings, earrings, necklaces etc.; furthermore, a plurality of people get hurt by slipping into a squat-style bedpan when having



a bath. The squat-style bedpan cleanliness-maintaining device of the invention, namely a set of cleanliness-maintaining device with simple structure, free loading and unloading and convenient operation is arranged on a normal squat-style bedpan, mainly comprises a cassette, a movable contracting folding **cover** board, a gemel and a shaft **pin**, etc. The invention has the advantages that the cleaner ensures the squat-style bedpan to be healthier, in better taste and more humanized.

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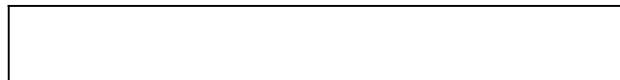
PN - [CN2835374Y](#) Y 20061108
PR - CN20052107294U 20050923
AP - CN20052107294U 20050923
DT - I
PA - WANG RUIWU [CN]
TI - Sanitary filtering water seal
AB - The utility model relates to a sanitary filtering water seal which is composed of a water seal base (1) and a filtering water seal (2), wherein the water seal base (1) is in a bowl shape, the central part is provided with a convex pipe (6) provided with a through hole (5), the bottom part of the filtering water seal (2) is provided with a water seal head (7) of which the cross section is similarly in a reverse U shape, the water seal head (7) can **cover** the convex pipe (6) on the center of the water seal base (1), and the circumference of the bottom edge of the water seal head (7) is provided with a leak resistance skirt edge (4) provided with screen holes (8). The upper part of the filtering water seal (2) is



provided with a flat plate (2) connected with the water seal head (7), and the flat plate (2) is provided with screen holes (9) and is provided with a grip **handle** (3). The utility model has the advantages of simple structure and convenient use. Because the water seal head (7) is arranged scientifically, bad smell in a sewerage does not bubble away, the arrangement of the leak resistance skirt edge (4) causes vegetable leaves, sundries, etc. leaked from the flat plate (2) to be encountered with a second defense line, a **sewer** pipe is **safe**; the arrangement of the grip **handle** (3) causes slag to be poured conveniently, a user does not need to take the screen plate by **hands** and the utility model is sanitary.

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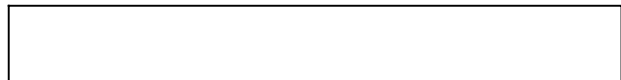
PN - [CN2780838Y](#) Y 20060517
 PR - CN2005249799U 20050414
 AP - CN2005249799U 20050414
 DT - I
 PA - ZHANG HONGJIA [CN]
 TI - Anti-**theft** manhole cover with mortice and temon **pin** gear
 AB - The utility model relates to an inspection well **cover** used for a municipal **sewer** with **theft** protection and corrosion prevention, an underground telecommunication optical fiber cable, an underground transmission line, an underground tap water pipeline, etc. A circular plate-shaped well **cover** (8) is covered on a short cylinder-shaped well ring (1) which is matched with the circular plate-shaped well **cover**



(8), and a ring (6) of the well ring is designed on the well ring (1). A well wall ring (7) is fastened on the well wall, and the ring (6) of the well ring is fastened and connected with the well wall ring (7). One edge of the well **cover** (8) is provided with a well **cover** clip (15) which is inserted in a well **cover** clamping hole (5) of the well ring (1), and the other edge of the well **cover** (8) is provided with a tenon jack (9). A lock bolt (16) which is similar to a lock core, a lock sleeve (22), a gear device (30) are installed on the reverse side of the well **cover** (8). A tenon plug (36) which has the unlocking function can lead the lock bolt (16) to be locked in or quit a lock bolt hole (3) which is positioned on the well ring (1). The utility model is provided with the tenon plug (36) which has the unlocking function, with the advantages of strong **theft** protection function, peculiar shape, unique use method, various specifications and with the function of preventing the erosion of rust because of rain.

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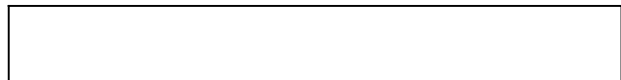
PN - [CN200946277Y](#) Y 20070912
 PR - CN2005206288U 20050907
 AP - CN2005206288U 20050907
 DT - I
 PA - YU WENCAI [CN]
 TI - Anti-**theft** anti-noise cast iron manhole **cover**
 AB - The utility model discloses a anti-**theft** and anti-noise cast iron well **cover**, which is arranged with a anti-**theft** device that comprises a **pin**, a hinge hole seat, a positioning board and a connecting rod with holes.



Meanwhile, a flexible buffer layer is arranged between the well **cover** and well body, which can prevent the noise of well **cover** being used. The utility model has a simple structure and simple technique, and is strong, reliable and material-economic. The utility model can prevent municipal facilities from being stolen, guarantee road clearness and maintenance, and effectively reduce city noise. Because of the anti-**theft** and anti-noise functions at the same time, the product can not only be used for large well **cover** device but also for square, rectangle, round and abnormal well covers of **sewer** edge ditches. The product is of great extension significance in municipal facilities for the low prices as well.

35/58 © EPODOC / EPO

PN - [CN2737847Y](#) Y 20051102
PR - CN2004267662U 20040611
AP - CN2004267662U 20040611
DT - I
PA - ZHANG JUN [CN]
TI - Water dividing type water-saving sanitary fittings
AB - The water dividing type water-saving sanitary fitting of the utility model discloses a device which can control the passage of the water flow. The used but non-greasy water is used to flush the toilet, and the used and greasy water is directly drained into the **sewer**. The utility model includes that: a three-way water dividing type valve body whose interior is fixed with a water dividing plate and whose bottom of the vertical pipe is arranged



with a bottom seal water cap, a push-down cap, a lower sealing ring, an upper sealing ring, a push-up cap, a rotary **cover** plate, and a rotary **cover** plate fixed **pin**, and the push-down cap, the lower sealing ring, the upper sealing ring, the push-up cap, the rotary **cover** plate, and the rotary **cover** plate fixed **pin** are successively arranged on the outer wall of the upper part of the vertical pipe of the three-way water dividing type water saving valve body. The rotary **cover** plate fixed **pin** passes through the hole on the rotary **cover** plate to fix the rotary **cover** plate. When the rotary **cover** plate is toggled, the used water flow can select different channels. The utility model has the characteristics of convenient mounting, simple operation, low cost, **safety**, and reliability.

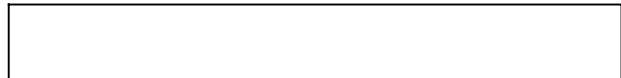
36/58	© EPODOC / EPO
PN	- CN2707827Y Y 20050706
PR	- CN2004233759U 20040525
AP	- CN2004233759U 20040525
DT	- I
PA	- LUO ZHIQUAN [CN]
TI	- Anti- theft manhole cover
AB	- The utility model provides a new type anti- theft manhole cover which is composed of a manhole cover , a hook, a draw rod, a sphere head, a spring and a key. The support ribs (4), (9) and (11) are arranged under the manhole cover (2). A hook (6) is hinged on the support rib (4) by a rotating shaft (5). The hook (6) and a manhole ring (1) are fixedly matched. The hook (6) is connected with a draw rod (10) by a pin shaft (7). The draw rod



(10) is arranged in the holes of the support ribs (9) and (11). The draw rod (10) which is arranged between the hook (6) and the support rib (9) are sheathed with a spring (8). The sphere head (12) are arranged on the head of the draw rod (10). The plunger (15) is arranged in the lower external barrel of the key (31). A pawl (13) and a draw rope (17) which are arranged on the plunger (15) are hinged with a passive rod connected piece (20) and a screw movable piece (23) by two arms connected piece (22) in the external barrel. The passive rod connected piece (20) is fixed in the external barrel. The screw movable piece (23) is connected with the screw (27) by the fixing screw nail (24). The screw (27) is matched with the screw fixed block (26). The new type anti-**theft** manhole **cover** uses the hook type sphere head draw rod on the manhole **cover** to prevent the manhole **cover** from being stolen. The manhole **cover** can be opened by the key (31). The new type anti-**theft** manhole **cover** is used for the manhole **cover** of the **sewer**.

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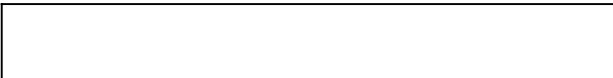
PN - [CN2706568Y](#) Y 20050629
 PR - CN2004233533U 20040329
 AP - CN2004233533U 20040329
 DT - I
 PA - YANG QIGANG [CN]
 TI - Anti-**theft** device for **sewer cover**
 AB - The utility model relates to an anti-**theft** device for a **sewer cover**. The utility model comprises an adjustable locking device composed of a **sewer cover** plate, an endless screw, a



worm gear, a connecting rod, a slide block, a sliding plate, a screw stay, a fixing nut and a loose **pin**. The endless screw and the **sewer cover** plate are connected and fastened by the fixed **pin** and a special screw cap. The circumference of the wall of the silo of the **sewer** is provided with necks corresponding to the slide block. The slide block of the adjustable locking device can be inserted or quit the neck by rotating the special bolt of the endless screw of the top to obtain the purpose of anti-**theft**.

38/58 © EPODOC / EPO

PN - [CN1786354](#) A 20060614
 PR - CN20041100860 20041209
 AP - CN20041100860 20041209
 DT - I
 PA - MOU YINGLUN [CN]
 TI - Anti-**theft** manhole **cover**
 AB - The invention relates to **theft** protection well **cover** used in urban and rural **sewer** environmental protection wellhead. Its structure includes lock body set on lock core outer circle big end, moving lock **pin**; the opening-closing place of the moving lock **pin** is limited by revolving inner gag **lever** post, spring leaf, and revolving outer gag **lever** post. The place of incline spring force locking can prevent moving lock **pin** from displacing. Because of the lock tooth is on the inner cavity wall, size and place has good privacy, the key is difficulty to copy. The inner diameter of the lock tooth cavity is much bigger than lock core circle. This structure has the functions of clay and



rainwater proofing, **theft**,
breaking, and prying protection.

39/58 © EPODOC / EPO

PN - [CN2316355Y](#) Y 19990428

PR - CN1997248436U 19971113

AP - CN1997248436U 19971113

DT - I

PA - CONG ZHEPING [CN]

TI - Grating type **sewer cover**

AB - The utility model relates to a grating type **sewer cover**. The two ends of equilateral flat steels of the utility model are respectively and vertically fixed on two equilateral side plates. Spiral square steels which are arrayed regularly and are connected with the flat steels across are on the flat steel. A **cover** body formed by the spiral square steels and the flat steels is arranged in an outer frame which is matched with the **cover** body. The bottom of the rectangular outer frame enclosed by pattern steels whose openings are outward faces a supporting piece in the outer frame. A **pin** roll subassembly is arranged between the outer frame and the **cover** body. The outer frame is provided with an embedded part which is connected with the outer frame. The utility model has the advantages of high water discharge capacity, light weight, low cost, slide resistance, and high **theft** resistance performance. The utility model is suitable for discharge openings of sewers in roads, bridges, chemical plants, and mines.



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PN	- CN2276519Y Y 19980318	
PR	- CN1996207929U 19960423	
AP	- CN1996207929U 19960423	
DT	- I	
PA	- ZHENG WEIBING [CN]	
TI	- Anti- theft device for manhole cover	
AB	- The utility model discloses an anti-theft device for a manhole cover, belonging to the improvement of the existing sewer manhole. A manhole ring is made into the form of a small upper part and a big lower part, and the periphery is provided with a base having a clamping slot. Four oblong notches (2) are opened at the four symmetrical parts of the manhole ring base, and coincide with four vertical slots (7) which are built on the manhole wall. Thus the manhole cover having four supports can be embedded in the clamp slot of the manhole ring base through four vertical slots and four notches. The purpose of the sealing is obtained, and simultaneously, the manhole cover can not be taken out of the manhole mouth, and the purpose of stealing resistance can be obtained. The handy use, convenience and low cost of the original iron castings can be kept, and the dredging work can not be influenced.	

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PN	- CN2227165Y Y 19960515	
PR	- CN1995244169U 19950608	
AP	- CN1995244169U 19950608	
DT	- I	
PA	- YAO LAIFA [CN]	
TI	- Cover of inpection shaft	

AB - The utility model relates to a **cover** of an inspection shaft of a municipal **sewer** or an underground row pipe ditch of communication cables, which comprises an upper **cover** of the inspection shaft and a shaft frame. The utility model is characterized in that the upper **cover** is provided with a **pin** rod, the shaft frame is provided with a connecting seat for the **pin** rod, and the **pin** rod is arranged in the connecting seat for the **pin** rod to connect the upper **cover** of the inspection shaft and the shaft frame into to a whole. Thereby, the utility model has the function of **theft** protection and has the advantage of protecting government property and life and **safety** of people.

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PN - [CN2227148Y](#) Y 19960515

PR - CN1995214976U 19950621

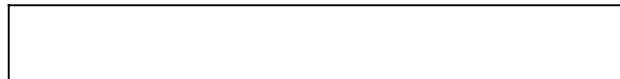
AP - CN1995214976U 19950621

DT - I

PA - ZHU WANLIN [CN]

TI - Anti-**theft cover** for **sewer** monhole

AB - The utility model relates to an anti- **theft cover** for a **sewer** manhole, comprising a manhole mouth (1), a manhole **cover** (2), and a key (7). Two locking holes are symmetrically arranged on the manhole **cover** (2). A lock axle (3) is positioned in the locking holes. The lower part of the lock axle passes through the axle holes in the locking holes and is matched with a lock tongue (4). A split **pin** (5) is pierced in the hole of the lock axle, and the both ends are used



for positioning the lock tongue (4). The lock axle (3) comprises a locking head (8), the cylindrical structure (9) of a spacing boss shape, and an axle (10). The locking head (8) is a triangular column, and one face of the triangular column is provided with a convex triangular column (11). The axle (10) is a column in a quadrangle or a rectangle or a triangle. The utility model has the advantages of novel and simple structural design, convenient installation, practicality, and good anti- **theft** effect.

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PN - [CN2264758Y](#) Y 19971015
 PR - CN1995208674U 19950412
 AP - CN1995208674U 19950412
 DT - I
 PA - LI ZHENGPING [CN]
 TI - **Theft**-proof **cover** for manhole
 AB - The utility model relates to a special **theft**-proof **cover** for a manhole used for an underground pipeline, an underground line and a **sewer**. The utility model is composed of a manhole ring, a manhole **cover**, and a **pin** shaft, and an outwards convex connecting support lug is arranged on the peripheral surface of the manhole **cover**, and a condensing traffic warning sign is arranged on an inner surface. An outwards convex connecting support seat is arranged on the edge of the **cover** ring, and the manhole **cover** is inserted in a groove of the connecting support seat of the **cover** ring through the connecting support lug arranged

on the manhole **cover**. The manhole **cover** is hinged with the groove of connecting support seat through the **pin** shaft. The insufficiencies of easy moving of the manhole **cover**, easy missing and unsafe use of the prior art can be avoided.

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PN - [CN2262570Y](#) Y 19970917
 PR - CN1994212269U 19940511
 AP - CN1994212269U 19940511
 DT - I
 PA - WU ZHIWEI [CN]
 TI - Anti-**theft** manhole shaft **cover**
 AB - The utility model belongs to an underground cable, particularly an anti-**theft** manhole shaft **cover** of a **sewer**. The abstract specification of the primary structure of the utility model is that a manhole **cover** (1) is covered on a manhole base (2), and a block (4), two lock cores (5) (6), three rotating discs (7) (9) (11), shifting pins (8) (9) are arranged on the manhole **cover** (1). Three rotating discs are respectively hinged with three draw rods (12) (13) (14), the other end of each of the draw rod is respectively provided with a column **pin** (15), and is respectively inserted in the hole of the manhole base, and the whole device is controlled by a key (3). When the anti-**theft** manhole shaft **cover** is operated, the block (4) is screwed off by the key. When the key is rotated to the left and the right in a plurality of angles, the key (3) can be completely inserted in the lock core, and a draw rod and the column **pin** are driven to disengaged from the

manhole base (2). The manhole **cover** (1) is opened, and a manhole open rod (16) has the function of opening the manhole. A reed (17) is arranged between the lock core and the rotating disc.

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- PN - [CN2148780Y](#) Y 19931208
- PR - CN1993200470U 19930116
- AP - CN1993200470U 19930116
- DT - I
- PA - WANG WENZHI [CN]
- TI - Anti-**theft** apparatus for **cover** of well
- AB - The utility model relates to a well mouth device for municipal **sewer** water collecting wells. The well mouth device for municipal **sewer** water collecting wells is that a **pin** shaft member is installed between a well grate and a well seat. The **pin** shaft is installed on the position of the well seat, and the position of the well seat is in a horizontal long pore structure. The rotary shaft anti-**theft** structure can cause the members of the well grate, etc., not to easily lose to prevent loss and other accidents from happening. The well mouth device for municipal **sewer** water collecting wells can also have shielding mud and height adjusting functions, and the installation and the use are convenient and flexible.

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- PN - [CN2101701U](#) U 19920415
- PR - CN1991222136U 19910906
- AP - CN1991222136U 19910906
- DT - I

PA - NING YUCHAO [CN]

TI - OVER-FLOW-PROOF VALVE FOR CLOSET

AB - The utility model discloses an over-flow-proof valve for closet which belongs to the improvement of the urinal in the toilet. An annular sealing ring is embedded in a semicircular flute at the annular bottom of the tube wall of the slope of the inner side. A semicircular hollow **cover** is connected with the bottom of the ring of the tube wall by a **pin**. The outer vertical face of the ring of the tube wall is adhered to the opening of the **sewer** of the urinal. The over-flow-proof valve for closet is arranged at the opening of the **sewer** of the urinal. When the urine flows in the **sewer**, the over-flow-proof valve for closet does not make any difference. When the urine overflows upwards, the hollow **cover** at the lower part upwards closes the opening of the **sewer** to prevent the urine from overflowing. The utility model has the advantages of simple structure, convenient installation and **safety**.

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PN - [CN2064377U](#) U 19901024

PR - CN1990210105U 19900124

AP - CN1990210105U 19900124

DT - I

PA - GUO XINGKUI [CN]

TI - WELL **COVER** LOCKING DEVICE

AB - The utility model relates to a municipal engineering facility, in particular to an anti- **theft** device for **sewer** well covers. The anti-**theft** device for **sewer** well covers is that the middle portion of the lower side of the

well **cover** is fixed to a lock body by a screw bolt, and the lower end of the rotary shaft of the middle portion of the lock body is sheathed and fixed to the middle portion of a rotary disc. The rotary disc is riveted with a push rod by a **pin** shaft, and the push rod is connected with a connecting rod and a push **pin**. A push lock is inserted into the hole of a well bottom seat to lock tightly the well **cover**. Using the anti-**theft** device for **sewer** well covers, the well **cover** of a **sewer** can not appear the phenomenon that the well **cover** is peculated and lost any longer. The anti-**theft** device for **sewer** well covers has the advantage of simple structure.

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- PN - [CN2067726U](#) U 19901219
- PR - CN1990202329U 19900307
- AP - CN1990202329U 19900307
- DT - I
- PA - WANG DEGONG [CN]
- TI - PRESSURE SHAFT TYPE
WELL **COVER**
- AB - The utility model discloses a pressure shaft type well **cover**, and relates to a well **cover** which is suitable for **sewer** wells, tap water wells, or gas wells. The pressure shaft type well **cover** comprises a **cover** seat and a **cover** plate. The **cover** seat is hollowly circular, square or rectangular, and is buried under a well mouth by the base plates of the bottom circumference of the **cover** seat and reinforcing rods, and the inner side of the top portion of the **cover** plate is provided with a gap whose one side is provided with an opening

pressure shaft device. The **cover** plate is circular, square or rectangular, and is installed in the gap of the top portion of the **cover** seat, and one side of the **cover** plate is provided with a shaft **handle** and a **cover** plate shaft which is installed in the shaft slot of the bottom of the pressure shaft device of the **cover** seat and can be rotated in the shaft slot. The pressure shaft type well **cover** is **safe** and convenient in opening. The pressure shaft type well **cover** can be widely used as well covers for various **sewer** wells, tap water wells or gas wells.

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- PN - [CN2637568Y](#) Y 20040901
- PR - CN2003266372U 20030704
- AP - CN2003266372U 20030704
- DT - I
- PA - LU YONG [CN]
- TI - Fire-fighting equipment
- AB - The utility model discloses a fire-fighting device, which is composed of a ball valve, a gate valve, an opening and closing station, a water pipe, a sealing body, a manual device, a sealing rotary body, a water outlet pipe and a casing. The fire-fighting device is arranged inside a **sewer** well comprising a well **cover**, a well wall and a sealing **cover**. The water pipe is connected with the gate valve. The gate valve is connected with the ball valve by the water pipe. The ball valve is connected with the opening and closing station. A pipeline contacts with the well **cover** by a **lever**. The pipeline has a drainage opening. The ball valve is connected with

the sealing body by the pipeline. The sealing body is connected with the manual device and the sealing rotary body. The sealing rotary body is connected with the water outlet pipe. The opening and closing station and the sealing body are fixed on the sealing **cover**. When the well **cover** is opened, the **lever** is uplifted, the drainage opening of the bottom of the pipeline is opened and the ball valve is increased to the water outlet pipe, and the stored water is discharged. The utility model has convenient operation, **safety** and effect, 360 degrees of water outlet and no manual connection of the water pipe for the water adding of the fire-fighting vehicle, water adding by direct targeting to the opening of the water tank, and the speed is 30 times more than that of the ground or underground fire hydrant. Meanwhile the problem of anti-freezing in the winter can be solved.

50/58 © EPODOC / EPO

PN - [CN2592738Y](#) Y 20031217
 PR - CN2002294672U 20021230
 AP - CN2002294672U 20021230
 DT - I
 PA - WANG BOTAO [CN]
 TI - **Handle** type floor drain **cover**
 AB - The utility model provides a floor drain **cover** with a novel structure. A **cover** body of a hemisphere shell-shaped floor drain **cover** is designed with a fixed seat with a lifting ring, the floor drain **cover** can be lifted when the lifting ring is hooked by using a hook, the connecting point of the floor drain **cover**

and a **sewer** pipe mouth is cleaned conveniently, and sewerage is prompted to drain rapidly through a dirt drain pipe. One-time injection molding plastic products can be adopted by the **handle** type floor drain **cover** of the utility model, and the utility model has the advantages of low cost, high durability, **safety** and convenient use and is an effective substitute for an iron manufacture floor drain **cover** without a **handle**.

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PN - [CN2533227Y](#) Y 20030129
 PR - CN2002222251U 20020415
 AP - CN2002222251U 20020415
 DT - I
 PA - TANG XIANYUN [CN]
 TI - Special manhole **cover theft** proofing device
 AB - The utility model relates to a special **theft** protection device for stealing well covers, which is mainly used for **sewer** stealing wells in existence and without the **theft** protection device, is arranged under the well **cover** and consists of a rotary hook and a fastened hook. The rotary hook consists of a bearing piece, a taper bolt, a flat gasket, a spring gasket, two locknuts and a rotary hook. Movement rule of the rotary hook takes the taper bolt as a circle center to rotate by 90 DEG. The fastening hook is fastened opposite the rotary hook by the bolt. When using the utility model, the fastening hook hooks an inner side of the well head at first; then a taper head of the taper bolt is covered by a taper **handle** firmly to rotate by 90 DEG to enable that the rotary

hook hooks the other side of the inner well; the well **cover** is locked completely. Rotating by 90 DEG reversely opens the well **cover**.

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- PN - [CN2523815Y](#) Y 20021204
- PR - CN2001269901U 20011229
- AP - CN2001269901U 20011229
- DT - I
- PA - SUN GUILIN [CN]
- TI - Rain drain **cover** with hinge and waterproof groove
- AB - The utility model relates to a catch basin with a hinge and a dustproof groove, the hinge is installed on each of the catch basin and a basin ring and the hinge, the catch basin and the basin ring are connected together by a shaft **pin** and a split **pin**, an inner mouth of the basin ring is provided with a convex edge used for placing the dustproof groove above, the dustproof groove can be taken off periodically to clean the garbage. The utility model has the advantages that: the catch basin has strong self-locking property, the catch basin does not break off from the wall of the well, so the catch basin is hard to get lost, also the utility model is light in weight, long in service life, easy to open and can save materials and is convenient for removing the garbage, hard to built up the **sewer**, which relieves the labor intensity and is **safe** and reliable.

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- PN - [CN2506698Y](#) Y 20020821
- PR - CN2001254024U 20010930

AP - CN2001254024U 20010930

DT - I

PA - SUN GUOPING [CN]

TI - Manhole **cover**

AB - The utility model relates to a manhole top used for communicating a **sewer** or a communication pipe network with a maintenance port on ground surface. A well closure and a well **cover** are movably connected by an oblique and concave and convex chute. The well closure is provided with a locating **pin** and a **theft**-proof **pin**, both of which are combined with a corresponding locating hole of the well **cover** and a ridge. The utility model has the functions and advantages of **theft** proof and easy maintenance.

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PN - [CN2491512Y](#) Y 20020515

PR - CN2001231050U 20010725

AP - CN2001231050U 20010725

DT - I

PA - LU TAIBAI [CN]

TI - Water saving **safety** active water sealed toilet

AB - Provided is a water-saving style toilet seat. A water outlet and a drain opening of a **sewer** canal are connected by a plastic pipe which is controlled by a **lever** and link rod mechanism interlocked on a **cover** plate of the toilet seat, and then two states of S-shaped water stopping and straight-through pollution discharging are artificially produced, thereby dirty water is avoided to be remained at using time. The utility model can cooperate with

a controllable water-saving style draining valve device of a sanitary-equipment to be used, thereby realizing the flushing much better and more reliably according to requirement of pollution discharging, and achieving the purposes of controllability, water saving, sanitation and security.

55/58 © EPODOC / EPO

PN - [CN2493914Y](#) Y 20020529
PR - CN2001222556U 20010513
AP - CN2001222556U 20010513
DT - I
PA - KONG XIANJUN [CN]
TI - Watermeter casing lock
AB - The meter box lock consists of two components including a lock and a key, the lock consists of a lock casing, a bolt, a linked plate of the bolt, a tooth space plate and a lock plate, the bolt is arranged inside the lock casing, the linked plate of the bolt links with the bolt, the lock plate links with the lock casing and is provided with the tooth space which matches for the key toggling gears; the key consists of a key casing, a **handle**, an inner sleeve, a locking **pin**, a **toggle** plate and etc., the bottom half of the **handle** is arranged inside the key casing, the inner sleeve is arranged inside the key casing and linked with the **handle**, the key **toggle** plate links with the inner sleeve, and the key **toggle** plate is provided with the key **toggle** gears which match for the tooth space. The meter box lock is provided with **safety**, pickproof and long life, the device can be widely used for various outdoor

meter box, **sewer** well **cover** and etc.

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- PN - [CN2427555Y](#) Y 20010425
- PR - CN2000237023U 20000601
- AP - CN2000237023U 20000601
- DT - I
- PA - HUANG XIAOGUANG [CN]
- TI - **Safety** screen type
manhole **cover** for preventing
persons from falling down
- AB - The utility model relates to
a **safety** screen type manhole
ring for preventing persons from
falling down used for an
underground pipeline, an
underground line, and a **sewer**.
The utility model is
characterized in that the inner
wall of a manhole ring 1 is
provided with a plurality of
connecting seats 2, each
connecting seat is hinged with a
guard rod 4 through a **pin** shaft
3, the end part of the connecting
end of the guard rod is extended
to the bottom of the manhole
ring, and a plurality of the guard
rods are flatly arranged to form
a guard fence. The utility model
can cause that the casualty
accident caused by that a
pedestrian falls into a manhole
can be effectively prevented
under the condition that a
manhole **cover** is stolen or is not
covered because of other various
reasons. Compared with an
existing manhole ring, the utility
model has the characteristics of
simple structure, high **safety**,
good guard property, easy
application, etc.

57/58 © EPODOC / EPO

PN - [CN2407217Y](#) Y 20001122

PR - CN2000222462U 20000307

AP - CN2000222462U 20000307

DT - I

PA - WU PEISEN [CN]

TI - Water draining valve with compressed air activator

AB - The utility model relates to a water draining valve with compressed air. The utility model is provided with a casing with an inlet connection pipe, a **sewer** valve and an emptying valve. A linkage mechanism with a ball float, a **lever**, a turning **cover** and an on-off valve is arranged in the casing. The on-off valve is automatically controlled to drain water and block air by means of the buoyancy difference on the ball float by the density difference of three mediums of oil, water and the air, and oil materials is recovered by the emptying valve in a concentrative way. A turning **cover** is installed above the on-off valve, which is favorable to the sedimentation and concentrative exhaust of slag for avoiding environment pollution. The utility model has the advantages of convenient use, **safety**, reliability, good effect of draining the water and the oil and discharging the slag and can supply compressed air with high quality to pneumatic equipment elements.

58/58 © EPODOC / EPO

PN - [CN1318674](#) A 20011024

PNFP - CN1148495C C 20040505

PR - CN2000107112 20000416

AP - CN2000107112 20000416

DT - I

- PA - (A C)
WANG YUE [CN]
- TI - (A C)
Anti-**theft** manhole **cover**
- AB - (A)
An anti-**theft sewer**
manhole **cover** is designed with
concealed **pin** to prevent prizing
open by the stranger.

[SS 19]