



New connection on: : 19-03-2018 : 19:56:14 - Last disconnection on: : 18-03-2018 : 23:13:29

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

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 Database: EPODOC

[EPODOC: SS 1] ladder and braking AND BOX

Results in EPODOC 16

[SS 2] movable and ladder

Results in EPODOC 2.927

[SS 3] Scaffolding and ladder

Results in EPODOC 526

[SS 4] /IC E06C1/39

Results in EPODOC 2.314

[SS 5] FOLDABLE STAIRWAY LADDER

Results in EPODOC 0

EPODOC: term 'FOLDABLE STAIRWAY LADDER' not found in index 'BI'. WARNING(1)

[SS 6] FOLDABLE AND STAIRWAY AND LADDER

Results in EPODOC 9

[SS 7] LADDER AND WHEEL

Results in EPODOC 2.978

[SS 8] 6

Results in EPODOC 9

[SS 9] LADDER AND BRAKING AND WHEEL

Results in EPODOC 55

[SS 10] ROLLBARE PLATTFORMLEITER ROLLING PLATFORM LADDER

Results in EPODOC 0

EPODOC: term 'ROLLBARE PLATTFORMLEITER ROLLING PLATFORM LADDER' not found in index 'BI'. *WARNING(1)*

[SS 11] ROLLBARE AND PLATFORM AND LADDER

Results in EPODOC 0

EPODOC: term 'ROLLBARE' not found in index 'BI'. *WARNING(1)*

[SS 12] LADDER AND WING AND ROLLER

Results in EPODOC 1

[SS 13] LADDER AND BOX AND MOBILE

Results in EPODOC 39

[SS 14] 1

Results in EPODOC 16

[SS 15] ..LI



1/16 © EPODOC / EPO

PN - [CN106809735](#) A 20170609

PR - CN20151858507 20151130

AP - CN20151858507 20151130

DT - I

CT - || STSE (A)

[CN200971290Y](#) Y 20071107 [A] (HUAZHONG JIANJI CO LTD ZHENGZH [CN])

[A] 1-5

* 全文 *;

[CN202542730U](#) U 20121121 [A] (GUANGDONG YONGTONG HOISTING MACHINERY CO LTD)

[A] 1-5

* 全文 *;

[CN103612995](#) A 20140305 [A] (ZHEJIANG DATANG HOISTING MACHINERY MFG CO LTD)

[A] 1-5

* 全文 *;

[TW201507950](#) A 20150301 [A] (DAIFUKU KK [JP])

[A] 1-5

* 全文 *;

[US8967403](#) B2 20150303 [A] (WON YU DONG [KR], et al)

[A] 1-5

* 全文 *;

[CN204689440U](#) U 20151007 [X] (HENAN ZHONGSHUO HOISTING MACHINERY CO LTD)

[X] 1-5

* 说明书[0016]-[0019]段，附图1-2 *

CNOI - [B66C19/00](#)
PA - XIE JIANKUI
TI - Novel indoor small-sized overhead crane for cargo transportation
AB - The invention relates to a novel indoor small-sized overhead crane for cargo transportation. The novel indoor small-sized overhead crane comprises a bottom moving roller, a bottom **braking** sheet, a steel wire storage **box** and a high-power variable-frequency motor, wherein a moving roller is mounted above the bottom moving roller; a climbing **ladder** is mounted above the moving roller; the bottom **braking** sheet is mounted above the climbing **ladder**; a top moving roller is mounted above the steel wire storage **box**; a top moving guide rail is mounted above the top moving roller; the upper part of the top moving guide rail is communicated with a crane bearing ribbed plate; the high-power variable-frequency motor is mounted below the crane bearing ribbed plate; and a transportation height limiter is mounted above the high-power variable-frequency motor. The novel indoor small-sized overhead crane for cargo transportation has the beneficial effects of capability of transporting heavy cargoes and also avoiding damage caused by collision with other cargoes due to extremely low transportation height and high transportation efficiency.

2/16 © EPODOC / EPO

PN - [CN205935605U](#) U 20170208
PR - CN20162878767U 20160801
AP - CN20162878767U 20160801
DT - I
PA - HUANGYANPING
TI - A remove hanging up for fitment
AB - The utility model discloses a remove hanging up for fitment, including workstation and bracing piece, the bracing piece surface is provided with the not recess of co - altitude, just the workstation links together through the recess with the bracing piece movably, the workstation is connected with folding little **ladder**, tool holder and debris **box** are installed to workstation upper surface one end, the tool holder bottom is installed and is stopped the pole, and installs rail guard and dead lever between the adjacent bracing piece, install the connecting rod between the bracing piece top, the connecting rod is connected with the couple. The bracing piece bottom is connected with the wheel frame, the wheel frame is connected with the wheel, the wheel frame is connected with the **braking** piece. This a remove hanging up for fitment, high workstation and rail guard can be controlled in the installation, has special tool holder and debris **box** moreover, utilizes simultaneously to stop pole and **braking** piece and keep the device in the stability of during operation, has ensured safety, has also improved efficiency, with having reduced the pollution.

3/16 © EPODOC / EPO

PN - [CN105439056](#) A 20160330

PNFP - CN105439056B B 20171117

PR - CN20151853912 20151127

AP - CN20151853912 20151127

DT - I

PA - (A)

TIANJIN BINHAI NEW AREA DAGANG XINGHUO PARK IND AND TRADE CO LTD

TI - (A)

Two-way **braking** safety climbing assistance device

AB - (A)

The invention relates to a two-way **braking** safety climbing assistance device. The two-way **braking** safety climbing assistance device comprises a vertical rod, an arc-shaped installation base, a U-shaped pipe clamp, a brake, a pulley support, a reversing wheel assembly, a steel rope guide rail and a weight **box**, and is characterized in that two locking assemblies opposite in hinge direction are arranged on the two sides of an anti-falling locking wheel in the brake respectively; the weight **box** comprises a counterweight sand **box**; an upper side way and a lower slide way which are consistent in direction are fixedly arranged on one side of the sand body; and a fan-shaped locking plate is arranged on the side, close to the steel rope guide rail, of the weight **box** and is connected with an automatic opening adjustment mechanism. Due to the adoption of the technical scheme, the assistance effect can be provided for operation personnel at a high position in the vertical **ladder** climbing process, and the physical ability consumption is lowered; and meanwhile, operating personnel can be safely hung in the air when operating personnel suddenly fall or a counter weight falls, and therefore the dual protection effect is achieved for operating personnel. In addition, the two-way **braking** safety climbing assistance device has the beneficial effects of being simple in structure, reasonable in design, low in manufacturing cost, easy to popularize, and the like.

4/16 © EPODOC / EPO

PN - [CN205036786U](#) U 20160217

PR - CN20152693185U 20150908

AP - CN20152693185U 20150908

DT - I

PA - XIANGYANG BILE HYDRAULIC MACHINERY CO LTD

TI - Take wet -type parking brake of double reduction case

AB - The embodiment of the utility model discloses take wet -type parking brake of double reduction case, its characterized in that, take wet -type parking brake of double reduction case includes: reducing gear **box** and parking brake. The reducing gear **box** is the shaft type calathiform of **ladder**, including shell, rear end cap, input gear axle, input shaft flange, second grade gear shaft, second grade drive gear and plane disc bearing mounting disc, parking brake includes casing, front end housing, moving axis, output shaft flange, dynamic friction piece, friction plate and parking **braking** piston, implement the embodiment of the utility model provides a, following beneficial effect has: the utility model discloses a take wet -type parking brake of double reduction case's gearbox and motor lug connection, the stopper output shaft connects with the transmission bridging, has reduced the middle transmission link, the corresponding transmission precision that has improved.

Compact structure, simple to operate has realized that electronic mining automobile operates steadily, the smooth -going target that changes speed has improved electronic mining automobile's travelling comfort.

5/16 © EPODOC / EPO

- PN - [CN105156075](#) A 20151216
- PR - CN20151457075 20150730
- AP - CN20151457075 20150730
- DT - I
- PA - SHENGLI OILFIELD LONGXI PETROLEUM ENGINEERING SERVICE CO LTD
- TI - Belt-free beam pumping unit
- AB - The invention provides a belt-free beam pumping unit. A support is arranged on one side of a base; a gear **box** is arranged on the other side of the base; a **ladder** is fixed on the support; the upper portion of the support is connected with a walking beam; a walking beam balancing block is arranged at one end of the walking beam; a groove beam is arranged on the lower portion of the walking beam balancing block, and is connected with a connecting rod through a groove beam shaft; the connecting rod is connected with an outputting shaft through a connecting rod shaft and a crank; the outputting shaft is fixed on one side of the gear **box**; a shifting handle and a **braking** handle are respectively arranged on one side of the upper portion of the gear **box**; a motor is arranged on the other side of the gear **box**; the inner side of the motor is connected with a coupler; and the coupler is connected with a **box**. The belt-free beam pumping unit has the advantages that a belt, a belt pulley, a motor seat and a frequency converter are omitted, so that manufacturing and maintaining cost is reduced; the power of the motor is lower than the power of the original motor by 50%; the belt-free beam pumping unit of which the speed is regulated mechanically purely is sturdy and durable, and reliability is high; the motor rises relatively, and the circumstance that the motor soaks in water in rainy seasons and is damaged is avoided; and moreover, the probability that the motor is stolen frequently is greatly reduced.

6/16 © EPODOC / EPO

- PN - [CN103802085](#) A 20140521
- PNFP - CN103802085B B 20151021
- PR - CN2014171249 20140301
- AP - CN2014171249 20140301
- DT - I
- CT - || STSE (A)
[US5058911](#) A 19911022 [Y] (HUNTER RUDOLPH [US], et al)
[Y]
[CN201562914U](#) U 20100825 [A] (UNIV WUHAN)
[A]
[US2008093166](#) A1 20080424 [A] (FROLIK DANNY [AU], et al)
[A]
[CN203696989U](#) U 20140709 [R] (STATE GRID CORP CHINA, et al)
[R]
[CN202299358U](#) U 20120704 [Y] (GEELY AUTOMOBILE RES INST ZJ, et al)
[Y]
[CN202925866U](#) U 20130508 [A] (CHONGQING SEAWIND POWER TECHNOLOGY CO

	LTD)
	[A]
	CN203050479U U 20130710 [A] (STATE GRID CORP CHINA, et al)
	[A]
PA	- (A) STATE GRID CORP CHINA; MAINTENANCE COMPANY OF STATE GRID HEILONGJIANG ELECTRIC POWER COMPANY
TI	- (A) Multifunctional movable platform special for overhauling and maintaining and maintaining method
AB	- (A) The invention relates to a multifunctional movable platform special for overhauling and maintaining and a maintaining method. A traditional overhauling framework or platform is over heavy or cannot be moved, is single in using method, can only be used for height ascending work, and cannot meet the requirement of an operating and maintaining integrated working mode at present any more. The multifunctional movable platform comprises a wheel (6), the wheel (6) is provided with a braking device, the brake wheel (6) is connected with the lower end of a stretchable support (4), the upper end of the stretchable support (4) is connected with a working platform (10), a tool box fixing rod (2) is installed at one corner of the working platform (10), a set of 360-degree rotating movable tool boxes (1) are installed on the tool box fixing rod (2), the working platform (10) is connected with a stretchable ladder (9) through a ladder rail movable rod (12), and the lower end of the stretchable ladder (9) is provided with the brake wheel (6). The multifunctional movable platform is the movable platform used for height ascending overhauling and maintaining.

7/16 © EPODOC / EPO

PN	- CN202431173U U 20120912
PR	- CN2012225778U 20120119
AP	- CN2012225778U 20120119
DT	- I
PA	- TIANJIN FIRE RES INST
TI	- Emergency escape extension ladder
AB	- The utility model relates to an emergency escape extension ladder . The emergency escape extension ladder comprises a box body, a slow descending recovery mechanism and an extension ladder mechanism; the box body is a closed type box body structure; the slow descending recovery mechanism is composed of a fixing shaft, a rotating shaft, a brake disc, a driving wheel, a pulling rope storage box , a shell, a braking belt adjusting ring, a braking belt, a driving wheel non-return device, a swinging rope collecting part, a guide apparatus and a pulling rope; the shell is a round box which is provided with a sealing cover at one end; the driving wheel non-return device is composed of a barrel and a non-return rod; the swinging rope collecting part is composed of a ratchet wheel, a positive and negative rotating spanner and a recovery handle; the pulling rope is penetrated through the guide apparatus and is wound in a groove of the pulling rope storage box ; and the extension ladder mechanism comprises a vertical support, a horizontal pipe and an extension ladder . The emergency escape extension ladder has the advantages that the emergency escape extension ladder has compact structure, is convenient and fast to operate and has strong evacuation capacity and wide application range, an

upper cover plate and a lower cover plate are opened and stopped in a linkage manner, the extension **ladder** slowly extends, is manually recovered and can realize the rapid evacuation and escape of lots of personnel in buildings under critical situations such as sudden fire accidents.

8/16 © EPODOC / EPO

PN - [CN202181155U](#) U 20120404
 PR - CN20112229916U 20110701
 AP - CN20112229916U 20110701
 DT - I
 PA - HAIFENG LI
 TI - Construction lifting machine
 AB - The utility model discloses a construction lifting machine which comprises a **ladder** frame which is formed by standard sections, a **ladder** cage, a counter-weight, a driving device, a safety device and a **braking** device, wherein at least one guide rail is arranged on the **ladder** frame, the **ladder** cage is arranged on the guide rail, the counter-weight is connected with the **ladder** cage by a steel wire rope, the counter-weight is heavier than the **ladder** cage by 800-1200kg, a driving device main body is arranged at the top of the **ladder** cage, the driving device is arranged on the driving device main body and comprises two worm wheel boxes, the **braking** device comprises at least one electromagnetic **braking** motor and an electromagnetic brake, the electromagnetic **braking** motor is connected with one worm wheel **box**, the electromagnetic brake is connected with the other worm wheel **box**, and the safety device is arranged on the **ladder** cage and comprises at least one falling protector. The construction lifting machine utilizes the principle that the counter-weight is heavier than the **ladder** cage, the use of one motor is eliminated; the load of the motor is reduced along with the addition of goods when the **ladder** cage loads the goods within 1000kg; and through experimental analysis, the energy can be saved by 50-70 percent.

9/16 © EPODOC / EPO

PN - [CN202028055U](#) U 20111109
 PR - CN2011264783U 20110314
 AP - CN2011264783U 20110314
 DT - I
 PA - GUANGZONG PENG
 TI - High-building escape system with rope **ladder**
 AB - Provided is a high-building escape system with a rope **ladder**. The escape system consists of an escape device and a rope **ladder**, wherein the escape device comprises an upper **box** body and a lower **box** body. A front rope **ladder** entry and a rear rope **ladder** entry which are symmetrical to each other are respectively disposed on the front wall plates and the rear wall plates of the upper **box** body and the lower **box** body. Two rear rolling shaft seats and one rear rolling shaft are arranged on the rear wall plate of the upper **box** body. Two front rolling shaft seats and one front rolling shaft are arranged on the front wall plate of the lower **box** body. Two hinges are installed on the right side wall plates of the upper **box** body and the lower **box** body. A lock catch seat is positioned on the left side wall plate of the upper **box** body and a moving lock catch is positioned on the left side wall plate of the lower **box** body. A safety belt hook and a handle ring are mounted on the

bottom plate of the lower **box** body. Both the left side wall plate and the right side wall plate inside the upper **box** body are provided with gear shaft seats, gear shafts, shaft sleeves and gears, which are correspondingly symmetrical. Both the left side wall plate and the right side wall plate inside the lower **box** body are respectively provided with gear shaft seats, gear shafts, shaft sleeves and gear **braking** devices with brake discs, which are correspondingly symmetrical. For the high-building escape system, one rope **ladder** can be provided with a plurality of escape devices.

10/16 © EPODOC / EPO

- PN - [CN101954918](#) A 20110126
- PR - CN20101290510 20100925
- AP - CN20101290510 20100925
- DT - I
- PA - LUOYANG POWER SUPPLY CO HENAN
- TI - Multifunctional hand truck
- AB - The invention discloses a multifunctional hand truck which comprises a truck **box**, truck wheels are arranged at the lower part of the truck **box**, multiple layers of partition boards are arranged in the truck **box**, and multiple material storage layers are formed between the partition boards and the truck **box**. The multifunctional hand truck can be made of metal or a hard insulating material, the layering of the truck **box** is convenient for storing a shade and railing purse net, a purse net bracket, a nameplate, a dedicated handle for disconnecting link operation and other tools, and the truck **box** is partitioned for fixed position arrangement for convenient taking and management according to the size of objects. The truck main body is provided with four brake type wheels with **braking** function, which is convenient for transportation and stability enhancement during parking. The end part of the truck is provided with a retractable insulating **ladder**, and the folding and the retraction and extension of the insulating **ladder** are realized by using a movable connecting board and a rotary shaft. After the insulating **ladder** is extended, the movable connecting board is well fixed by using a connecting board fastener so as to ensure the reliability of the insulating body.

11/16 © EPODOC / EPO

- PN - [CN201679482U](#) U 20101222
- PR - CN20092278926U 20091112
- AP - CN20092278926U 20091112
- DT - I
- PA - PING ZHAO
- TI - Direct-traction type pumping unit with outer rotor motor
- AB - The utility model discloses a direct-traction type pumping unit with an outer rotor motor, which consists of a low-speed large-torque permanent magnet motor, an upper barrier, a crawling **ladder**, a lifting system, a lifter, a cross arm beam, a cylindrical support upright column, a pumping rod, a two-layered platform, a movable **ladder**, a control **box**, a hand-operated **braking** system, a movable clamping mechanism, a track, a wellhead, a concrete foundation and the like. The direct-traction type pumping unit is simple in structure, reliable in property, simple in processing technique and the like, and greatly improves indexes of efficiency increasing, energy saving, emission reducing and consumption reducing compared

with other pumping units.

12/16 © EPODOC / EPO

PN - [CN101696624](#) A 20100421

PR - CN20091210910 20091112

AP - CN20091210910 20091112

DT - I

CCI - [F04B47/02](#) ; [F21B43/126](#)

PA - PING ZHAO

TI - External rotor motor direct traction type oil extractor

AB - The invention discloses an external rotor motor direct traction type oil extractor, comprising a permanent-magnet machine with low speed and high torque, an upper guardrail, a **ladder** stand, an elevating system, an elevator, a cross arm beam, a cylinder support upright column, an oil sucking rod, a two-board platform, a mobile stairway, a controlling **box**, a manual **braking** system, a movable clamping mechanism, a track, a well mouth, a concrete foundation and the like. The invention has the advantages of compact structure, reliable performance, simple processing technology and the like, and greatly improves indexes on efficiency increase, energy saving, emission and consumption reduction compared with other machine types.

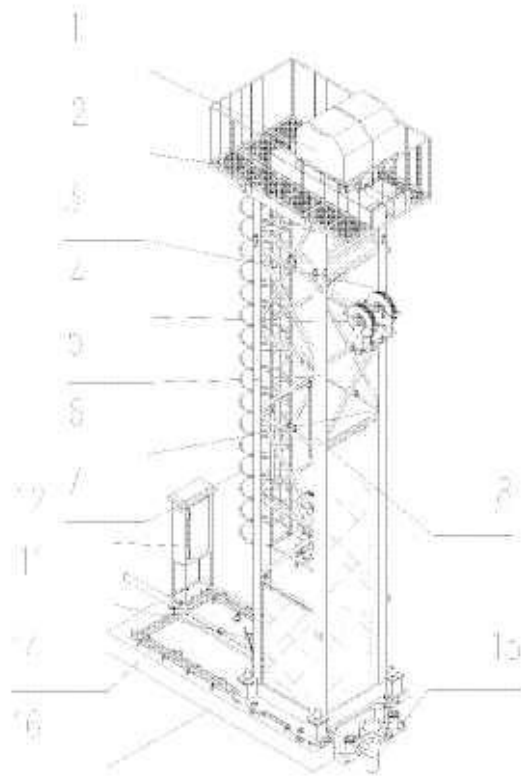


FIG. 1

13/16 © EPODOC / EPO

PN - [US4274502](#) A 19810623

PR - US19790026692 19790403

AP - US19790026692 19790403

DT - *

CT - [US2800188](#) A []; [US2821949](#) A [];
[US3001601](#) A [
]; [US3052311](#) A [];
[US3367436](#) A [
]; [US3444837](#) A [];
[US3485313](#) A [
]; [US3572454](#) A []

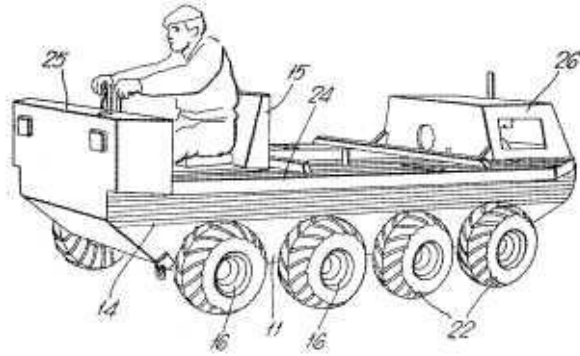
CTNP - [] "Automotive Digest",
8/1953, pp. 83-94

CCI - [B60F3/00](#) ; [B60F5/003](#) ;
[B62D11/08](#) ; [B62D21/16](#) ;
[B62D61/10](#)

PA - SOMERTON RAYNER MICHAEL

TI - All-terrain amphibious
vehicle

AB - An automotive vehicle is
provided, for use inter alia
as a mobile anti-tank guided
missile-firing platform,
which is sufficiently
inexpensive to be
expendable in battle and can
be readily carried by a
helicopter. The vehicle has a
main frame comprising a
pair of longitudinal
closed **box** section members
joined to form a **ladder**
construction by a cross
member and having strong
points for the mounting of
an engine and gearbox. The
ground wheels, which lean
outwards by about 5
degrees, are mounted on
stub axles journaled in
the **box** section members
and are all driven by chains
housed in oil baths within
the **box** section members.
Steering is accomplished
by **braking** the transmission
on one side or the other. The
wheel tires are low pressure
raw hide tires. The
closed **box** section members



project below the body of the vehicle and have toboggan-shaped ends to act as runners in snow. The body of the vehicle is constructed as a waterproof **box** to give buoyancy. The front and back wheels are higher on the frame than the center wheels.

14/16 © EPODOC / EPO

PN - [GB113472](#) A 19180219

PR - GB19170002431 19170219

AP - GB19170002431 19170219

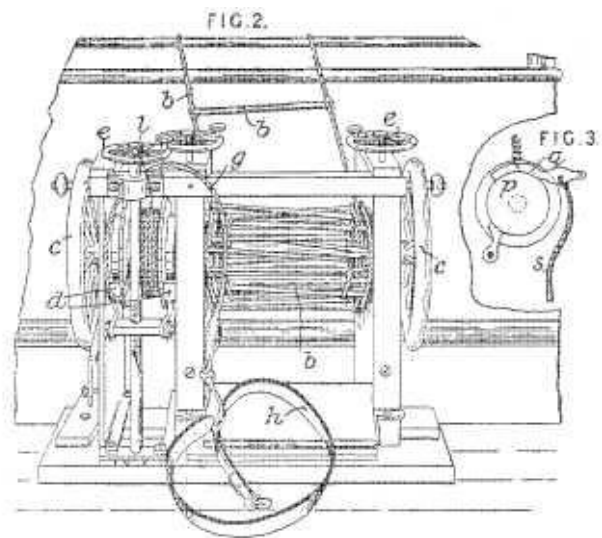
DT - *

CCI - [E06C9/14](#)

PA - WALDEN WILLIAM

TI - Improvements in or relating to Fire Escapes.

AB - 113,472. Walden, W. Feb. 19, 1917. Brakes and retarding-apparatus for winding and paying-out apparatus.-A fire-escape of the kind comprising a wire-rope **ladder** designed to be rolled up in a **box** or cabinet situated inside a building is provided with means by which a person descending can regulate his own speed by means of a rope running down the side of the **ladder**, and is also provided with a life-line which can be similarly braked by the person descending the **ladder**. Fig. 2 shows the apparatus with the casing removed; a roller provided with hand wheels c carries a flexible rope **ladder** b the bottom rung of which is weighted, and is provided with ratchet and pawl checking means or with rim brakes d operated by handles e. An alternative **braking** arrangement for use by the person descending with



the **ladder** comprises a drum p, Fig. 3, situated near the side of the rope **ladder** provided with a brake q operated by a rope s. A rope g carrying a sling p for lowering a person passes around the drum c which is provided with brakes similar to those on the **ladder** drum.

15/16 © EPODOC / EPO

- PN - [CN2706391Y](#) Y 20050629
- PR - CN2004228558U 20040319
- AP - CN2004228558U 20040319
- DT - I
- PA - LIU JIANHUI [CN]
- TI - Rear driven man power passenger tricycle
- AB - The utility model belongs to a manual tricycle which is composed of a driven wheel fixedly connected with one end of a front tricycle axle, a driven wheel rotatably connected with the other end of the front tricycle axle, a front bracket body supporting the front tricycle axle, a rear tricycle bracket axially connected with the front bracket body, a driving wheel, a saddle seat, a pedal chain driving mechanism provided by the rear tricycle bracket and a **braking** mechanism acting on the front tricycle axle, wherein, the front bracket body is provided with a seat the front end of which is provided with a pedal plate, the rear side of a back rest of the seat is provided with a turning armrest, an article storage **box** is arranged at the bottom of a cushion, and a symmetrical type tricycle **ladder** which can touch down is supported by a wheel shaft of the driving wheel. The manual tricycle is convenient for the rider to monitor the condition of the passenger, can effectively reduce the possibility of unexpected falling and bruising of children or old people, and can also avoid the loss of articles, so that the manual tricycle is convenient for the old couple to talk when using. The symmetrical type tricycle **ladder** is convenient for the user to train the leg part, so the symmetrical type tricycle **ladder** is favorable for body building. In addition, the nursing person can ride the tricycle instead of walking, compared with the wheelchair. The manual tricycle has the outstanding advantages of reasonable structure, convenience and practicability.

16/16 © EPODOC / EPO

- PN - [CN2097151U](#) U 19920226
- PR - CN1990212068U 19900329
- AP - CN1990212068U 19900329
- DT - I
- PA - WANG BAORYUAN [CN]
- TI - BICYCLE HANDLEBAR WITH FITTINGS BOS
- AB - The utility model relates to a **box** type bicycle handlebar with built-in fittings, belonging to the class of communications and transportation. The **box** type bicycle handlebar with built-in fittings of the utility model is formed by full injection or combination of iron and plastics. The utility model is characterized in that the O-

shaped cross section of the original handlebar pipe materials is changed into a strip-shaped container type handlebar; the strip-shaped container type handlebar is composed of two big blocks which are an upper block and a low block, can be opened, and has **ladder**-shaped cross sections. As a result, tightly suspended screw rods, **braking** fittings, an electric horn, batteries, and other components can be built in the utility model so that the handlebar is neat, beautiful, and practical. Because a covered plastics surface or covered leather can be manufactured to have different colors, the tone of an entire car is matched with the color of the covered plastics surface or the covered leather. The utility model is upgraded to the high class, and electroplating is saved, and thereby, cost and environmental pollution are reduced.

[SS 15] 6 OR 13

Results in EPODOC 48

[SS 16] ..LI



1/48 © EPODOC / EPO

PN - [RU2642214](#) C1 20180124

PR - RU20170108546 20170314

AP - RU20170108546 20170314

DT - I

CT - || STSE (C1)

[SU187816](#) A1 00000000 [];

[SU742310](#) A1 19800625 [] (INST LITYA AN USSR [SU]);

[RU2008121432](#) A 20091210 [];

[RO120715](#) B1 20060630 [] (OUTOKUMPU OY [FI]);

[CN203231636U](#) U 20131009 [] (JIANGSU SINONIC PREC ALLOY TECHNOLOGY CO LTD, et al)

PA - TRUSOV VLADIMIR ALEKSANDROVICH [RU]

TI - PLANT FOR LOADING CHARGE MATERIALS INTO INDUCTION FURNACE FOR MELTING FERROUS AND NONFERROUS METALS

AB - FIELD: heating.SUBSTANCE: invention relates to an installation for loading a batch into an induction furnace. Installation contains a loading bin, a vibrating machine movable along the track with a batch loading device, a loading tray, a vibrating mechanism, in accordance with the invention, it is provided with a device for removing contaminants from the batch during its charging into an oven, consisting of a grid with apertures, a storage bin and a **box** with a handle for removing contaminants, guides and two locks securing the **box** to the guides, note here that support are secured at vibrating loader welded frame to fasten the loading chute with loading chute arranged there above, the loading chute has a rear and two side walls and is welded of sheet steel, the vibrating mechanism of the machine consists of four unbalanced centrifugal vibrators, which are fixed on four plates-brackets welded to the side walls of the loading chute, and there is the slip, welded to the edge of loading chute, in the middle part of the frame on a steel plate welded to it there is a drive for a **mobile** vibrating machine moving down the rails along a row of furnaces, in this case, the device for loading a batch into the movable vibrating machine consists of four hoppers supported by four columns, while a support platform with a **ladder** is welded to two columns, in addition, the hoppers are equipped with pneumovibrators and stirrup with a pneumatic drive, the weighing of

the batch is carried out on electronic platform scales, the feed of the batch from the batch storage to the hoppers is carried out by grooved belt conveyors, and the movable vibrating machine unloading into the hopper is performed on a steel slime located under each hopper.EFFECT: higher reliability, mechanized feed of charge materials into an induction furnace.4 cl, 5 dwg

2/48 © EPODOC / EPO

- PN - [CN205778488U](#) U 20161207
- PR - CN20162509368U 20160530
- AP - CN20162509368U 20160530
- DT - I
- PA - STATE GRID CORP CHINA; STATE GRID CHONGQING ELECTRIC POWER COMPANY
BISHAN POWER SUPPLY BRANCH; CHONGQING XIYUAN ELECTRIC POWER
INSTALLATION ENG CO LTD
- TI - **Mobile** climbing **ladder**
- AB - The utility model provides a **mobile** climbing **ladder** contains rectangular shape and upper end open -ended **box**, and the bottom of **box** is equipped with the gyro wheel that is used for support and moving **box** body, install a plurality of fork supports of cutting in the **box**, respectively cut the equal independent packet of fork support and contain the pneumatic cylinder, cut the fork support through hydraulic cylinder drive and do ascendingly or descending, a plurality of fork supports of cutting are the in -line along **box** length direction and arrange, and respectively cut maximum height that the fork support can reach with by the preceding mode range that scales up gradually in proper order after to, the top of respectively cutting the fork support all is fixed with the footboard, be equipped with first -order step plate in **box** open -ended one end, first -order step plate is adjacent with the footboard that rising position is minimum, first -order step plate's side is located to the drive button of each pneumatic cylinder for control corresponds the extension or the shrink of pneumatic cylinder, the beneficial effects of the utility model are that: be suitable for a certain height than the operation of large area scope, and can utilize the adjacent transmission that the fork support carries out a large amount of instruments of cutting under the operator does not stop the circumstances of operation.

3/48 © EPODOC / EPO

- PN - [CN206371374U](#) U 20170804
- PR - CN201621388253U 20161217
- AP - CN201621388253U 20161217
- DT - I
- PA - ZHONGSHAN LONG STAR POWER TECH LTD
- TI - Intelligence system of killing mouse
- AB - The utility model discloses an intelligence system of killing mouse, including built - in APP's smart **mobile** phone, coordinator, repeater, detection instrument, the bucket that kills mouse, rat **box** goes out, the detection instrument can 180 degrees no dead angle survey mouse worm trace and with passing to the repeater on the signal, the repeater passes to the coordinator after with the signal amplification on and, the coordinator passes to built -in APP's smart **mobile** phone on with the signal, the bucket that kills mouse all is equipped with infrared sensing devices, control circuit, bait, tablet on the rat **box** with going out, infrared sensing devices is

connected with the control circuit electricity, control circuit gives built -in APP's smart **mobile** phone with signal transmission kill mouse the bucket the side be equipped with the cat **ladder**, also placed the bait on the cat **ladder** it is equipped with the clamp that kills mouse in the rat **box** to go out, the utility model discloses simple structure, design benefit, convenient to use, intelligent degree height.

4/48 © EPODOC / EPO

PN - [CN206229741U](#) U 20170609
 PR - CN201621063144U 20160919
 AP - CN201621063144U 20160919
 DT - I
 PA - CHINA CONSTR 8TH ENG DIVISION
 TI - Mechanical and electrical installation reserves line **box** clearance instrument
 AB - The utility model relates to a mechanical and electrical installation reserves line **box** clearance instrument, include: fully adjustable's action bars, set firmly in the containing barrel at action bars top, the open -ended size at containing barrel top is greater than the size of reserving the line **box**, and set firmly in interior and protruding the stretching out of containing barrel containing barrel open -ended stripper bar. The utility model discloses a fully adjustable's action bars for constructor stands can clear up the reservation line **box** of eminence on ground, reduce high altitude construction's danger, avoids using herringbone **ladder** or **mobile** scaffold, has saved corresponding work load. Utilize containing barrel will reserve line **box** grasping, at the clearance in -process, fillers such as sawdust can be received and put in containing barrel, have avoided the sawdust to scatter and have flown upward the trouble that needs the secondary clearance, and set up the stripper bar in containing barrel, and that can clear up is more laborsaving, more convenient.

5/48 © EPODOC / EPO

PN - [CN206090656U](#) U 20170412
 PR - CN201621123737U 20161016
 AP - CN201621123737U 20161016
 DT - I
 PA - CHE GUOLI
 TI - Dig instrument of getting mud
 AB - The utility model relates to an instrument class, name are dig instrument of getting mud, and it includes a **mobile** jib, and the first handle of side -mounting above the **mobile** jib is the structure of hollow in the middle of the **mobile** jib, and at the lower extreme installation bucket **ladder** of **mobile** jib, the bucket **ladder** hinges a pair of bucket, the closed container that forms a splendid attire mud of bucket, and the bucket is opened, forms the import of mud below a pair of bucket, there is a pull pole in the structure of **mobile** jib hollow, installation second handle above the pull pole, hinge joint linkage below the pull pole, connecting rod be articulated bucket still, operation second handle, push -and -pull pull pole, the connecting rod drives the bucket lower extreme and forms closure state or open mode, the **mobile** jib include two branch **mobile** jibs, the draw -bar **box** that takes out draw together two branch pull poles. Such dig instrument of getting mud has simple structure, convenient to use's advantage.

6/48 © EPODOC / EPO

- PN - [CN205795366U](#) U 20161214
- PR - CN20162339740U 20160421
- AP - CN20162339740U 20160421
- DT - I
- PA - WEIFANG FUDE ELECTRONIC COMMERCE CO LTD
- TI - On multi -functional slide of leaving bed and functional mattress who uses thereof
- AB - The utility model relates to an on multi -functional slide of leaving bed and functional mattress who uses thereof, including the cabinet, the cabinet is equipped with fixed footboard, and the downside of fixed footboard is equipped with controlling means, and controlling means includes drive gear and drive gear, and drive gear is fixed with and stirs the handle, stirs and is equipped with resilient means between handle and the cabinet, and drive gear is equipped with resetting means, the last telescopic slide rail that is fixed with of drive gear, telescopic slide rail keep away from that drive gear is articulated to have the connecting rod, and articulated on the connecting rod have a removal footboard, and the both ends slidable mounting that the footboard was removed at the middle part is on two adjacent **mobile** rail, and the tip removes footboard one end slidable mounting on **mobile** rail, the below that the tip removed the footboard is equipped with the storing **box**, still includes drive arrangement. On multi -functional slide of leaving bed and functional mattress who uses thereof realizes the interconversion of cat **ladder** and slide, has recreationally and the practicality, and occupation space is little, has increased the space utilization in bedroom, has improved people's quality of life.

7/48 © EPODOC / EPO

- PN - [CN205985901U](#) U 20170222
- PR - CN201621009112U 20160831
- AP - CN201621009112U 20160831
- DT - I
- PA - SHANDONG MODERN HENGDA ELECTRICAL APPLIANCE CO LTD
- TI - Over -and -under type **mobile** substation
- AB - The utility model provides an over -and -under type **mobile** substation, belongs to distribution equipment technical field, the transformer substation includes **box** substation, roof that the **box** upper end set up, and delivery automobile body that the **box** lower extreme set up, its characterized in that, the bottom of **box** is provided with brake function's steel wheel, the lower extreme of steel wheel is provided with the delivery flat board, and the central symmetry of four dull and stereotyped sides of delivery is provided with the cat **ladder**, and the four corners rigidity that delivers dull and stereotyped bottom has the jack, and the piston rod of jack is fixed in the dull and stereotyped bottom of delivery, and the superficial symmetry of hydro -cylinder of jack is fixed with the strengthening rib, and the other end sliding connection of strengthening rib is in the strip connected in star, the dull and stereotyped bottom mounting of delivery has four tires, the beneficial effects of the utility model are that the nimble of transformer substation of highly realizing through adjusting the jack goes up and down, and the tire through steel wheel **box** substation under and delivery dull and stereotyped bottom can make the nimble removal of transformer substation, it is compact, with low costs to become power station structure, can improve the flexibility and the high efficiency of

transformer substation's delivery.

8/48 © EPODOC / EPO

PN - [CN106370238](#) A 20170201

PR - CN20161971365 20161031

AP - CN20161971365 20161031

DT - I

CT - || STSE (A)
[CN201555912U](#) U 20100818 [Y] (STATE GRID ELECTRIC POWER RES INST)
[Y] 1-9
* 说明书第[0005]-[0012]、[0016]-[0021]段，附图1 *;
[CN201583644U](#) U 20100915 [Y] (STATE GRID ELECTRIC POWER RES INST, et al)
[Y] 1-9
* 说明书第[0010]、[0024]段，附图1、3-4 *;
[CN201852889U](#) U 20110601 [A] (STATE GRID ELECTRIC POWER RES INST)
[A] 1-9
* 全文 *;
[JP3201710U](#) U 20151224 [A]
[A] 1-9
* 全文 *;
[CN206330605U](#) U 20170714 [R] (TIANJIN KAHUER ELECTRICAL TECH CO LTD)
[R] 1-5
* 权利要求1-5 *

CNOI - [B60P3/00](#) ; [G01D21/02](#)

PA - PI PUJUN

TI - Large-and-medium-sized photovoltaic power station **mobile** detection platform

AB - The invention discloses a large-and-medium-sized photovoltaic power station **mobile** detection platform which comprises a **mobile** carrier. A drive rotation shaft is arranged at the top of the **mobile** carrier. The drive rotation shaft is rotatably connected with a side wing **box** cover. The **mobile** carrier below the side wing **box** cover is provided with an automatic telescopic **ladder**. An electric rolling gate is arranged on the rear end of the **mobile** carrier. A wireless transmitting and receiving device is arranged at the top of the top of the head of the **mobile** carrier. A detection operation platform is arranged on one end, which is close to the wireless transmitting and receiving device, in the **mobile** carrier. A motion detection centralized control system is embedded in the detection operation platform. According to the invention, unified control of the whole platform can be completed through a photovoltaic power station detecting device and the detection operation platform; data acquisition and data analysis processing are carries out; and the large-and-medium-sized photovoltaic power station **mobile** detection platform has the advantages of **mobile** flexibility, high integration, easy operation and maintenance and the like, and facilitates experiments and detection of large-and-medium-sized photovoltaic power stations.

9/48 © EPODOC / EPO

PN - [CN205616510U](#) U 20161005

PR - CN20162231358U 20160322

AP - CN20162231358U 20160322

DT - I

PA - ZHOU ZHIPEI

TI - Tool **box** base

AB - The utility model discloses a tool **box** base, including elevating gear, connecting plate and **box** fixed connection are passed through to elevating gear's top, the inside of **box** is seted up flutedly, and the inside of recess is provided with the **mobile** device, the inside of **box** is provided with the motor, the **mobile** device includes the rack and pinion, and the inner wall swing joint of the surface of rack and recess, be provided with second tooth on the rack, be provided with first tooth with second tooth looks adaptation on the gear. This tool **box** base has improved work efficiency, and the toolbox position of placing is very safe moreover, and the fixed safety of placing the staff of walking below the **ladder** in toolbox also is a guarantee, avoided the staff by the cerebral concussion after pounding, scratch, the head is broken and maimed emergence, this has practiced thrift the time that the staff went to a hospital to see a doctor, has practiced thrift wealth, it is convenient that the life given people has brought.

10/48 © EPODOC / EPO

PN - [CN205527103U](#) U 20160831

PR - CN20162326028U 20160419

AP - CN20162326028U 20160419

DT - I

PA - SHANDONG BOULTER ELEVATOR CO LTD

TI - Elevator call device

AB - The utility model provides an elevator call device, includes that the elevator exhales **ladder box** (100), still includes bluetooth module (200) and power module (300), power module (300) do bluetooth module (200) provide the power, bluetooth module (200) are used for establishing the bluetooth with smart **mobile** phone (400) and pair signal connection, and store the bluetooth information of paiing of smart **mobile** phone (400), receive bluetooth module (200) smart **mobile** phone (400) conveying comes exhales terraced signal, send for **ladder box** (100) is exhaled to the elevator. The utility model discloses convenient to use, high, the installation facility of security.

11/48 © EPODOC / EPO

PN - [CN205492938U](#) U 20160824

PR - CN2016278387U 20160127

AP - CN2016278387U 20160127

DT - I

PA - SHANGHAI LIANG LIANG BIO-TECHNOLOGY CO LTD

TI - Cosmetic **box**

AB - The utility model discloses a cosmetic **box**, including lid, **box** body, **mobile** jib, foundation cream brush unit, foundation cream, the lid is gyration notch cuttype structure to be provided with the turn -bucklet on the surface of revolution of lower part, the **box** body is gyration notch cuttype structure, places the foundation cream by being provided with 6 rectangle storage tanks of evenly arranging in the first layer **ladder** on going, places foundation cream brush unit foundation cream brush unit by being provided with 6 rectangle storage tanks of evenly arranging in the second floor **ladder** on going, is provided with cylindrical storage tank in the middle of the **box** body and places the **mobile** jib, sets up the turn -bucklet on the

face of cylinder of **box** body side, through pack into the low dose of foundation cream of 6 kinds of differences of cosmetic **box** body to the **mobile** jib is put into in the middle part space, with inserted and combined's mode, and can the match foundation cream brush unit of 6 kinds of differences of **mobile** jib, the **box** body closes the installation with the lid soon, conveniently takes, and its simple structure, convenient to use, occupation space are little, are particularly suitable for short-term trip use.

12/48 © EPODOC / EPO

PN - [CN105730555](#) A 20160706
 PR - CN20141752339 20141211
 AP - CN20141752339 20141211
 DT - I
 PA - CHANGZHOU ZHONGMAO MACHINERY CO LTD
 TI - Movable emergency communication trailer
 AB - The invention belongs to communication equipment and particularly relates to a movable emergency communication trailer. The movable emergency communication trailer comprises an equipment compartment, and equipment is arranged in the equipment compartment. The movable emergency communication trailer is characterized in that the equipment compartment is fixed to a trailer platform; the trailer platform is provided with wheels; a trailer hook is arranged at the front end of the trailer platform; the trailer platform is provided with a lifting rod, a lifting motor, a control **box** and a crawling **ladder**; the lifting rod is connected with an antenna support; and the lower portion of the trailer platform is provided with movable supports and a lifting **ladder**. By the adoption of the movable emergency communication trailer, when a **mobile** communication base station is destroyed, a network is disconnected or a communication channel is jammed, a communication base station high in maneuvering ability and proper in emergency measure is provided. The movable emergency communication trailer can reach a site within the shortest time through a traction headstock for network coverage. When the movable emergency communication trailer is not used, the movable supports are erected, the antenna support is retracted through the lifting rod, and the trailer is simple and convenient to use.

13/48 © EPODOC / EPO

PN - [CN105383775](#) A 20160309
 PR - CN20151988507 20151224
 AP - CN20151988507 20151224
 DT - I
 CT - || STSE (A)
[JPH11346843](#) A 19991221 [A] (SANSUI ELECTRIC CO)
 [A] 1-7
 * 全文 *;
[CN201288499Y](#) Y 20090812 [A] (ZHONGSHAN TOPSTRONG METAL PROD [CN])
 [A] 1-7
 * 全文 *;
[CN201591274U](#) U 20100929 [Y] (XUCHAO SHEN)
 [Y] 1-7
 * 说明书第[0003]至[0008]段,附图1 *;
[CN202558081U](#) U 20121128 [A] (BOE TECHNOLOGY GROUP CO LTD, et al)

[A] 1-7

* 全文 *;

[CN203943316U](#) U 20141119 [Y] (CHENG XIAOJUN)

[Y] 1-7

* 说明书第[0014]段至[0027]段,附图1-2 *;

[CN205221386U](#) U 20160511 [R] (UNIV ANQING NORMAL)

[R] 1-7

* 权利要求1-7 *

- CNOI - [B65D25/06](#) ; [B65D90/00](#) ; [B65D90/0073](#) ; [E06C9/085](#)
- CNOA - [B65D2590/0091](#)
- PA - UNIV ANQING NORMAL
- TI - Electronic experiment **box** collecting and integrating device provided with **mobile ladder** frame
- AB - The invention discloses an electronic experiment **box** collecting and integrating device provided with a **mobile ladder** frame. The electronic experiment **box** collecting and integrating device comprises a device body, clamping boards, ladders, guide sliding rods and fixing bases. The device body is a rectangular cylinder, the middle of an opening in the rectangular cylinder is provided with first partition plates, the device body is divided into two parts, second partition plates are arranged in the longitudinal direction of the opening in the rectangular cylinder, and the second partition plates and the first partition plates are in square crossing. The two surfaces of each second partition plate are both provided with clamping plate grooves, the inner surfaces of the two sides of the device body are both evenly provided with the clamping plate grooves, and the two sides of each clamping plate are matched with the two clamping plate grooves which are horizontally opposite to each other respectively. According to the electronic experiment **box** collecting and integrating device, the electronic experiment **box** collecting and integrating device utilizing the vertical space is arranged in a laboratory and is concentrated in space utilization, space adjustment can be conducted according to experiment boxes of different specifications, and the experiment boxes can be well collected, taken for use and managed.
- 14/48** © EPODOC / EPO
- PN - [CN205021426U](#) U 20160210
- PR - CN20152757427U 20150928
- AP - CN20152757427U 20150928
- DT - I
- PA - CHINA NAT OFFSHORE OIL CORP; OFFSHORE OIL ENG CO LTD; OFFSHORE OIL ENG QINGDAO CO
- TI - **Mobile** sanding apparatus
- AB - The utility model provides a **mobile** sanding apparatus, includes: a workshop main part, set up slide roof beam, dehydrating unit at workshop main part top, wherein, slide roof beam both sides are installed and are swept device, dehydrating unit, ventilation dust collector, still install the abrasive material in the main part of workshop and retrieve and recycle device and vertical **ladder**, the flatbed transport corridor that the bottom of workshop main part was equipped with, this abrasive material is retrieved and is recycled the device and is connected by auger delivery ware, the machine of carrying of fighting, shale shaker, dirt ball separator **box**, sandblast bucket to constitute. The utility model discloses not only can be used for the sand -blast treating to small -size steel construction, solved with large scale

structure spare nervous problem of land used when the sand -blast treating, and, can also handle the dust that the sandblast produced effectively, solved staff's health and environmental security problem, provide good construction environment for sand -blast treating.

15/48 © EPODOC / EPO

- PN - [CN204915428U](#) U 20151230
- PR - CN20152749553U 20150925
- AP - CN20152749553U 20150925
- DT - I
- PA - LONGYAN HELIOS AUTOMOBILE CO LTD
- TI - Variable frequency power supply car
- AB - The utility model relates to a **mobile** power supply device especially relates to a variable frequency power supply car. A variable frequency power supply car, includes chassis car, carriage, generating set, control panel and cable reel, and the converter is installed in the carriage, and control panel passing signal line links to each other with converter and generating set respectively, the converter passes through the wire and links to each other with generating set and junction **box** respectively. Install engineering warning lamp, lift lighting device and supporting leg on the car of chassis, the carriage is provided with the shutter and falls the silencing device that makes an uproar, the carriage is installed the cat **ladder** and is backed a car the probe, the carriage is provided with the hutch, the junction **box** installs the quick connector. When using with motor load is supporting, can reduce emergency power source car power greatly to the load of same power, the price / performance ratio that improves the emergency power source car with reduce the fuel loss, adopt this kind of variable frequency power supply car simultaneously, can provide the power that multiple power selected, improve the variety on the automobile -used way of emergency power source.

16/48 © EPODOC / EPO

- PN - [CN204915427U](#) U 20151230
- PR - CN20152718193U 20150917
- AP - CN20152718193U 20150917
- DT - I
- PA - LONGYAN HELIOS AUTOMOBILE CO LTD
- TI - Remove bar car
- AB - The utility model relates to a **mobile** device especially relates to a remove bar car. A remove bar car, includes chassis car, carriage, generating set, switch board, the carriage is provided with bar room, kitchen, bathroom, reservoir chamber and encloses the case under and, bar counter, seat are installed to the bar room, vegetable sink, refrigerator, oven, gas -cooker, locker, light, workstation and smoke ventilator are installed to the kitchen, toilet bowl and wash platform are installed to the bathroom, storage water tank and water pump are installed to the reservoir chamber, under enclose the case and install generating set and switch board, the carriage is provided with junction **box**, sewage case, pull **ladder**, vaulting pole and right -handed door, lift light and supporting leg are installed to the chassis car. Through integrated in the carriage of chassis car with kitchen, bathroom, bar etc. Make remove bar car possess the function of going under adverse circumstances, generating set and junction **box**'s configuration also makes it possess the

emergency power source output function, makes the practicality of whole car have very big promotion.

17/48 © EPODOC / EPO

- PN - [CN105202332](#) A 20151230
- PR - CN20151597996 20150918
- AP - CN20151597996 20150918
- DT - I
- CT - || STSE (A)
[CN103511806](#) A 20140115 [Y] (LU CHUANYU)
[Y] 1-6
* 说明书【0009】段，附图1 *;
[CN203797289U](#) U 20140827 [Y] (WANG XIAOBING)
[Y] 1-6
* 说明书【0011】-【0012】段，附图1 *;
[CN204072518U](#) U 20150107 [Y] (LI XIUQIN)
[Y] 1-6
* 说明书【0017】-【0021】段，附图1-2 *
- PA - UNIV NORTH CHINA WATER & RESOU
- TI - Multifunctional bracket for surveying and mapping instrument
- AB - The invention provides a multifunctional bracket for a surveying and mapping instrument. The multifunctional bracket comprises an erection platform, wherein two groups of support legs are hinged to two opposite sides of the erection platform, a storage **box** is arranged at the lower part of the erection platform, a storage battery is mounted at one side of the storage **box**, USB (Universal Serial Bus) interfaces and a control switch are arranged at the upper side of the storage battery, a connecting rod is arranged at the bottom center position of the storage **box**, telescopic tension rods are arranged between the bottom of the connecting rod and the support legs, a supporting rod is arranged at the upper part of the erection platform, an instrument erecting bed is arranged at the top of the supporting rod, a sunshade is further mounted on the erection platform, and a writing board is mounted on one support leg. The multifunctional bracket for the surveying and mapping instrument has the beneficial effects that the multifunctional bracket is reasonable in structural design, has a lighting function and can be used at night or when the light is poor, so as to facilitate instrumental operation; the USB interfaces are arranged, so that the multifunctional bracket can be used for charging electrical appliances such as **mobile** phones; the writing board is arranged, so that data recording is facilitated; the multifunctional bracket can also serve as a **ladder** through folding; the multifunctional bracket has multiple functions and can provide sunshading for surveying and mapping personnel.

18/48 © EPODOC / EPO

- PN - [CN105059168](#) A 20151118
- PR - CN20151473037 20150805
- AP - CN20151473037 20150805
- DT - I
- CT - || STSE (A)
[BRPI0806070](#) A2 20100921 [A] (INT TRUCK INTELLECTUAL PROP CO [US])
[A] 1-7

* 全文 *;

[CN201751233U](#) U 20110223 [A] (HARBIN CHENGLIN TECHNOLOGY CO LTD)

[A] 1-7

* 全文 *;

[CN202282638U](#) U 20120620 [Y] (SHENYANG LOCOMOTIVE & ROLLING STOCK CO LTD
CNR GROUP)

[Y] 1-7

* 说明书第40-50段及附图1-2 *;

[CN103818296](#) A 20140528 [Y] (INST MED EQUIP ACAD MILITARY)

[Y] 1-7

* 说明书第16-35段及附图1-4 *;

[CN204845674U](#) U 20151209 [R] (LONGYAN HELIOS AUTOMOBILE CO LTD)

[R] 1-7

* 权利要求1-7 *

- PA - LONGYAN HELIOS AUTOMOBILE CO LTD
- TI - Electricity-oil guarantee vehicle
- AB - The invention relates to a **mobile** emergency facility, in particular to an electricity-oil guarantee vehicle. The electricity-oil guarantee vehicle comprises a chassis truck, a carriage, power generator sets, a power distribution cabinet, a cable winch, an oil tank and a junction **box**, wherein a control chamber, a set chamber, a silencing chamber and a winch chamber are arranged in the carriage; a control screen integrated with an engine control function and a parallel operation function is mounted in the control chamber; at least two power generator sets are mounted in the set chamber; and a crawling **ladder**, an air intake and exhaust window blind, an oil well pump, an oiling machine, a reversing probe, an oiling opening, a storage **box**, a working door and a double opening-door are arranged on the carriage. An alarm lamp, a rising and falling lighting device and a supporting leg; and a noise-reducing and silencing system is mounted in the silencing chamber. The electricity-oil guarantee vehicle disclosed by the invention is advantaged in that the vehicle is integrated with an automatic control technology of the power generator sets, an automatic parallel operation control technology and an oil supply guarantee technology; the integration effect of the vehicle is good; the space utilization rate of the vehicle is high; staffs for an oil and power supply guarantee system are reduced; and reliability, safety, mobility and schedulability of emergency guarantee are greatly improved.

19/48 © EPODOC / EPO

PN - [CN204689280U](#) U 20151007

PR - CN20152289663U 20150506

AP - CN20152289663U 20150506

DT - I

PA - BEIJING SWORD ELECTRIC IND CO LTD

TI - Elevator telelock **ladder** device

AB - The utility model provides an elevator telelock **ladder** device, includes elevator main control unit, wireless outer exhale device, **mobile** device, when elevator main control unit is in normal service state, managers sends the instruction of lock **ladder** through the **mobile** device after, install and exhale wireless outer in the **box** to exhale the device to pass through wireless communication such as WIFI outside the elevator to receive this instruction, wired communication mode such as rethread CAN bus transmit here instruction to elevator main control unit, and

elevator main control unit received this instruction back entering and locks **ladder** and withdraw the state, under the state was withdrawn to the lock **ladder**, elevator main control unit closed normal elevator operation control function after with elevator car operation to basic station, makes elevator " lock **ladder** ", and elevator main control unit received nevertheless the outer elevator of exhaling of no longer response and exhaled the **ladder** of exhaling that selects the device to send in device and the elevator car to instruct outward this moment.

20/48 © EPODOC / EPO

- PN - [CN104875668](#) A 20150902
- PR - CN20151320459 20150612
- AP - CN20151320459 20150612
- DT - I
- PA - SHANDONG ZHENGTAI XIER SPECIAL PURPOSE VEHICLE CO LTD
- TI - Novel **mobile** store
- AB - The invention discloses a novel **mobile** store. The novel **mobile** store comprises a vehicle head and a vehicle frame and is characterized in that the left side of the vehicle head is connected with the vehicle frame; a goods **box** is arranged on the upper side of the vehicle frame; goods **box** lifting plates are arranged on the left side and the front side of the goods **box** and connected with the goods **box** through hinges; a water purifying **box** is arranged between the goods **box** and the vehicle head; an electric push rod is arranged at the upper part of the inner side of each goods **box** lifting plate, and the other end of each electric push rod is fixed to the inner side of the goods **box**; an LED (light-emitting diode) display screen is arranged on the upper side of the water purifying **box**; folding goods storage racks are arranged at left and right ends of the bottom of the front side of the goods **box**; a climbing **ladder** is arranged between the folding good storage racks; a storage battery **box** is arranged on the lower side of the vehicle frame. The novel **mobile** store has the benefits that the novel **mobile** store can be electrically unfolded and is provided with the LED display screen capable of displaying vegetable information as well as the goods storage racks.

21/48 © EPODOC / EPO

- PN - [CN204472655U](#) U 20150715
- PR - CN2015274759U 20150203
- AP - CN2015274759U 20150203
- DT - I
- PA - LONGYAN HELIOS AUTOMOBILE CO LTD
- TI - Remotely-managed power van
- AB - The utility model belongs to the field of **mobile** emergency power supply and particularly relates to a remotely-managed power van comprising a chassis, a carriage, a generating unit and a cable winch; the carriage is internally provided with a remote monitor, a control screen and a QR (quick response) code. The chassis is provided with an engineering alarm light, a lifting lighting device and support legs. The front of the carriage is provided with a **ladder**. The rear of the carriage is provided with a reversing probe. A storage **box** is disposed below the carriage. The remotely-managed power van allows the vehicular generating unit to truly play for emergency under emergency power insurance; a remote manager is used for information acquisition and recognition, remote start and stop and

automatic startup at low temperature; when the vehicular generating unit runs for power insurance, a user can know all operation data of the vehicular generating unit and master all information in the first place through a cellphone APP (application) or a computer web, and great basis is laid for emergency power insurance.

22/48 © EPODOC / EPO

- PN - [CN204398953U](#) U 20150617
- PR - CN2015219524U 20150113
- AP - CN2015219524U 20150113
- DT - I
- PA - LONGYAN HELIOS AUTOMOBILE CO LTD
- TI - **Mobile** electric power service vehicle
- AB - The utility model relates to a special service vehicle and particularly relates to a **mobile** electric power service vehicle. The **mobile** electric power service vehicle comprises a chassis, a carriage, a generator unit, and a distribution **box**, wherein the carriage is provided with a display system and an LED display screen lifting device, and the display system includes a main controller, an LED (light-emitting diode) display screen, an LED display screen controller and a roller lamp **box**. An all-in-one machine, a stepping platform, a winding roll, a fire extinguisher, tables and chairs, a power amplifier and a sound **box** are arranged in the carriage; the rear part of the carriage is provided with a parking probe, a pedaling **ladder** and a double door. The **mobile** electric power service vehicle is safe and reliable, reasonable in structural design, and integrated with electricity-generating, propagating and serving functions, thus the complete vehicle is strong in integration and maneuvering flexibility and compact in layout structure, and cannot be affected by power sources and using fields and other factors; besides the **mobile** electric power service vehicle can perform **mobile** operation and has high flexibility, business halls move to the places demanded by clients for serving ordinary people at any time and any place.

23/48 © EPODOC / EPO

- PN - [CN204298173U](#) U 20150429
- PR - CN20142720254U 20141127
- AP - CN20142720254U 20141127
- DT - I
- PA - DINKUM TIANJIN CO LTD; DAQING DINKUM TECHNOLOGY CO LTD
- TI - **Mobile** efficient sewage treatment equipment
- AB - The utility model provides **mobile** efficient sewage treatment equipment which is high in efficiency and mobility and is intelligently controlled. The equipment comprises a frequency converting dosing mechanism, a circulatory **box** body, an inlet water tank, a water inlet barrel of a stirring room, a stirrer, a stirring and guiding barrel, a filter screen, an electric drain valve, a drain **box**, a dosing room and the like. A flue storage tank, a **ladder** and a medicament storage **box** are installed on one side of the **mobile** equipment; the circulatory **box** body, the dosing room, the water inlet barrel of the stirring room, the stirrer and the stirring and guiding barrel form a jet flow stirring system. The control system provided by the utility model is used for frequency converting control of the dosing amount through an electric control cabinet and automatically controlling sludge discharge at a

fixed time. The equipment provided by the utility model is strong in mobility and high in efficiency. One pair of equipment is equivalent to a small sewage plant, is **mobile** in operation and has the advantages of small investment, good effect, low cost and the like. The equipment is particularly suitable for suburban areas and villages.

24/48 © EPODOC / EPO

PN - [CN104406552](#) A 20150311

PNFP - CN104406552B B 20170426

PR - CN20141653185 20141117

AP - CN20141653185 20141117

DT - I

CT - || STSE (A)

[JPS61217715](#) A 19860927 [A] (TOYODA AUTOMATIC LOOM WORKS, et al)

[A] 1-2

* 全文 *;

[EP0270721](#) A1 19880615 [A] (EROWA AG [CH])

[A] 1-2

* 全文 *;

[CN2279583Y](#) Y 19980422 [A] (ANSHAN IRON & STEEL [CN])

[A] 1-2

* 全文 *;

[CN201646732U](#) U 20101124 [A] (GUILIN RUBBER DESIGN RES INST)

[A] 1-2

* 全文 *;

[CN203345939U](#) U 20131218 [A] (SANY GROUP CO LTD)

[A] 1-2

* 全文 *;

[CN204177365U](#) U 20150225 [R] (DALIAN DESIGN INST CO LTD CHINA FIRST HEAVY IND, et al)

[R] 1-2

* 权利要求1-2 *

CNOI - (A)

[G01B21/00](#)

PA - (A)

DALIAN DESIGN INST CO LTD CHINA FIRST HEAVY IND; CHINA FIRST HEAVY INDUSTRIES

TI - (A)

Driving gear with fixed rail for online measurement of heavy forging at thermal state

AB - (A)

The invention discloses a driving gear with a fixed rail for the online measurement of a heavy forging at a thermal state. The driving gear comprises a trolley and a ground guide rail; the trolley comprises a frame, an inner wheel, an outer wheel, a rollover protection device, a derail prevention device and a guide rail cleaning device, wherein the outer wheel is a **ladder** wheel, the ground guide rail is a linear section-arc section mixed guide rail, and a transition guide rail between the linear section and the arc section is a **ladder** guide rail. When the trolley of the driving gear moves on the transition place between the linear section and the arc section, the outer wheel is changed into a wheel with large diameter to compensate a driving route difference between the inner and outer wheels of the trolley when the trolley is driven at the transition place between the linear section and the arc

section, therefore the **mobile** trolley can travel on a linear rail and can travel on an arc rail. According to the driving gear provided by the invention, the dimension measurement on the horizontal and vertical directions of the forging can be realized by the linear travelling of the trolley and the movement of a measurement **box** on a vertical guide rail in the trolley; furthermore, the trolley is moved behind the arc section to prevent conditions that the sight of an operator is shielded and the passage of vehicles is affected when the trolley is not measured.

25/48 © EPODOC / EPO

- PN - [CN203739728U](#) U 20140730
- PR - CN2014236264U 20140121
- AP - CN2014236264U 20140121
- DT - I
- PA - LONGYAN HELIOS AUTOMOBILE CO LTD
- TI - **Mobile** power distribution vehicle
- AB - The utility model relates to a live-line work device, in particular to a **mobile** power distribution vehicle. The **mobile** power distribution vehicle serves as an emergency power source of a power generation network and comprises a chassis, a compartment, a high-voltage combined cabinet, a low-voltage cabinet, a transformer, a cable winch, a cable and the like. The compartment is provided with an operation room, a transformer room, a control room and a winch room. The transformer is arranged in the transformer room. The high-voltage combined cabinet and the low-voltage cabinet are arranged in the control room. The cable winch is arranged in the winch room. The **mobile** power distribution vehicle further comprises a lifting lighting device, a **ladder** stand, a storage **box**, a fire extinguisher, an exhaust fan and the like. The **mobile** power distribution vehicle is safe, reliable and convenient to use and integrates the transformer, the high-voltage combined cabinet and the low-voltage cabinet. Furthermore, the **mobile** power distribution vehicle can arrive at an emergency maintenance site in the first time, and no-power-outage overhauling, fault emergency maintenance and equipment replacement can be performed emergently, adaptively, flexibly, quickly and safely.

26/48 © EPODOC / EPO

- PN - [CN203312673U](#) U 20131127
- PR - CN20132360978U 20130623
- AP - CN20132360978U 20130623
- DT - I
- PA - STATE GRID CORP CHINA; XIANNING POWER SUPPLY COMPANY HUBEI ELECTRIC POWER CO LTD
- TI - **Mobile** multifunctional **ladder**
- AB - The utility model belongs to the field of power equipment and particularly relates to a **mobile** multifunctional **ladder** used in switching operation. The **mobile** multifunctional **ladder** comprises a **ladder** which is provided with three pedals. The **mobile** multifunctional **ladder** is characterized in that the lower end of the **ladder** is fixed on an under frame and an insulating plate is fixed on each pedal of the **ladder**; a storage **box** is arranged in a space formed by the **ladder** and the under frame and a **box** opening of the storage **box** is arranged on the left side; and each of the four corners at the lower end of the under frame is provided with a

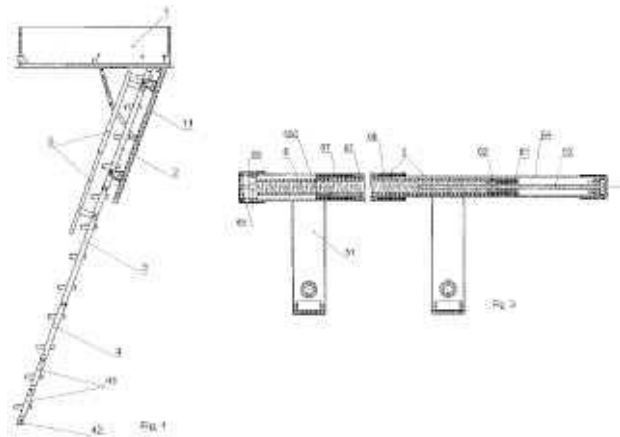
wheel. The **ladder** is multifunctional and the time for transporting tools during switching operation can be shortened.

27/48 © EPODOC / EPO

- PN - [CN203156744U](#) U 20130828
- PR - CN20132151431U 20130329
- AP - CN20132151431U 20130329
- DT - I
- PA - NINGXIA KAICHEN ELECTRIC GROUP CO LTD
- TI - **Mobile** multifunctional electric appliance mounting working vehicle
- AB - The utility model relates to a working vehicle, in particular to a **mobile** multifunctional electric appliance mounting working vehicle. The working vehicle comprises a tool kit provided with universal wheels. The **mobile** multifunctional electric appliance mounting working vehicle is characterized in that a **ladder** is installed on one side of the tool kit and a **box** used for installing electric appliance elements is installed on the tool kit. According to the technical scheme, the **ladder** and the lifting **box** which can be used for placing various electric appliance elements are increased on the basis of an existing tool kit, and therefore when large and high electric cabinets are installed, mounting personnel can stand on the tool kit to conduct mounting work and moving is convenient. The **mobile** multifunctional electric appliance mounting working vehicle has the advantages of being reasonable in structure, convenient to use and the like.

28/48 © EPODOC / EPO

- PN - [CN102753771](#) A 20121024
- PNFP - CN102753771B B 20141119
- PR - WO2011PL00004
20110112; PL20100390219
20100118
- AP - CN2011806193 20110112
- DT - I
- CT - || STSE (A)
[US1767148](#) A 19300624
[A] (MARSCHKE REINHOLD B)
[A] 1-9
全文
[CN2179864Y](#) Y 19941019
[A] (ZONG BIZE [CN])
[A] 1-9
全文
[DE1103553](#) B 19610330
[A] (HERTA HERMANNSGEB
NELL)
[A] 1-9
全文
[US1700904](#) A 19290205
[A] (MARSCHKE REINHOLD B)
[A] 1-9
全文



[FR2194864](#) A1 19740301
 [A] (FRANK GMBH WILH [DE])
 [A] 1-9
 全文
[CN2611566Y](#) Y 20040414
 [A] (TAIBIYA SCI TECH CO LTD
 SHANGH [CN])
 [A] 1-9
 全文
[US3871479](#) A 19750318
 [YA] (PELTO CLARENCE H)
 [Y] 1-9
 全文
 [A] 1-9
[US2007034450](#) A1
 20070215 [YXA] (RICHEY
 STEVEN M [US])
 [Y] 1-9
 全文
 [X] 1-9
 [A] 1-9

- CCI - [E04F11/064](#)
- PA - (A B)
 FAKRO PP SPOLKA Z
 OGRANICZONA
 ODPOWIEDZIALNOSCIA
- TI - (A)
 Folding **stairway** ladders,
 preferably made of metal
 - (B)
 Folding **stairway** ladders
- AB - (A)
 The invention relates to
 a **foldable** stairs, and in
 particular to a
 metal **foldable ladder**- like
 stairs, comprising stairs
 segments (2, 3, 4) moveable
 with relation to each other,
 wherein the uppermost
 segment (2) is rotationally
 connected with a frame (1)
 mounted in a ceiling and
 preferably the uppermost
 stairs segment (2) is
 attached to the cover (11)
 that adheres to said frame (1
) in the stairs closed state
 and is connected with the
 frame (1) by means of a
 hinge mechanism and the
 stairs segments (2, 3, 4) are

positioned within the frame (1) in the stairs closed state, where the stairs are preferably provided with a mechanism, preferably a spring mechanism, that supports lifting folded stairs up to the stairs closed state and at least partially counterbalances the weight of the stairs during opening thereof;; and further the stairs are provided with at least one handrail arranged in the top part of the stairs flight. In order to facilitate folding and unfolding the stairs and to provide the stairs featuring adjustable length, the stairs comprise a spring (6) that supports lifting up of the stairs segments (3, 4, 7) other than the uppermost segment (2) during folding these segments (3, 4, 7) with the uppermost segment (2) and at least partially counterbalances the weight of these segments (3, 4, 7) during unfolding the stairs, wherein the spring (6) is arranged inside the handrail (5). The bottom segment (4) of the stairs is advantageously provided with means (41, 42) for regulating the length of the bottom segment (4).

29/48 © EPODOC / EPO

PN - [CN102310812](#) A 20120111

PR - CN20101214555 20100630

AP - CN20101214555 20100630

DT - I

PA - SYSTEM EQUIPMENT CO LTD OF THE 28TH RES INST LI YANG

TI - Folding boarding **ladder**

AB - The invention discloses a folding boarding **ladder** which comprises a **ladder** body, wherein the **ladder** body is provided with corresponding pedals, the **ladder** body comprises multiple sections, and the adjacent sections of the **ladder** body are rotatably connected; the **ladder** body in an unfolded state forms a complete **ladder**

body; in a collecting state, the adjacent sections of the **ladder** body are mutually folded along a rotating shaft; and the folding boarding **ladder** also comprises a **ladder box**, and the folded **ladder** body is arranged in the **ladder box** in a drawer form. Compared with the prior art, the folding boarding **ladder** has the beneficial effects that the folding boarding **ladder** is used on certain **mobile** command communication vehicles; and the **ladder** is collected by using a space beside an automobile crossbeam, so the height space of the whole automobile is not occupied, and the effect is good. The **ladder** can be used for solving the problem that a common boarding **ladder** occupies the height of the whole vehicle, and solving the problem that the pedal number of a foreign electric **ladder** is not enough.

30/48 © EPODOC / EPO

- PN - [CN201878340U](#) U 20110622
- PR - CN20102666698U 20101219
- AP - CN20102666698U 20101219
- DT - I
- PA - JMC RECREATIONAL VEHICLE CO LTD
- TI - Trailer type **mobile** communication base station
- AB - The utility model relates to a trailer type **mobile** communication base station. A **box** body is placed on a trailer frame, and a clapboard is arranged in the **box** body to form two independent spaces, wherein the top end of one independent space is connected with a cabling rack, and the top end of the clapboard is connected with an indoor unit of an air conditioner. A power supply cabinet, a transmission cabinet and a crowd combined cabinet are respectively placed in the independent space, and the inside of the other independent space is respectively connected with an outdoor unit of the air conditioner, an electric generator cabin and a wireless tower. The four ends of the **box** body are respectively provided with a support leg, and the outer side of the **box** body is connected with a supporting **ladder** stand. The utility model has complete equipment functions, a compact structure and an attractive appearance, is very suitable for basic actual combat departments such as town and country level public security officers, armed polices and the like, and has very wide market prospect and generalization value.

31/48 © EPODOC / EPO

- PN - [CN101758790](#) A 20100630
- PR - CN20091233940 20091019
- AP - CN20091233940 20091019
- DT - I
- PA - CHANGSHU SLAUGHTERING EQUIPMEN
- TI - **Mobile** slaughtering vehicle
- AB - The invention relates to a **mobile** slaughtering vehicle which belongs to the technical field of slaughtering facilities and comprises a vehicle body and a container type **box** body arranged on the vehicle body, wherein one side at one end of the container type **box** body is provided with a beast chute **ladder** in a matching way and the other side is provided with a movable platform corresponding to the beast chute **ladder**, one side at the middle part of the container type **box** body in the length direction is provided with a skin discharging groove and the other side is provided with a viscera discharging groove, one side at the other end of the container type **box** body is provided with a refrigerator car butting joint door and

the other side is provided with a movable **ladder**, one end of the **box** cavity of the container type **box** body is provided with a slaughtering region, the middle is provided with a meat processing region and the other end is provided with a logistic guarantee region, and the **box** cavity of the container type **box** body is also internally provided with a beast movable guide rail, one end of which corresponds to the refrigerator car butting joint door and the other end extends into the slaughtering region. The invention can carry out **mobile** slaughtering, avoid long-distance transport of beasts, lighten the load of herdsman, and prevent pollution and epidemic situation.

32/48 © EPODOC / EPO

- PN - [CN201511860U](#) U 20100623
- PR - CN2009248401U 20091019
- AP - CN2009248401U 20091019
- DT - I
- PA - CHANGSHU SLAUGHTERING EQUIPMENT SET CO LTD
- TI - **Mobile** slaughter vehicle
- AB - The utility model provides a **mobile** slaughter vehicle, which belongs to the technical field of slaughter facilities and comprises a vehicle body and a container type **box** body arranged on the vehicle body, wherein, a cattle chute **ladder** is provided on one side of the one end of the container type **box** body, a movable platform corresponding to the cattle chute **ladder** is arranged on the other side thereof, a skin outlet groove is formed on one side of the middle part in the length direction of the container type **box** body, an entrails discharging groove is formed on the other side, a refrigerator truck butting door is arranged on the one side of the other end of the container type **box** body, a movable **ladder** is arranged on the other side, a slaughter zone is arranged at one end of the cavity of the container type **box** body, a meat processing zone is arranged at the middle part, a logistic guarantee zone is arranged at the other end, a cattle moving guide rail is further arranged inside the cavity of the container type **box** body, one end of the cattle moving guide rail corresponds to the refrigerator truck butting door, and the other end thereof extends to the slaughter zone. With the utility model, slaughtering can be carried out in a **mobile** manner, thereby not only preventing long-distance transport of cattle and lessening the burden of herdsman, but also avoiding pollution and epidemic outbreak.

33/48 © EPODOC / EPO

PN - [CN101696624](#) A 20100421
 PR - CN20091210910 20091112
 AP - CN20091210910 20091112
 DT - I
 CCI - [F04B47/02](#) ; [E21B43/126](#)
 PA - PING ZHAO
 TI - External rotor motor direct traction type oil extractor
 AB - The invention discloses an external rotor motor direct traction type oil extractor, comprising a permanent-magnet machine with low speed and high torque, an upper guardrail, a **ladder** stand, an elevating system, an elevator, a cross arm beam, a cylinder support upright column, an oil sucking rod, a two-board platform, a **mobile** stairway, a controlling **box**, a manual braking system, a movable clamping mechanism, a track, a well mouth, a concrete foundation and the like. The invention has the advantages of compact structure, reliable performance, simple processing technology and the like, and greatly improves indexes on efficiency increase, energy saving, emission and consumption reduction compared with other machine types.

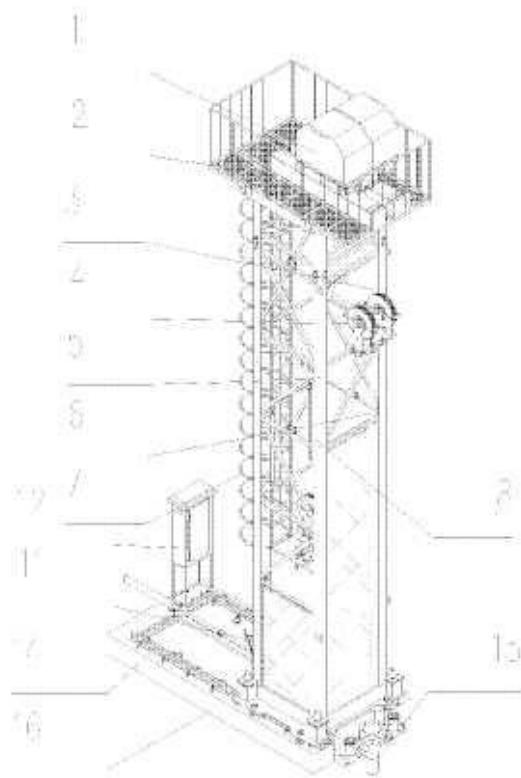


图 1 / FIG. 1

34/48 © EPODOC / EPO

PN - [KR100937838B](#) B1 20100120
 PR - KR20090008258 20090203
 AP - KR20090008258 20090203
 DT - I
 CT - || STSE (B1)
[KR980009760](#) A 00000000 [];
[JP2001193276](#) A 20010717 [] (HASEGAWA KOGYO KK);
[JP2002167958](#) A 20020611 [] (NIPPON LIGHT METAL CO)
 PA - JIN MYUNG GU [KR]

TI - A STAIRS TYPE AND COLLAPSIBLE **LADDER**

AB - PURPOSE: A **foldable stairway** type **ladder** is provided to safely execute the work at a high place by improving the stability with the strong structure and to fold the **ladder** by applying link type frames. CONSTITUTION: A **foldable stairway** type **ladder** is composed of outer and inner frames(12,14), front and rear ladders (10a,10b), step plates, and a lower bracket(26). The outer and inner frames are extended in parallel. Step bars are hinge-combined to the outer and inner frames. The front and rear ladders are formed in a link structure to be **foldable** with double frames by connecting both sides of the step bars with link bars(22). The step plates are combined to the step bars to form the stepping area. The lower bracket connects the upper ends of the inner and outer frames of the front and rear ladders with a hinge.

35/48 © EPODOC / EPO

PN - [CN101386346](#) A 20090318

PR - CN20081107293 20081021

AP - CN20081107293 20081021

DT - I

PA - SUZHOU SHENLONG ELEVATOR CO LT [CN]

TI - Escalator lower segment **ladder** way fracture compensation mechanism

AB - The invention discloses a fracture compensating mechanism of an automatic **stairway** lower segment step road, comprising a main wheel steering step road and an auxiliary wheel steering step road which is arranged on the external end of the main wheel steering step road. A fracture for a cascade main wheel to pass through is arranged between the main wheel steering step road and the auxiliary wheel steering step road. A cascade driven shaft is arranged on the main wheel steering step road. A riding wheel which is in contact with the lower side of a cascade swing arm of a **foldable** cascade is fixed on the cascade driven shaft. As the lower side of the cascade swing arm is horizontally arranged and the riding wheel which is contacted with the lower side of a cascade swing arm is arranged on the cascade driven shaft, the riding wheel can support the cascade swing arm when a cascade auxiliary wheel departs from the main wheel steering step road to the fracture. Then, the cascade auxiliary wheel successfully passes through an auxiliary wheel guide rail fracture between the main wheel steering step road and the auxiliary wheel steering step road. The fracture compensating mechanism of the automatic **stairway** lower segment step road has the advantages of simple structure and good compensation effect.

36/48 © EPODOC / EPO

PN - [CN101386345](#) A 20090318

PR - CN20081107292 20081021

AP - CN20081107292 20081021

DT - I

PA - SUZHOU SHENLONG ELEVATOR CO LT [CN]

TI - Movable escalator upper segment fish shaped board **ladder** way

AB - The invention discloses a movable automatic **stairway** upper segment lenticular board step road which comprises a level working segment step road fixed on a lenticular board, a working segment transitional step road from the level working segment step road to an inclined working segment step road, a steering segment

step road, a level returning segment step road and a returning segment transitional step road. The returning segment transitional step road comprises an upper returning segment transitional step road and a lower returning segment transitional step road which are respectively connected with the two ends of the level returning segment step road. An upper inclined returning segment step road is connected between the other end of the upper returning segment transitional step road and the lower end of the steering segment step road. The other end of the lower returning segment transitional step road is connected with the inclined returning segment step road. A cascade folding and opening control segment step road is arranged on the inner lateral of the lower returning segment transitional step road. With the cascade folding and opening control segment step road arranged on the returning segment transitional step road part and a main wheel steering step road and an auxiliary wheel steering step road respectively arranged on the steering segment step road part, the translational steering of the **foldable** cascade in the completely opening state can be realized.

37/48 © EPODOC / EPO
 PN - [US2005029048](#) A1 20050210

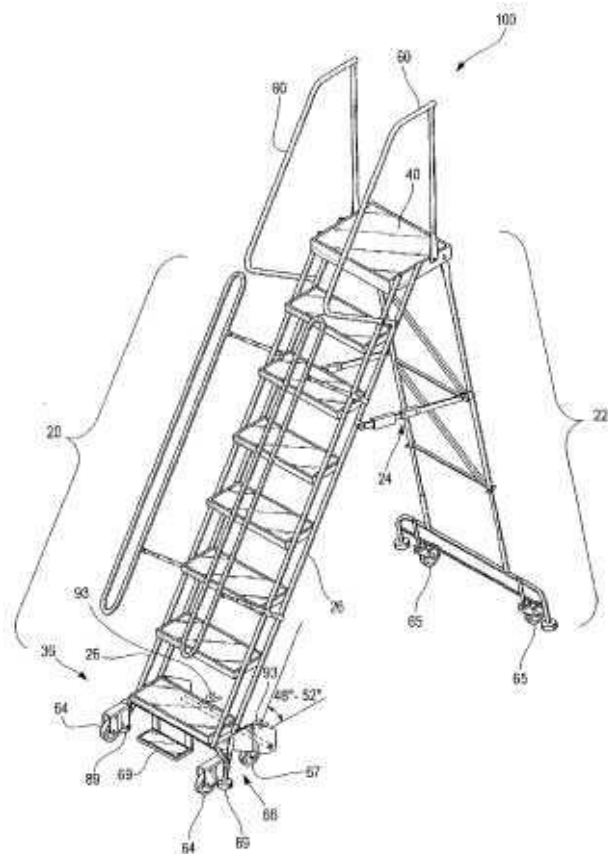
PNFP - US6951265 B2 20051004

PR - US20030633951 20030804

AP - US20030633951 20030804

DT - *; Rep

CT - || STSE (B2)
[US826582](#) A 19060724 [] (LAIRD HENRY RUFFNER [US])
[US1439388](#) A 19221219 [] (WILLETT BENEDICT E)
[US1832537](#) A 19311117 [] (CHARLES ERWIN)
[US2369743](#) A 19450220 [] (LANGDON CLARENCE E)
[US4044857](#) A 19770830 [] (MOODY SI LTD)
[US4194591](#) A 19800325 [] (UP RIGHT INC)
[US5411111](#) A 19950502 [] (LAITRAM CORP [US])
[US5791434](#) A 19980811 [] (EMERSON ELECTRIC CO [US])
[US6189653](#) B1 20010220 [] (LAUG HORST [DE])
[US6283249](#) B1 20010904 [] (EGA PRODUCTS INC [US])
[US6305496](#) B1 20011023 [] (MATERIAL CONTROL INC [US])
[US6386320](#) B1 20020514 [] (CLAVEL BERNARD [FR])
[US6523640](#) B1 20030225 []



-] (EGA PRODUCTS INC [US])
- || R141 (A1)
 - [US2369743](#) A [];
 - [US6189653](#) B1 [];
 - [US6523640](#) B1 [];
 - [US4194591](#) A [];
 - [US5411111](#) A [];
 - [US6386320](#) B1 [];
 - [US826582](#) A [];
 - [US4044857](#) A [];
 - [US5791434](#) A [];
 - [US6283249](#) B1 [];
 - [US6305496](#) B1 [];
 - [US1832537](#) A [];
 - [US1439388](#) A []
 - CCI - [B64F1/315](#) ; [E06C1/22](#) ;
[E06C1/39](#) ; [E06C1/397](#) ;
[E06C7/183](#)
 - PA - (B2)
 BALLYMORE COMPANY INC
 [US]
 - TI - (A1 B2)
Foldable stairway ladder
 - AB - (A1 B2)
A foldable stairway ladder
 for use in accessing items
 includes a structure that can
 be conveniently folded to
 reduce the amount of space
 taken up by **ladder** when not
 in use. The **ladder** consists of
 a **stairway** section connected
 to a platform, in turn
 rotatably connected to a
 support. The **foldable ladder**
 is also provided with a
 manually operable folding
 system adapted to fold
 the **stairway** section and
 support relative to each
 other. Additionally, the
 support may have a member
 capable of extending the
 length of the support, thus
 facilitating the ease by
 which a use can fold
 the **stairway ladder**.

PN - [US3902718](#) A 19750902

PR - US19720306422
19721120; US19710140330
19710505

AP - US19720306422 19721120

DT - *

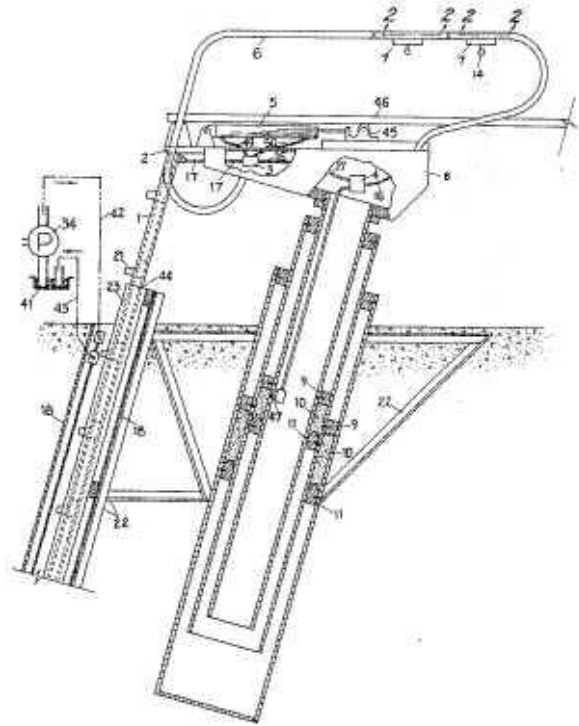
CT - [US2212460](#) A []; [US2586149](#)
A [];
[US2634587](#) A [
]; [US2800234](#) A [];
[US2975857](#) A [
]; [US3092383](#) A [];
[US3415169](#) A []

CCI - [A63B5/10](#)

PA - AVON URBAIN

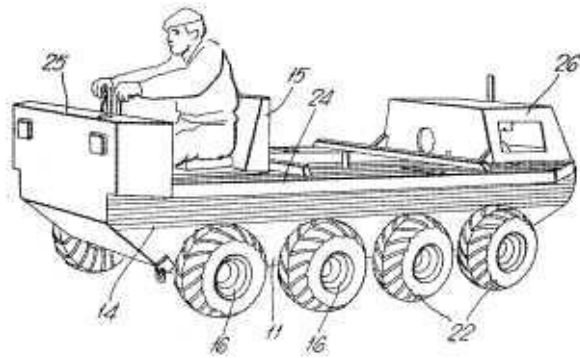
TI - Height adjustable diving
tower and **ladder** assembly
therefor

AB - A Diving Tower, adjustable
in height and operated by
means of a hydraulic ram
assembly, the said lifting
ram assembly being
powered by a hydraulic
power unit and by a
plurality of annular
compression chambers.
A **mobile ladder** is attached
at one end to the diving
tower and is equipped with
steps designed to swivel up
at one end around pivot pins
positioned on one of the two
uprights which constitute
the **ladder**, while the other
end of the same steps would
normally rest on stop pins
fixed in the opposite upright.
The uprights are formed with
a U-shape longitudinal
groove, or equivalent, to
receive the **ladder** step ends,
and with a longitudinal
cavity to form the outer body
of telescoping inlet and
outlet fluid line assemblies
for a pressurized fluid. Two
guide cushion rails are fixed
to a **ladder** protective **box**
and are used to positively
guide the **mobile ladder**



uprights. A spray coating is provided on the cushion rails to prevent gripping and corrosion.

- 39/48** © EPODOC / EPO
- PN - [US4274502](#) A 19810623
- PR - US19790026692 19790403
- AP - US19790026692 19790403
- DT - *
- CT - [US2800188](#) A []; [US2821949](#) A [];
[US3001601](#) A [
]; [US3052311](#) A [];
[US3367436](#) A [
]; [US3444837](#) A [];
[US3485313](#) A [
]; [US3572454](#) A []
- CTNP - [] "Automotive Digest",
 8/1953, pp. 83-94
- CCI - [B60F3/00](#) ; [B60F5/003](#) ;
[B62D11/08](#) ; [B62D21/16](#) ;
[B62D61/10](#)
- PA - SOMERTON RAYNER MICHAEL
- TI - All-terrain amphibious
 vehicle
- AB - An automotive vehicle is provided, for use inter alia as a **mobile** anti-tank guided missile-firing platform, which is sufficiently inexpensive to be expendable in battle and can be readily carried by a helicopter. The vehicle has a main frame comprising a pair of longitudinal closed **box** section members joined to form a **ladder** construction by a cross member and having strong points for the mounting of an engine and gearbox. The ground wheels, which lean outwards by about 5 degrees, are mounted on stub axles journaled in the **box** section members and are all driven by chains housed in oil baths within



the **box** section members.
 Steering is accomplished by
 braking the transmission on
 one side or the other. The
 wheel tires are low pressure
 raw hide tires. The
 closed **box** section members
 project below the body of the
 vehicle and have toboggan-
 shaped ends to act as
 runners in snow. The body of
 the vehicle is constructed as
 a waterproof **box** to give
 buoyancy. The front and
 back wheels are higher on
 the frame than the center
 wheels.

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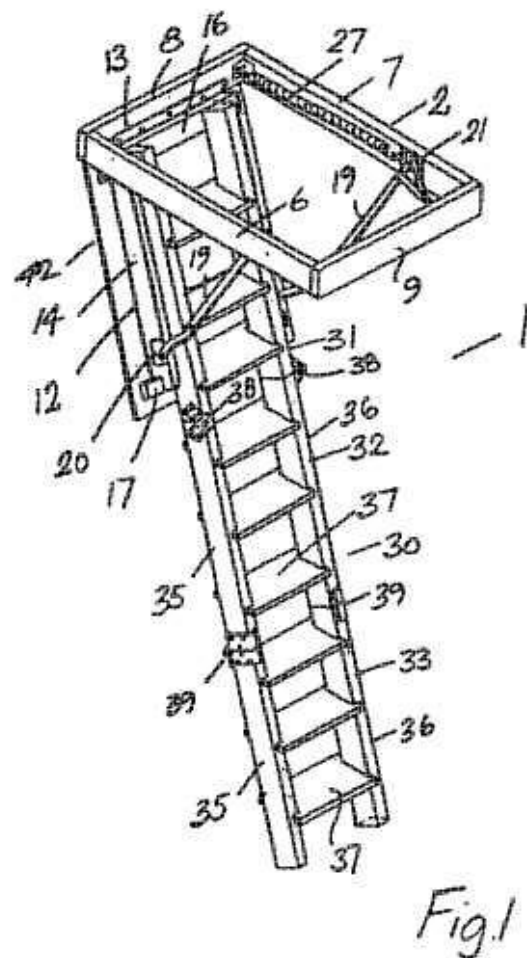
- PN - [UA23541U](#) U 20070525
- PR - UA2007200701021U 20070131
- AP - UA2007200701021U 20070131
- DT - I
- PA - UNIV NAT AGRARIAN [UA]
- TI - **MOBILE SELF-FEEDER FOR STEM FORAGES**
- AB - A **mobile** self-feeder for stem forages contains a running frame with a platform, forage holders, which form a tank and are made as step-ladders with horizontal rails and steps, placed between them, arranged on the sides and at the ends of the platform, and also mangers, and the top part of the holders up to 1/3 of the height of the tank is made as a rectangular **box**, closed on sides thereof by solid walls, bottom part thereof for 2/3 heights of the height of the tank is made from the step-ladders, mounted under an obtuse angle to the bottom of the platform, feeding border trays are hingedly attached in such a manner as to allow the overlapping **ladder** holders by them from below up to 1/3 of the height of the tank, and on the platform stoppers of lowering of trays are provided.

41/48 © EPODOC / EPO

- PN - [JPS58185832](#) A 19831029
- PR - JP19820067592 19820421
- AP - JP19820067592 19820421
- DT - I
- CCI - [E04B1/0015](#)
- FI - E02D29/00&B; E04H1/02
- FT - 2D047/AA08; 2D147/AA08; 2E025/AA28
- PA - MATSUSHITA ELECTRIC IND CO LTD
- TI - UNDERGROUND DEPOSITORY DEVICE
- AB - PURPOSE:To make easier the housing of large numbers of goods as well as to prevent the danger of falling by a method in which a horizontally movable auxiliary depository to be located below the entrance of the depository is provided in the

deep-bottomed depository body and at the upper part of the depository body.
 CONSTITUTION: A depository body 6 having a housing chamber leading to the air H1 under the floor and the air H2 deep under the ground, made of a synthetic resin in a **box**-like form, is provided with a **ladder** 9. Also, the side of the depository body 6 is provided with a **mobile** guide port 12 and a rail 13 leading from the inside of the guide port 12 to the outside. Also, an auxiliary depository 10 having rollers 11 on its both sides is horizontally moved on the rail 13, and when the auxiliary depository 10 is situated in the inside of the body 6, the entrance 7 is closed. By this, large numbers of goods can be housed in the depository body 6 and residential space can also be sufficiently obtained. In addition, the auxiliary depository 10 can be easily brought in or out when it is below the entrance 7 and also it can function as a safer for preventing falling, etc.

- 42/48 © EPODOC / EPO
- PN - [GB2319051](#) A 19980513
- PNFP - GB2319051 B 20000830
- PR - GB19960023091
 19961105; IE1996S000764
 19961031
- AP - GB19960023091 19961105
- DT - *; Rep
- CT - || STSE (A B)
[US3901353](#) A 19750826 [
] (SKOLNIK PHIL);
[US4281743](#) A 19810804 [
] (FULLER GEORGE C);
[WO8301638](#) A1 19830511 [
] (LUNDH JOERAN)
- CCI - [E04F11/064](#)
- PA - (A B)
 BURKE MICHAEL [IE]
- TI - (A B)
 Loft **ladder** mounting frames
- AB - (A)
 A process for manufacturing
 a folding attic **stairway**
 comprising preparing a
 rectangular outer mounting
 frame 2 for mounting in a
 ceiling open and an
 associated inner **stairway**
 carrying frame 12 which is
 pivotally mounted by a hinge
 13 on the outer frame 2. Side
 beams 14, on the inner
 frame 12 are spaced a preset
 distance inwardly of
 associated side members 6,
 7 on the outer frame 2. A
 folding support arm 19 is



mounted between each side beam 14, and the associated side member 6, 7 on the outer frame 2. A collapsible **ladder** 30 is then mounted on the inner frame 12 and is **foldable** between a collapsed stored position for nesting within the outer frame and an extended in-use position.

43/48 © EPODOC / EPO

PN - [GB1303090](#) A 19730117

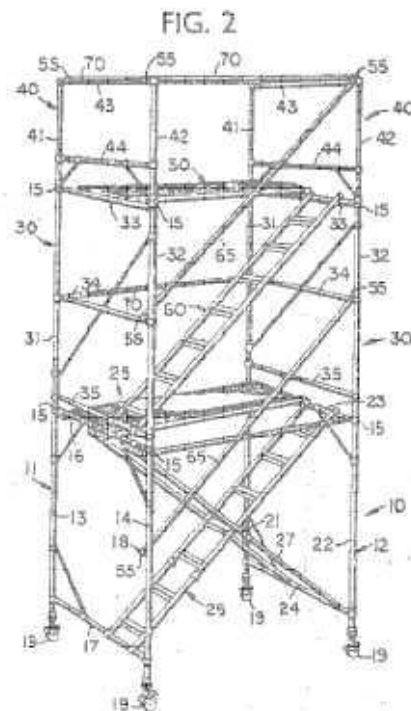
PR - US19690876632 19691114

AP - GB19700051800 19701030

DT - *

CCI - [E04G1/14](#)

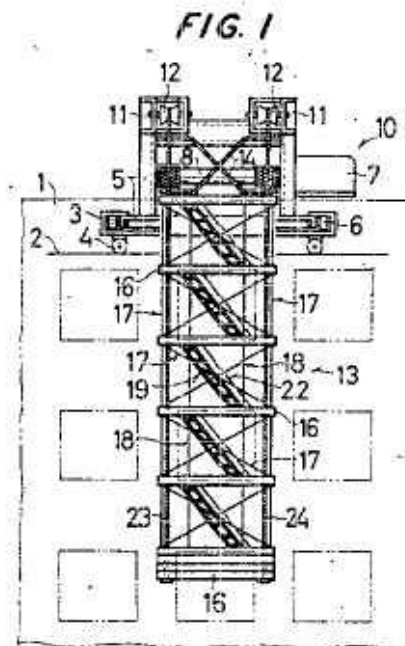
AB - 1303090 Scaffolding UP-RIGHT INC 30 Oct 1970 [14 Nov 1969] 51800/70
 Heading E1S A **stairway** scaffold comprises parallel vertical rectangular end frames 11 and 12, a horizontal platform 25 connected to the upper ends of end frames 11 and 12, a **ladder** 26 connected to the lower end of frame 11 and the upper end of frame 12, (the preceding may constitute a **foldable** wheeled scaffold unit of known type), two further end frames 30 having spigot-and-socket connection with the end frames 11 and 12 to form upward continuations thereof, a horizontal brace 70 connecting the end frames 30 on one side of the scaffold, and a diagonal brace 65 extending parallel to the **ladder** 26 on the other side of the scaffold and connecting end frame 11 to the opposite end frame 30. The braces 65 and 70 serve also as guard rails. A further platform 50 and **ladder** 60



may be attached between the end frames 30 after assembly of the scaffold. Further end frames, braces, &c may extend the scaffold to any desired height, and modified shorter end frames 40 are used for the top section.

44/48 © EPODOC / EPO

- PN - [GB1430653](#) A 19760331
 PR - JP19720037171 19720412
 AP - GB19730014977 19730328
 DT - **
 CCI - [A62B1/00](#) ; [E04F11/06](#) ; [E06C9/06](#)
 PA - TOYO SHUTTER CO
 TI - APPARATUS FOR ESCAPING FROM BUILDINGS
 AB - 1430653 **Ladder** escape apparatus TOYO SHUTTER CO Ltd 28 March 1973 [12 April 1972] 14977/73 Heading E1S Apparatus for escaping from a building comprises a **stairway** assembly of platforms 16 and ladders 19 hung from a suspension base 5 which is mounted on the roof of a building, the **stairway** assembly being unfoldable downwardly and **foldable** upwardly by elongate flexible elements, e. g. ropes 23, 24, operable by drive means, e.g. power-operated winches 8, on the base 5; the platforms 16 are interconnected by hangers 17, e.g. chains, and the ladders are attached foldably between the platforms. A further collapsible hanger 14 connects the top platform to projecting arms 11 of the base 5. The ladders 19 are pivotally and slidably connected at their ends to the platforms, and



each **ladder** comprises treads pivotally connected to two pairs of stiles to form a parallelogram linkage. The ropes 23, 24 are fastened to the bottom platform and extend through holes in the others and over pulleys 12 to the winches 8. The base 5 is mounted for lateral movement on a trolley 3 running on a track 2 along the edge of the roof. The winch motor is connected to fire alarms in the building so as to operate automatically.

45/48 © EPODOC / EPO

- PN - [CN2256030Y](#) Y 19970611
- PR - CN1996231625U 19960411
- AP - CN1996231625U 19960411
- DT - I
- PA - XINYA PETROCHEMICAL MACHINERY [CN]
- TI - Automatic **mobile ladder** for transportation
- AB - The utility model relates to an automatic **mobile ladder** for transportation. A spring balance **box** device is used, an original tension spring is changed into a compression spring, and the compression spring is loaded in the spring balance **box**. Thus, the service life of the compression spring is prolonged. The spring of the compression spring can be conveniently regulated through regulating a screw nut in the spring balance **box**, and thus, the force moment produced by the self weight of a movable **ladder** can be balanced. The utility model has the advantages of compact structure, convenient regulation, flexible operation and safe use, and can be used as the special-purpose equipment for the operating people to get on and off a tank car when a large-scale oil tank car is used for the storage and transportation of oil materials in a petrochemical plant and a petroleum bank.

46/48 © EPODOC / EPO

- PN - [CN2179451Y](#) Y 19941012
- PR - CN1994200278U 19940110
- AP - CN1994200278U 19940110
- DT - I
- PA - LI WENZHONG [CN]
- TI - Safety **mobile ladder**
- AB - The utility model relates to a safety **mobile ladder** whose two linked plates 1 are fixedly connected by a transverse support 3. At least two n-shaped handrail **mobile** supports 2 are arranged on two **mobile** plates. The handrail **mobile** supports 2 are movably connected with the linked plates 1 through pin shafts 5. One end of the n-

shaped handrail **mobile** support 2 is movably connected with a handrail seat 4 through a pin shaft 6. The handrail seat 4 is fixed on the wall face of a cargo **box** or a building. The linked plate 1 is fixed on the wall face of the cargo **box** or the building by a locking device 7. The safety **mobile ladder** has the advantage that the safety **mobile ladder** can be retracted and locked for preventing irrelevant persons climbing the **ladder** to cause personal accidents or loss phenomenon of goods.

47/48 © EPODOC / EPO

PN - [CN2595930Y](#) Y 20031231
 PR - CN2002227117U 20020423
 AP - CN2002227117U 20020423
 DT - I
 PA - CHEN JIANJUN [CN]
 TI - **Mobile** security sentry **box**
 AB - The utility model relates to a sentry **box** which relates to a **mobile** security sentry **box** which comprises a sentry **box** body and a **ladder** bed adjacent to the sentry **box** body. The utility model is characterized in that the **ladder** bed and the sentry **box** body are connected in a detachable mode. The security sentry **box** has the advantages of convenient installation and disassembly.

48/48 © EPODOC / EPO

PN - [CA1294589](#) C 19920121
 PR - CA19870555374 19871224
 AP - CA19870555374 19871224
 DT - *; Rep
 CCI - [E06C5/04](#)
 PA - PETTY ALLEN [CA]
 TI - SERVICE **LADDER**
 AB - A **foldable** ramp structure is disclosed arranged to be mounted on a pick-up truck and to be used for servicing aircraft or the like purposes wherein the ramp is to provide a **stairway** to an elevated point. The invention provides a first stair assembly and an intermediate platform. Both are fixedly secured to the box of the truck. A second stair assembly extends forward and horizontally away from the platform, at a level just above the top of the cab of the pick-up truck. In an extended state, it is only the second stair section which is raised by pivoting same about a transverse axis located near the rear end of the cab. In the free end of the second stair assembly is provided with a horizontal, second platform. Two separate rails are provided, one for the second platform and the other for the second stair assembly itself. The railing is **foldable** such that, in a folded state, it clears the intermediate platform and also does not extend beyond the forwardmost end of the second platform. The device is of a very simple structure and thus inexpensive to produce. It is especially adapted for convenient securement to an existing pick-up truck or the like, to avoid the high cost of a specialized vehicle for the purpose.