CARRIER, BASE, AND CARRIER VEHICLE

TECHNICAL FIELD

[0001] The present disclosure relates to a carrier, a base, and a carrier vehicle.

BACKGROUND

[0002] At present, some small pet carriers for carrying pets are generally moved and transported via a handle. Although this method is already convenient to use, after the pet is placed inside the pet carrier, the overall weight of the pet carrier increases significantly. After holding the pet carrier for a long time, the user may feel fatigued, thereby greatly reducing the user experience and satisfaction.

SUMMARY

[0003] As embodied and broadly described herein, to achieve these and other advantages and in accordance with the purpose of the present disclosure, there is provided a carrier, including: a box part capable of being placed on a base, a connecting rod movably connected to the box part, the connecting rod is movable between an engagement position and a stored position, and the connecting rod in the engagement position is capable of being engaged with a connecting member provided on the base, such that the box part is fixed to the base.

[0004] In one embodiment, the connecting rod is movably connected to the box part via a connecting mechanism.

[0005] In one embodiment, the connecting mechanism includes a pivoting arm having a first end connected to the connecting rod and a second end pivotally connected to the box part.

[0006] In one embodiment, the connecting mechanism further includes a pivoting arm fixing seat, and the second end of the pivoting arm is pivotally connected to the pivoting arm fixing seat.

[0007] In one embodiment, a pivoting limiting member is provided between the second end of the pivoting arm and the pivoting arm fixing seat, the pivoting limiting member is configured to be non-rotatable relative to one of the second end of the pivoting arm and the

pivoting arm fixing seat, but to be rotatable relative to the other of the second end of the pivoting arm and the pivoting arm fixing seat and being kept in either an engaged rotation position or a stored rotation position, thereby keeping the connecting rod in the engagement position or the stored position.

[0008] In one embodiment, the second end of the pivoting arm is provided with one of a limiting straight tooth and a limiting straight tooth groove cooperated with each other, and a side of the pivoting limiting member facing the pivoting arm is provided with the other of the limiting straight tooth and limiting straight tooth groove, such that the pivoting limiting member is non-rotatable relative to the second end of the pivoting arm.

[0009] In one embodiment, the pivoting arm fixing seat is provided with one of a plurality of limiting inclined teeth and a plurality of limiting inclined tooth grooves cooperated with each other, and a side of the pivoting limiting member facing the pivoting arm fixing seat is provided with the other of the plurality of limiting inclined teeth and the plurality of limiting inclined tooth grooves, such that the pivoting limiting member is rotatable relative to the pivoting arm fixing seat and kept in different rotation positions.

[0010] In one embodiment, the plurality of limiting inclined teeth are arranged as two or two sets, and the plurality of limiting inclined tooth grooves are arranged as two, each limiting inclined tooth groove is engaged with one of the limiting inclined teeth or one set of the limiting inclined teeth, such that the pivoting limiting member is kept in two rotation positions relative to the pivoting arm fixing seat.

[0011] In one embodiment, the box part is provided with a connecting rod locking member movable between a locking position and an unlocking position, the connecting rod locking member in the locking position is capable of locking the connecting rod in the stored position and the connecting rod locking member in the unlocking position is capable of unlocking the connecting rod.

[0012] In one embodiment, the connecting rod is movably connected to the box part via the pivoting arm, the first end of the pivoting arm is connected to the connecting rod, the second end of the pivoting arm is pivotally connected to the box part, and the connecting rod locking member is capable of locking and unlocking the connecting rod via the pivoting arm.

[0013] In one embodiment, the second end of the pivoting arm is provided with a pivoting

part pivotally provided on the box part, the pivoting part is provided with a communication groove, and the connecting rod locking member is provided with a locking member protrusion insertable into the communication groove, the communication groove and the locking member protrusion are configured such that in the case that the connecting rod is in the stored position, when the connecting rod locking member moves to the locking position, the locking member protrusion inserts into the communication groove to lock the connecting rod in the stored position, and when the connecting rod locking member moves to the unlocking position, the locking member protrusion of the connecting rod locking member is disengaged from the communication groove to unlock the connecting rod.

[0014] In one embodiment, the box part is provided with a pivoting arm fixing seat, and the pivoting part of the pivoting arm is pivotally received in the pivoting arm fixing seat, the pivoting arm fixing seat is provided with a fixing seat opening groove, such that the locking member protrusion of the connecting rod locking member is capable of being inserted into the communication groove through the fixing seat opening groove.

[0015] In one embodiment, the pivoting part of the pivoting arm internally receives the pivoting limiting member, the pivoting limiting member is provided with a limiting member locking groove, such that the locking member protrusion of the connecting rod locking member is capable of being inserted into the limiting member locking groove through the fixing seat opening groove and the communication groove.

[0016] In one embodiment, the box part is further provided with a connecting rod operating member operated to move between an initial position and a driving position relative to the box part, and the connecting rod operating member is capable of driving the connecting rod locking member from the locking position to the unlocking position during movement from the initial position to the driving position.

[0017] In one embodiment, the connecting rod locking member is provided with a locking member driving column, and the connecting rod operating member is provided with an operating member driving groove through which the locking member driving column passes, the operating member driving groove is provided with a driving inclined face, the driving inclined face is configured such that during movement of the connecting rod operating member from the initial position to the driving position, the driving inclined face applies a

force to the locking member driving column to drive the connecting rod locking member from the locking position to the unlocking position.

[0018] In one embodiment, one of the box part and the connecting rod operating member is provided with a limiting boss, and the other of the box part and the connecting rod operating member is provided with an operating member limiting groove cooperating with the limiting boss to control movement of the connecting rod operating member between the initial position and the driving position.

[0019] In one embodiment, an operating member resetting device is provided between the box part and the connecting rod operating member, and the operating member resetting device is configured to tend to move the connecting rod operating member to the initial position.

[0020] In one embodiment, a pivoting arm resetting device is provided between the box part and the pivoting arm, and the pivoting arm resetting device is configured to tend to move the connecting rod to the engagement position.

[0021] In one embodiment, a box-part recess is provided at a bottom of the box part, and the connecting rod is received in the box-part recess when in the stored position.

[0022] In one embodiment, a clearance recess is provided at a bottom of the box part, and the clearance recess is configured to allow the connecting rod to be driven out of the stored position.

[0023] In one embodiment, the base is provided with a connecting member capable of being engaged with the connecting rod of the carrier, such that the carrier is placed on the base.

[0024] In one embodiment, the base is provided with a connecting recess into which the connecting rod enters, the connecting member is provided in the base and movable between a blocking position and a non-blocking position, such that the connecting member prevents the connecting rod in the connecting recess from moving out of the connecting recess when in the blocking position, and the connecting member allows the connecting rod to enter or leave the connecting recess when in the non-blocking position.

[0025] In one embodiment, an end of the connecting member is provided with a connecting member inclined surface, and the connecting member inclined surface is configured such that a force applied by the connecting rod to the connecting member inclined surface when

entering the connecting recess drives the connecting member to move to the non-blocking position.

[0026] In one embodiment, the base is provided with a base unlocking member, and the base unlocking member is configured to be operated to drive the connecting member to the non-blocking position.

[0027] In one embodiment, the base is provided with a connecting member resetting device, and the connecting member resetting device is configured to tend to move the connecting member to the blocking position.

[0028] In one embodiment, the base is provided with a connecting recess into which the connecting rod enters, the connecting member is configured to be exposed in the connecting recess and has an opening portion allowing the connecting rod to enter therein to be loaded therein.

[0029] In one embodiment, the base includes an actuating portion provided at a center, the actuating portion of the base corresponds to an actuating portion at a center of an outer bottom of the carrier, and the actuating portion of the base and the actuating portion of the carrier are configured such that when the carrier is positioned on the base for connection, a trigger mechanism in the actuating portion of the carrier is pressed and triggered by the actuating portion of the base, such that the connecting rod pivots out and moves along an inclined surface of the corresponding connecting recess to be engaged with the corresponding connecting member via the opening portion.

[0030] In another aspect of the present disclosure, there is provided a carrier vehicle installed with the base as above described.

[0031] The advantageous effect of the present disclosure lies in that the carrier according to the present disclosure can be easily and stably fixed to the carrier vehicle via the base.

[0032] The foregoing and other objects, features, aspects, and advantages of the present disclosure will become more apparent from the following detailed description of the present disclosure when taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0033] The accompanying drawings, which are incorporated into and constitute a part of

this specification, illustrate embodiments consistent with the present disclosure, and serve to explain the principles of the present disclosure together with the description.

[0034] In the drawings,

[0035] FIG. 1 is a perspective view of the carrier according to the present disclosure installed on a carrier vehicle via a base.

[0036] FIG. 2 is a perspective view of the carrier according to the present disclosure.

[0037] FIG. 3 is a bottom perspective view of the carrier according to the present disclosure, wherein a connecting rod is in a stored position.

[0038] FIG. 4 is a bottom perspective view of the carrier according to the present disclosure, wherein one connecting rod is in an engagement position.

[0039] FIG. 5 is a partially exploded schematic view of the carrier according to the present disclosure.

[0040] FIG. 6 is a partially exploded schematic view and a partially enlarged view of the carrier according to the present disclosure.

[0041] FIG. 7 is a partially exploded schematic view and a partially enlarged view of the carrier according to the present disclosure from another angle.

[0042] FIG. 8 is a schematic view of a carrier vehicle equipped with the base according to the present disclosure, wherein the connecting member is in a non-blocking position.

[0043] FIG. 9A is a front sectional view of the carrier vehicle equipped with the base according to the present disclosure, wherein the connecting member is in the non-blocking position.

[0044] FIG. 9B is a partially enlarged view of FIG. 9A.

[0045] FIG. 10 is a schematic view of the carrier vehicle equipped with the base according to the present disclosure, wherein the connecting member is in a blocking position.

[0046] FIG. 11A is a front sectional view of the carrier vehicle equipped with the base according to the present disclosure, wherein the connecting member is in the blocking position.

[0047] FIG. 11B is a partially enlarged view of FIG. 11A.

[0048] FIG. 12 is a side sectional view of the carrier according to the present disclosure installed on the carrier vehicle via the base, wherein the connecting member is in the blocking

position.

[0049] FIG. 13A is a front sectional view of the carrier according to the present disclosure installed on the carrier vehicle via the base, wherein the connecting member is in the blocking position.

[0050] FIG. 13B is a partially enlarged view of FIG. 13A.

[0051] FIG. 14A is a front sectional view of the carrier according to the present disclosure installed on the carrier vehicle via the base, wherein the connecting member is in the non-blocking position.

[0052] FIG. 14B is a partially enlarged view of FIG. 14A.

[0053] FIG. 15 is a bottom perspective view of the carrier according to the present disclosure, wherein the connecting rod is in the stored position.

[0054] FIG. 16 is a bottom perspective view of the carrier according to the present disclosure, wherein the connecting rod is in the engagement position.

[0055] FIG. 17A is a partially exploded schematic view of the carrier according to the present disclosure, wherein the connecting rod locking member is in the locking position.

[0056] FIG. 17B is a partially enlarged view of FIG. 17A.

[0057] FIG. 18A is a partially exploded schematic view of the carrier according to the present disclosure, wherein the connecting rod operating member drives the connecting rod locking member to move to the unlocking position.

[0058] FIG. 18B is a partially enlarged view of FIG. 18A.

[0059] FIG. 19A is a partially exploded schematic view of the carrier according to the present disclosure, wherein the pivoting arm fixing seat on one side is removed.

[0060] FIG. 19B is a partially enlarged view of FIG. 19A.

[0061] FIG. 20A is a partially exploded schematic view of the carrier according to the present disclosure, wherein the pivoting arm fixing seat is not removed.

[0062] FIG. 20B is a partially enlarged view of FIG. 20A.

[0063] FIG. 21 is a bottom view of the carrier according to the present disclosure, wherein the connecting rod locking member is in the locking position.

[0064] FIG. 22 is a bottom view of the carrier according to the present disclosure, wherein the connecting rod operating member drives the connecting rod locking member to move to

the unlocking position.

[0065] FIG. 23A is a partial sectional view of the carrier shown in FIG. 21.

[0066] FIG. 23B is a partially enlarged view of FIG. 23A.

[0067] FIG. 24A is a partial sectional view of the carrier shown in FIG. 22.

[0068] FIG. 24B is a partially enlarged view of FIG. 24A.

[0069] FIGS. 25A to 25E schematically show a traveling device according to the present disclosure in various views.

[0070] FIG. 26 is a perspective view of the base for a vehicle seat.

[0071] FIG. 27 is a perspective view of the base for a vehicle seat from another angle..

Reference numbers are listed as follows:

100 carrier

110 box part

111 case bottom

112 box-part recess

113 clearance recess

114 through hole

115 limiting boss

120 connecting rod

130 pivoting arm

131 first end

132 second end

133 limiting straight tooth groove

134 pivoting part

134A communication groove

135 pivoting arm resetting device

140 pivoting arm fixing seat

141 limiting inclined tooth groove

142 fixing seat opening groove

150 pivoting limiting member

151 limiting straight tooth

152 limiting inclined tooth

153 limiting member locking groove

160 connecting rod operating member

161 operating member driving groove

161A driving inclined face

162 operating member limiting groove

163 operating member resetting device

170 connecting rod locking member

171 locking member protrusion

172 locking member driving column

200 base

210 connecting member

211 connecting member inclined surface

212 connecting member resetting device

220 connecting recess

230 base unlocking member

300 carrier vehicle

400 anchoring joint

410 anchoring joint operating member

13 traveling device

1300 carrier

1310 box part

1311 outer bottom

1312 recess

1313 actuating portion

1314 connecting rod

1330 carrying handle

1390 base

1391 top face

1392 connecting recess

1393 actuating portion

1394 connecting member

DETAILED DESCRIPTION

[0072] Hereinafter, the present disclosure will be described in detail with reference to the accompanying drawings.

[0073] FIG. 1 shows a carrier 100 according to the present disclosure placed on a base 200. The base 200 is installed on a carrier vehicle 300.

[0074] It should be noted that although the carrier 100 shown in the drawings is a pet carrier and the carrier vehicle 300 is a pet vehicle, the present disclosure is not limited thereto. The carrier 100 according to the present disclosure may be used for carrying animals or carrying items. The carrier vehicle 300 according to the present disclosure may be used for transporting animals or carrying items, including but not limited to pet vehicles, shopping carts, camping vehicles, etc.

[0075] As shown in FIGS. 3 to 7, the carrier 100 according to the present disclosure includes a box part 110 and a connecting rod 120.

[0076] The box part 110 is a container of substantially rectangular shape. However, it should be understood that the box part 110 may be a container of other shapes.

[0077] In an embodiment shown in FIG. 2, the box part 110 may include a plurality of through holes 114 that penetrate through the box part. These through holes 114 may be distributed on side walls of the box part 110 to enhance breathability of the box part 110.

[0078] In embodiment shown in FIGS. 15 and 16, the box part 110 may also include an anchoring joint 400, which is capable of being engaged with corresponding accessories on a vehicle seat, thereby securing the carrier 100 to the vehicle seat.

[0079] The anchoring joint 400 may move between a position accommodated in the box part 110 (see FIG. 15) and a position extending out of the box part 110 (see FIG. 16). The box part 110 may include an anchoring joint operating member 410 for controlling the movement of the anchoring joint 400 from the folded position to the unfolded position.

[0080] The box part 110 according to the present disclosure may be placed on the base 200 to achieve more stable support, or may be connected to the carrier vehicle 300 or other

supporting structures such as a stand via the base 200.

Connecting Rod and Related Structures Thereof

[0081] As shown in FIGS. 3 to 7, the connecting rod 120 according to the present disclosure is movably connected to the box part 110. The connecting rod 120 is movable between an engagement position and a stored position, and when the connecting rod 120 is in the engagement position, it may be engaged with the connecting member 210 (see FIGS. 8 to 14B) provided on the base 200, thereby fixing the box part 110 to the base 200.

[0082] It should be understood that the number of connecting rods 120 may be one or more. The present description takes two connecting rods 120 as an example, but not limited thereto.

[0083] In addition, since the relevant structures of the two connecting rods 120 are the same, for the sake of convenience in description, the present disclosure mainly focuses on the relevant structure of one of the connecting rods 120.

[0084] In embodiments shown in FIGS. 3 to 7, the connecting rod 120 is connected to a case bottom 111 of the box part 110, facilitating the engagement of the connecting rod 120 with the connecting member 210 on the base 200.

[0085] Furthermore, as shown in FIGS. 3 to 5, the case bottom 111 of the box part 110 may be provided with a box-part recess 112, in which the connecting rod 120 is stored in a stored position. As a result, the case bottom 111 may present a flat surface. When the box part 110 is fixed to the base 200, the case bottom 111 may contact an upper surface of the base 200 in a face-to-face manner, thereby providing more stable support for the box part 110.

[0086] As shown in FIGS. 3 to 5, the bottom 111 of the box part 110 may also be provided with a clearance recess 113, which is arranged so that the connecting rod 120 can be conveniently driven out of the stored position. For example, when the connecting rod 120 is stored within the box-part recess 112 in the stored position, due to shape and size of the box-part recess 112 corresponding to shape and size of the connecting rod 120, it may be inconvenient for a user to apply force to the connecting rod 120. By providing a clearance recess 113 with an opening size much larger than a diameter of the connecting rod 120, a user's fingers may easily apply force to the connecting rod 120, thereby facilitating its movement out of the stored position. The clearance recess 113 may be in communication with the box-part recess 112.

[0087] However, the present disclosure is not limited thereto. The connecting rod 120 may be connected to other parts of the box part 110, such as side walls, as long as it may move between the engagement position and the stored position.

[0088] The connecting rod 120 may be directly or indirectly connected to the box part 110.

[0089] In the embodiments shown in FIGS. 3 to 7, the connecting rod 120 may be movably connected to the box part 110 via a connecting mechanism. The connecting mechanism may include a pivoting arm 130, a first end 131 of which is connected to the connecting rod 120, and a second end 132 of which is pivotally connectable to the box part 110.

[0090] As shown in FIG. 7, the first end 131 of the pivoting arm 130 is provided with an arm fixing hole, through which a screw, rivet, or other fastener may pass to connect the pivoting arm 130 to the connecting rod 120.

[0091] Certainly, if the pivoting arm 130 is integrally formed with the connecting rod 120, such that the connecting rod 120 is formed as a U-shaped rod, that is, the connecting rod 120 is directly connected to the box part 110.

[0092] In the embodiments shown in FIGS. 3 to 7, the connecting mechanism may also include a pivoting arm fixing seat 140, which may be fixed to the case bottom 111 of the box part 110, or may be fixed to other parts of the box part 110 as needed.

[0093] As shown in FIGS. 3 to 7, the pivoting arm fixing seat 140 is provided with a seat fixing hole, through which a screw, rivet, or other fastener may pass to fix the pivoting arm fixing seat 140 to the box part 110.

[0094] The second end 132 of the pivoting arm 130 is pivotally connectable to the pivoting arm fixing seat 140, thereby connecting the pivoting arm 130 to the box part 110 via the pivoting arm fixing seat 140. Since the connecting part of the connecting rod 120 to the box part 110 may wear out over long-term use, by providing the pivoting arm 130 and the pivoting arm fixing seat 140, the user may only need to replace the pivoting arm 130 and the pivoting arm fixing seat 140, without having to replace the entire box part 110.

[0095] Hereinafter, a structure that may hold the connecting rod 120 in the engagement position or the stored position will be described.

[0096] In the embodiments shown in FIGS. 6 and 7, a pivoting limiting member 150 may be provided between the second end 132 of the pivoting arm 130 and the pivoting arm fixing

seat 140. The pivoting limiting member 150 may be configured to be non-rotatable relative to the second end 132 of the pivoting arm 130, rotatable relative to the pivoting arm fixing seat 140. The pivoting limiting member 150 is kept in an engaged rotation position or a stored rotation position relative to the pivoting arm fixing seat 140, thereby holding the connecting rod 120 in the engagement position or the stored position.

[0097] Certainly, the pivoting limiting member 150 may also be configured to be non-rotatable relative to the pivoting arm fixing seat 140, rotatable relative to the second end 132 of the pivoting arm 130. The pivoting limiting member 150 is kept in the engaged rotation position or the stored rotation position relative to the second end 132 of the pivoting arm 130.

[0098] In the embodiments shown in FIGS. 6 and 7, connecting holes may be respectively formed on the second end 132 of the pivoting arm 130, the pivoting limiting member 150, and the pivoting arm fixing seat 140. The second end 132 of the pivoting arm 130, the pivoting limiting member 150, and the pivoting arm fixing seat 140 may be connected together by passing a screw, a rivet, or a pin through the connecting holes.

[0099] In another embodiment, the pivoting limiting member 150 may be integrally formed with one of the second end 132 of the pivoting arm 130 and the pivoting arm fixing seat 140, which can also achieve such technical effect that the pivoting limiting member 150 is non-rotatable relative to that one of the second end 132 of the pivoting arm 130 and the pivoting arm fixing seat 140.

[00100] As shown in FIG. 7, the second end 132 of the pivoting arm 130 is provided with a limiting straight tooth groove 133, and a side of the pivoting limiting member 150 facing the pivoting arm 130 is provided with a limiting straight tooth 151. By the cooperation of the limiting straight tooth groove 133 and the limiting straight tooth 151, the pivoting limiting member 150 is non-rotatable relative to the second end 132 of the pivoting arm 130.

[00101] Certainly, positions of the limiting straight tooth groove 133 and the limiting straight tooth 151 may be interchanged. For example, the second end 132 of the pivoting arm 130 is provided with a limiting straight tooth 151, and a side of the pivoting limiting member 150 facing the pivoting arm 130 is provided with a limiting straight tooth groove 133. This method can also achieve the technical effect that the pivoting limiting member 150 is

non-rotatable relative to the second end 132 of the pivoting arm 130.

[00102] As shown in FIG. 6, the pivoting arm fixing seat 140 is provided with a plurality of limiting inclined tooth grooves 141. As shown in FIG. 7, a side of the pivoting limiting member 150 facing the pivoting arm fixing seat 140 is provided with a plurality of limiting inclined teeth 152. By the cooperation of the limiting inclined tooth grooves 141 and the limiting inclined teeth 152, the pivoting limiting member 150 is rotatable relative to the pivoting arm fixing seat 140 and may be kept in different rotation positions.

[00103] The cooperation between the limiting inclined teeth 152 and the limiting inclined tooth grooves 141 may allow the pivoting limiting member 150 to be kept in a rotation position relative to the pivoting arm fixing seat 140 without rotating arbitrarily. However, since the plurality of limiting inclined tooth grooves 141 and the plurality of limiting inclined teeth 152 are respectively provided on the sides of the pivoting arm fixing seat 140 and the pivoting limiting member 150, and their contact surfaces are inclined contact surfaces and are inclined relative to the axis of the pivoting limiting member 150, when the pivoting limiting member 150 is subjected to a driving force and has a tendency to rotate around its axis, the inclined contact surfaces between the limiting inclined teeth 152 and the limiting inclined tooth grooves 141 may generate an interaction force along the axis. This interaction force causes the pivoting limiting member 150 and the pivoting arm fixing seat 140 to have a tendency to move away from each other. When the driving force on the pivoting limiting member 150 increases to a certain extent, the interaction force between the limiting inclined teeth 152 and the limiting inclined tooth grooves 141 also increases to a certain extent, and eventually forces the pivoting limiting member 150 and the pivoting arm fixing seat 140 to move away from each other until the limiting inclined teeth 152 is disengaged from the limiting inclined tooth grooves 141, thereby rotating the pivoting limiting member 150 relative to the pivoting arm fixing seat 140. Then, after the pivoting limiting member 150 rotates by a certain angle relative to the pivoting arm fixing seat 140, the limiting inclined tooth 152 may be engaged with another limiting inclined tooth groove 141, or the limiting inclined tooth 152 may be re-engaged with the limiting inclined tooth groove 141 previously cooperated (for example, the pivoting limiting member 150 rotates by 360 degrees relative to the pivoting arm fixing seat 140), such that the pivoting limiting member 150 is kept in the

rotation position relative to the pivoting arm fixing seat 140 again.

[00104] A limiting part resetting device (not shown) may be provided on the side of the pivoting limiting member 150 opposite to the pivoting arm fixing seat 140 or in another suitable position. The limiting part resetting device is configured to tend to press the pivoting limiting member 150 against the pivoting arm fixing seat 140, thereby ensuring the engagement of the limiting inclined teeth 152 with the limiting inclined tooth grooves 141 and facilitating the maintenance of a rotation position of the pivoting limiting member 150 relative to the pivoting arm fixing seat 140. The limiting part resetting device may be an elastic member such as a spring, a pneumatic rod, or a hydraulic rod.

[00105] The number of the plurality of limiting inclined tooth grooves 141 and the number of the plurality of limiting inclined teeth 152 may be the same or different.

[00106] In the case that the limiting inclined tooth grooves 141 and the limiting inclined teeth 152 are evenly distributed along a circumference and their numbers are the same, the pivoting limiting member 150 may be kept in a plurality of different rotation positions relative to the pivoting arm fixing seat 140, and the number of the rotation positions is the same as the number of the limiting inclined tooth grooves 141 and the limiting inclined teeth 152.

[00107] In the case that the number of the limiting inclined tooth grooves 141 is different from the number of the limiting inclined teeth 152, the pivoting limiting member 150 may be kept in one or several specified rotation positions relative to the pivoting arm fixing seat 140.

[00108] For example, the plurality of limiting inclined teeth 152 may be configured as two or two sets (see FIG. 7), and the plurality of limiting inclined tooth grooves 141 may be configured as two (see FIG. 6). Each limiting inclined tooth groove 141 is capable of being engaged with one of the limiting inclined teeth 152 or one set of the limiting inclined teeth 152, thereby allowing the pivoting limiting member 150 to keep in two rotation positions relative to the pivoting arm fixing seat 140.

[00109] The two rotation positions may be the engaged rotation position and the stored rotation position. When the pivoting limiting member 150 may be kept in the engaged rotation position relative to the pivoting arm fixing seat 140, the connecting rod 120 is kept in the engagement position. When the pivoting limiting member 150 may be kept in the stored rotation position relative to the pivoting arm fixing seat 140, the connecting rod 120 is kept in

the stored position.

Locking and Unlocking of the Connecting Rod

[00110] Hereinafter, a structure that may lock and unlock the connecting rod 120 in the stored position will be described.

[00111] As shown in FIGS. 15 to 24B, the box part 110 may be provided with a connecting rod locking member 170, which is movable between a locking position and an unlocking position. The connecting rod locking member 170 in the locking position is capable of locking the connecting rod 120 in the stored position (as shown in FIGS. 23A and 23B), and the connecting rod locking member 170 in the unlocking position is capable of unlocking the connecting rod 120 (as shown in FIGS. 24A and 24B).

[00112] As shown in FIGS. 15 and 16, the connecting rod 120 is movably connected to the box part 110 via a pivoting arm 130, a first end 131 of the pivoting arm 130 is connected to the connecting rod 120, and a second end 132 of the pivoting arm 130 is pivotally connectable to the box part 110.

[00113] Therefore, in the embodiments shown in FIGS. 17A to 20B, the connecting rod locking member 170 is capable of locking and unlocking the connecting rod 120 via the pivoting arm 130.

[00114] In one embodiment, as shown in FIGS. 19A to 20B, the second end 132 of the pivoting arm 130 is provided with a pivoting part 134 that is pivotally provided on the box part 110, the pivoting part 134 is provided with a communication groove 134A. Correspondingly, the connecting rod locking member 170 is provided with a locking member protrusion 171 that is inserted into the communication groove 134A.

[00115] The cooperation between the communication groove 134A and the locking member protrusion 171 is such that in the case that the connecting rod 120 is in the stored position, as shown in FIGS. 23A and 23B, when the connecting rod locking member 170 moves to the locking position, the locking member protrusion 171 of the connecting rod locking member 170 is inserted into the communication groove 134A to lock the connecting rod 120 in the stored position; as shown in FIGS. 24A and 24B, when the connecting rod locking member 170 moves to the unlocking position, the locking member protrusion 171 of the connecting rod locking member 170 is disengaged from the communication groove 134A to unlock the

connecting rod 120, such that the connecting rod 120 may move out of the stored position.

[00116] It should be understood that the connecting rod locking member 170 according to the present disclosure may lock and unlock the connecting rod 120 in other ways. For example, in an embodiment where the connecting rod 120 slides between the stored position and the engagement position, the end of the connecting rod 120 may be provided with a hanging ring, and the connecting rod locking member 170 may be provided with a hook. When the connecting rod 120 is in the stored position, the hook of the connecting rod locking member 170 may be engaged with the hanging ring of the connecting rod 120, thereby preventing the connecting rod 120 from moving out of the stored position. When the connecting rod locking member 170 is operated such that its hook is disengaged from the hanging ring of the connecting rod 120, such that the connecting rod 120 may move out of the stored position.

[00117] In the embodiments shown in FIGS. 19A to 20B, a pivoting arm resetting device 135 may be provided between the box part 110 and the pivoting arm 130, which is configured to tend to move the connecting rod 120 to the engagement position. Thus, as long as the connecting rod locking member 170 unlocks the connecting rod 120, the pivoting arm resetting device 135 may automatically drive the connecting rod 120 to move out of the stored position and move to the engagement position without the need for user operation.

[00118] In the embodiment shown in FIGS. 17A to 18B and FIGS. 20A and 20B, the box part 110 may be provided with a pivoting arm fixing seat 140, in which the pivoting part 134 of the pivoting arm 130 may be pivotally accommodated.

[00119] As shown in FIGS. 20A and 20B, the pivoting arm fixing seat 140 may be provided with a fixing seat opening groove 142, such that the locking member protrusion 171 of the connecting rod locking member 170 may be inserted into the communication groove 134A through the fixing seat opening groove 142.

[00120] In other embodiments, the box part 110 may not be provided with a pivoting arm fixing seat 140, and the pivoting part 134 of the pivoting arm 130 may be pivotally provided directly on the box part 110.

[00121] In the embodiments shown in FIGS. 20A and 20B, a pivoting limiting member 150 is accommodated in the pivoting part 134 of the pivoting arm 130, and may be provided with a limiting member locking groove 153, such that the locking member protrusion 171 of the

connecting rod locking member 170 may be inserted into the limiting member locking groove 153 through the fixing seat opening groove 142 and the communication groove 134A.

[00122] It should be noted that the pivoting limiting member 150 in this embodiment may have the same or different structure from the aforementioned pivoting limiting member 150. Moreover, the limiting member locking groove 153 on the pivoting limiting member 150 may be formed by a gap between two adjacent limiting straight teeth 151.

[00123] To facilitate user to operate the movement of the connecting rod locking member 170 from the locking position to the unlocking position, in the embodiments shown in FIGS. 15 to 24B, the box part 110 may also be provided with a connecting rod operating member 160, which may be operated to move between an initial position and a driving position relative to the box part 110. During the movement of the connecting rod operating member 160 from the initial position to the driving position as indicated by an arrow in FIG. 18B, the connecting rod operating member 160 may drive the connecting rod locking member 170 from the locking position to the unlocking position.

[00124] In the embodiments shown in FIGS. 21 to 24B, the connecting rod locking member 170 may be provided with a locking member driving column 172. Correspondingly, the connecting rod operating member 160 may be provided with an operating member driving groove 161 through which the locking member driving column 172 may pass. By exerting a force on the locking member driving column 172 via the operating member driving groove 161, the connecting rod operating member 160 may drive the connecting rod locking member 170.

[00125] In this embodiment, a movement direction of the connecting rod operating member 160 is perpendicular to a movement direction of the connecting rod locking member 170. To change the movement direction, the operating member driving groove 161 may be provided with a driving inclined face 161A. As shown in FIGS. 21 to 24B, the driving inclined face 161A may be configured such that, during the movement of the connecting rod operating member 160 from the initial position to the driving position as indicated by the arrow in FIG. 18B, the driving inclined face 161A may exert a force on the locking member driving column 172 to drive the connecting rod locking member 170 from the locking position to the unlocking position.

[00126] It should be noted that in the embodiments shown in FIGS. 21 to 24B, the operating member driving groove 161 is in a shape of a right triangle, and a hypotenuse of the right triangle form the driving inclined face 161A. Therefore, during the movement of the connecting rod operating member 160 from the driving position back to the initial position, the operating member driving groove 161 may not exert a force on the locking member driving column 172, that is, there is no interaction between the operating member driving groove 161 and the locking member driving column 172. Thus, the connecting rod operating member 160 may not drive the connecting rod locking member 170 from the unlocking position to the locking position, and the connecting rod operating member 160 may not be affected by the connecting rod locking member 170 while moving from the driving position back to the initial position. The advantage of this design is that, after the connecting rod operating member 160 drives the connecting rod locking member 170 to the unlocking position, regardless of whether the connecting rod locking member 170 returns to the locking position, the connecting rod operating member 160 may return to the initial position. This can prevent the connecting rod operating member 160 from returning to the initial position to be exposed from the box part 110 due to the influence of the connecting rod locking member 170.

[00127] In this case, in order to move the connecting rod locking member 170 to the locking position, a locking part resetting device (not shown) may be provided, which is configured to tend to move the connecting rod locking member 170 to the locking position. The locking part resetting device may be an elastic member such as a spring, a pneumatic rod, or a hydraulic rod. Thus, without user operation, the connecting rod locking member 170 may automatically move to the locking position. The locking part resetting device may also ensure that the connecting rod locking member 170 locks the connecting rod 120 in the stored position.

[00128] In another embodiment, the operating member driving groove 161 may be formed as an inclined long slot, such that during the movement of the connecting rod operating member 160 between the initial position and the driving position, the operating member driving groove 161 may exert a force on the locking member driving column 172 to drive the connecting rod locking member 170 to move between the locking position and the unlocking

position.

[00129] In the embodiments shown in FIGS. 21 to 24B, the box part 110 may be provided with a limiting boss 115, and the connecting rod operating member 160 may be provided with an operating member limiting groove 162 that cooperates with the limiting boss 115. By the cooperation between the limiting boss 115 and the operating member limiting groove 162, the movement of the connecting rod operating member 160 between the initial position and the driving position may be controlled.

[00130] Certainly, the positions of the limiting boss 115 and the operating member limiting groove 162 may be interchanged. For example, the box part 110 may be provided with an operating member limiting groove 162, and the connecting rod operating member 160 may be provided with a limiting boss 115. This method can also achieve the technical effect of controlling the movement of the connecting rod operating member 160.

[00131] As shown in FIGS. 21 to 24B, an operating member resetting device 163 may be provided between the box part 110 and the connecting rod operating member 160, which is configured to tend to move the connecting rod operating member 160 to the initial position.

[00132] Certainly, the present disclosure is not limited thereto.

[00133] In other embodiments, the movement of the connecting rod locking member 170 between the locking position and the unlocking position may be driven by other ways, instead of providing the connecting rod operating member 160. For example, the connecting rod locking member 170 may have an operating member exposed from the box part 110, and the user can directly drive the connecting rod locking member 170 to move between the locking position and the unlocking position through this operating member.

Base

[00134] As shown in FIGS. 12 to 14B, the carrier 100 may be placed on the base 200. Furthermore, the base 200 according to the present disclosure may be provided with a connecting member 210. The connecting member 210 is capable of being engaged with the connecting rod 120 on the carrier 100 as described above, such that the carrier 100 is placed on the base 200.

[00135] FIGS. 8 to 14B illustrate a first embodiment of the cooperation between the carrier 100 and the base 200 according to the present disclosure.

[00136] As shown in FIGS. 8 to 11B, the base 200 is provided with a connecting recess 220 into which the connecting rod 120 enters.

[00137] The position of the connecting recess 220 may correspond to the position of the connecting rod 120 in the engagement position.

[00138] The number of connecting recesses 220 may be equal to or greater than the number of connecting rods 120.

[00139] The connecting member 210 may be provided in the base 200 and be movable between the blocking position and the non-blocking position. As shown in FIGS. 13A and 13B, the connecting member 210 in the blocking position is partially exposed from the connecting recess 220, thereby preventing the connecting rod 120 in the connecting recess 220 from moving out of the connecting recess 220. As shown in FIGS. 14A and 14B, the connecting member 210 in the non-blocking position moves away from the connecting recess 220, to allow the connecting rod 120 to enter or leave the connecting recess 220.

[00140] In the embodiment shown in FIGS. 8 to 11B, the base 200 may be provided with a base unlocking member 230, which is configured to be operated to move the connecting member 210 to the non-blocking position.

[00141] The base unlocking member 230 may directly connect to and drive the connecting member 210, or may indirectly drive the connecting member 210 through an intermediate member.

[00142] In the embodiments shown in FIGS. 9A to 11B and FIGS. 13A to 14B, the base 200 may be provided with a connecting member resetting device 212, which is configured to tend to move the connecting member 210 to the blocking position. Thus, after the connecting rod 120 enters the connecting recess 220, the connecting member 210 may continuously prevent the connecting rod 120 in the connecting recess 220 from moving out of the connecting recess 220, thereby preventing the carrier 100 from accidentally detaching from the base 200. Furthermore, after the user operates the base unlocking member 230 to move the connecting member 210 to the non-blocking position, the connecting member 210 may move to the blocking position under the action of the connecting member resetting device 212, without the need for user's operation.

[00143] In the embodiments shown in FIGS. 10, 11A, and 11B, the end of the connecting

member 210 may be provided with a connecting member inclined surface 211. The connecting member inclined surface 211 is configured such that the force exerted on the connecting member inclined surface 211 by the connecting rod 120 may drive the connecting member 210 to move to the non-blocking position when the connecting rod 120 enters the connecting recess 220. Thus, when the user places the carrier 100 on the base 200, the connecting rod 120 may easily enter the connecting recess 220 without the need for the user's operation to move the connecting member 210 to the non-blocking position.

[00144] FIGS. 25A to 25E illustrate a second embodiment of the cooperation between the carrier 1300 and the base 1390 according to the present disclosure, which schematically show a traveling device 13 according to the present disclosure in various views.

[00145] As shown in FIGS. 25A and 25B, the traveling device 13 includes a carrier 1300 and a base 1390. The carrier 1300 may be constructed in a manner similar to the aforementioned embodiment, including a box part 1310 and a carrying handle 1330 that is pivotally and removably connected to the relative sides of the box part 1310.

[00146] In this embodiment, the carrier 1300 further includes a pair of connecting rods 1314 connected to the outer bottom of the box part 1310, and the carrier 1300 may be installed to the base 1390 via the connecting rod. In this embodiment, the box part 1310 includes a pair of recesses 1312 formed on the outer bottom 1311 and an actuating portion 1313 at the center of the outer bottom 1311, and the recesses 1312 is configured to accommodate the pair of connecting rods 1314 respectively. Preferably, the connecting rod 1314 may be U-shaped and pivotally connected to the box part 1310, and ends of the connecting rod are within the respective recesses 1312.

[00147] Now referring to FIGS. 25B and 25C, the base 1390 includes a pair of connecting recesses 1392, corresponding to the pair of connecting rods 1314 of the carrier 1300. On an inner surface of each connecting recess 1392, the base 1390 includes a pair of exposed connecting members 1394. Optionally, only one connecting member 1394 may be in each connecting recess 1392. The connecting member 1394 may be, for example, a hook or claw, which has an opening portion into which the connecting rod 1314 may enter. The connecting recess 1392 may each have an inclined surface for guiding the respective connecting rod 1314. On the top face 1391 (a face in contact with the outer bottom 1311 of the box part

1310), the base 1390 includes an actuating portion 1393 at the center, which corresponds to the actuating portion 1313 at the center of the outer bottom 1311. Preferably, the actuating portion 1313 at the center of the outer bottom 1311 of the carrier 1300 may be recessed to cover the trigger mechanism for the connecting rod 1314, and the actuating portion 1393 at the center of the top face 1391 of the base 1390 may be a column.

[00148] Referring to FIGS. 25D and 25E, which respectively show the disconnection and connection of the carrier 1300 and the base 1390 in this embodiment. As described above, the carrier 1300 is removably connected to the base 1390, and a pair of connecting rods 1314 is connected to the outer surface of the box part 1310. As shown in FIG. 25D, the connecting rod 1314 may be accommodated in the corresponding recess 1312 on the outer bottom 1311 of the carrier 1300. When the carrier 1300 is positioned on the base 1390 for connection, the trigger mechanism within the actuating portion 1313 of the carrier may be pressed and triggered by the actuating portion 1393, thereby pivoting the two connecting rods 1314 out of the respective recesses 1312. As shown in FIG. 25E, the connecting rod 1314 may be guided to move along the inclined surface of the corresponding connecting recess 1392 to enter the corresponding connecting member 1394 through the opening portion and to be engaged therein. Therefore, the carrier 1300 may be stably attached to the base 1390 through the engagement of the connecting rod 1314 with the connecting member 1394.

[00149] The base 200 according to the present disclosure may not only be installed on the carrier vehicle 300, but also on a vehicle seat.

[00150] FIG. 26 to 27 illustrate an embodiment of the base 200 for a vehicle seat (not shown).

[00151] In this embodiment, the base 200 may also be provided with a connecting member 210 and a connecting recess 220. The connecting member 210 and the connecting recess 220 in this embodiment may be the same as or different from the connecting member 210 and the connecting recess 220 described above with reference to FIGS. 8 to 14B, as long as the connecting member 210 may be engaged with the connecting rod 120 on the carrier 100 and the connecting recess 220 may allow the connecting rod 120 to enter.

[00152] In the embodiments shown in FIGS. 26 to 27, the base 200 may be provided with a base unlocking member 230, which is configured to be operated to drive the movement of the

connecting member 210.

[00153] As shown in FIGS. 26 to 27, the base 200 may be provided with an anchoring joint 400, which is capable of being engaged with corresponding accessories on a vehicle seat, such that the base 200 is fixed to the vehicle seat, and the carrier 100 installed on the base 200 remains stationary relative to the vehicle seat.

[00154] Since the features of the present disclosure may be embodied in various forms without departing from the characteristics of the present disclosure, it should also be understood that the above-described embodiments are not limited to any of the details described above, unless otherwise specified, and should be broadly interpreted as being within the scope defined by the appended claims. Therefore, all modifications and variations, boundaries or equivalents falling within the scope of the claims should be covered by the appended claims.

WHAT IS CLAIMED IS:

1. A carrier, comprising:

a box part configured to be placed on a base,

a connecting rod pivotally connected to the box part via a connecting mechanism, wherein the connecting rod is movable between an engagement position and a stored position, and the connecting rod is configured to engage with a connecting member provided on the base when in the engagement position, thereby securing the box part to the base.

2. The carrier according to claim 1, wherein the connecting mechanism comprises a pivoting arm having a first end connected to the connecting rod and a second end pivotally connected to the box part.

3. The carrier according to claim 2, wherein the connecting mechanism further comprises a pivoting arm fixing seat, and the second end of the pivoting arm is pivotally connected to the pivoting arm fixing seat.

4. The carrier according to claim 3, wherein a pivoting limiting member is provided between the second end of the pivoting arm and the pivoting arm fixing seat, the pivoting limiting member is configured to be non-rotatable relative to one of the second end of the pivoting arm and the pivoting arm fixing seat, but to be rotatable relative to the other of the second end of the pivoting arm and the pivoting arm fixing seat, and to be able to be kept in either an engaged rotation position or a stored rotation position, thereby keeping the connecting rod in the engagement position or the stored position.

5. The carrier according to claim 4, wherein the second end of the pivoting arm is provided with one of a limiting straight tooth and a limiting straight tooth groove cooperated with each other, and a side of the pivoting limiting member facing the pivoting arm is provided with the other of the limiting straight tooth and limiting straight tooth groove, such that the pivoting limiting member is non-rotatable relative to the second end of the pivoting arm.

6. The carrier according to claim 4, wherein the pivoting arm fixing seat is provided with one of a plurality of limiting inclined teeth and a plurality of limiting inclined tooth grooves cooperated with each other, and a side of the pivoting limiting member facing the pivoting arm fixing seat is provided with the other of the plurality of limiting inclined teeth

and the plurality of limiting inclined tooth grooves, such that the pivoting limiting member is rotatable relative to the pivoting arm fixing seat and kept in different rotation positions.

7. The carrier according to claim 6, wherein the plurality of limiting inclined teeth is arranged as two or two sets, and the plurality of limiting inclined tooth grooves are arranged as two, each limiting inclined tooth groove is engaged with one of the limiting inclined teeth or one set of the limiting inclined teeth, such that the pivoting limiting member is kept in two rotation positions relative to the pivoting arm fixing seat.

8. The carrier according to any one of claims 1 to 7, wherein the box part is provided with a connecting rod locking member movable between a locking position and an unlocking position, the connecting rod locking member in the locking position is capable of locking the connecting rod in the stored position and the connecting rod locking member in the unlocking position is capable of unlocking the connecting rod.

9. The carrier according to claim 8, wherein the connecting rod is movably connected to the box part via the pivoting arm, the first end of the pivoting arm is connected to the connecting rod, the second end of the pivoting arm is pivotally connected to the box part, and the connecting rod locking member is capable of locking and unlocking the connecting rod via the pivoting arm.

10. The carrier according to claim 9, wherein the second end of the pivoting arm is provided with a pivoting part pivotally provided on the box part, the pivoting part is provided with a communication groove, and the connecting rod locking member is provided with a locking member protrusion insertable into the communication groove,

wherein the communication groove and the locking member protrusion are configured such that in the case that the connecting rod is in the stored position, when the connecting rod locking member moves to the locking position, the locking member protrusion inserts into the communication groove to lock the connecting rod in the stored position; and when the connecting rod locking member moves to the unlocking position, the locking member protrusion of the connecting rod locking member is disengaged from the communication groove to unlock the connecting rod.

11. The carrier according to claim 10, wherein the box part is provided with a pivoting arm fixing seat, and the pivoting part of the pivoting arm is pivotally received in the pivoting

arm fixing seat,

wherein the pivoting arm fixing seat is provided with a fixing seat opening groove, such that the locking member protrusion of the connecting rod locking member is capable of being inserted into the communication groove through the fixing seat opening groove.

12. The carrier according to claim 11, wherein the pivoting part of the pivoting arm internally receives the pivoting limiting member, the pivoting limiting member is provided with a limiting member locking groove, such that the locking member protrusion of the connecting rod locking member is capable of being inserted into the limiting member locking groove through the fixing seat opening groove and the communication groove.

13. The carrier according to any one of claims 8 to 12, wherein the box part is further provided with a connecting rod operating member configured to be operated so as to move between an initial position and a driving position relative to the box part, and the connecting rod operating member is capable of driving the connecting rod locking member from the locking position to the unlocking position during movement from the initial position to the driving position.

14. The carrier according to claim 13, wherein the connecting rod locking member is provided with a locking member driving column, and the connecting rod operating member is provided with an operating member driving groove through which the locking member driving column passes,

wherein the operating member driving groove is provided with a driving inclined face, the driving inclined face is configured such that during movement of the connecting rod operating member from the initial position to the driving position, the driving inclined face applies a force to the locking member driving column to drive the connecting rod locking member from the locking position to the unlocking position.

15. The carrier according to claim 13 or 14, wherein one of the box part and the connecting rod operating member is provided with a limiting boss, and the other of the box part and the connecting rod operating member is provided with an operating member limiting groove cooperating with the limiting boss to control movement of the connecting rod operating member between the initial position and the driving position.

16. The carrier according to any one of claims 13 to 15, wherein an operating member

resetting device is provided between the box part and the connecting rod operating member, and the operating member resetting device is configured to tend to move the connecting rod operating member to the initial position.

17. The carrier according to any one of claims 2 to 7, wherein a pivoting arm resetting device is provided between the box part and the pivoting arm, and the pivoting arm resetting device is configured to tend to move the connecting rod to the engagement position.

18. The carrier according to any one of claims 1 to 17, wherein a box-part recess is provided at a bottom of the box part, and the connecting rod is received in the box-part recess when in the stored position.

19. The carrier according to any one of claims 1 to 18, wherein a clearance recess is provided at a bottom of the box part, and the clearance recess is configured to allow the connecting rod to be driven out of the stored position.

20. A base for placing a carrier, wherein the base is provided with a connecting member capable of being engaged with the connecting rod of the carrier according to any one of claims 1 to 19, such that the carrier is placed on the base.

21. The base according to claim 20, wherein

the base is provided with a connecting recess into which the connecting rod enters, the connecting member is movable between a blocking position and a non-blocking position, such that the connecting member prevents the connecting rod in the connecting recess from moving out of the connecting recess when in the blocking position, and the connecting member allows the connecting rod to enter or leave the connecting recess when in the non-blocking position.

22. The base according to claim 21, wherein an end of the connecting member is provided with a connecting member inclined surface, and the connecting member inclined surface is configured such that a force applied by the connecting rod to the connecting member inclined surface when entering the connecting recess drives the connecting member to move to the non-blocking position.

23. The base according to claim 21 or 22, wherein the base is provided with a base unlocking member, and the base unlocking member is configured to be operated to drive the connecting member to move to the non-blocking position.

24. The base according to claim 21 or 22, wherein the base is provided with a connecting member resetting device, and the connecting member resetting device is configured to tend to move the connecting member to the blocking position.

25. The base according to any one of claims 20 to 24, wherein

the base is provided with a connecting recess into which the connecting rod enters,

the connecting member is configured to be exposed in the connecting recess and has an opening portion allowing the connecting rod to enter therein to be loaded therein.

26. The base according to claim 25, wherein the base comprises an actuating portion provided at a center, the actuating portion of the base corresponds to an actuating portion at a center of an outer bottom of the carrier, and the actuating portion of the base and the actuating portion of the carrier are configured such that when the carrier is positioned on the base for connection, a trigger mechanism in the actuating portion of the carrier is pressed and triggered by the actuating portion of the base, such that the connecting rod pivots out and moves along an inclined surface of the corresponding connecting recess to be engaged with the corresponding connecting member via the opening portion.

27. A carrier vehicle installed with the base according to any one of claims 20 to 26.