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Multifunctional Carrier For Suitcase

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(71) Applicant(s)
Eagle FAN

(72) Inventor(s)
FAN, Eagle

(74) Agent / Attorney
WRAYS PTY LTD, L7 863 Hay St, Perth, WA, 6000, AU

ABSTRACT OF THE DISCLOSURE

A multifunctional carrier for suitcase, to be placed on a suitcase with a retractable pull rod, the carrier comprising: a carrying platform, having a carrying surface and a pivot seat, the carrying surface having a fixing hole passing through, the fixing hole being separated from the pivot seat by a certain distance, the carrying platform being used to place on the suitcase, the fixing hole being for the pull rod to pass through; a support member, pivoted to the pivot seat, and the support member fitting on the carrying surface when not in use, and being vertically fixed on the carrying platform after adjustment; and a strapping belt, partially penetrating the support member, and the strapping belt being used to fix items or children placed on the carrying platform toward the support member.

MULTIFUNCTIONAL CARRIER FOR SUITCASE

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0001] The present disclosure relates generally to suitcase auxiliary supplies, and more particularly, to a multifunctional carrier for suitcase.

2. The Prior Arts

[0002] A suitcase, also known as luggage and trolley case, is generally composed of a box with a retractable trolley and multiple rollers. The suitcase is used to store the clothes and items needed on the journey, so that the items can be easily transported.

[0003] It provides better protection and is easy to move, and it has been an essential part for travelers. With the improvement of living standards in recent years, people travel more and more frequently.

[0004] For people traveling with an infant or a child unable to walk by himself for a long time, both hands must take care of the suitcase and the child at the same time during the walking, which will increase the challenge of the journey. In particular, if no seats are available during waiting, they must hold the child by hand, which is exhausting if the time is too long.

[0005] It is desirable to devise a design to be applied to the suitcase, so that when people travel with their children, the small child can temporarily sit on the suitcase, so that it can conveniently help people on a trip. In addition, as users will often carry small backpacks or briefcases when traveling, a more comfortable movement with luggage can be achieved if those briefcases or backpacks can be fixed on the suitcase as well.

SUMMARY OF THE INVENTION

[0006] A primary objective of the present disclosure is to provide a multifunctional carrier for suitcase, which is easy to carry, foldable for storage and easy to use. When the carrier is placed on the suitcase, it cannot only be used for babies or young children to sit on the carrier, and but also be used as a fixed place for other carry-on bags. In addition, the carrier can also be used as a platform for placing portable electronic devices.

[0007] In order to achieve the above objective, the present disclosure provides a multifunctional carrier for suitcase, to be placed on a suitcase with a retractable pull rod, the carrier comprising: a carrying platform having a carrying surface and a pivot seat, the carrying surface having a fixing hole passing therethrough, the fixing hole being separated from the pivot seat by a certain distance, the carrying platform configured to be placed on the suitcase, the fixing hole configured for the pull rod to pass through; a support member coupled to the pivot seat, the support member configured to fit on the carrying surface, and the support member configured to be vertically fixed on the carrying platform after an adjustment; and a strapping belt partially penetrating the support member, and the strapping belt configured to fix items or children placed on the carrying platform and toward the support member.

[0008] In a preferred embodiment, the fixing hole is a long strip shape and is disposed with soft rubber sheets on an inner wall, the soft rubber sheets are distributed at intervals, and the soft rubber sheets extend towards a center of the fixing hole.

[0009] In a preferred embodiment, the carrying platform has a bottom on an opposite side to the carrying surface, and the bottom is provided with a pad.

[0010] In a preferred embodiment, the carrying platform is also provided with an elastic band at the bottom, and the elastic band is fixed at a lower position adjacent to the fixing hole.

[0011] In a preferred embodiment, the elastic band is annular and configurable to stretch between, and be fixed to, two hanging lugs on the bottom of the carrying platform.

[0012] In a preferred embodiment, the carrying platform is provided with a fastener on a side, the fastener protrudes from the carrying surface; the support member is provided with a recessed area at a middle position of a top edge, and a position of the support member is fixed based on the support member being adjusted to fit on the carrying surface and the fastener being located in the recessed area.

[0013] In a preferred embodiment, the support member is also provided with a locking unit, the locking unit configured to lock the support member in a position based on the support member being perpendicular to the carrying platform.

[0014] In a preferred embodiment, the locking unit includes a pressing member, a spring, and a latching member; the pressing member configured to move on the support member, the spring is in contact with the pressing member and is configured to provide the pressing member with a power to return to an original position without external force, and the pressing member includes an inclined guide groove; the latching member includes a guide post and a top post perpendicular to each other, the guide post being inserted into the inclined guide groove, and the top post extends out of the support member; the guide groove configured to cause the guide post to move toward a middle position, and the top post is retracted into the support member based on the pressing member being pressed ;the pivot seat includes positioning slots on an inner wall facing

the top post, and the position of the support member is fixed and perpendicular to the carrying platform based on the top post being inserted into the positioning slot.

[0015] In a preferred embodiment, the support member is in the form of a T-shaped frame with a wide top and a narrow bottom; the support member also includes a placement surface and an adjustment surface opposite to the placement surface, and the adjustment surface is provided with limiting slots located at different positions; and the pivot seat is provided with a stopper on a side facing the placement surface, the carrying platform is pivoted with a top support member located away from the pivot seat, and the support member configured to maintain a predetermined tilt angle based on the top support member being pressed against one of the limiting slots.

[0016] In a preferred embodiment, the carrying platform has a penetrating space in a middle, and the top support member is configured to be located in the penetrating space when not in use and to not protrude from the carrying surface.

[0017] Compared with the conventional technology, the carrier provided by the present disclosure is to be placed on the suitcase. It can not only be used for babies or young children to sit on the carrier seat, but also can be used as a fixed place for other carry-on bags. In addition, the multifunctional carrier can also be used as a placement platform for portable electronic devices.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018] The present innovation will be apparent to those skilled in the art by reading the following detailed description of a preferred embodiment thereof, with reference to the attached drawings, in which:

[0019] FIG. 1 is a perspective view of the present invention.

[0020] FIG. 2 is a perspective view of the present invention in use.

[0021] FIG. 3 is a bottom view of the present invention.

[0022] FIG. 4 is a schematic view of the carrier of the present invention being stored on one side of the suitcase.

[0023] FIG. 5 is an exploded view of the carrying platform and support member of the present invention.

[0024] FIG. 6 is a perspective view of the present invention in a folded state.

[0025] FIG. 7 is an exploded view of the support member of the present invention.

[0026] FIG. 8 is a schematic view of the internal structure of the support member of the present invention.

[0027] FIG. 9 is a schematic view of the internal structure of the support member of the present invention when the pressing member is pressed down.

[0028] FIG. 10 is a first schematic view of the actual use of the present invention.

[0029] FIG. 11 is a second schematic view of the actual use of the present invention.

[0030] FIG. 12 is a schematic view of placing a portable electronic device on the carrier provided by the present invention.

[0031] FIG. 13 is a schematic view of the support member of the present invention in a first tilted state.

[0032] FIG. 14 is a schematic view of the support member of the present invention in a second tilted state.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0033] The technical solution of the present invention will be clearly and completely described below with reference to specific embodiments and drawings. It should be noted that when an element is referred to as being "mounted or secured to" another element, it means that it can be directly on the other element or intervening elements may also be present. When an element is said to be "connected" to another

element, this means that it can be directly connected to the other element or that intervening elements may also be present. In the illustrated embodiment, directions indicating up, down, left, right, front and back, etc. are relative and are used to explain that the structure and movement of different components in this case are relative. These representations are appropriate when the parts are in the position shown in the figures. However, if the description of a component's location changes, it is assumed that these representations will change accordingly.

[0034] Unless otherwise defined, all technical and scientific terms used herein have the same meanings as commonly understood by those skilled in the art. The terminology used herein is for the purpose of describing specific embodiments only and is not intended to limit the present invention. As used herein, the term "and/or" includes any and all combinations of one or more of the associated listed items.

[0035] As shown in FIG. 1 and FIG. 2, these are perspective view and a schematic view of the present invention when in use. The present invention is a multifunctional carrier 10. The carrier 10 is to be placed on a suitcase 50. The suitcase 50 is provided with a set of retractable pull rods 51. The carrier 10 includes: a carrying platform 20, a support member 30, and a strapping belt 40. The carrying platform 20 includes a carrying surface 21, a pivot seat 22 on the side, and a fixing hole 23 penetrating the carrying platform 20. The fixing hole 23 is separated from the pivot seat 22 by a certain distance. When in use, the carrying platform 20 is placed on the suitcase 50, and the fixing hole 23 allows the pull rod 51 to pass through, so that the carrying platform 20 is fixed on the suitcase 50. One end of the support member 30 is pivotally connected to the pivot seat 22, and the support member 30 can be attached to the carrying surface 21 when not in use to save storage space. After adjustment, the support member 30 can be vertically fixed to the carrying platform 20; the strapping belt 40 partially penetrates

the support member 30 to fix the child sitting on the carrying platform 20 or the items placed on the carrying platform 20 toward the support member 30. As such, babies or children who cannot walk on their own for a long time can temporarily use the carrier 10 to sit on the suitcase 50 while waiting. Alternatively, other items can be fixed to the suitcase 50 through the carrier 10 for easy movement.

[0036] The following gives a detailed description of the structure of each component of the present invention:

[0037] The carrying platform 20 is a rectangular large-area platform with a flat carrying surface 21. One side edge of the carrying platform 20 is provided with a pivot seat 22. The carrying platform 20 also includes a penetrating fixing hole 23, and the position of the fixing hole 23 is close to the other side of the carrying platform 20, so that the fixing hole 23 and the pivot base 22 are separated by a certain distance and located on the two opposite sides of the carrying platform 20. The pivot seat 22 is located at the middle position of the side and is for the support member 30 to be pivotally connected thereto. The support member 30 can be adjusted to change the angle between the support member 30 and the carrying platform 20. The fixing hole 23 is a long slot through which the pull rod 51 of the suitcase 50 can extend. In the present embodiment, the fixing hole 23 is used to fix the pull rod 51 thereto. Since the pull rod 51 is generally composed of a handle 511 and two connecting rods 512 combined at the bottom of the handle 511, the length and width of the handle 511 are larger than the length and width formed by the two connecting rods 512. Therefore, in the present embodiment, the fixing hole 23 is provided with a plurality of soft rubber sheets 231 on the opposite hole walls. The soft rubber sheets 231 are distributed at intervals and can be bent and deformed. The soft rubber sheets 231 extend toward the center of the fixing hole. When the pull rod 51 first enters the fixing hole 23 from the handle 511, the soft

rubber sheet 231 can be greatly bent and deformed to allow the handle 511 to pass. Then when the connecting rod 512 passes through, the deformation of the soft rubber sheets 231 is reduced, and the soft rubber sheets 231 increase the friction force with the connecting rods 512, thereby firmly constraining the connecting rods 512 in the fixing hole 23, so that the carrying platform 20 placed on the suitcase 50 will not arbitrarily move.

[0038] As shown in FIG. 3, the other side of the carrying platform 20 opposite to the carrying surface 21 is defined as the bottom, and FIG. 3 is a bottom view of the carrying platform 20. However, in order to save materials and increase the strength of the bottom, the bottom area forms a lattice-shaped frame 24. The bottom of the carrying platform 20 is also provided with a plurality of soft pads 241. The soft pads 241 protrude from the lattice-shaped frame 24. When the carrying platform 20 is placed, the soft pads 241 are in contact with the top surface of the suitcase 50 to prevent the top surface of the suitcase 50 from being scratched or damaged. In addition, in the present embodiment, the carrying platform 20 is also provided with an elastic band 25 at the bottom. The elastic strap 25 is made of rubber band or rubber material. The elastic band 25 is fixed near the bottom of the fixing hole 23. In the present embodiment, the elastic strap 25 is stretched and fixed between the two hanging ears 242 provided on the lattice-shaped frame 24. As shown in FIG. 4, when the carrier 10 of the present invention is not in use and is in a folded form, the elastic strap 25 can be placed around the pull rod 51 of the suitcase 50, so that the carrying platform 20 can be attached to the suitcase 50 on the side walls to facilitate portability and movement.

[0039] As shown in FIG. 1, the support member 30 is a T-shaped frame with a wide top and a narrow bottom, and the extension members on both sides of the top are handles 3. The handles 31 are for a child to hold onto with both hands when the child

sits on the support platform 20. As shown in FIG. 5, the bottom end of the support member 30 is pivotally connected to the pivot seat 22 through a rotating shaft 220, so that the support member 30 can adjust the angle between 0-90 degrees. In addition, the bottom of the support member 30 is an L-shaped body 32. The L-shaped body 32 matches the shape of the pivot seat 22, which also limits the maximum opening angle of the support member 30 to 90 degrees. In addition, a fastener 26 is provided on the side of the carrying platform 20, and the fastener 26 is located adjacent to the fixing hole 23 and protrudes from the carrying surface 21. The support member 30 is provided with a recessed area 33 in the middle of the top edge, as shown in FIG. 6. When not in use, the support member 30 can be adjusted to fit on the carrying surface 21. When the fastener 26 is located in the recessed area 33, the position of the support member 30 is fixed so as to reduce storage space.

[0040] The support member 30 is also provided with a locking unit 34. The locking unit 34 is located adjacent to the pivot joint between the support member 30 and the pivot seat 22. The locking unit 34 is responsible for fixing the position when the support member 30 is perpendicular to the carrying platform 20. As shown in FIGS. 7, 8 and 9, the locking unit 34 includes a pressing member 341, a spring 342 and two latching members 343. In the present embodiment, the support member 30 is formed by combining a first member 35 and a second member 36 with matching shapes forming a T-shaped frame with a wide top and a narrow bottom when combined. An accommodating space is also formed inside the support member 30 for the locking unit 34 to be installed therein. As shown in FIGS. 8 and 9, the pressing member 341 is partially disposed inside the support member 30 and can move in a short distance. The spring 342 is disposed inside the support member 30 and is pressed against the pressing member 341. The spring 342 causes the pressing member 341 to return to its original

position without additional external force. The pressing member 341 has two inclined guide grooves 3411, which are symmetrically disposed. The latching member 343 has a guide post 3431 and a top post 3432 that are vertically arranged with each other. The guide post 3431 is inserted into the inclined guide groove 3411, and the top post 3432 extends out of the support member 30. As shown in FIG. 9, when the pressing member 341 is pressed down, the guide post 3431 moves toward the center along the inclined guide groove 3411, thereby pulling the latching member 343 to move laterally toward the center, and finally causing the top post 3432 to retract back inside the support member 30. As shown in FIG. 5, the pivot seat 22 faces the support member 30 and is provided with a plurality of symmetrically distributed positioning slots 221 on the inner wall of the top post 3432. Only one positioning slot is shown in the figure, and the other is on the opposite wall. When the support member 30 is perpendicular to the carrying platform 20, the top post 3432 can be inserted into the positioning slot 221, so that the position of the support member 30 is fixed. To unlock, press down the pressure member 341 to allow the top post 3432 to be unlocked. When the top post 3432 is retracted into the support member 30, the support member 30 can be rotated smoothly. After that, the top post 3432 is in contact with the inner wall of the pivot seat 22 and cannot be retracted, so that the support member 30 can be rotated between 0 degrees and 90 degrees. The angle can be adjusted freely within the range.

[0041] As shown in FIG. 1, the strapping belt 40 is a safety belt with an adjustable length. The strapping belt 40 includes a webbing 41 and a first butt joint 42 and a second butt joint 43 installed at both ends of the webbing 41. The webbing 41 partially penetrates the support member 30 and cannot be separated from the support member 30. The webbing 41 is provided with an adjusting buckle 44, which is a center bar buckle, so that the webbing 41 can be freely adjusted to a desired length. The first butt

joint 42 and the second butt joint 43 are buckle structures whose shapes match each other. When the two butt joints are docked, they can be firmly fixed without being easily separated. The strapping belt 40 is mainly used to secure children or items placed on the carrying platform 20. In the present embodiment, only one type of strapping belt 40 is provided for illustration. It is not limited to herein, and any other strapping belt 40 that can achieve the same purpose can be used as the strapping belt 40.

[0042] As can be seen from the above description, as shown in FIG. 10, the carrier 10 of the present invention is placed on the suitcase 50 using the carrying platform 20, and the child 60 can sit on the carrying platform 20 facing the support member 30. The strapping belt 40 is wrapped around the child's body or around the pull rod 51 to prevent the child 60 from falling off the suitcase 50 easily. Of course, if the child 60 is not sitting, as shown in FIG. 11, other items such as a bag 70 can be placed on the carrying platform 20 and fixed by the strapping belt 40 to facilitate movement.

[0043] As shown in FIGS. 12 and 13, the carrier 10 of the present invention can also be used as a placement platform for a portable electronic device 80, such as a tablet computer or a mobile phone. As shown in FIGS. 1, 12, 13 and 14, the support member 30 is pivotally connected to the pivot seat 22, so that the support member 30 can be adjusted to form an angle with the carrying platform 20 between 0 to 90 degrees. The support member 30 also includes a placement surface 37 and an adjustment surface 38, located opposite to the placement surface 37. The placement surface 37 is a contact surface when the portable electronic device 80 is placed. A stopper 222 is provided at a side of the pivot seat 22 facing the placement surface 37, and the stopper 222 is used to contact the edge of the portable electronic device 80. In addition, in order to fix the inclination angle of the support member 30, the adjustment surface 38 has a plurality of limiting slots 381 at different positions. The carrying platform 20 is also pivotally

connected to a top support member 28. In the present embodiment, the top support member 28 has a rectangular frame shape and is pivotally connected to the middle position of the carrying platform 20. The carrying platform 20 has a penetrating space 29 in the center position. As shown in FIG. 1, the space 29 is used to receive the top support member 28 so that the top support member 28 can be accommodated in the carrying platform 20. The top support member 28 does not protrude from the carrying surface 21 when not in use. The pivot position of the top support member 28 and the carrying platform 20 is close to the fixing hole 23. As shown in FIGS. 13 and 14, when the top support member 28 is pulled up and the top end of the top support member 28 is pressed against the limiting slots 381 so as to maintain the inclination angle of the support member 30, and the figures show different inclination states. As shown in FIG. 12, during the journey and rest, the suitcase 50 can be moved near the user, and the support member 30 can be adjusted to an appropriate tilt angle, and the portable electronic device 80 can be placed on the support member 30 and the stopper 222 contacts the edge of the portable electronic device 80 for convenient viewing on the portable electronic device.

[0044] Although the present invention has been described with reference to the preferred embodiments thereof, it is apparent to those skilled in the art that a variety of modifications and changes may be made without departing from the scope of the present invention which is intended to be defined by the appended claims.

WHAT IS CLAIMED IS:

1. A multifunctional carrier for suitcase, to be placed on a suitcase with a retractable pull rod, comprising:
a carrying platform having a carrying surface and a pivot seat, the carrying surface having a fixing hole passing therethrough, the fixing hole being separated from the pivot seat by a certain distance, the carrying platform configured to be placed on the suitcase, the fixing hole configured for the pull rod to pass through;
a support member coupled to the pivot seat, the support member configured to fit on the carrying surface, and the support member configured to be vertically fixed on the carrying platform after an adjustment; and
a strapping belt partially penetrating the support member, and the strapping belt configured to fix items or children on the carrying platform and toward the support member.
2. The multifunctional carrier for suitcase according to claim 1, wherein the fixing hole is a long strip shape and is disposed with soft rubber sheets on an inner wall, the soft rubber sheets are distributed at intervals, and the soft rubber sheets extend towards a center of the fixing hole.
3. The multifunctional carrier for suitcase according to claim 1, wherein the carrying platform has a bottom on an opposite side to the carrying surface, and the bottom is provided with a soft pad.
4. The multifunctional carrier for suitcase according to claim 3, wherein the carrying platform is also provided with an elastic band at the bottom and the elastic band is fixed at a lower position adjacent to the fixing hole.

5. The multifunctional carrier for suitcase according to claim 4, wherein the elastic band is annular and configurable to stretch between, and be fixed to, two hanging lugs on the bottom of the carrying platform.
6. The multifunctional carrier for suitcase according to claim 1, wherein:
the carrying platform is provided with a fastener on a side, the fastener protrudes from the carrying surface; and
the support member is provided with a recessed area at a middle position of a top edge, and a position of the support member is fixed based on the support member being adjusted to fit on the carrying surface and the fastener being located in the recessed area.
7. The multifunctional carrier for suitcase according to claim 1, wherein the support member is also provided with a locking unit, the locking unit configured to lock the support member in a position based on the support member being perpendicular to the carrying platform.
8. The multifunctional carrier for suitcase according to claim 7, wherein:
the locking unit includes a pressing member, a spring, and a latching member;
the pressing member configured to move on the support member, the spring is in contact with the pressing member and is configured to provide the pressing member with a power to return to an original position without external force, and
the pressing member includes an inclined guide groove;
the latching member includes a guide post and a top post perpendicular to each other, the guide post being inserted into the inclined guide groove, and the top post extends out of the support member;

the guide groove configured to cause the guide post to move toward a middle position, and the top post is retracted into the support member based on the pressing member being pressed; and

the pivot seat includes positioning slots on an inner wall facing the top post, and the position of the support member is fixed and perpendicular to the carrying platform based on the top post being inserted into the positioning slot.

9. The multifunctional carrier for suitcase according to claim 1, wherein:
the support member is a frame with a wide top and a narrow bottom;
the support member also includes a placement surface and an adjustment surface opposite to the placement surface, and the adjustment surface is provided with limiting slots located at different positions; and
the pivot seat is provided with a stopper on a side facing the placement surface, the carrying platform is pivoted with a top support member located away from the pivot seat, and the support member configured to maintain a predetermined tilt angle based on the top support member being pressed against one of the limiting slots.
10. The multifunctional carrier for suitcase according to claim 9, wherein the carrying platform has a penetrating space in a middle, and the top support member is configured to be located in the penetrating space when not in use and to not protrude from the carrying surface.

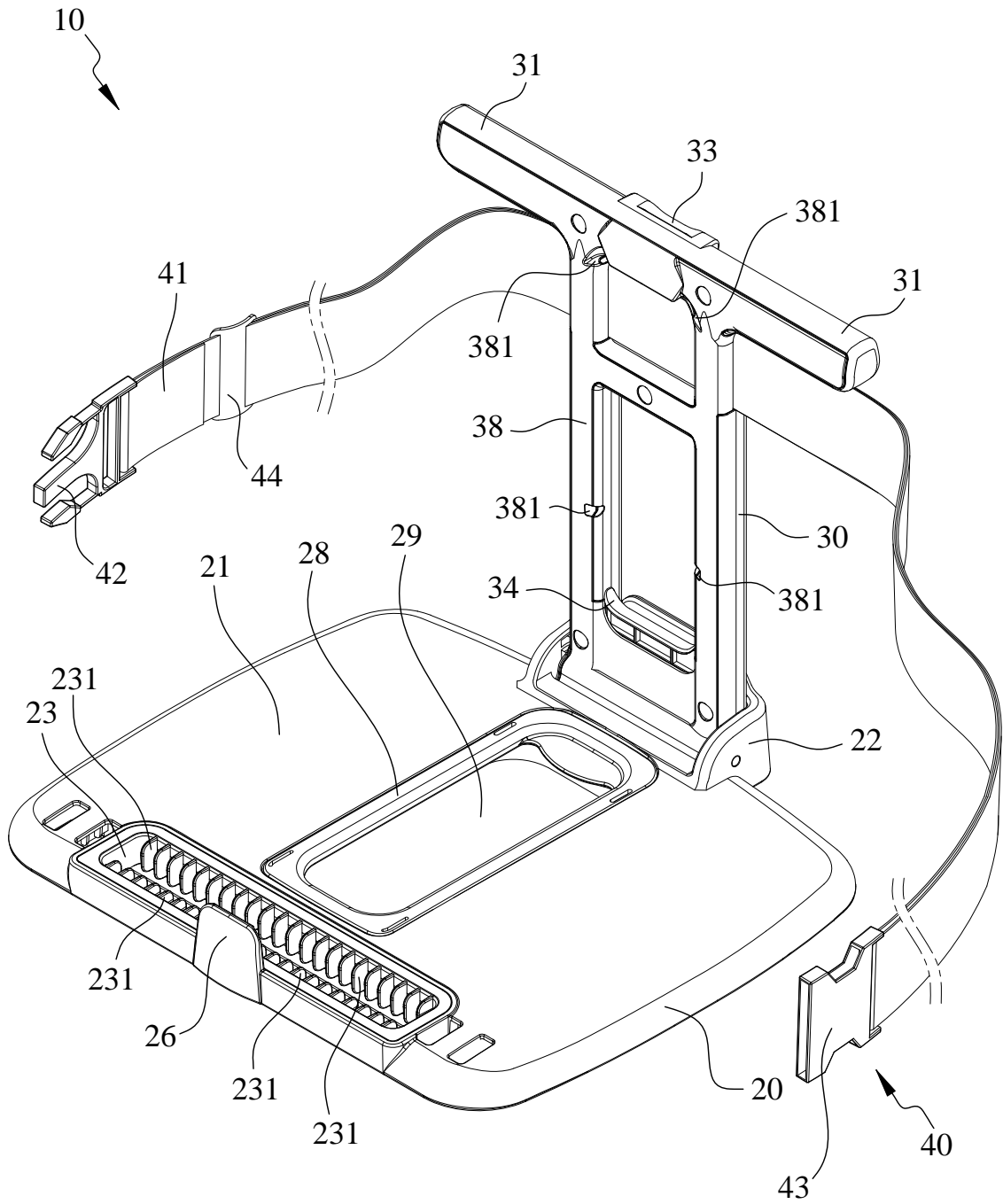


FIG. 1

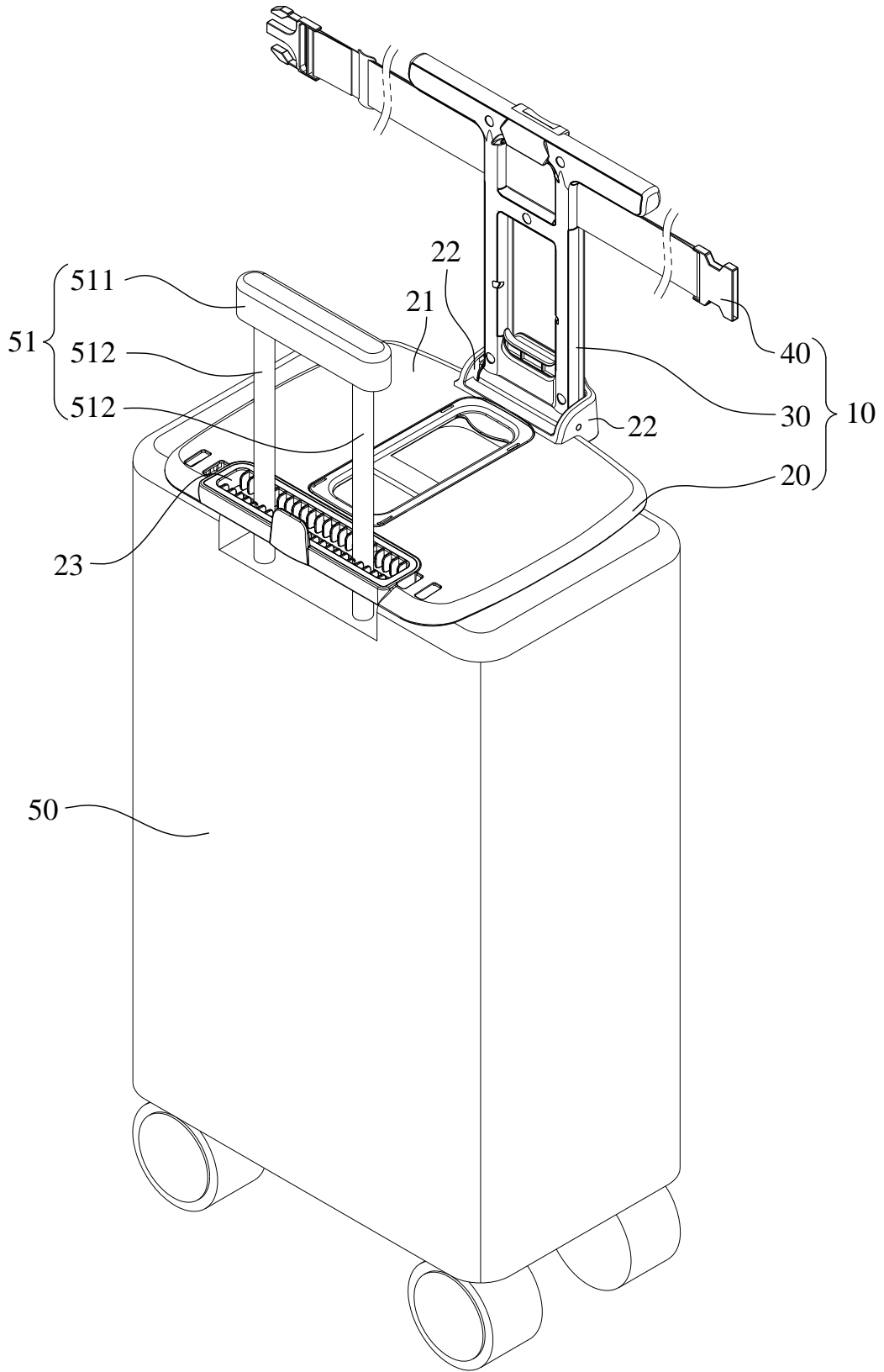


FIG. 2

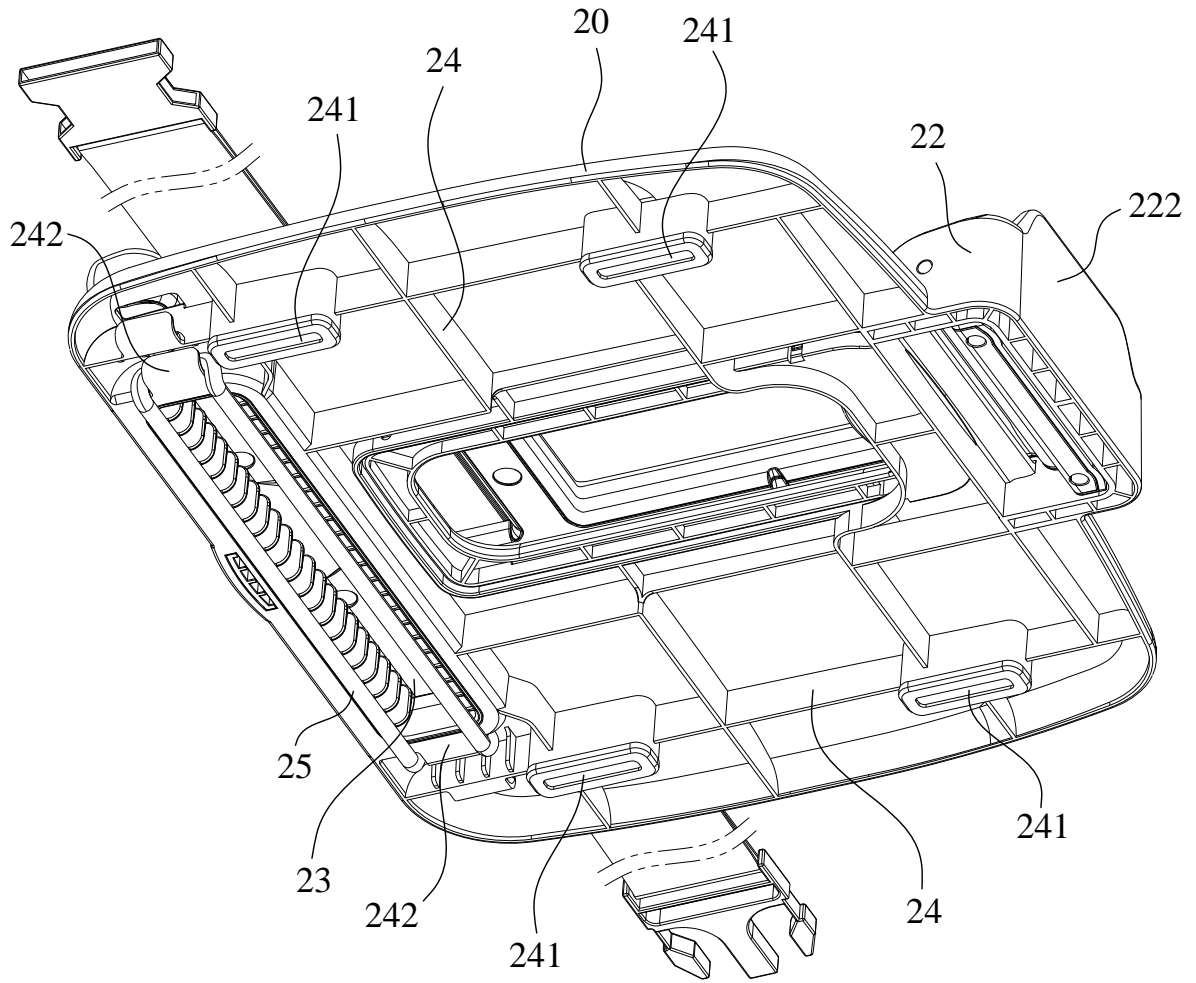


FIG. 3

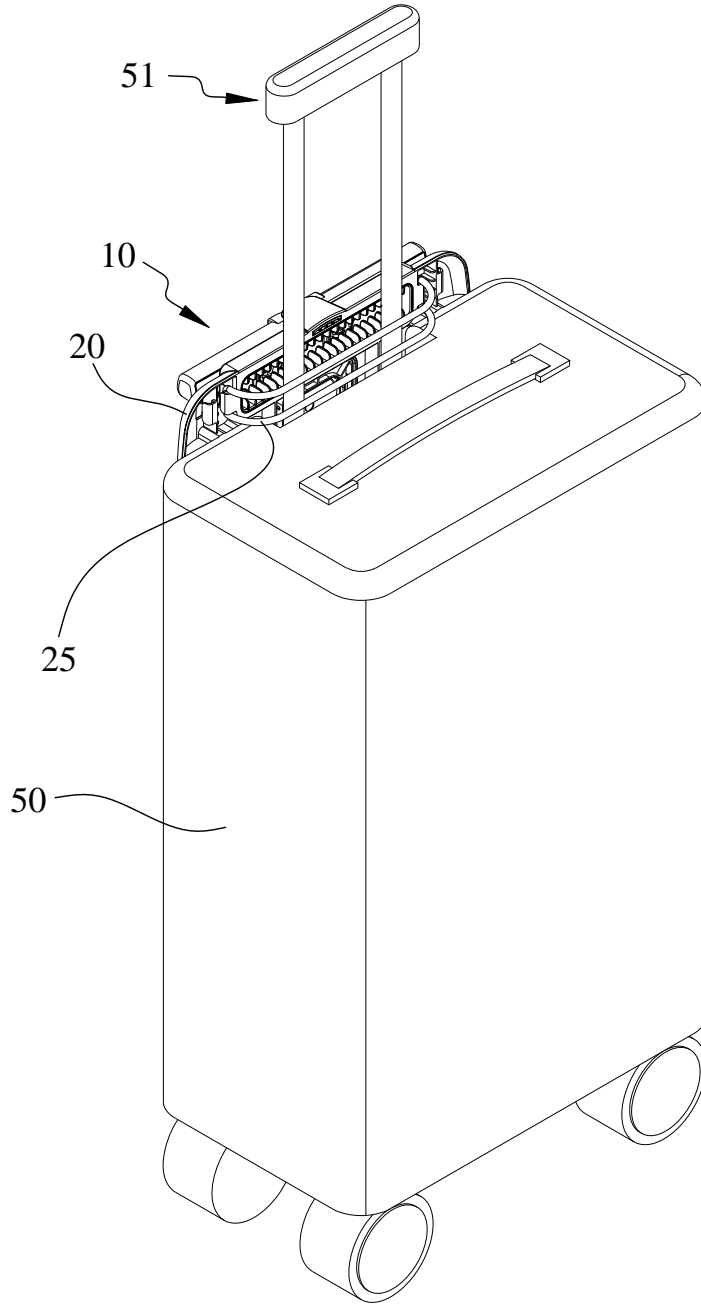


FIG. 4

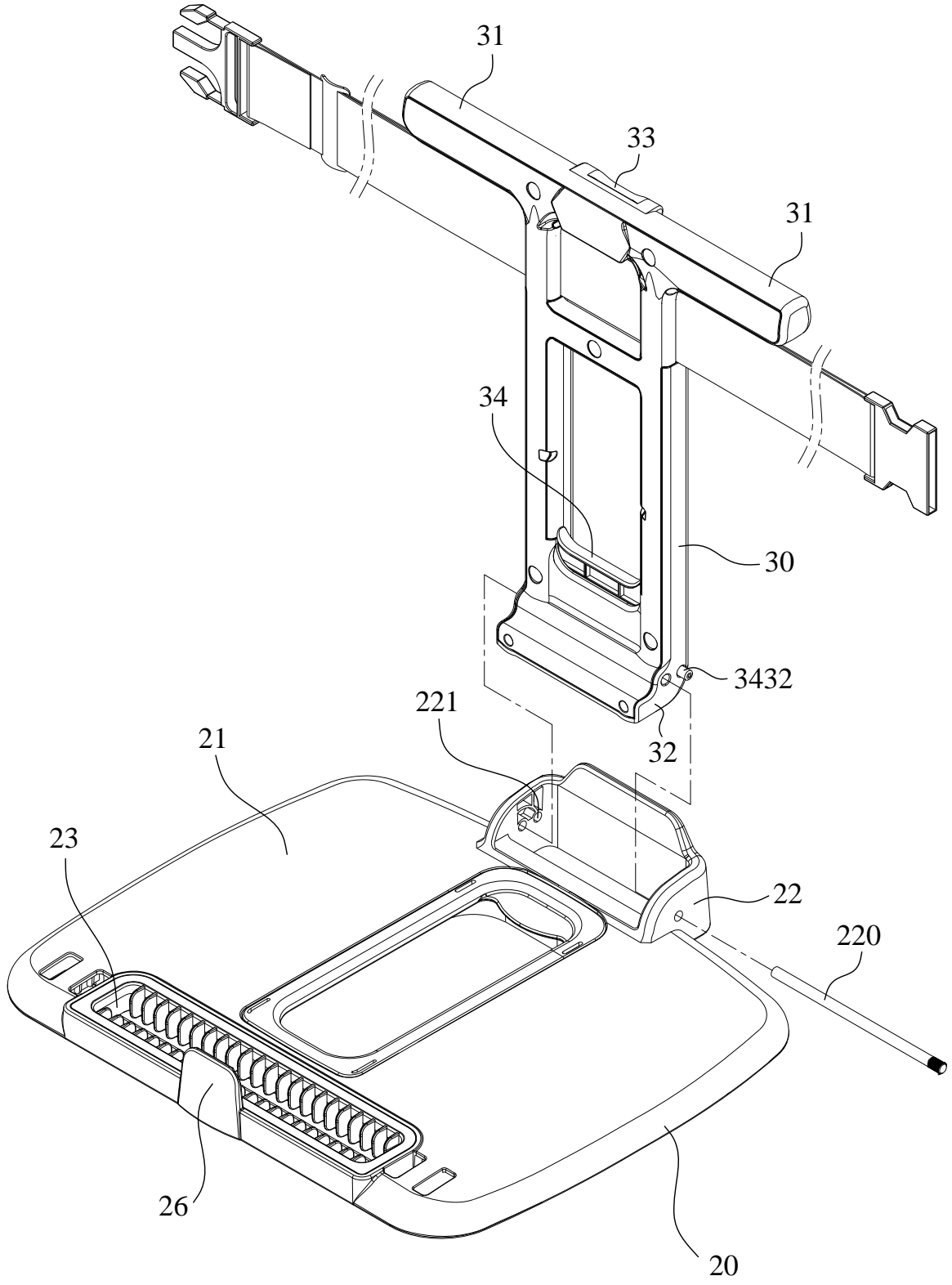


FIG. 5

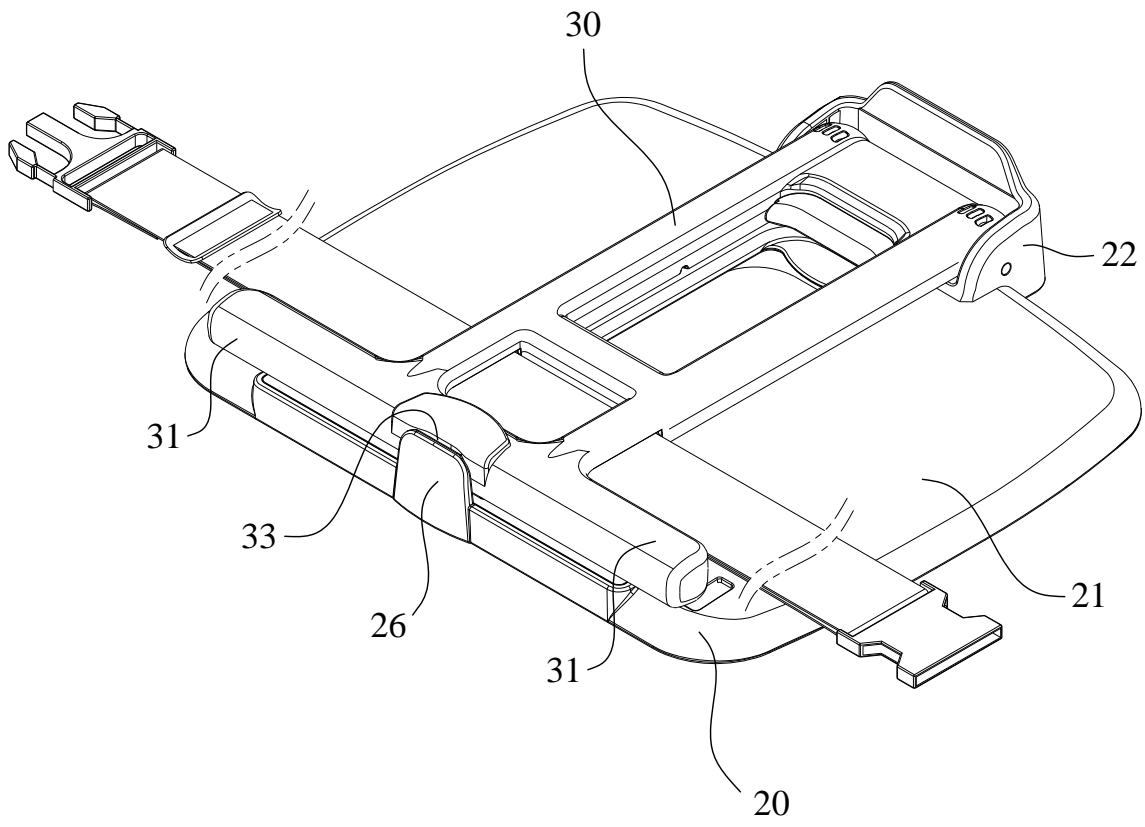


FIG. 6

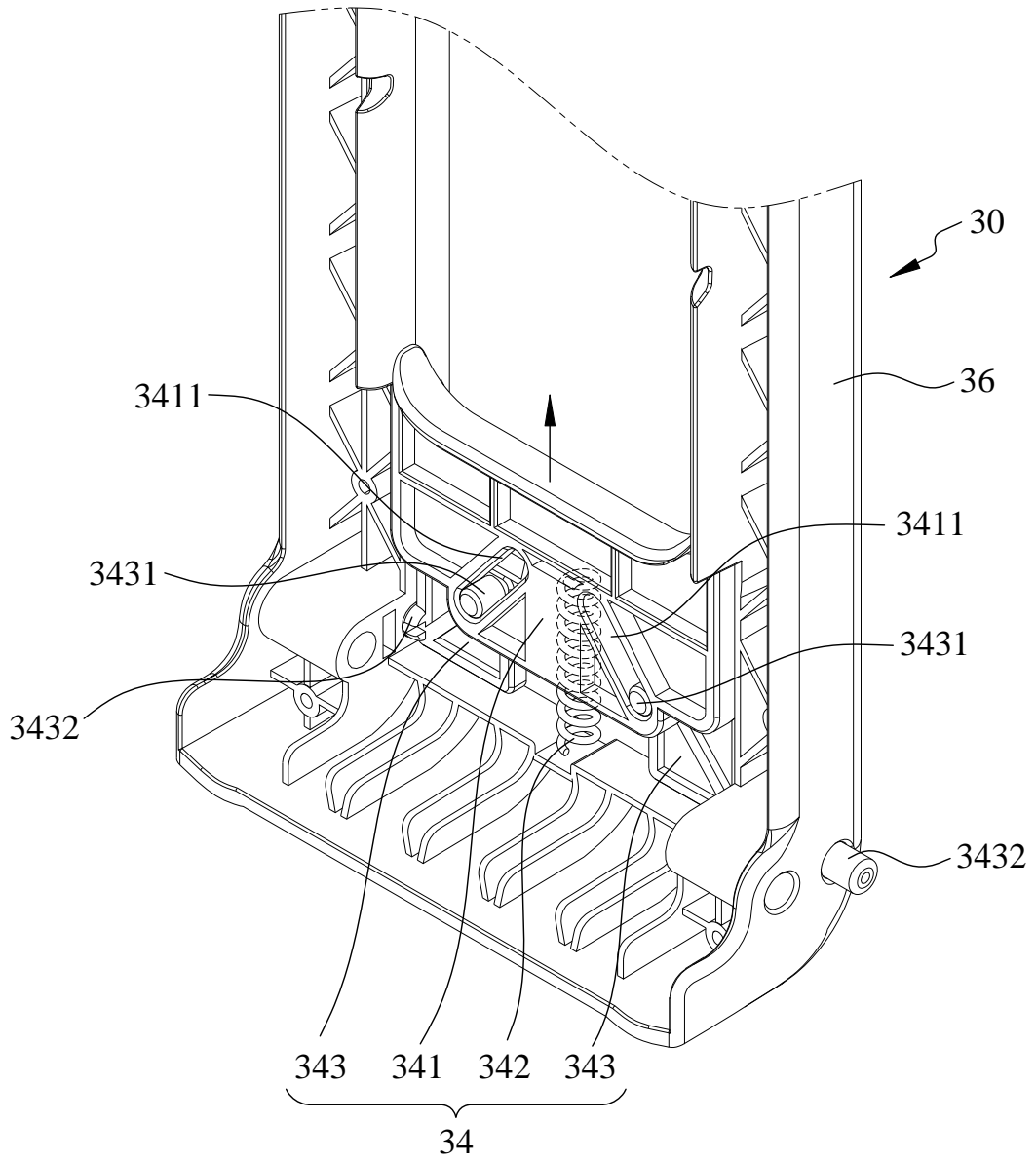


FIG. 8

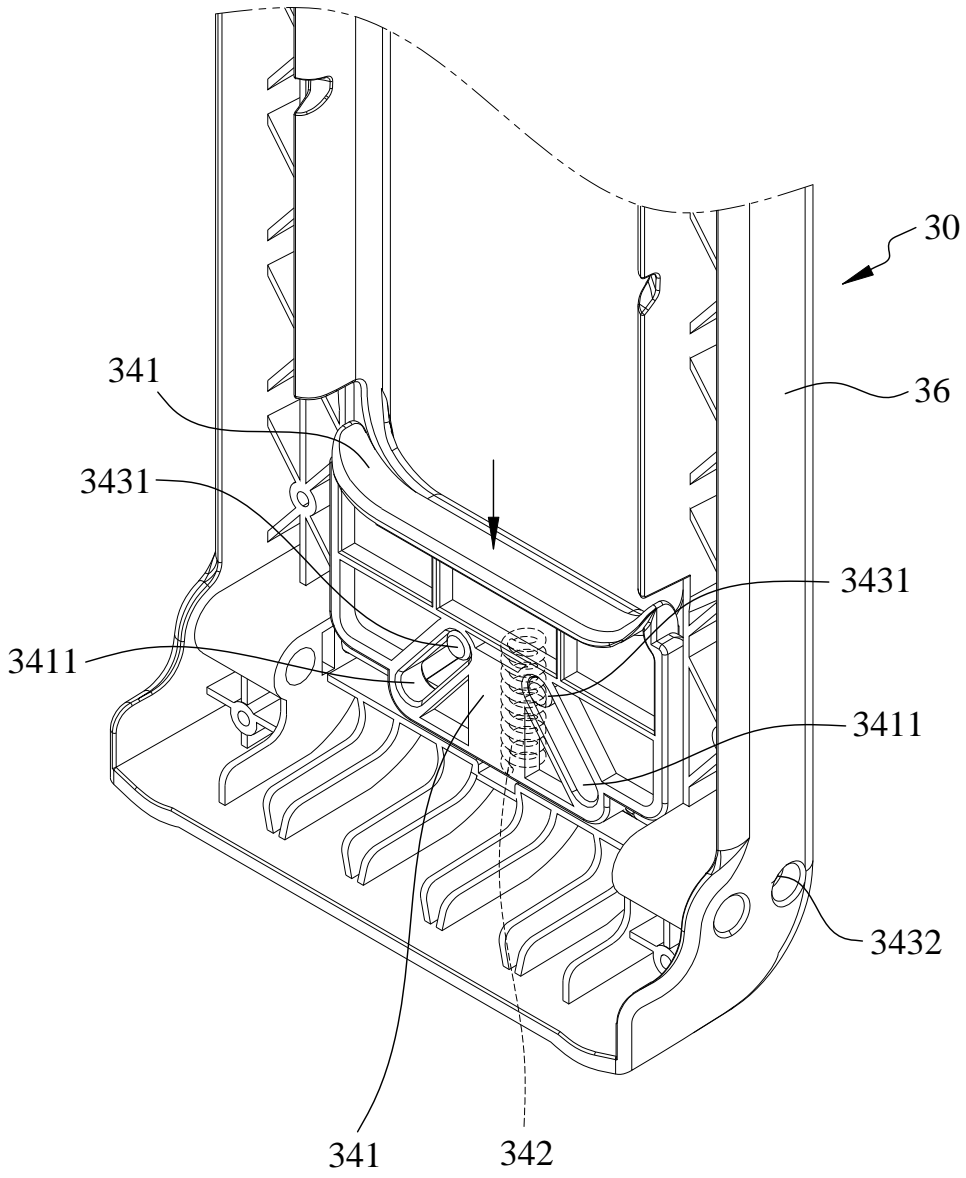


FIG. 9

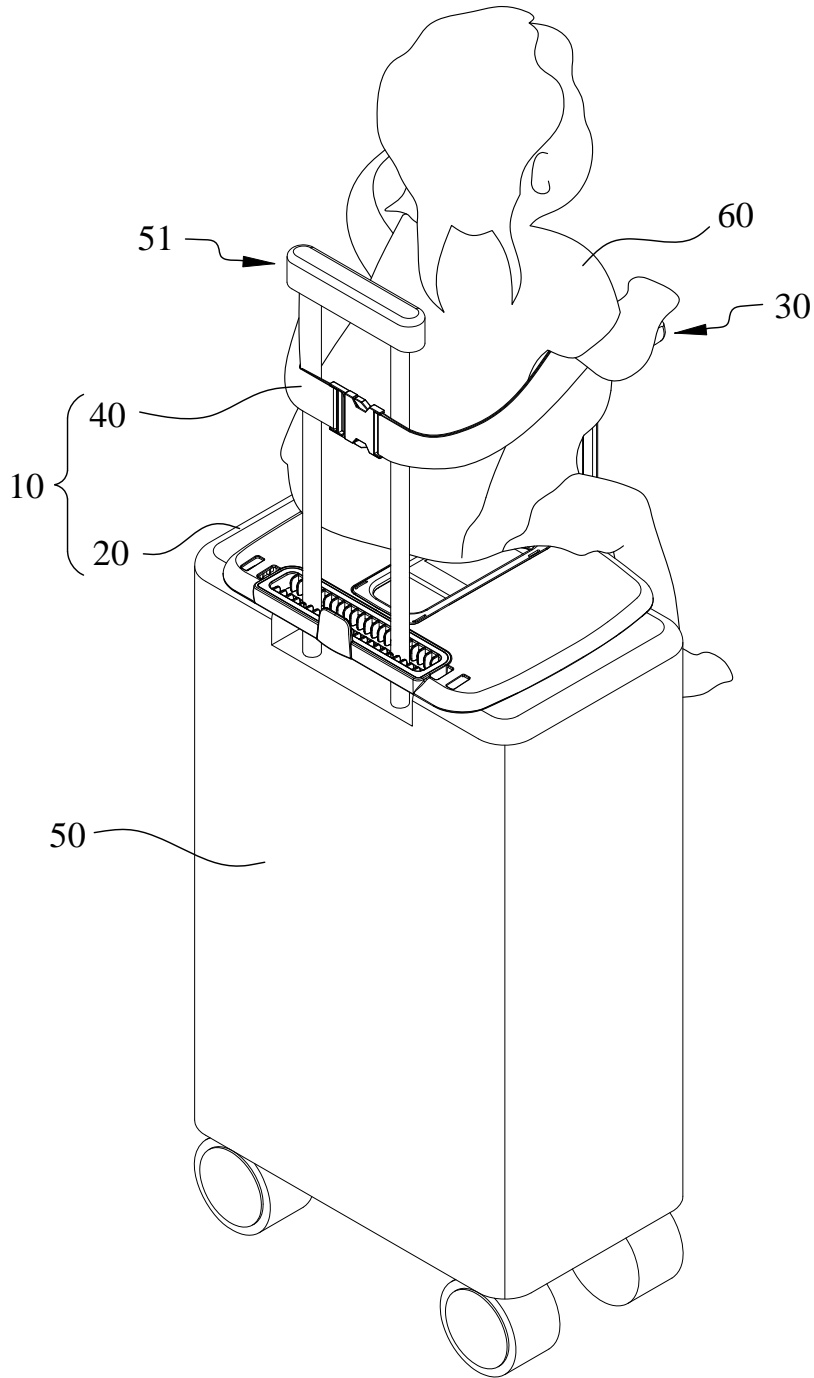


FIG. 10

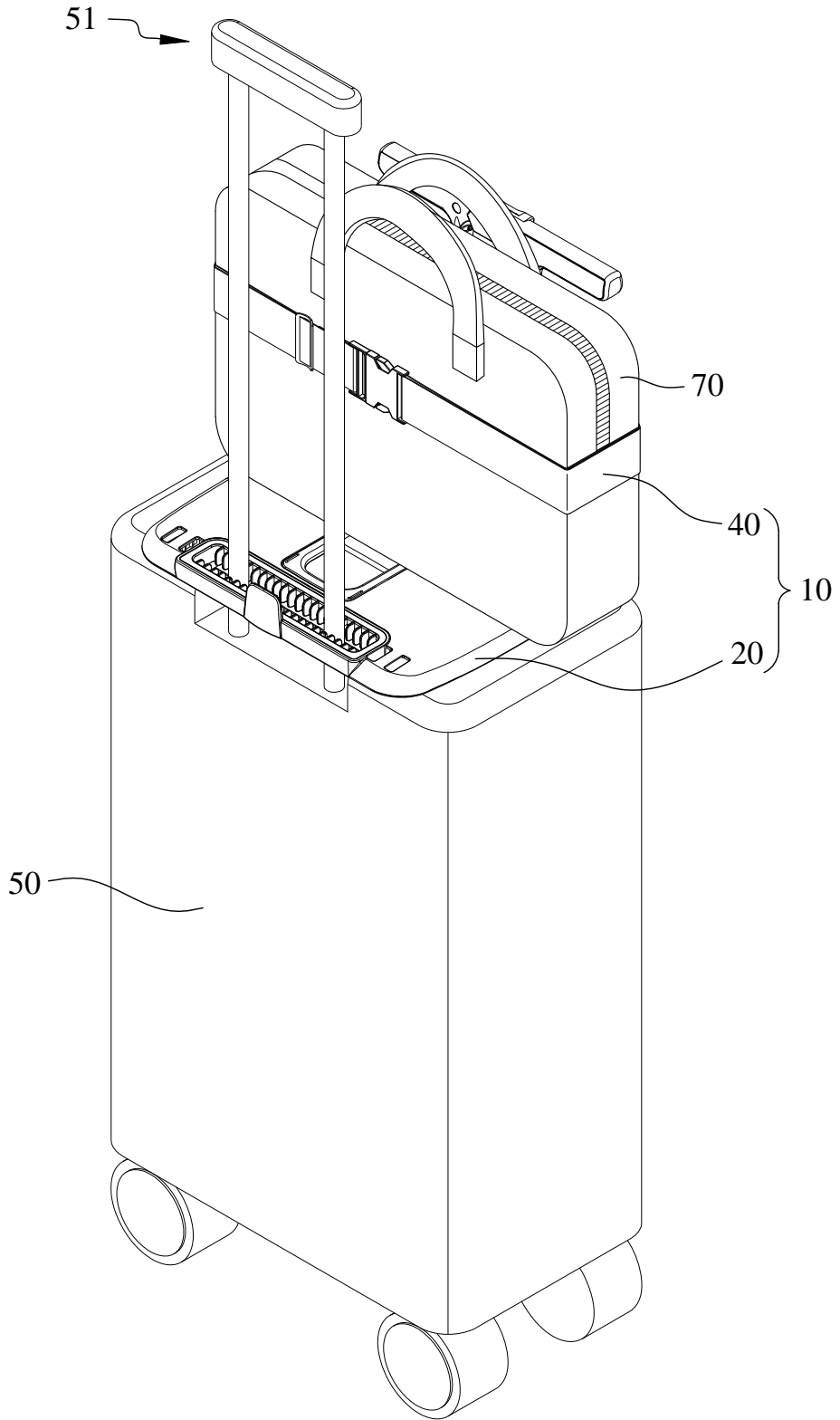


FIG. 11

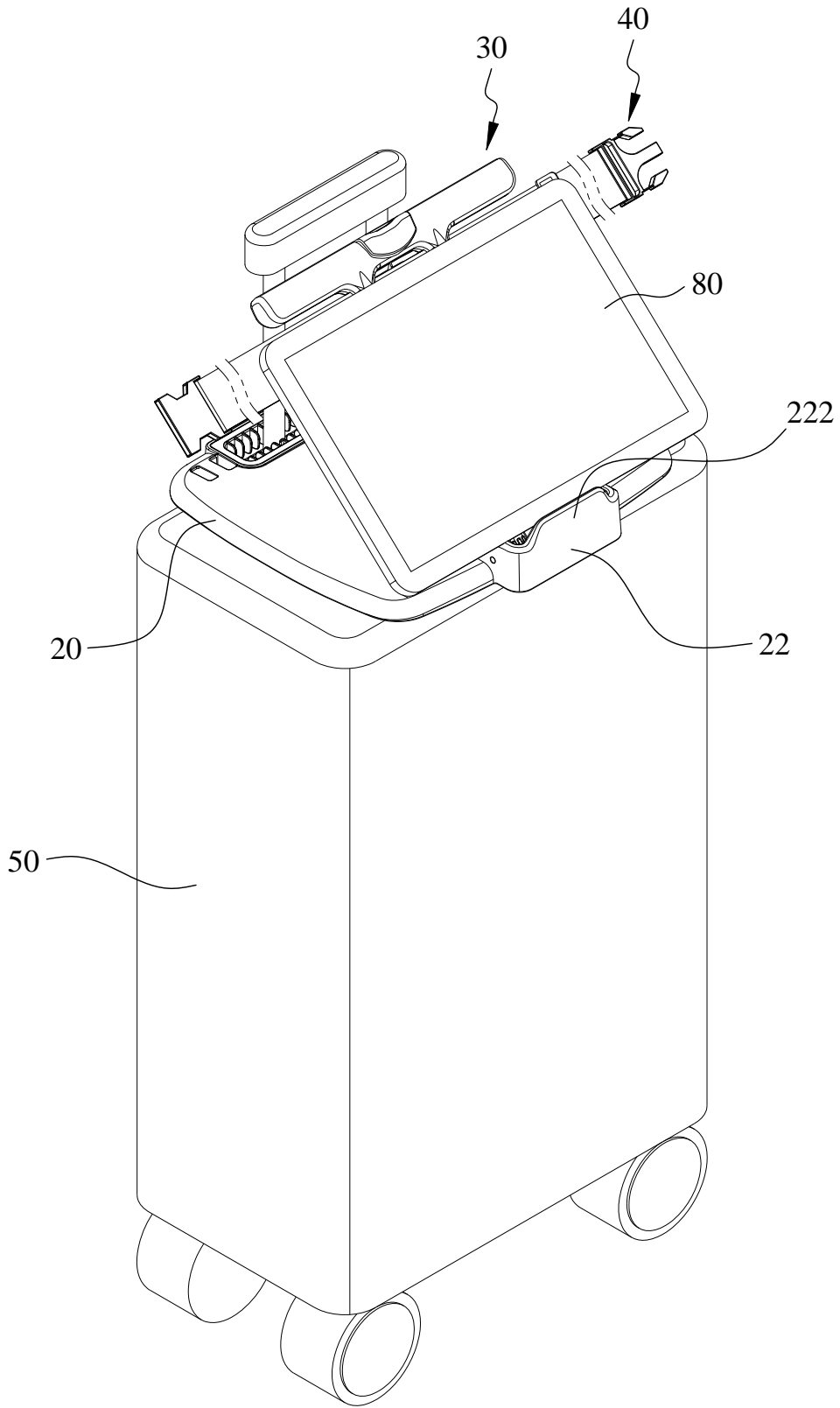


FIG. 12

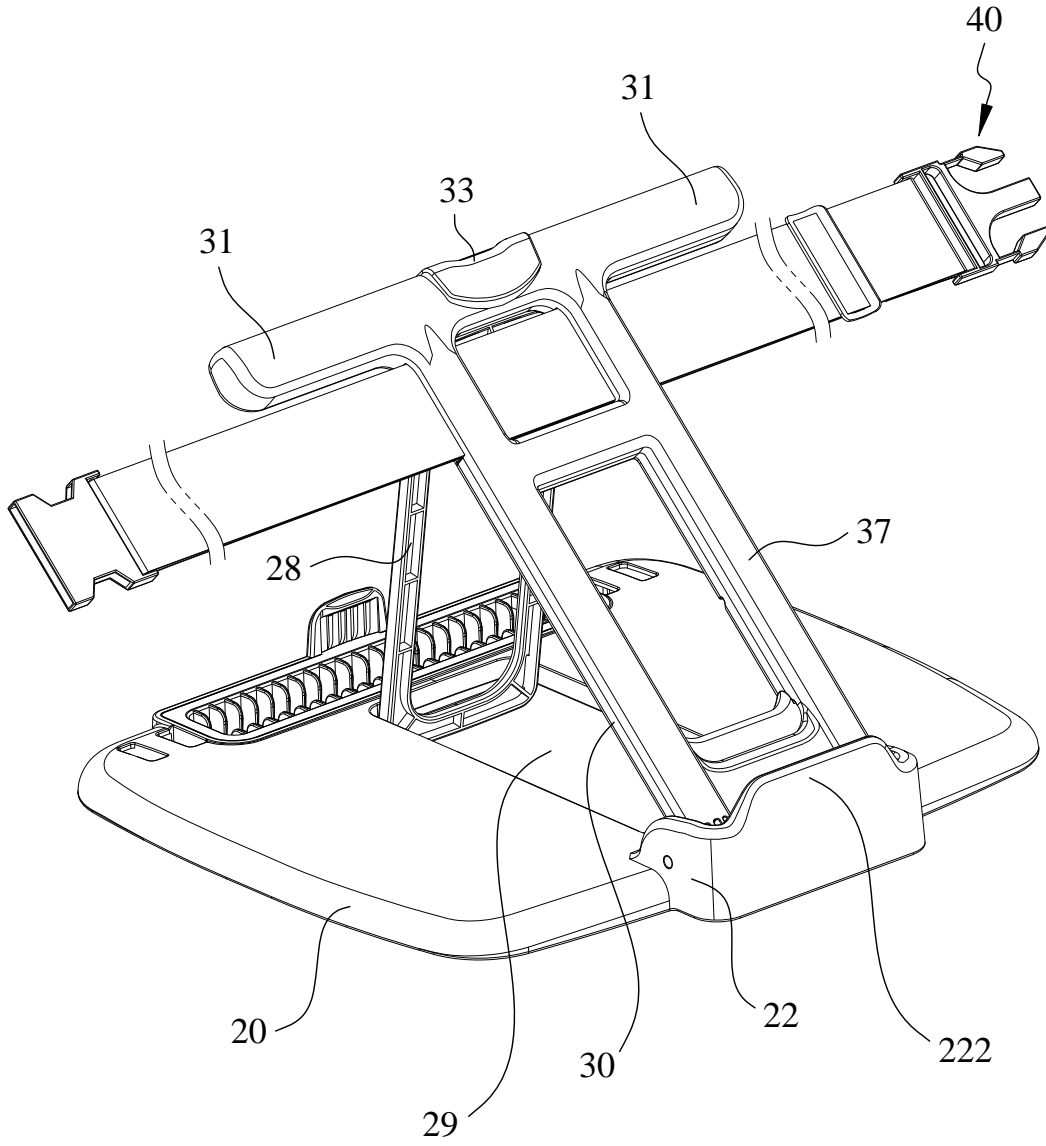


FIG. 13

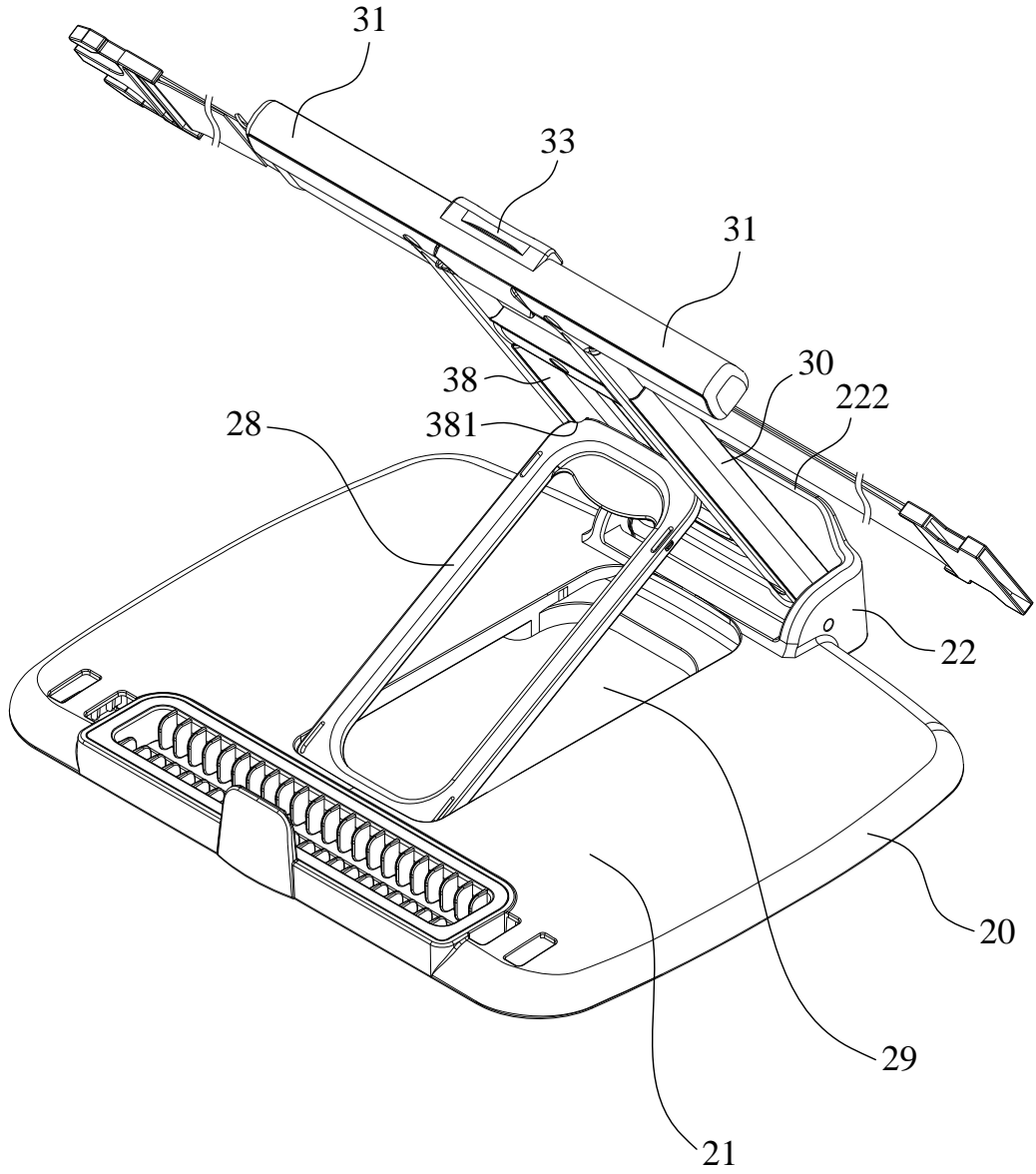


FIG. 14