(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 2 886 747 B1**

(12) **EUROPEAN PATENT SPECIFICATION**

(45) Date of publication and mention of the grant of the patent:
27.09.2017 Bulletin 2017/39

(51) Int Cl.:
E04H 5/06 *(2006.01)*

(21) Application number: **14179383.6**

(22) Date of filing: **31.07.2014**

(54) A vehicle inspection pit cover

Fahrzeuginspektionsgrubendeckel

Couvercle de fosse d'inspection de véhicule

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

(30) Priority: **02.08.2013 GB 201313834**

(43) Date of publication of application:
24.06.2015 Bulletin 2015/26

(73) Proprietor: **MBE Fabrications Limited**
Spalding, Lincolnshire PE11 4PU (GB)

(72) Inventor: **Burrell, Melvyn**
Spalding, Lincolnshire PE11 4PU (GB)

(74) Representative: **Jones, David Alan**
Urquhart-Dykes & Lord LLP
7th Floor Churchill House
Churchill Way
Cardiff CF10 2HH (GB)

(56) References cited:
FR-A1- 2 739 637 **US-B1- 6 539 678**

Note: Within nine months of the publication of the mention of the grant of the European patent in the European Patent Bulletin, any person may give notice to the European Patent Office of opposition to that patent, in accordance with the Implementing Regulations. Notice of opposition shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).

EP 2 886 747 B1

Printed by Jouve, 75001 PARIS (FR)

Description

[0001] The present invention relates to a cover for a vehicle inspection pit, an in particular to an automated retractable pit cover.

[0002] Vehicle inspection pits provide a work space to enable personnel carrying out vehicle servicing and repair tasks at the underside of a vehicle to do so fully standing without requiring the vehicle to be elevated above the floor to the height of a person. Such pits are therefore typically configured to the approximate depth of a standing person so that personnel using the pit can work on a vehicle without stooping unduly. In a workshop environment a deep open pit represents a significant safety hazard in terms of its potential to cause injury to personnel should they fall into it accidentally. It is therefore common to provide removable covers for such a pit, to close the pit when not in use.

[0003] Such covers may be in the form of beam like structures or panels arranged across the pit in a transverse attitude and supported along the length of the pit. However, such an arrangement, although relatively safe is extremely inconvenient to use due to the labour involved in the repetitive mounting and dismounting of the pit covers between pit usage. As a result, it is frequently the case that the pit covers are not actually put in place with the pit being left open when not in use, thereby presenting a serious hazard for servicing personnel.

[0004] An automated retractable pit cover is described in GB2373227 in which a series of articulated interconnected slats that are stowed in a rolled or folded arrangement. The slats are driven between the covered and retracted positions by a motorised drive mechanism. This arrangement provides a convenient and easily operated means of covering and uncovering a pit. However, the requirement to stow the slats in a rolled or folded condition at one end of the pit when retracted requires a storage void for the slats. Over a certain length of cover the size of the storage void required for the number of slats becomes prohibitively large. As such, the length of the pit that may be covered is limited by the available stowed space. The length of the cover is also limited by the weight of the slats, which becomes excessive for drive mechanism over a certain weight. This may be addressed by providing two roller mechanisms at either end of the pit that meet in the middle, but such a solution requires two drive mechanisms and two storage voids and is therefore prohibitively expensive in most situations.

[0005] US6539678 and FR2739637 describe arrangements which use linear actuators to close pit covers.

[0006] It is therefore desirable to provide an improved pit cover which addresses the above described problems and/or which offers improvements generally.

[0007] According to the present invention there is provided a cover for a vehicle inspection pit as described in the accompanying claims. There is also provided in accordance with the present invention a vehicle inspection pit as defined in the accompanying claims.

[0008] In an embodiment of the invention there is provided a cover for a vehicle inspection and repair pit comprising at least one rigid planar member defining a cover plate. Mounting means is provided for hingedly mounting the at least one cover plate proximate the opening of a pit such that the at least one cover plate is rotatable between a stowed position and a substantially horizontal cover position. At least one actuator is operatively engaged with the at least one cover plate and arranged to move the at least one cover plate between the stowed and cover positions when the cover plate and actuator are mounted relative to a pit opening.

[0009] A cover plate or plurality of cover plates pivotally mounted to the side wall of a pit provide a cover arrangement in which the planar covers pivot to a stowed vertical position adjacent the side wall of the pit. This arrangement does not require a separate storage void for the cover, with the cover plates requiring minimum volume within the pit. In addition a relatively non-complex actuator arrangement is required to actuate the movement of the plate between the cover position and retracted position, thereby reducing the cost of the assembly.

[0010] The at least one actuator is a preferably a linear actuator such as a hydraulic or pneumatic cylinder. Such actuators are easily and accurately controllable and require minimal storage volume within a pit.

[0011] The actuator may comprise a rotatable mount at one end for rotatably mounting the actuator to the side wall of a pit. At the other end the actuator is rotatably mounted to the at least one cover plate. This pivot arrangement enables rotation of the plate to be actuated by a linear actuator, thus obviating the requirement for a more expensive and space consuming solution such as a motor driven axle.

[0012] At least one retractable support member may be provided that is movable between a retracted configuration and an extended support position. The at least one cover plate is rotatable to the cover position when the at least one support member is in the retracted position and when the at least on support member is extended to the support position it holds and supports the at least one cover member in the cover position. The support member extends to the support position when the cover plate is in the cover position to hold and support the plate. This allows the actuator to be pressure in the lifting cylinder to be released once the support member is in position, obviating the requirement to maintain the actuator in a powered condition while the pit is not in use.

[0013] A support assembly may include the at least one support member and actuating means for moving the at least one support member between the retracted and support positions. The actuating means are preferably and driven actuating means allowing the support member to be automatically extended to the support position by a common control system when the cover plate is in the cover position. In addition, the control system is able to synchronise the extension and retraction of the support member with the cover plate actuator to extend

the support member when the cover plate is in the cover position, release the pressure from the cover plate actuator when the support member is in position, and to ensure that the cover plate actuator is activated to support and lower the cover plate when the support member is retracted.

[0014] The support member actuating means preferably comprises a linear actuator, and the support member may be the piston rod of the linear actuator which is preferably a hydraulic or pneumatic cylinder.

[0015] Preferably a plurality of cover plates is provided together with a plurality of actuators associated with the plurality of plates. This enables a pit of significant length to be covered by a plate arrangement, whereas a single plate would require a restrictedly large lifting means.

[0016] In another aspect of the invention there is provided a vehicle inspection pit comprising a base and plurality of walls upstanding from the base defining a pit volume comprising side walls and end walls with the side walls having a greater length than the end walls such that the pit has an elongate configuration. A pit opening is defined at the upper edges of the plurality of walls. At least one rigid planar member defines a cover plate hingedly mounted along a side wall of the pit proximate the upper edge of the side wall such that the at least one cover plate is rotatable between a stowed position and a substantially horizontal cover position in which it extends to the opposing side wall to cover and close at least a part of the pit opening. At least one actuator operatively engages with the at least one cover plate and is arranged to move the at least one cover plate between the stowed and cover positions. In the cover position the at least one cover plate is level with the upper edge of the pit walls in the plane defined by the opening, defining a contiguous surface with the surrounding floor such that no trip hazard is presented.

[0017] The actuating means preferably comprises a linear actuator rotatably mounted at one end to the side wall of the pit and at the opposing end to the at least one cover plate. Preferably the actuator is mounted in a recess in the side wall of the pit configured to receive the actuator such that when the cover plate is in the stowed position it is arranged substantially vertically adjacent the side wall with the actuator located behind the plate within the recess. The recess extends transversely into the side wall and enables the actuator to be retained out of the working volume of the pit so as not to obstruct service personnel in normal use.

[0018] A support member is preferably provided that is movable between a retracted configuration and an extended support position in which the support member holds and supports the at least one cover member in the cover position and in the retracted position the at least one cover plate is rotatable to and from the cover position.

[0019] A support assembly may include the at least one support member and actuating means for moving the at least one support member between the retracted and support positions. Preferably the actuating means is mounted in a fixed position relative to the opposing side wall of the pit and in the support position extends substantially transversely into the pit below the at least one cover plate to engage and support the lower surface of the cover plate. The actuator may be mounted within a recess in the side wall of the pit. The actuator is mounted such that when in the retracted position it does not significantly extend into the working volume of the pit.

[0020] The present invention will now be described by way of example only with reference to the following illustrative figures in which:

Figure 1 shows a section view of a vehicle pit according to an embodiment within the invention with the cover plate in the cover position;

Figure 2 shows the vehicle inspection pit at Figure 1 with the cover plate in the semi-retracted/extended position;

Figure 3 shows the vehicle inspection pit at Figure 1 with the cover plate in the fully retracted position; and

Figure 4 is a view from above of a vehicle inspection pit according to an embodiment of the invention.

[0021] Referring to figure 1 a vehicle inspection pit 1 comprises a base 2, side walls 4 and end walls 6 defining a working volume 8. The side walls 4 are longer than the end walls 6 such that the pit has an elongate substantially oblong configuration. The walls 4, 6 and base 2 are a pre-fabricated construction, preferably formed from metal, and manufactured and installed by a method which is disclosed by way of example in GB2359792. The pit 1 is located within a workshop floor below ground level such that the base 2 is a suitable depth beneath the level of the floor 10 such that a service personnel may stand without stooping within the pit when a vehicle is parked over said pit or supported to a limited height above the pit on a jack. The upper edges of the wall 4 define an opening to the pit. Box channels 12 are provided at the upper edge of the walls extending along the length of the pit which may be used to support a jack for lifting vehicles located above the pit.

[0022] A cover plate 14 is provided for covering and enclosing the opening to the pit 1. The cover plate 14 is a metallic plate, and is preferably formed from aluminium having a construction suitable to take the weight of a person without being restrictively heavy. The cover plate 14 is pivotally secured to a side wall 4 of the pit 1 by a hinged bracket 16 such that it is pivotally supported and movable relative to the side wall 4. A pneumatic cylinder 18 is pivotally mounted to the same side wall 4 as the cover plate 14 within a recess 20 extending transversely into the side wall 4. The hydraulic cylinder 18 includes a piston rod 22 that is pivotally connected to the cover plate 14 at a fixed rotatable connection point 24.

[0023] In the cover position the cover plate 14 extends across and covers and closes the opening to the pit 1. In an arrangement shown in Figure 1 the cover plate is located immediately beneath the box sections but it will appreciated that the cover could be located at any suitable vertical location within the pit including a position flush with the level of the floor 10.

[0024] A secondary pneumatic piston 26 is secured to the lower surface of the cover plate 14 proximate the distal end. The secondary hydraulic piston 26 includes a piston rod 28 which in the arrangement of Figure 1 is shown in the extended locked support position in which it extends transversely into a corresponding cavity or barrel formed in the side wall 4 of the pit 8. In the cover position shown in Figure 1 the piston rod 28 is extended into the cavity to lock the cover plate 14 in the cover position. The cavity is located at substantially the same height as the pivot 16 of the cover plate 14 and such that when the piston rod 28 is received within the cavity the cover plate 14 is supported in a substantially horizontal position. The weight of the cover plate 14 is supported by the piston 26 and in particular is borne through the piston 28 and its engagement with the wall of the cavity. To open the pit the piston rod 28 of the secondary support cylinder 26 is retracted from the cavity such that the cover plate 14 is no longer supported. Prior to or simultaneous with the retraction of the piston rod 28 pressure is returned to the cover plate actuator cylinder 18 such that once the piston rod 28 of the secondary support cylinder 26 is fully retracted the weight of the cover plate is held and supported by the actuating cylinder 18. The piston rod 22 of the actuating cylinder 18 is then retracted to begin to move the cover plate 14 to the stowed position. The arrangement shown in Figure 2 the cover plate 14 is show in the semi-retracted/extended condition with the piston rod 22 having been retracted in length and the body of the piston 18 pivoting about its pivotal support 30.

[0025] In an alternative arrangement the secondary pneumatic piston 26 may be mounted in the side wall 4 of the pit 1 on the opposing side to the primary cylinder 18. In this arrangement the piston rod 28 extends transversely into the pit in the cover position such that it locates beneath the cover plate 14 to support the distal moveable end of the cover plate 14 from beneath. In the cover position the weight of the cover plate 14 is supported by the piston rod 28 of the secondary hydraulic cylinder 26 with the cover plate actuator cylinder 18 being passive in the extended condition.

[0026] To open the pit the piston rod 28 of the secondary support cylinder 26 is retracted such that it no longer supports or obstructs movement of the cover plate 14. Prior to or simultaneous with the retraction of the piston rod 28 pressure is returned to the cover plate actuator cylinder 18 such that once the piston rod 28 of the secondary support cylinder is fully retracted the weight of the cover plate is held and supported by the actuating cylinder 18. The piston rod 22 of the actuating cylinder 18 is then retracted to begin to move the cover plate 14 to the stowed position.

[0027] In the arrangement shown in Figure 2 the cover plate 14 is shown in the semi-retracted/extended condition with the piston rod 22 having been retracted in length and the body of the piston 18 pivoting about its pivotal support 30.

[0028] In the fully stowed position, as shown in Figure 3, the cover plate 14 is orientated substantially vertically and parallel and adjacent to the side wall 4. The recess 20 is configured such that when the cover plate 14 is in the fully stowed position the actuator 18 is able to be fully received within the recess 20 enabling the cover plate 14 to sit flush against the side wall 4 thereby occupying minimum space within the working volume 8 of the pit 1.

[0029] As shown in Figure 4, for pits of a significant length multiple cover plates 14 are located along the length of the pit 1. A corresponding actuating cylinder 18 and support cylinder 26 are associated with each of the cover plates 14. A controller is provided to synchronise deployment and retraction of the cover plates 14. The controller may be configured to selectively activate one or more of the cover plates 14 to selectively cover part or all of the length of the pit 1.

Claims

1. A cover for a vehicle inspection and repair pit comprising:

   at least one rigid planar member defining a cover plate (14);
   mounting means (16) for hingedly mounting the at least one cover plate (14) proximate the opening of a pit such that the at least one cover plate (14) is rotatable between a stowed position and a substantially horizontal cover position;
   at least one actuator (18) operatively engaged with the at least one cover plate (14) and arranged to move the at least one cover plate (14) between the stowed and cover positions; **characterized in that** at least one retractable support member (28) is movable between a retracted configuration and an extended support configuration wherein the at least one cover plate (14) is rotatable to the cover position when the at least one support member (28) is in the retracted configuration and the at least one support member (28) is arranged to lock and support the at least one cover member (14) in the cover position when in the extended configuration.

2. A cover according to claim 1 wherein the at least one actuator (18) is a linear actuator.

3. A cover according to claim 1 or 2 wherein the actuator (18) is a hydraulic or pneumatic cylinder.

4. A cover according to claim 2 or 3 wherein the actuator (18) comprises a rotatable mount at one end for rotatably mounting the actuator relative to the pit and is rotatably mounted at the opposing end to the at least one cover plate (14).

5. A cover according to any preceding claim comprising a support assembly including actuating means (26) for moving the at least one retractable support member (28) between the retracted and support positions.

6. A cover according to claim 5 wherein the actuating means is a linear actuator is mounted to the lower surface of the cover plate (14) and arranged such that the support member extends outwardly from the distal end of the cover plate (14) to be received in a corresponding support cavity.

7. A cover according to any preceding claim comprising a plurality of cover plates (14) and a plurality of actuators (18) associated with the plurality of plates (14).

8. A vehicle inspection pit comprising:

a base (2) and plurality of walls (4) (6) upstanding from the base (2) defining a pit volume comprising side walls (4) and end walls (6) with the side walls (4) having a greater length than the end walls (6) such that the pit has an elongate configuration;
a pit opening defined at the upper edges of the plurality of walls;
at least one rigid planar member defining a cover plate (14) hingedly mounted along a side wall (4) of the pit proximate the upper edge of the side wall such that the at least one cover plate (14) is rotatable between a stowed position and a substantially horizontal cover position in which it extends to the opposing side wall to cover and close at least a part of the pit opening;
at least one actuator (18) operatively engaged with the at least one cover plate (14) and arranged to move the at least one cover plate (14) between the stowed and cover positions **characterized in that** at least one retractable support member (28) movable between a retracted configuration and an extended support configuration wherein the at least one cover plate (14) is rotatable to the cover position when the at least one support member (28) is in the retracted configuration and the at least one support member (28) is arranged to lock and support the at least one cover member (14) in the cover position in the extended configuration.

9. A vehicle inspection pit according to claim 8 wherein the actuating means (18) comprises a linear actuator rotatably mounted at one end to the side wall of the pit and at the opposing end to the at least one cover plate (14).

10. A vehicle inspection pit according to claim 9 wherein the actuator (18) is mounted in a recess in the side wall of the pit configured to receive the actuator (18) such that when the cover plate (14) is in the stowed position it is arranged substantially vertically adjacent the side wall with the actuator (18) located behind the plate within the recess.

11. A vehicle inspection pit according to any one of claims 8 to 10 comprising a support assembly including the at least one support member (28) and actuating means (26) for moving the at least one support member between the retracted and support positions.

12. A vehicle inspection pit according to claim 11 wherein the actuating means (26) is a linear actuator and is mounted to the lower surface of the cover plate (14) and arranged such that the support member (28) extends outwardly from the distal end of the cover plate (14) to be received in a corresponding support cavity.

13. A vehicle inspection pit according to claim according to any one of claims 8 to 12 comprising a plurality of cover plates (14) and a corresponding plurality of actuators, wherein the plurality of cover plates (14) are mounted along the length of pit to cover and close the opening when in the cover position.

Patentansprüche

1. Abdeckung für eine Fahrzeuginspektions- und

- reparaturgrube, die Folgendes umfasst:

mindestens ein starres planares Glied, das eine Abdeckplatte (14) definiert;
Befestigungsmittel (16) zur angelenkten Befestigung der mindestens einen Abdeckplatte (14) in der Nähe der Öffnung einer Grube, so dass die mindestens eine Abdeckplatte (14) zwischen einer Verstaustellung und einer im Wesentlichen horizontalen Abdeckstellung drehbar ist;
mindestens einen Aktuator (18), der mit der mindestens einen Abdeckplatte (14) in Wirkeingriff steht und dahingehend angeordnet ist, die mindestens eine Abdeckplatte (14) zwischen der Verstaustellung und der Abdeckstellung zu bewegen;
dadurch gekennzeichnet, dass
mindestens ein einziehbares Stützglied

(28) zwischen einer eingezogenen Konfiguration und einer ausgezogenen Stützkonfiguration beweglich ist, wobei die mindestens eine Abdeckplatte (14) in die Abdeckstellung drehbar ist, wenn sich das mindestens eine Stützglied (28) in der eingezogenen Konfiguration befindet, und das mindestens eine Stützglied (28) dahingehend angeordnet ist, in der ausgezogenen Konfiguration das mindestens eine Abdeckglied (14) in der Abdeckstellung zu verriegeln und zu stützen.

2. Abdeckung nach Anspruch 1, wobei der mindestens eine Aktuator (18) ein Linearaktuator ist.

3. Abdeckung nach Anspruch 1 oder 2, wobei der Aktuator (18) ein Hydraulik- oder Pneumatikzylinder ist.

4. Abdeckung nach Anspruch 2 oder 3, wobei der Aktuator (18) eine drehbare Befestigung an einem Ende zum drehbaren Befestigen des Aktuators bezüglich der Grube umfasst und an dem gegenüberliegenden Ende an der mindestens einen Abdeckplatte (14) drehbar befestigt ist.

5. Abdeckung nach einem vorhergehenden Anspruch, die eine Stützanordnung umfasst, die Betätigungsmittel (26) zu Bewegen des mindestens einen einziehbaren Stützglieds (28) zwischen der eingezogenen und der Stützstellung umfasst.

6. Abdeckung nach Anspruch 5, wobei das Betätigungsmittel ein Linearaktuator ist, der an der unteren Fläche der Abdeckplatte (14) befestigt und derart angeordnet ist, dass sich das Stützglied von dem distalen Ende der Abdeckplatte (14) zur Aufnahme in einem entsprechenden Stützhohlraum nach außen erstreckt.

7. Abdeckung nach einem vorhergehenden Anspruch, die mehrere Abdeckplatten (14) und mehrere Aktuatoren (18), die den mehreren Platten (14) zugeordnet sind, umfasst.

8. Fahrzeuginspektionsgrube, die Folgendes umfasst:

eine Basis (2) und mehrere Wände (4) (6), die von der Basis (2) aus aufrecht verlaufen und ein Grubenvolumen definieren, die Seitenwände (4) und Endwände (6) umfassen, wobei die Seitenwände (4) eine größere Länge als die Endwände (6) aufweisen, so dass die Grube eine längliche Konfiguration aufweist;
eine Grubenöffnung, die an den oberen Rändern der mehreren Wände definiert wird;
mindestens ein starres planares Glied, das eine Abdeckplatte (14) definiert, die entlang einer Seitenwand (4) der Grube in der Nähe des oberen Rands der Seitenwand derart angelenkt befestigt ist, dass die mindestens eine Abdeckplatte (14) zwischen einer Verstaustellung und einer im Wesentlichen horizontalen Abdeckstellung, in der sie sich zum Abdecken und Verschließen mindestens eines Teils der Grubenöffnung zur gegenüberliegenden Seitenwand erstreckt, drehbar ist;
mindestens einen Aktuator (18), der mit der mindestens einen Abdeckplatte (14) in Wirkeingriff steht und dahingehend angeordnet ist, die mindestens eine Abdeckplatte (14) zwischen der Verstaustellung und der Abdeckstellung zu bewegen,
dadurch gekennzeichnet, dass
mindestens ein einziehbares Stützglied (28) zwischen einer eingezogenen Konfiguration und einer ausgezogenen Stützkonfiguration beweglich ist, wobei die mindestens eine Abdeckplatte (14) in die Abdeckstellung drehbar ist, wenn sich das mindestens eine Stützglied (28) in der eingezogenen Konfiguration befindet, und das mindestens eine Stützglied (28) dahingehend angeordnet ist, in der ausgezogenen Konfiguration das mindestens eine Abdeckglied (14) in der Abdeckstellung zu verriegeln und zu stützen.

9. Fahrzeuginspektionsgrube nach Anspruch 8, wobei das Betätigungsmittel (18) einen Linearaktuator umfasst, der an einem Ende an der Seitenwand der Grube und an dem gegenüberliegenden Ende an der mindestens einen Abdeckplatte (14) drehbar befestigt ist.

10. Fahrzeuginspektionsgrube nach Anspruch 9, wobei der Aktuator (18) in einer Vertiefung in der Seitenwand der Grube befestigt ist, die zur Aufnahme des Aktuators (18) konfiguriert ist, so dass die Abdeckplatte (14) in der Verstaustellung im Wesentlichen vertikal neben der Seitenwand angeordnet ist, wobei der Aktuator (18) hinter der Platte in der Vertiefung positioniert ist.

11. Fahrzeuginspektionsgrube nach einem der Ansprüche 8-10, die eine Stützanordnung umfasst, die mindestens ein Stützglied (28) und Betätigungsmittel (26) zum Bewegen des mindestens einen Stützglieds zwischen der eingezogenen und der Stützstellung umfasst.

12. Fahrzeuginspektionsgrube nach Anspruch 11, wobei das Betätigungsmittel (26) ein Linearaktuator ist und an der unteren Fläche der Abdeckplatte (14) befestigt und derart angeordnet ist, dass sich das Stützglied (28) von dem distalen Ende der Abdeckplatte (14) zur Aufnahme in einem entsprechenden Stütz-

hohlraum nach außen erstreckt.

13. Fahrzeuginspektionsgrube nach einem der Ansprüche 8-12, die mehrere Abdeckplatten (14) und mehrere entsprechende Aktuatoren umfasst, wobei die mehreren Abdeckplatten (14) entlang der Länge der Grube zum Abdecken und Verschließen der Öffnung in der Abdeckstellung befestigt sind.

Revendications

1. Recouvrement de fosse d'inspection et de réparation de véhicules, comprenant:

au moins un organe plan rigide définissant une plaque de recouvrement (14) ;
un moyen de montage (16) pour monter de manière articulée l'au moins une plaque de recouvrement (14) à proximité de l'ouverture d'une fosse de telle sorte que l'au moins une plaque de recouvrement (14) puisse tourner entre une position rangée et une position de recouvrement sensiblement horizontale ;
au moins un actionneur (18) en prise fonctionnelle avec l'au moins une plaque de recouvrement (14) et prévu pour déplacer l'au moins une plaque de recouvrement (14) entre la position rangée et la position de recouvrement ; **caractérisé en ce qu'**au moins un organe de support rétractable (28) peut être déplacé entre une configuration rentrée et une configuration de support sortie, l'au moins une plaque de recouvrement (14) pouvant tourner dans la position de recouvrement lorsque l'au moins un organe de support (28) est dans la configuration rentrée et l'au moins un organe de support (28) étant prévu pour verrouiller et supporter l'au moins un organe de recouvrement (14) dans la position de recouvrement lorsqu'il est dans la configuration sortie.

2. Recouvrement selon la revendication 1, dans lequel l'au moins un actionneur (18) est un actionneur linéaire.

3. Recouvrement selon la revendication 1 ou 2, dans lequel l'actionneur (18) est un cylindre hydraulique ou pneumatique.

4. Recouvrement selon la revendication 2 ou 3, dans lequel l'actionneur (18) comprend une fixation rotative à une extrémité de manière à monter de façon rotative l'actionneur par rapport à la fosse et est monté de manière rotative à l'extrémité opposée à l'au moins une plaque de recouvrement (14).

5. Recouvrement selon l'une quelconque des revendications précédentes, comprenant un ensemble de support comportant un moyen d'actionnement (26) pour déplacer l'au moins un organe de support rétractable (28) entre la position rentrée et la position de support.

6. Recouvrement selon la revendication 5, dans lequel le moyen d'actionnement est un actionneur linéaire qui est monté au niveau de la surface inférieure de la plaque de recouvrement (14) et qui est disposé de telle sorte que l'organe de support s'étende vers l'extérieur depuis l'extrémité distale de la plaque de recouvrement (14) de manière à être reçu dans une cavité de support correspondante.

7. Recouvrement selon l'une quelconque des revendications précédentes, comprenant une pluralité de plaques de recouvrement (14) et une pluralité d'actionneurs (18) associés à la pluralité de plaques (14).

8. Fosse d'inspection de véhicule, comprenant:

une base (2) et une pluralité de parois (4) (6) se dressant depuis la base (2) et définissant un volume de fosse comprenant des parois latérales (4) et des parois d'extrémité (6), les parois latérales (4) ayant une plus grande longueur que les parois d'extrémité (6) de telle sorte que la fosse présente une configuration allongée;
une ouverture de fosse définie au niveau des bords supérieurs de la pluralité de parois ;
au moins un organe plan rigide définissant une plaque de recouvrement (14) montée de manière articulée le long d'une paroi latérale (4) de la fosse à proximité du bord supérieur de la paroi latérale de telle sorte que l'au moins une plaque de recouvrement (14) puisse tourner entre une position rangée et une position de recouvrement sensiblement horizontale dans laquelle elle s'étend jusqu'à la paroi latérale opposée de manière à recouvrir et fermer au moins une partie de l'ouverture de la fosse ;
au moins un actionneur (18) en prise fonctionnelle avec l'au moins une plaque de recouvrement (14) et prévu pour déplacer l'au moins une plaque de recouvrement (14) entre la position rangée et la position de recouvrement, **caractérisée en ce qu'**au moins un organe de support rétractable (28) peut être déplacé entre une configuration rentrée et une configuration de support sortie, l'au moins une plaque de recouvrement (14) pouvant tourner dans la position de recouvrement lorsque l'au moins un organe de support (26) est dans la configuration rentrée et l'au moins un organe de support (28) étant prévu pour verrouiller et supporter l'au moins un organe de recouvrement (14) dans la position de recouvrement lorsqu'il est dans la configuration

sortie.

9. Fosse d'inspection de véhicules selon la revendication 8, dans laquelle le moyen d'actionnement (18) comprend un actionneur linéaire monté de manière rotative à une extrémité sur la paroi latérale de la fosse et à l'extrémité opposée sur l'au moins une plaque de recouvrement (14).

10. Fosse d'inspection de véhicules selon la revendication 9, dans laquelle l'actionneur (18) est monté dans un renfoncement dans la paroi latérale de la fosse, configuré pour recevoir l'actionneur (18) de telle sorte que, lorsque la plaque de recouvrement (14) est dans la position rangée, elle soit disposée sensiblement verticalement en position adjacente à la paroi latérale, l'actionneur (18) étant situé derrière la plaque à l'intérieur du renfoncement.

11. Fosse d'inspection de véhicules selon l'une quelconque des revendications 8 à 10, comprenant un ensemble de support comportant l'au moins un organe de support (28) et le moyen d'actionnement (26) pour déplacer l'au moins un organe de support entre la position rentrée et la position de support.

12. Fosse d'inspection de véhicules selon la revendication 11, dans laquelle le moyen d'actionnement (26) est un actionneur linéaire et est monté sur la surface inférieure de la plaque de recouvrement (14) et est prévu de telle sorte que l'organe de support (28) s'étende vers l'extérieur depuis l'extrémité distale de la plaque de recouvrement (14) de manière à être reçu dans une cavité de support correspondante.

13. Fosse d'inspection de véhicules selon l'une quelconque des revendications 8 à 12, comprenant une pluralité de plaques de recouvrement (14) et une pluralité correspondante d'actionneurs, la pluralité de plaques de recouvrement (14) étant montée le long de la longueur de la fosse pour recouvrir et fermer l'ouverture lorsqu'elles sont dans la position de recouvrement.

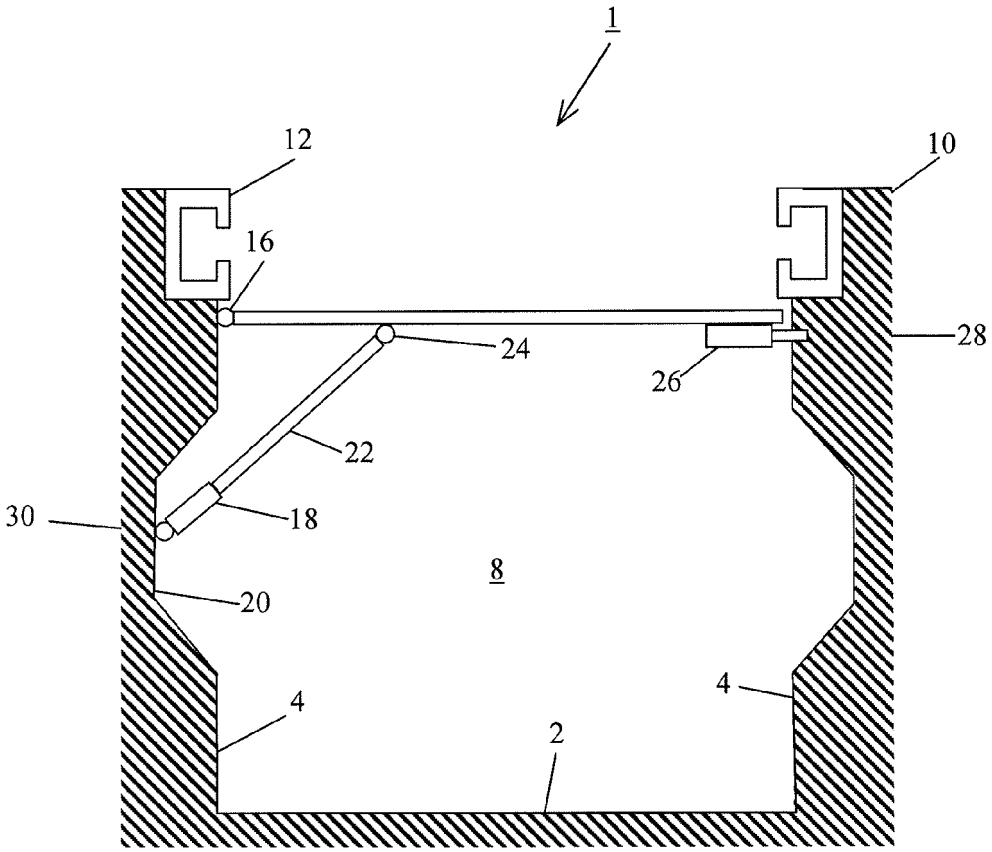


Fig 1

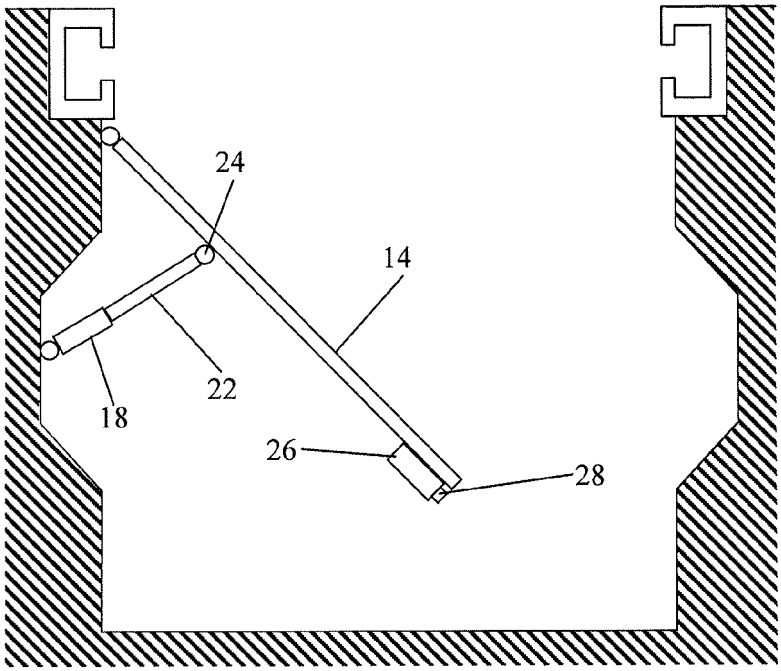


Fig 2

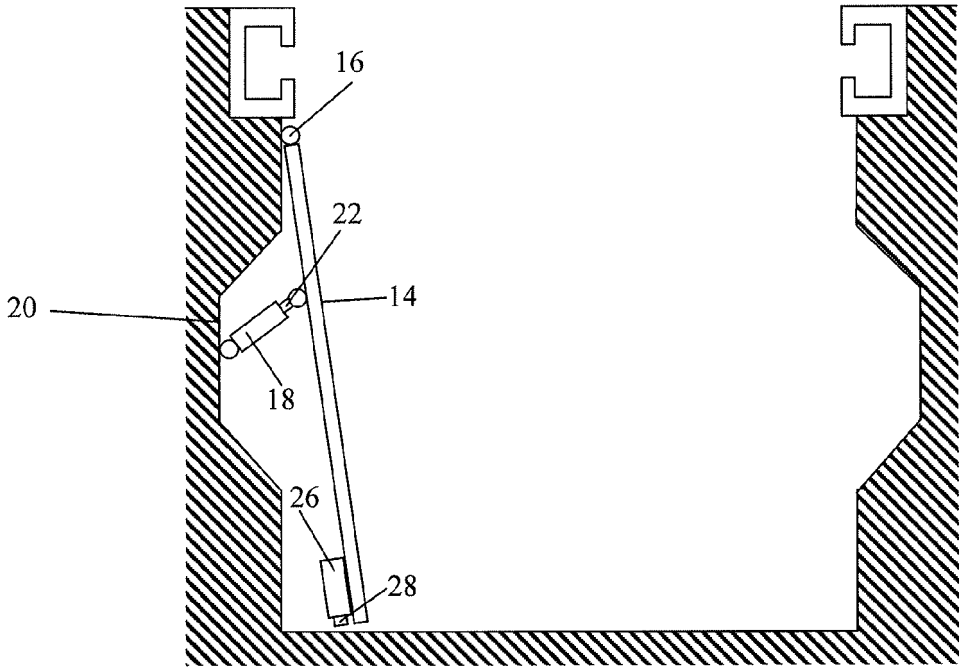


Fig 3

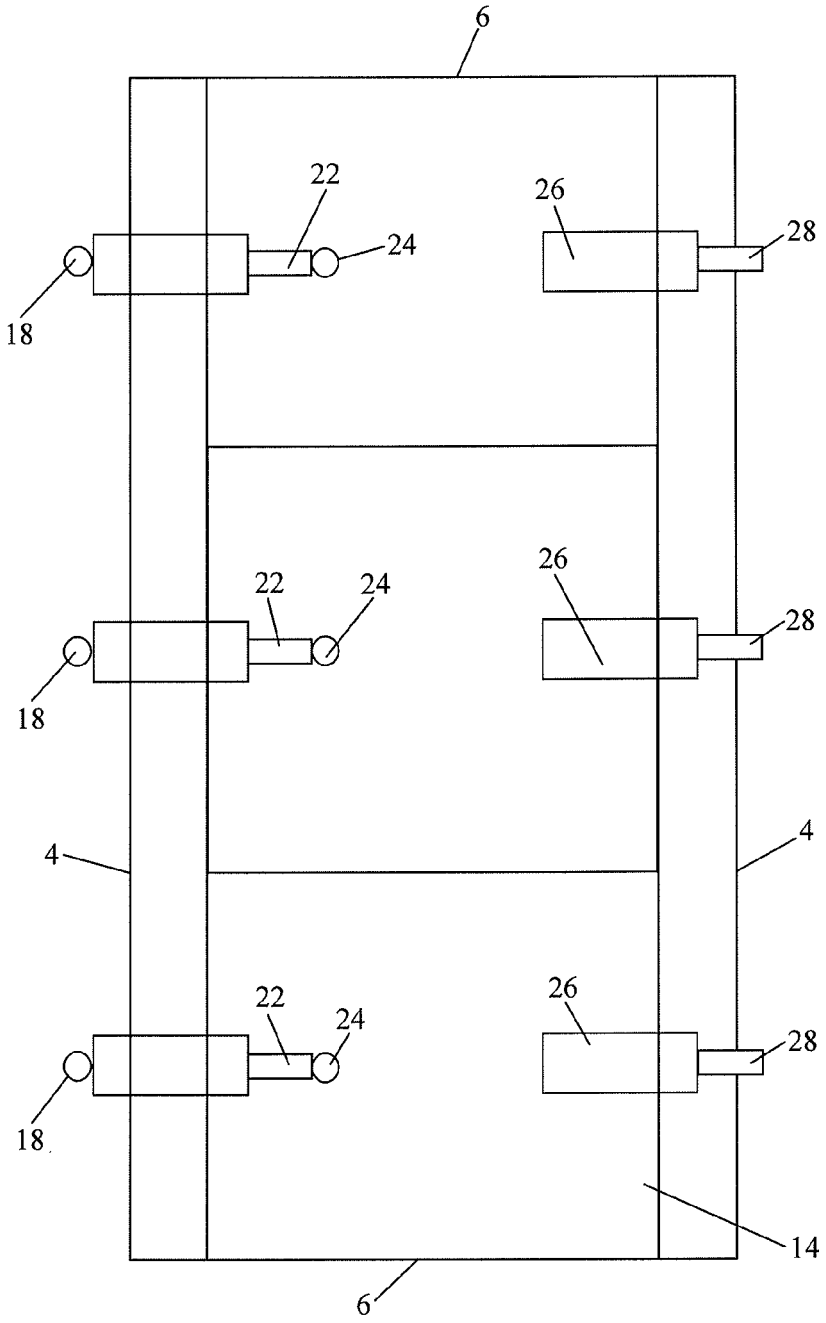


Fig 4

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- GB 2373227 A **[0004]**
- US 6539678 B **[0005]**
- FR 2739637 **[0005]**
- GB 2359792 A **[0021]**