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(54) **BOOSTER SEAT WITH STOWABLE TRAY COMPARTMENT AND BASE PANEL**

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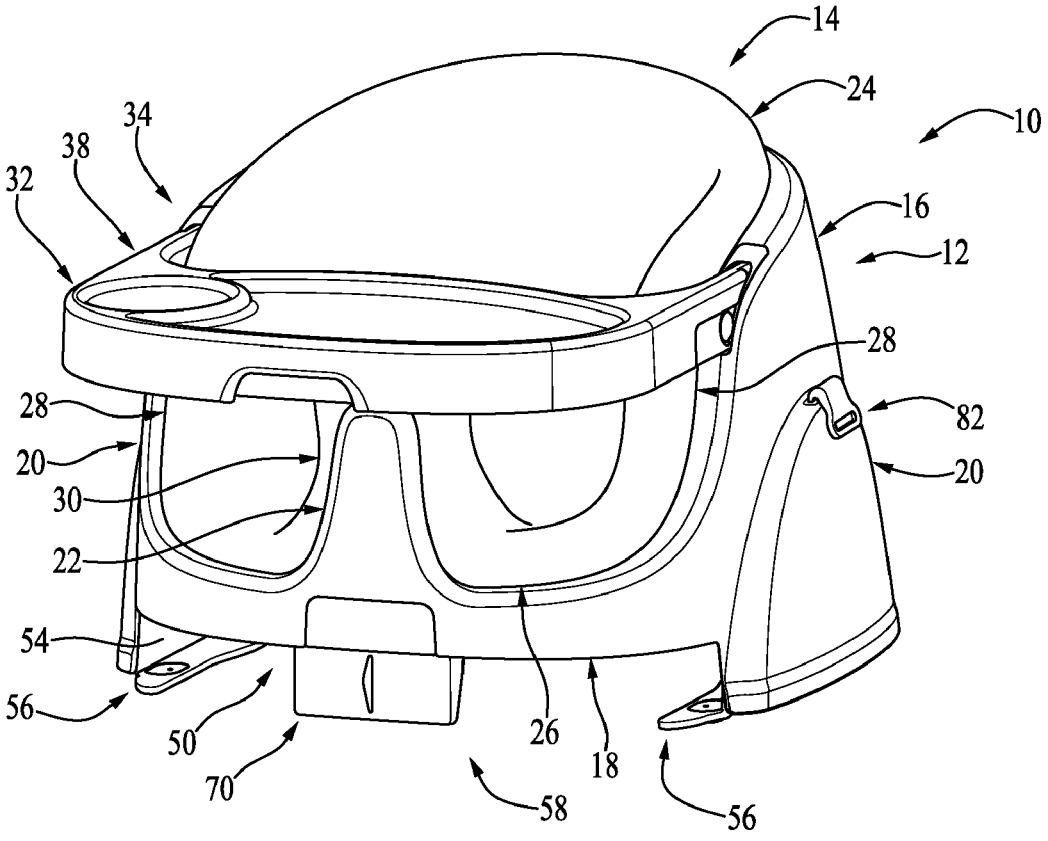
(57) **ABSTRACT**

A booster seat includes a storage compartment for a tray and/or a storage compartment for securing straps. The tray-storage compartment can be formed in a base of the seat and include an access opening through a sidewall of the base. The tray-storage compartment can include two opposite and inwardly-extending lips that support the tray in the stowed position, and a support foot that moves between a use position in the compartment where it helps support the seat and a stored position displaced from the compartment. Also, the tray-storage compartment can include ribs that engage the tray in the stowed position to retain it there. The strap-storage compartment can be formed in the base and include an access opening with a closure for retaining the straps in the compartment. A base panel can be provided for stability and support.



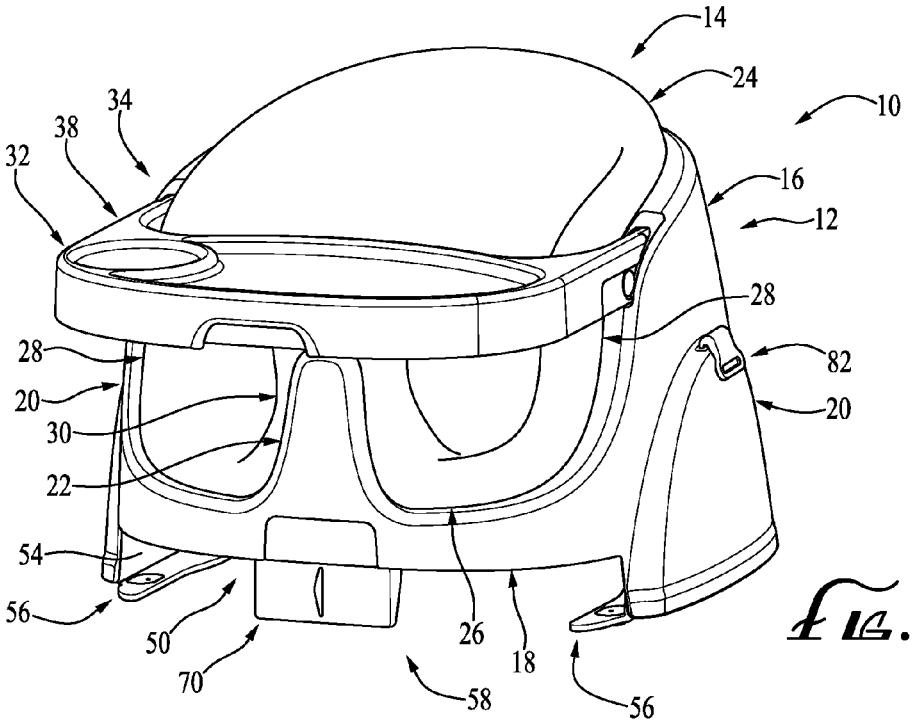

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FIG. 1

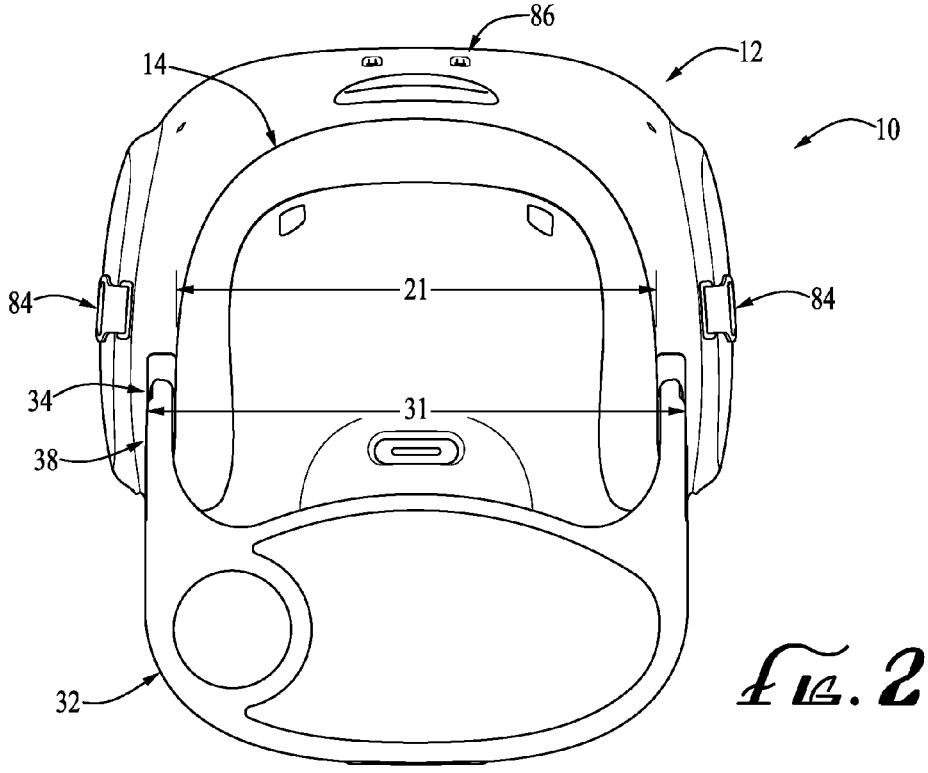
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FIG. 2

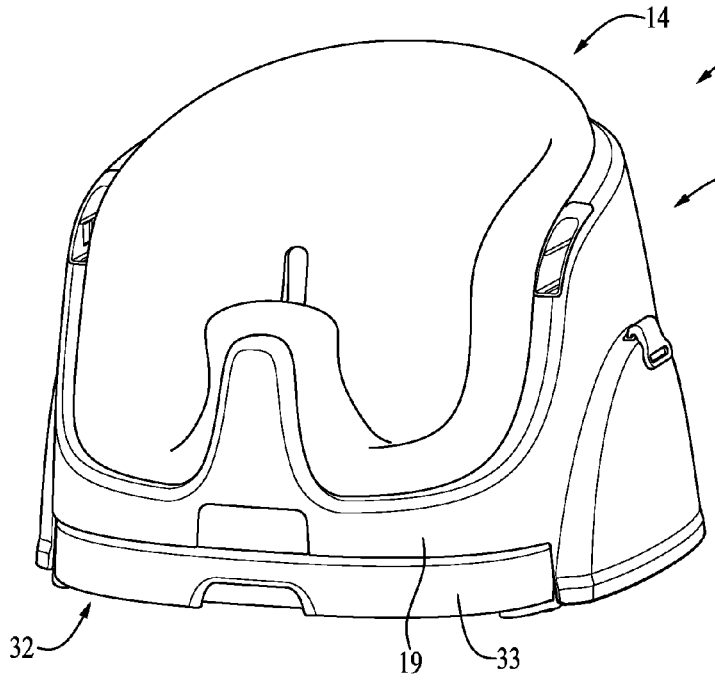


FIG. 3

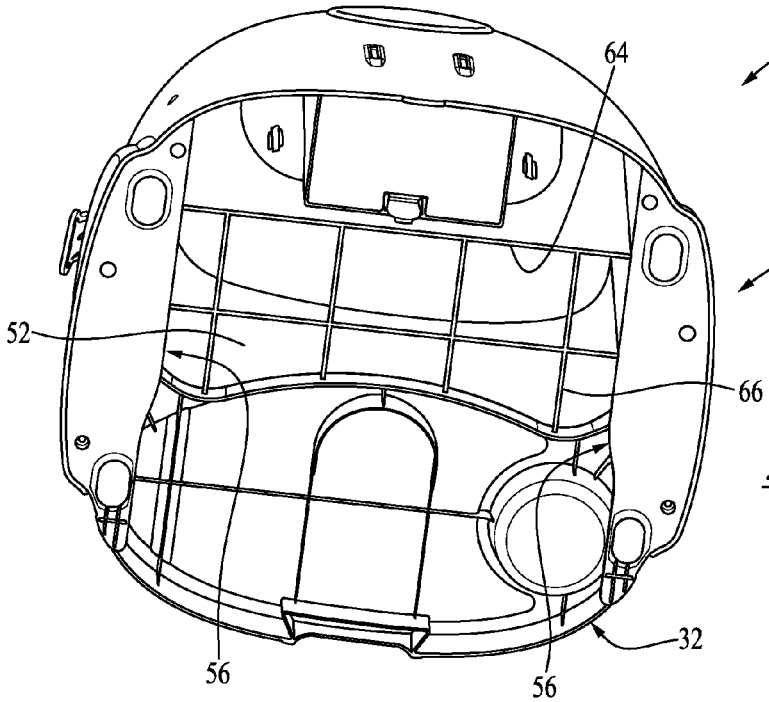


FIG. 4

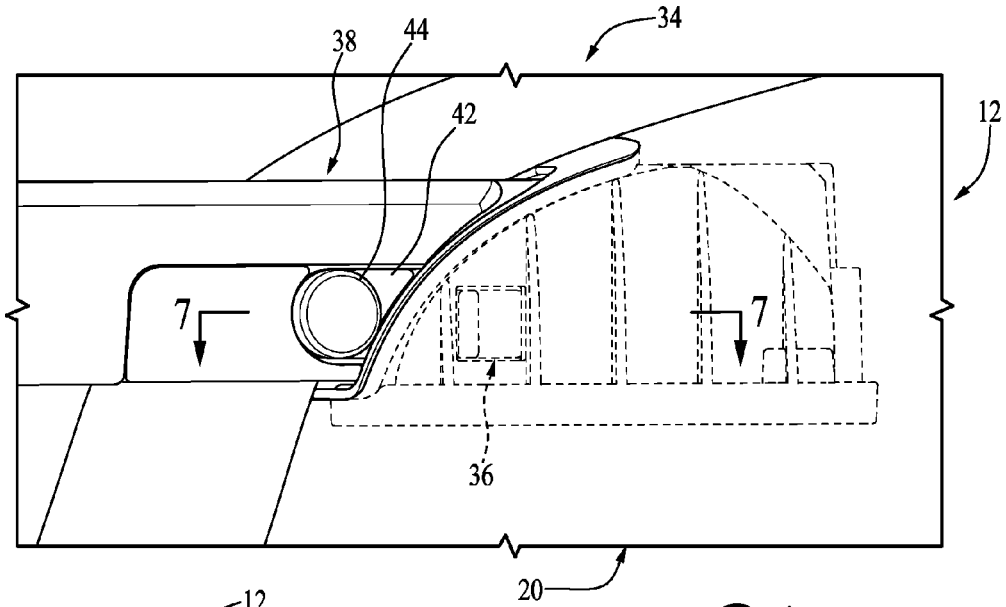


FIG. 5

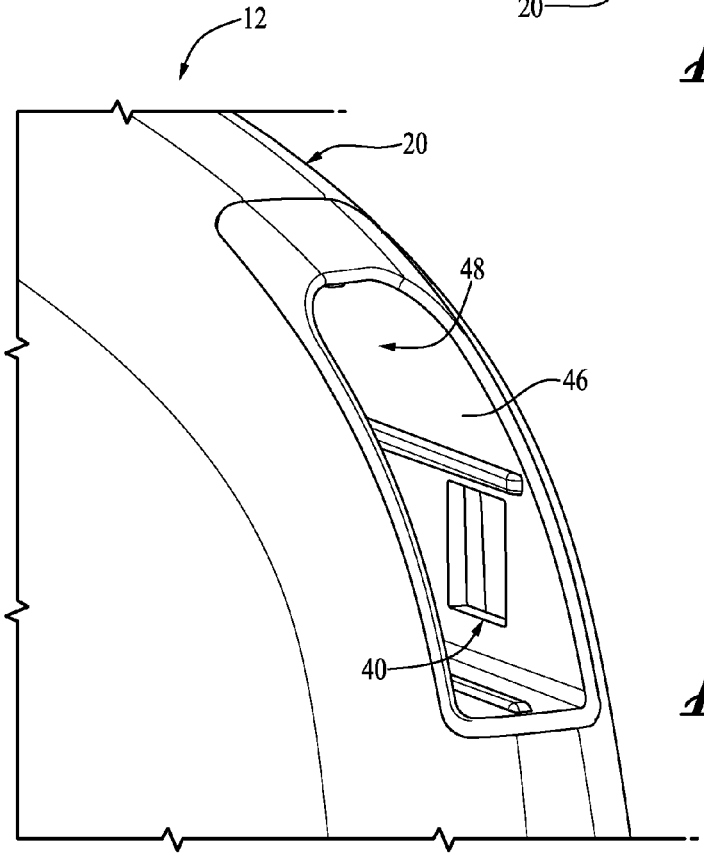


FIG. 6

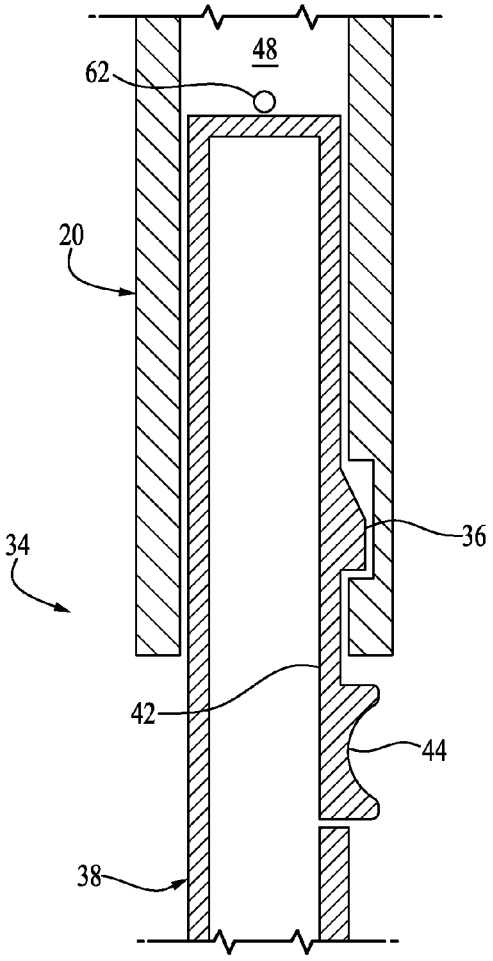


FIG. 7

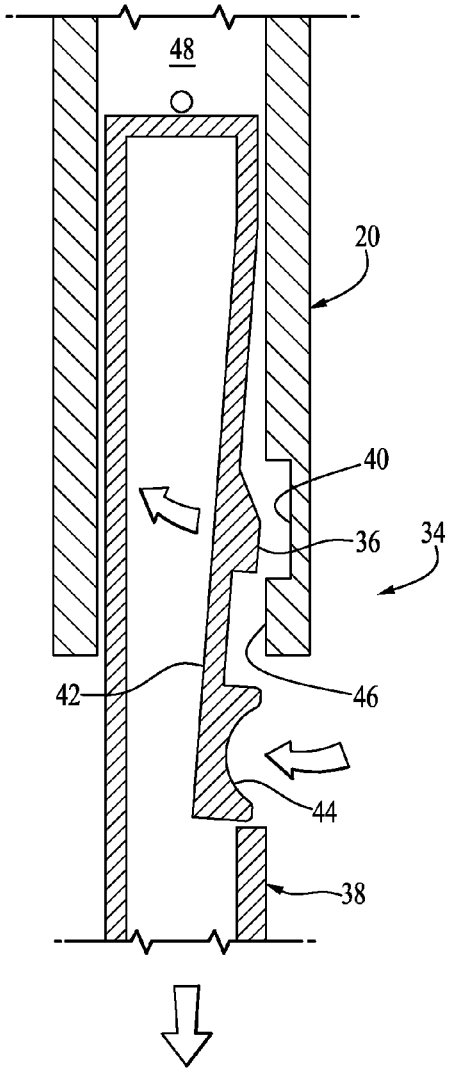
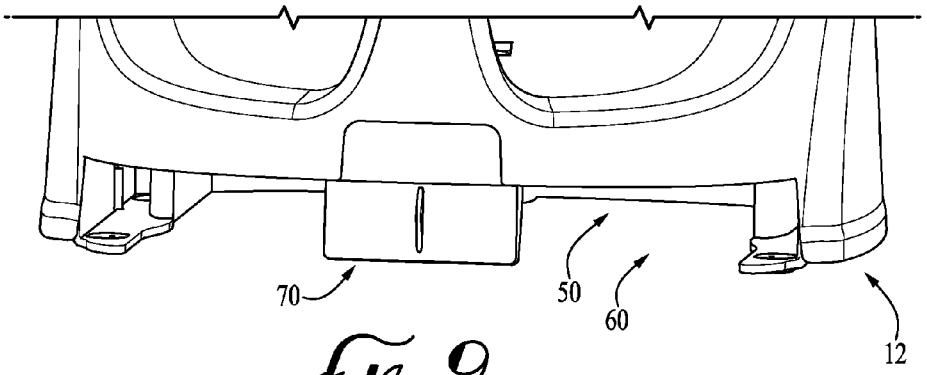


FIG. 8



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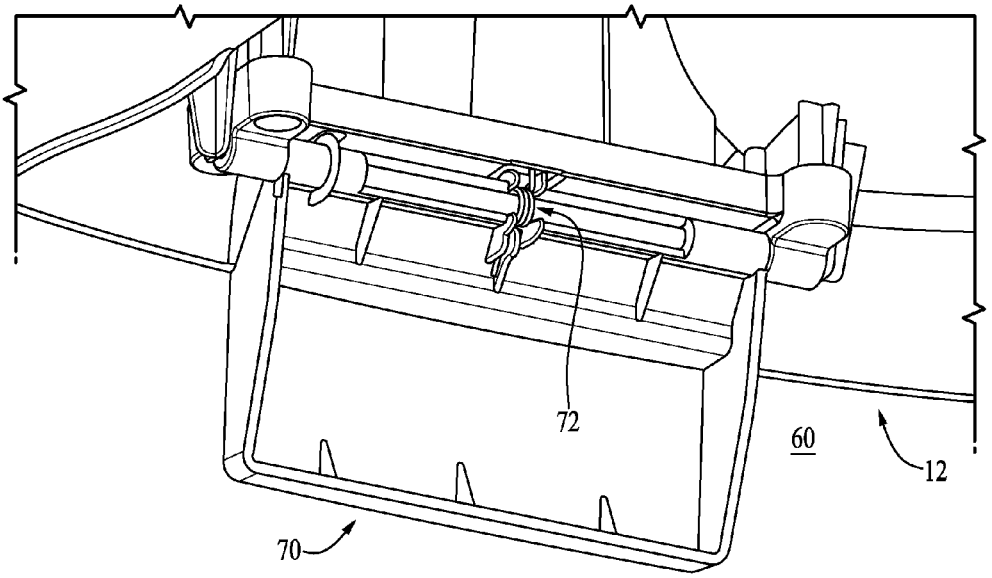
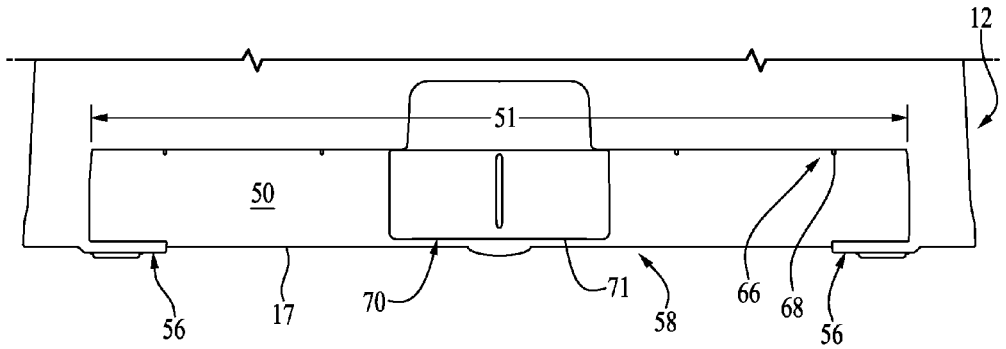


FIG. 10



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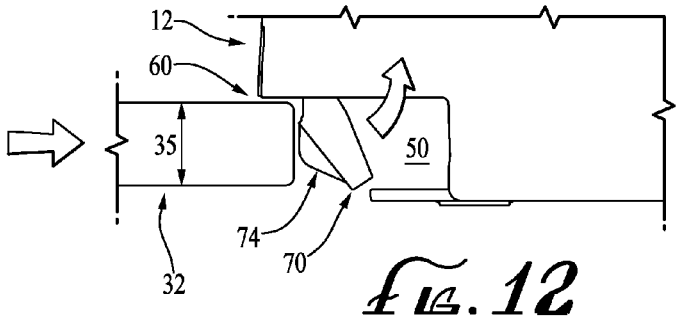

FIG. 12

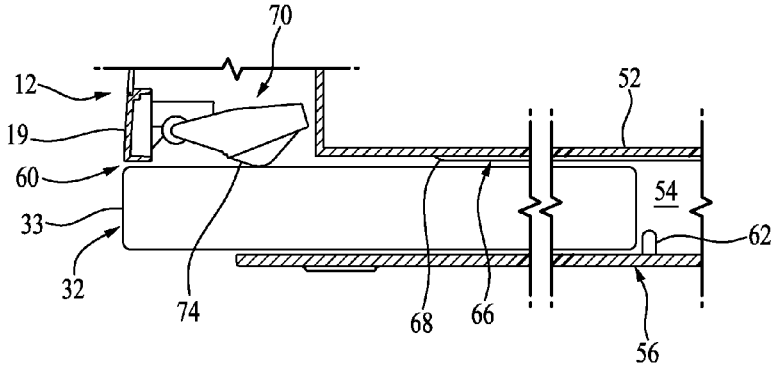

FIG. 13

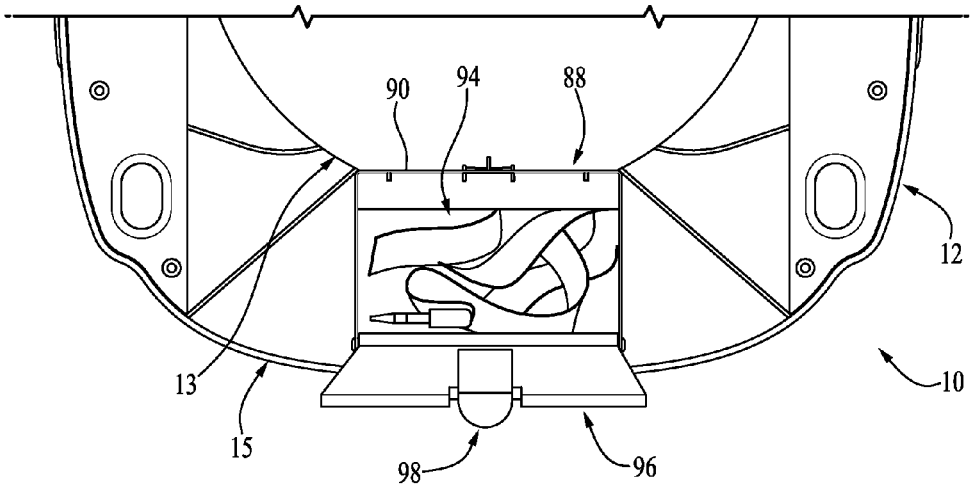

FIG. 14

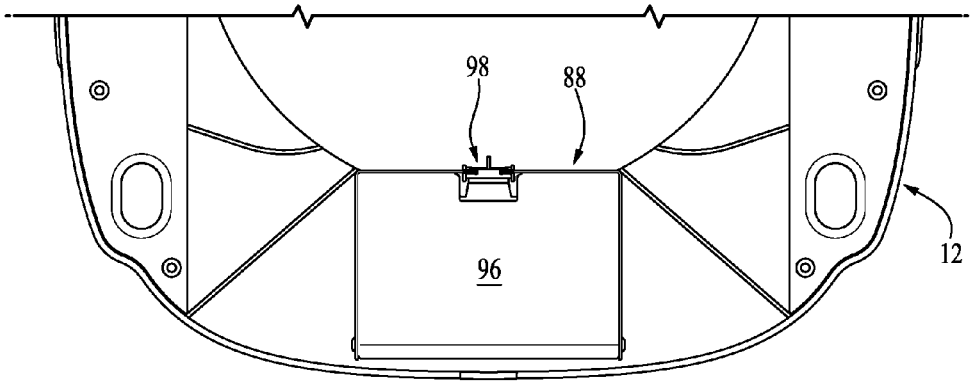

FIG. 15

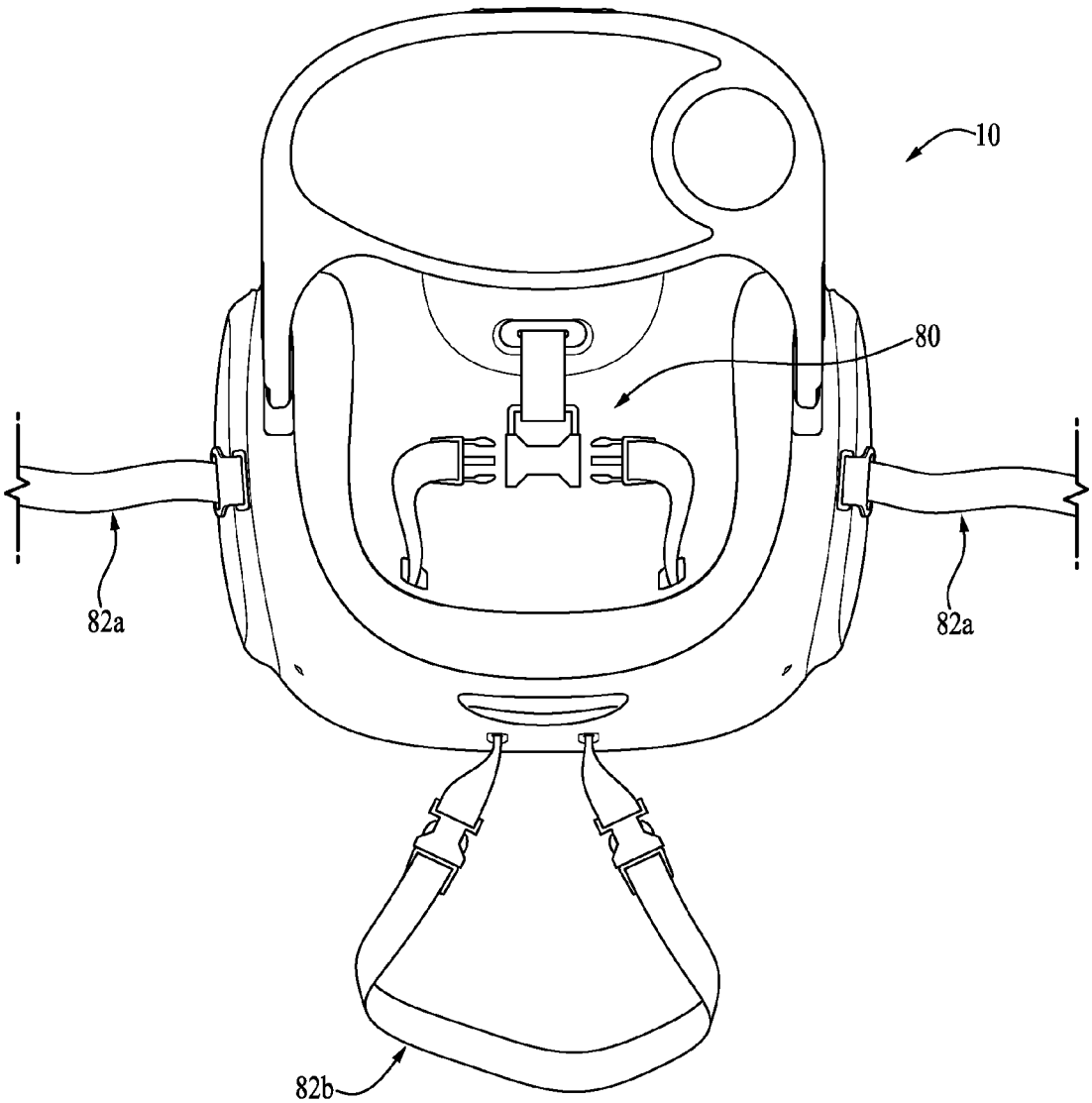

FIG. 16

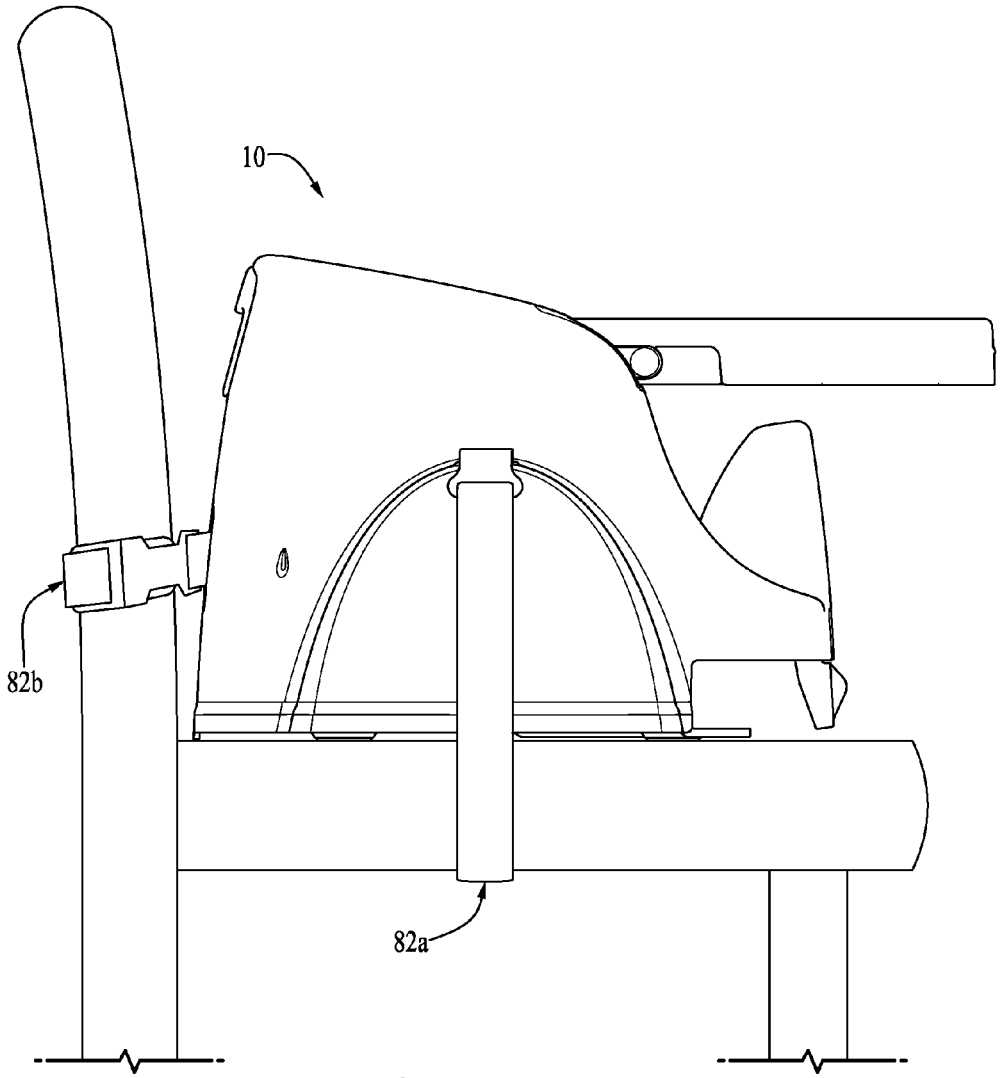

FIG. 17

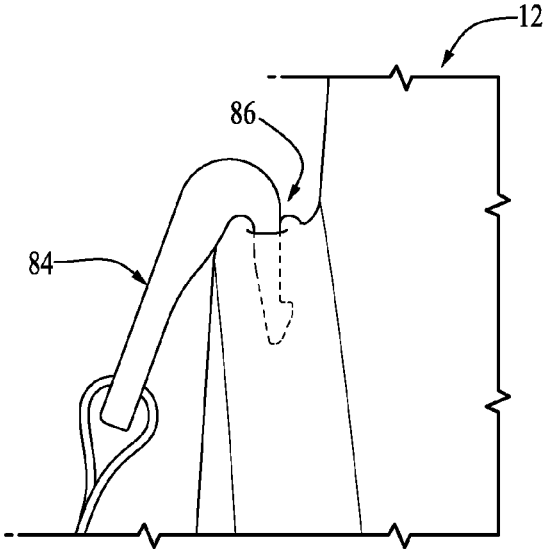

FIG. 18

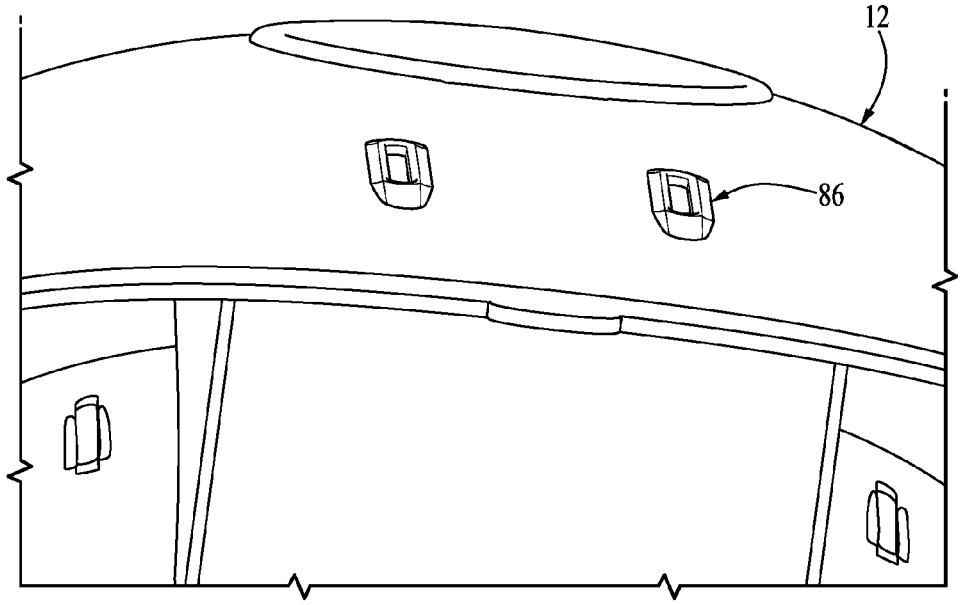

FIG. 19

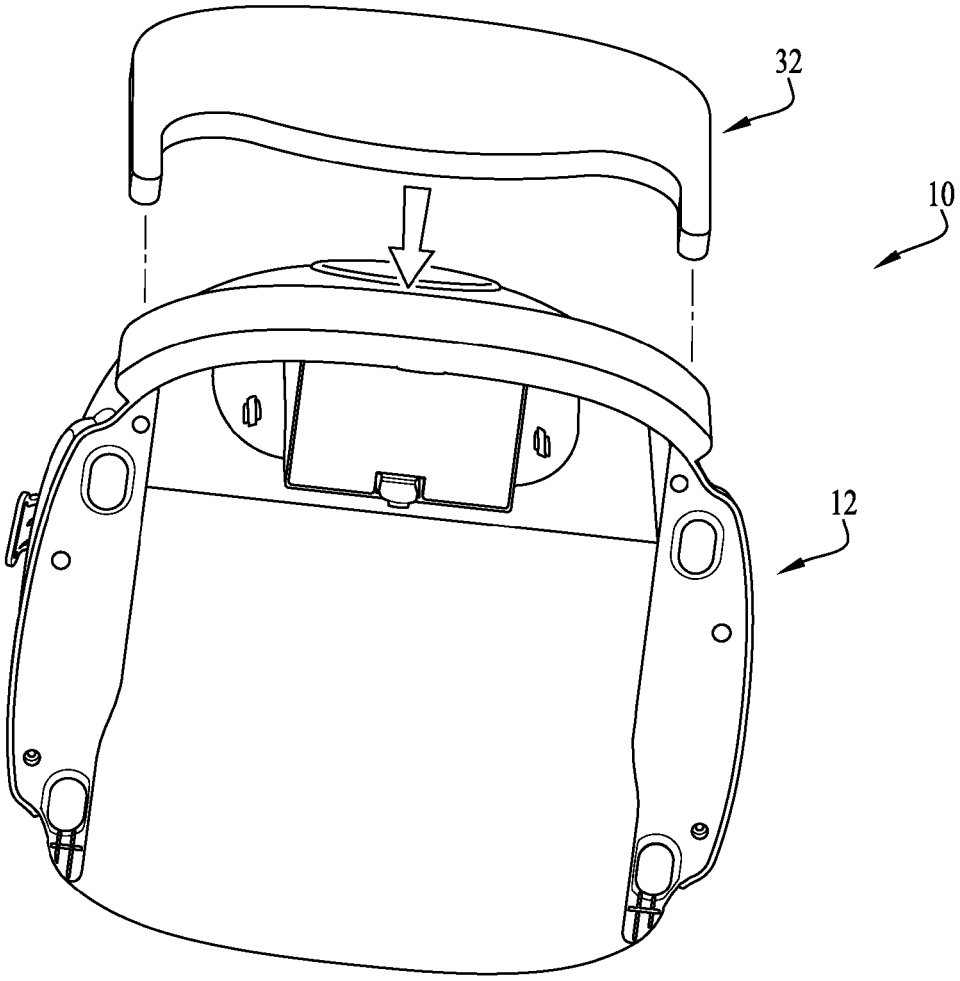

FIG. 20

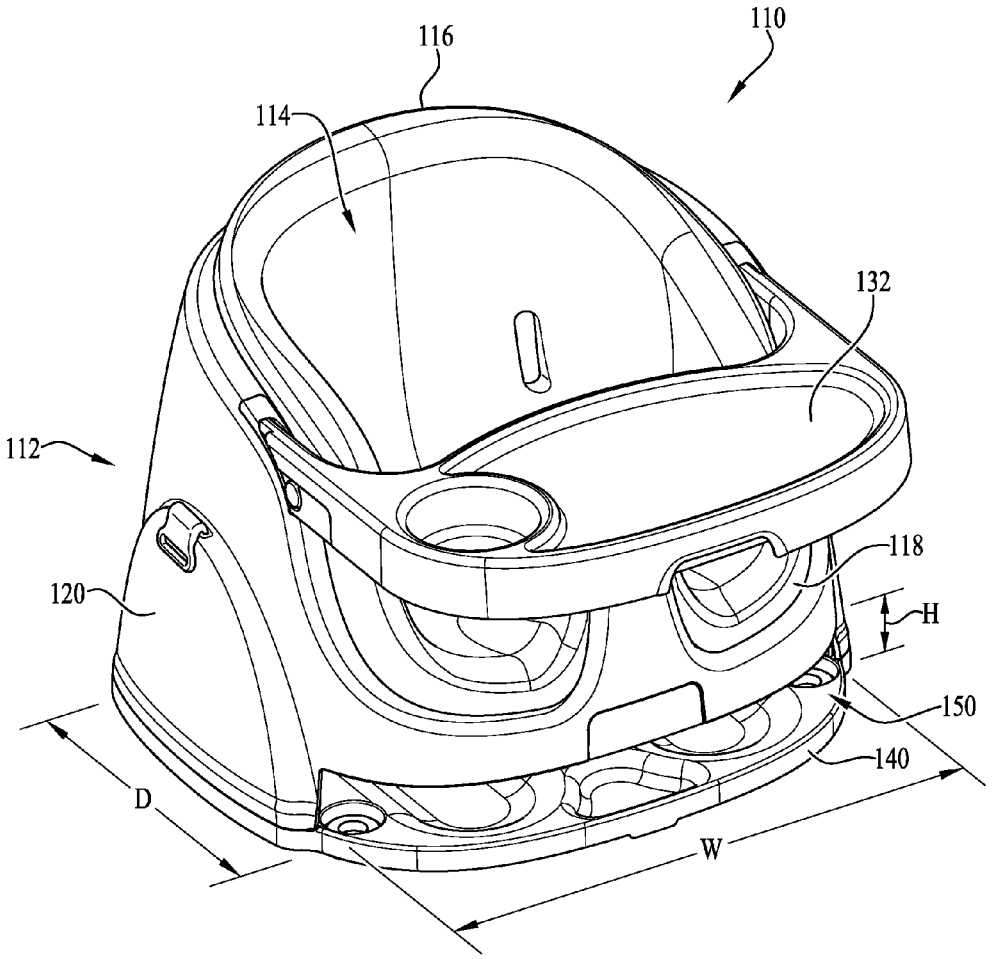

FIG. 21

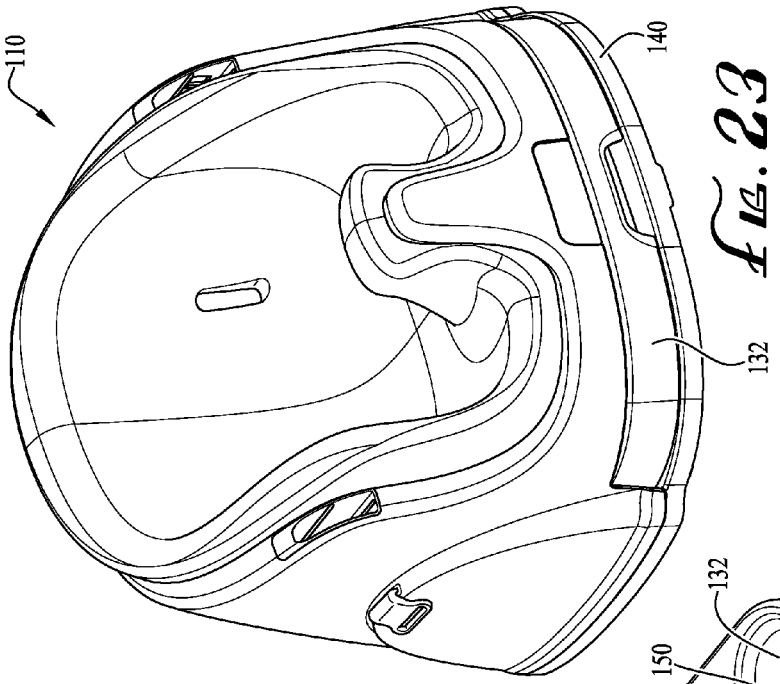

FIG. 23

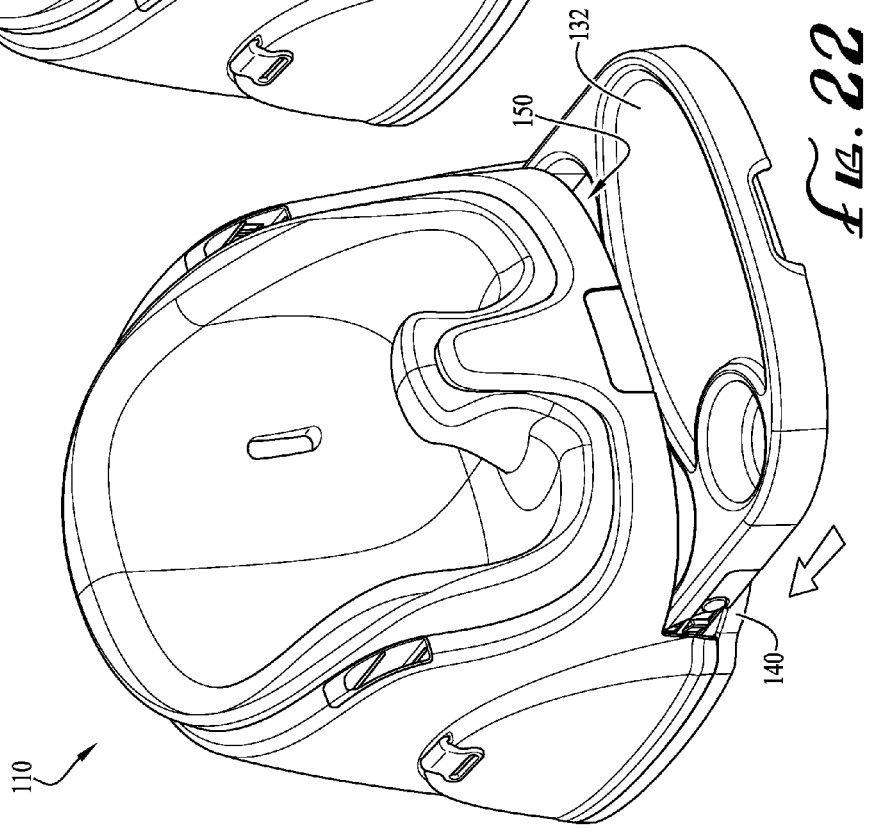

FIG. 22

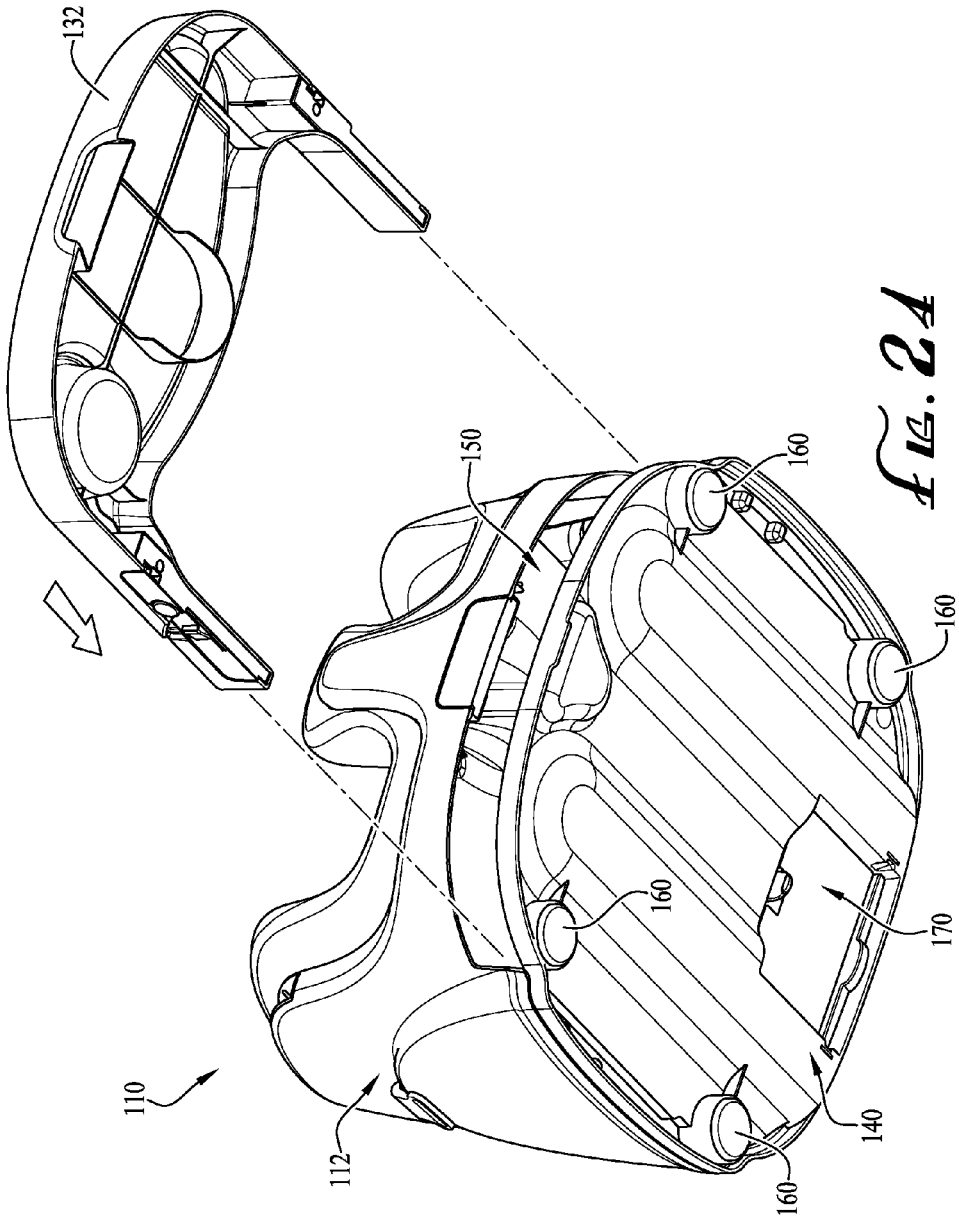

FIG. 24

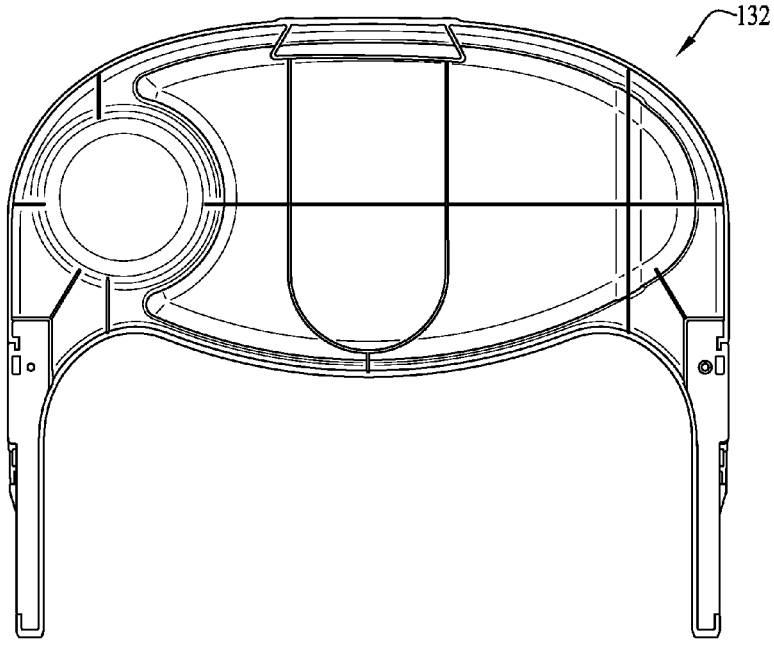

FIG. 25

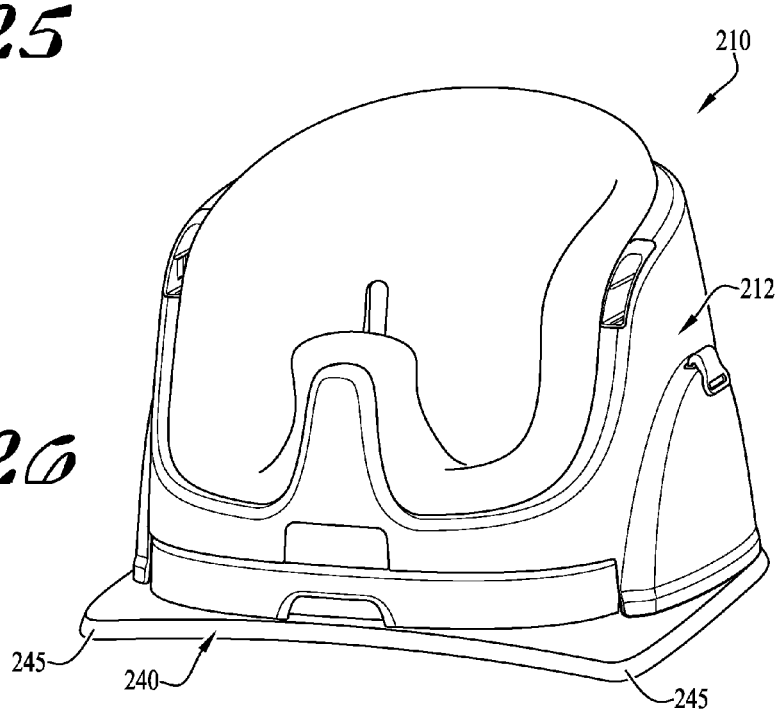

FIG. 26

BOOSTER SEAT WITH STOWABLE TRAY COMPARTMENT AND BASE PANEL

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation-in-part of U.S. Non-Provisional Patent Application Ser. No. 14/301,891 filed Jun. 11, 2014, which claims the priority benefit of U.S. Provisional Patent Application Ser. No. 61/845,426 filed Jul. 12, 2013, and U.S. Provisional Patent Application Ser. No. 61/834,487 filed Jun. 13, 2013; this application also claims priority to U.S. Provisional Patent Application Ser. No. 62/394,483 filed Sep. 14, 2016, the entireties of which are hereby incorporated herein by reference for all purposes.

TECHNICAL FIELD

[0002] The present invention relates generally to children's accessories, and more particularly to booster seats for infants and other children.

BACKGROUND

[0003] Booster seats are commonly mounted onto the seats of highchairs, adult dining chairs, or other support surfaces to elevate infants and small children so they are able to sit at table height for mealtime. Typically, boosters seats can be used once a baby can sit upright unassisted, thereby enabling the infant to join the rest of the family at the table. This can be desirable because mealtime becomes more interactive and fun when parents can teach their small child to eat like the big kids side-by-side, and the little ones are proud to graduate to the big chair. In addition, such booster seats can also be used as TV chairs or for general seating purposes. And some booster seats are designed for use with child car safety seats and/or directly on the car seat itself.

[0004] Conventional booster seats sometimes include trays that mount in the front to provide a place for the child's food, drink, and/or toys. But when not in use these trays can be bulky and cumbersome, and for removable types they can become lost or damaged.

[0005] In addition, conventional booster seats sometimes include securing straps that mount the seat to a highchair and that secure the child in the seat. But when not in use these straps can be cumbersome and hazardous, and for removable straps they can become lost or damaged.

[0006] Accordingly, it can be seen that needs exist for improvements to booster seats to avoid the problems associated with loose trays and straps. It is to the provision of solutions to these and other problems that the present invention is primarily directed.

SUMMARY

[0007] Generally described, the present invention relates to a booster seat with innovative storage features. The booster seat can be of a conventional design for mounting onto an elevated surface such as a highchair, adult chair, bench, tabletop, or car seat, or for merely resting (unsecured) upon a non-elevated surface such as the floor. As such, the seat includes a base or bottom-support portion that supports the child in a sitting position. Example embodiments of the booster seat include a base panel providing improved structural rigidity and improved stability to resist tipping over, and forming a compartment for storing a removable tray when the tray is not in use.

[0008] In one aspect, the present invention relates to a storage compartment for a tray for holding the child's food, drink, and/or toys. The tray-storage compartment can be formed in the base of the seat and include an access opening through a sidewall of the base. The tray-storage compartment can include two opposite and inwardly-extending lips that support the tray in the stowed position, and a support foot that moves between a use position in the compartment where it helps support the seat and a stored position displaced from the compartment. Also, the tray-storage compartment can include ribs that engage the tray in the stowed position to retain it there.

[0009] In another aspect, the invention relates to a storage compartment for securing straps. The straps are provided for securing the seat to the support surface (e.g., a highchair) and are removable from the seat. The strap-storage compartment can be formed in the base and include an access opening with a closure for retaining the straps in the compartment.

[0010] In another aspect, the invention relates to a booster seat including a seat shell having a seating surface for supporting the child seated thereon, and a tray configured for removable attachment to the seat shell. The tray is preferably repositionable between a use position accessible by the child seated on the seating surface, and a stowed position at least partially within a tray storage compartment in the booster seat.

[0011] In still another aspect, the invention relates to a booster seat including a base panel, first and second sidewalls extending upwardly from the base panel, a seating surface between the first and second sidewalls, and a tray. The tray is preferably selectively repositionable between a use position in front of a child seated on the seating surface, and a stowed position at least partially within a tray storage compartment formed within the booster seat above the base panel and between the first and second sidewalls.

[0012] In another aspect, the invention relates to a booster seat including a base panel, a seating surface elevated above the base panel, first and second sidewalls on opposite sides of the seating surface, a seatback behind the seating surface extending upward and away from the base panel, and a tray. The tray is preferably selectively repositionable between a use position opposite the seating surface from the seatback, releasably attached to the first and second sidewalls where it is accessible by a child seated on the seating surface, and a stowed position at least partially within a tray storage compartment formed between the base panel and the seating surface and between the first and second sidewalls.

[0013] These and other aspects, features, and advantages of the invention will be understood with reference to the drawing figures and detailed description herein, and will be realized by means of the various elements and combinations particularly pointed out in the appended claims. It is to be understood that both the foregoing summary and the following brief description of the drawings and detailed description of example embodiments are explanatory of particular example embodiments of the invention and are not restrictive of the invention, as claimed.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] FIG. **1** is a perspective view of a booster seat according to an example embodiment of the present invention, showing its tray mounted in a use position.

[0015] FIG. **2** is a top view of the booster seat of FIG. **1**.

[0016] FIG. **3** shows the booster seat of FIG. **1** with the tray in a stowed position.

[0017] FIG. **4** is a bottom perspective view of the booster seat of FIG. **2**.

[0018] FIG. **5** is a perspective detail view of a portion of the booster seat of FIG. **1**, showing a releasable attachment securing the tray to the seat in the use position.

[0019] FIG. **6** is a perspective detail view of a portion of the releasable attachment of FIG. **5** with the tray removed from the seat for stowing.

[0020] FIG. **7** is a cross-sectional detail view of the releasable attachment taken at line **7-7** of FIG. **5** with the tray secured to the seat in the use position.

[0021] FIG. **8** shows the releasable attachment of FIG. **7** actuated to release the tray so it can be removed from the seat and stowed.

[0022] FIG. **9** is a front perspective detail view of a portion of the booster seat of FIG. **1**, showing a retractable support foot in the use position.

[0023] FIG. **10** is a rear perspective detail view of the booster-seat portion of FIG. **9**.

[0024] FIG. **11** is a front-side detail view of the booster-seat portion of FIG. **9**.

[0025] FIG. **12** is a right-side detail view of the booster-seat portion of FIG. **11**, showing the removed tray being inserted into a storage compartment and pushing/retracting the support foot from the use position.

[0026] FIG. **13** is a right-side cross-sectional detail view of the booster-seat portion of FIG. **12** with the tray fully inserted into the storage compartment in a stowed position and the support foot fully retracted into the stowed position.

[0027] FIG. **14** is a bottom perspective detail view of a portion of the booster-seat of FIG. **1**, showing a storage compartment with its cover in an open position revealing securing straps held therein in a stowed position.

[0028] FIG. **15** shows the storage compartment of the booster-seat of FIG. **14** with the cover in a closed position.

[0029] FIG. **16** is a top view of the booster-seat of FIG. **1**, showing the securing straps removed from the storage compartment.

[0030] FIG. **17** is a side view of the booster-seat of FIG. **16**, showing the securing straps in a use position securing the seat to a chair.

[0031] FIG. **18** is a side detail view of a portion of the booster-seat of FIG. **17**, showing one of the securing straps mounted to the seat in the use position.

[0032] FIG. **19** is a rear bottom perspective view of the booster-seat of FIG. **17**, showing two of the female attachments for receiving the securing straps.

[0033] FIG. **20** is a bottom perspective view of a booster seat according to another example embodiment of the present invention, showing the tray being inserted into a storage compartment on the seat backrest.

[0034] FIG. **21** is a perspective view of a booster seat according to another example embodiment of the present invention.

[0035] FIGS. **22** and **23** are perspective views of the booster seat of FIG. **21**, showing a tray portion of the seat being stowed in a storage compartment formed in a base portion thereof.

[0036] FIG. **24** is a bottom perspective assembly view of the booster seat of FIG. **21**, showing the tray portion removed from the seat.

[0037] FIG. **25** is a bottom plan view of the tray portion of the booster seat of FIG. **21**.

[0038] FIG. **26** is a perspective view of a booster seat having stability extension portions on its base, according to another example embodiment of the present invention.

DETAILED DESCRIPTION OF EXAMPLE EMBODIMENTS

[0039] The present invention may be understood more readily by reference to the following detailed description of example embodiments taken in connection with the accompanying drawing figures, which form a part of this disclosure. It is to be understood that this invention is not limited to the specific devices, methods, conditions, or parameters described and/or shown herein, and that the terminology used herein is for the purpose of describing particular embodiments by way of example only and is not intended to be limiting of the claimed invention. Any and all patents and other publications identified in this specification are incorporated by reference as though fully set forth herein.

[0040] Also, as used in the specification including the appended claims, the singular forms "a," "an," and "the" include the plural, and reference to a particular numerical value includes at least that particular value, unless the context clearly dictates otherwise. Ranges may be expressed herein as from "about" one particular value and/or to "about" another particular value. When such a range is expressed, another embodiment includes from the one particular value and/or to the other particular value. Similarly, when values are expressed as approximations, by use of the antecedent "about," it will be understood that the particular value forms another embodiment.

[0041] With reference now to the drawing figures, wherein like reference numbers represent corresponding parts throughout the several views, FIGS. **1-9** show a booster seat **10** according to an example embodiment of the present invention. The basic design of the booster seat **10** can be of a conventional type well known in the art. As such, the booster seat **10** can be of a type for mounting onto an elevated surface such as a highchair, adult chair, bench, tabletop, or car seat, or for merely resting (unsecured) upon a non-elevated surface such as the floor.

[0042] For example, in the depicted embodiment the booster seat **10** includes a seat shell **12** and a seat insert **14** removably positioned within the seat shell. Typically, the seat shell **12** is made of a hard plastic material and the seat insert **14** is made of a cushioning soft plastic, though other embodiments are one-piece units (including for example two pieces that are not detachable), are made of other materials such as foam, graphite, fiberglass, metal, fabrics, and/or composites, and/or are not cushioned.

[0043] The seat shell **12** can include a backrest portion **16**, a bottom-support portion **18**, and two opposing sidewall portions **20**, with the backrest and the sidewalls extending upward from the bottom support. Typically but not necessarily, the seat shell **12** can also include a horn **22** extending generally upward from a front portion of the bottom-support (i.e., base) portion **18** so that it is positioned between the legs of a child seated in the booster seat **10** to prevent the child from sliding downward and forward. The seat insert **14** can generally conform to the internal surfaces of the seat shell **12** so that it reduces the volume of the booster seat's seating area to accommodate smaller children and can be removed to accommodate larger children. As such, the seat insert **14**

can include a backrest portion **24**, a bottom-support portion **26**, and two opposing sidewall portions **28**. Typically but not necessarily, the seat insert can also include a horn **30**. When referring to commonly-named components of the shell **12** and the insert **14**, it will be understood that this is a reference to the shell, unless the context clearly dictates otherwise. And when referring to the seat **10** generally, it will be understood that this is not limited to a design with a discrete shell and insert, unless the context clearly dictates otherwise.

[0044] In addition, the booster seat **10** includes a tray **32** that removably attaches to the seat. The tray **32** can be of a conventional type well known in the art. The tray **32** is shown mounted in a conventional use position in FIGS. **1-2** and repositioned to an innovative stowed position in FIGS. **3-4**. In the use position, the tray **32** can hold the child's food, drink bottles, toys, and/or other accessories in proximity to the seated child, and also aids in restraining the child in the seat **10**. And in the stowed position, the tray **32** is removed from the use position and stored in the seat shell **12** so that it is out of the way and easily transported with the seat **10** without getting lost or damaged.

[0045] Referring additionally to FIGS. **5-8**, the tray **32** removably mounts to the seat **10** (for example to the seat shell **12**) by at least one and typically two releasable attachments **34** (one on each side of the seat). The releasable attachments **34** can be of a conventional type well known in the art. As such, the releasable attachments **34** can include mating male and female elements, push-pin mechanisms, bayonet fittings, clamps or clips, hooks and pins, or other mechanisms that permit ease, strength, and reliability in mounting and removing the tray **32** to the seat **10**.

[0046] As just one example, each releasable attachment **34** can include a retractable male element **36** on one of the tray arms **38** and a female element **40** in one of the sidewall portions **20** of the seat shell **12** that releasably engages the male element. In the depicted embodiment, each male element **34** extends from a cantilevered arm **42** formed by one of the tray arms **38**, with the arm including an actuator (e.g., a push button) **44**, and with the arm in the form of a living hinge that is resiliently deflectable between a normal engaged position (see FIG. **7**) and a retracted disengaged position (see FIG. **8**). And each female element **40** is formed in a wall **46** defining a receptacle **48** that receives the respective tray arm **38** (see FIGS. **5** and **7**).

[0047] So when the tray **32** is in the use position secured to the seat **10** and a caretaker decides to remove and stow the tray, the caretaker simply pushes in the actuators **44**, thereby retracting the male elements **36** (from their normal engaged to their retracted disengaged positions) from engagement with the female elements **40** to release the tray from the seat, then pulls the tray linearly away from the seat until they are separated. And to mount the tray **32** onto the seat **10** in the use position, the caretaker merely inserts the tray arms **38** into the seat receptacles **48** until the male elements **36** deflect back to their normal engaged positions received in the female elements **40**.

[0048] With the tray **32** removed from the seat **10**, it can be stowed in an innovative way using the present invention. Referring particularly to FIGS. **1**, **3-4**, **9-14**, and **20** the seat **10** includes a storage compartment **50** for the tray **32**. The tray-storage compartment **50** can be formed anywhere in the seat **10**, though typically it is formed in the seat shell **12**, for example in the bottom-support **18** or in or on the backrest **16**, as shown in FIG. **20**. The tray-storage compartment **50** is sized and shaped to receive substantially all of the tray **32** in the stowed position so that there are no (or substantially no) protruding portions of the tray extending laterally outward of the seat **10**.

[0049] As just one example, the tray-storage compartment **50** can be formed in the bottom-support (i.e., base) portion **18** of the seat shell **12**. In the depicted embodiment, the tray-storage compartment **50** has a top wall **52**, two side walls **54**, and two opposing lips **56** extending laterally inward toward each other and positioned below the top wall. As such, the base portion **18** between the inner edges of the two lips **56** defines a bottom opening **58** through which the tray-storage compartment **50** is in communication with the exterior of (the ambient space around) the seat **10**. Typically, the lips **56** are at the bottom of the base **18** and the entire tray **32** slides into the compartment above and is supported atop the lips, though alternatively the lips can be elevated from the base bottom and the tray can include lateral grooves that slidingly receive the lips to support the tray in the compartment. The lips **56** each can be a contiguous shelf or ledge, or each can be formed by a series of tabs, fingers, or other inwardly extending structures. In any event, the lips **56** support the tray **32** when it is held in the tray-storage compartment **50** and the seat **10** is lifted off a supporting surface (e.g., a highchair), and they provide a low-profile and material-saving design. As such, the lips **56** typically have a thickness (height) that is less than the thickness of the tray.

[0050] In addition, the tray-storage compartment **50** includes an access opening **60** formed through the seat **10**, for example in the front sidewall **19** (or another portion of a peripheral sidewall) of the base portion **18**, through which the tray **32** can be inserted and withdraw. When viewed from the front, this front access opening **60** (and the compartment **50** recessed in the base **18**) typically has a generally rectangular shape, or another shape conforming to the front-view shape of the tray **32**. The seat **10** can include one or more mechanical stops **62** extending into the compartment **50** to act as mechanical stops for the tray **32** when it is inserted into the compartment, or a back wall **64** of the compartment can act as the mechanical stop, with the mechanical stop cooperating in defining the compartment.

[0051] With the compartment **50** sized and shaped to receive substantially all of the tray **32** in the stowed position, in typical embodiments the front edge **33** of the tray is generally flush with the front surface **19** of the base portion **18** of the seat **10** (see FIGS. **3** and **13**). The width **51** of the compartment **50** (between the side walls **54**) is greater than the width **31** of the tray **32**, which is typically (for trays that extend across and attach to the seat on both sides) greater than the width **21** of the sitting well between the sidewall portions **20** (see FIGS. **3** and **13**), where the sitting well is formed by the base **18** and the upwardly extending backrest **16** and sidewalls. And the height of the compartment **50** (between the lips **56** and the top wall **52**) is greater than the height of the base portion **18**. (In embodiments without the ribs described below, the height of the compartment can be substantially equal to, including slightly less than, the height of the base portion to cause a slight deflection of the lips thereby producing a nominal frictional holding force on the tray (as described below when describing the ribs).

[0052] To help hold the tray **32** in the compartment **50**, one or more ribs **66** extend downward into the compartment from the top wall **52** to contact the tray and apply a nominal

frictional force to retain the tray in the compartment. In typical embodiments, the lips **56** are capable of slight deflection downward (i.e., outward from the compartment) to contact the tray and apply a nominal frictional force to retain the tray in the compartment. The ribs **66** can have a front end **68** positioned not at the front of the compartment **50** at the access opening **60** (and thus not at the front surface **19** of the base portion **18** of the seat **10**), but instead inward from there and still within the compartment (i.e., there is a rib-less gap between the access opening and the rib front end) so that the tray **32** is partially inserted into the compartment before it engages the ribs. In this way, the tray **32** can be easily slid partially into the compartment **50** until it engages the ribs **66**, and then as it is slid farther into the compartment the lips **56** deflect slightly downward/outward and/or the ribs deflect slightly upward/outward to permit smooth sliding but at the same time provide a nominal frictional force that is sufficient to keep the tray **32** from sliding out of the compartment **50** by gravity if the seat **10** is held with the access opening facing downward and jostled. As such, the distance between the ribs **66** and the lips **56** is about the same or less than the height **35** of the tray **32**. In other embodiments, the ribs extend upward from the lips or from a bottom wall of the compartment, or other tray-retention elements are provided such as magnets or clips.

[0053] Furthermore, a retractable support foot **70** can be provided to assist in proper support of the seat **10**. The retractable support foot **70** extends down into the compartment **50** with its bottom **71** in the horizontal plane of the bottom surface **17** of the base **18** (e.g., the bottom surface of the lips **56**) when in the deployed position for assisting in supporting the seat **10** and in a retracted position is moved out of the compartment **50** to provide clearance for the tray **32** to be inserted into the compartment in the stowed position. This feature is particularly, but not only, advantageous in embodiments such as that depicted with the bottom opening **58** formed between the lips **56**.

[0054] In the depicted embodiment, for example, the support foot **70** is in the form of a panel that is positioned at the front **19** of the seat **10** at the front access opening **60** for peripheral support when in the deployed position (see FIG. **11**), that is biased by a spring **72** toward the deployed position, and that pivots inward and upward to a retracted position (see FIG. **12**). An actuating head **74** can extend forward from the support foot **70** and be contacted by the tray **32** upon insertion into the compartment **50** to displace (e.g., push) the foot to the retracted position out of the compartment. In other embodiments, the support foot extends upward from the lips, or is provided by one or more pins, tabs, or other support-column structures.

[0055] In some embodiments, the tray-storage compartment is formed as a five-sided enclosure in the seat with an access opening, with no bottom lips or opening (with instead a bottom wall provided), thus effectively defining a slot or channel. In embodiments with an access opening through which the tray is inserted and withdrawn, the seat can include a closable door (e.g., a panel, grate, arm, finger, bar, or frame) that moves (e.g., pivots or slides) between open and closed positions to access the compartment.

[0056] In other embodiments, the access opening in the seat through which the tray is inserted into and removed from the tray-storage compartment is formed in the backrest or one of the sidewalls of the seat shell. In still other embodiments, the seat does not include an access opening and instead the tray is inserted into and removed from the tray-storage compartment vertically (e.g., by stacking the seat upon the tray) by the lips being repositionable (e.g., horizontally pivotal or slidable) between access and retaining positions or by the lips providing a snap-fit connection with the base.

[0057] Referring now particularly to FIGS. **14-19**, the booster seat **10** can include an innovative way to store its securing straps when not in use. The securing straps can be of a conventional type for mounting onto an elevated surface such as a highchair, adult chair, bench, tabletop, or car seat. As such, the securing straps are typically provided by flexible webbing (or belts or cords), and they typically include buckles for length-adjustment, though they can be provided in other forms such as clips (to clamp the booster seat to the support surface) or other conventional retaining devices.

[0058] In the depicted embodiment, for example, there are provided three sets of securing straps, including child-securing straps **80** to secure a child in the seat **10**, as well as seat-securing straps **82***a* to mount the seat to a horizontal seat surface (e.g., the seat of a highchair) and seat-securing straps **82***b* to mount the seat to an upright surface (e.g., the backrest of a highchair). In other embodiments, more or fewer sets of securing straps are provided for these or other securing functionalities.

[0059] The seat-securing straps **82***a-b* detachably couple to the seat **10** so that they can be mounted to the seat for use and detached when not in use. For example, the straps **82***a-b* (collectively, the straps **82**") can include male attachments (e.g., the depicted hooks **84**, or clips, snaps, or ties) at their opposing ends that are removably received in female attachments (e.g., the depicted slots **86**, or recesses, openings, or notches) in the seat **10**. In other embodiments, other types of conventional detachable couplings, such as latches, buckles, clamps, snaps, ties, or the like, are provided for the straps and the seat. In some embodiments, the child-securing straps **80** are fixedly mounted to the seat **10**, and in other embodiments they are also detachable and can be stowed with the seat-securing straps **82**.

[0060] The seat includes an innovative strap-storage compartment **88** that receives and stores the straps **82** in a stowed position after they are detached from the booster seat **10**. In this way, the straps **82** (including their hooks **84**) can be secured and stored out of the way so they are not loose and dangling when transporting or storing the seat **10**. The compartment **88** can be located in the base **18**, or alternatively in the backrest **16** or another portion of the seat **10**.

[0061] In the depicted embodiment, for example, the strap-storage compartment **88** includes a peripheral sidewall **90** surrounding an access opening **94**, an end wall (not shown) opposite the access opening, and a closure **96** for the access opening. The peripheral sidewall **90** can be provided by four walls forming a rectangular area, as depicted. The sidewall **90** can be generally vertical, with two opposing portions formed by the back wall **15** of the base **18** and by the back wall **13** of the sitting well (formed between the sidewall portions **20**). And the access opening **94** can face downward (in use) so that the compartment **88** can be accessed to stow and retrieve the straps **82** by lifting the seat **10** and turning it over. Alternatively, the access opening can extend through a sidewall of the base (or other portion of the seat) and face laterally outward so the straps can be stowed without inverting the seat. Typically, the compartment **88** is

recessed into the seat **10** so that it does not protrude from the seat, with the closure **96** recessed so that it does not rest on the support surface in use.

[0062] The closure **96** can be provided by a flat panel, as depicted. Alternatively, it can be provided by a grate, a screen, a plurality of bars, or another structure that moves between an open position providing access to the compartment **88** and a closed position retaining the straps **82** in the compartment. The closure **96** can move between the open and closed positions by pivoting about a hinge, or it can slide, be completely removable, or otherwise move between the open and closed positions. A releasable coupling **98** is provided for retaining the closure **96** in the closed position. The releasable coupling **98** can be provided by a conventional assembly such as a living-hinge snap-fit coupling (as depicted), a strap with a snap, or the like.

[0063] In other embodiments, the straps are permanently affixed to the seat at fixed ends of the straps. In some such embodiments, the strap fixed ends are permanently attached to the seat at or within the compartment, and substantially all of the lengths of the straps are stored within the compartment. The straps in such embodiments can be routed from the compartment and removably received through other portions of the seat (e.g., through open-ended slots, hooks, or clips at the sidewalls of the seat for securing to a horizontal surface i.e., a chair seat). And in some other such embodiments, the strap fixed ends are permanently attached to the seat at locations away from the compartment, and only portions of the lengths of the straps (e.g., the free ends opposite the fixed ends) are stored within the compartment.

[0064] FIGS. **21-25** show another example embodiment of a booster seat **110** having features substantially similar to those described above, with exceptions as noted. The seat **110** comprises a seat shell **112** and optionally further comprises a seat insert **114** removably positioned or attached within the seat shell. The seat shell **112** includes a backrest portion **116**, a bottom-support portion **118**, and two opposing sidewall portions **120**, with the backrest and the sidewalls extending upward from the bottom support. The booster seat **110** further comprises a detachable and stowable tray **132**, shown mounted in a use position in FIG. **21**, and shown being repositioned to an example stowed position in FIGS. **22-24**, and shown in greater detail in a bottom plan view in FIG. **25** removed from the seat.

[0065] The seat **110** further comprises a bottom base panel **140** attached to or integrally formed with the seat shell **112**, defining a storage compartment **150** for stowing the tray **132**. In example embodiments, the base panel **140** is permanently or semi-permanently attached to the seat shell **112**, for example with screws or other fasteners, snap-fittings, adhesive or other attachment means; or alternatively can be removably attached. The tray-storage compartment **150** is sized and shaped to receive substantially all or at least a significant portion of the tray **132** in the stowed position, having width W, height H and depth D dimensions generally configured slightly larger than corresponding width, height and depth dimensions of the tray **132**, so that the tray slides smoothly and freely into the tray-storage compartment, and the tray fits closely within the storage compartment (i.e., without significant gaps or spaces, for example wherein the width of the tray is no more than about 1"-2" less than the width of the storage compartment, such that gaps of no more than about 0.5"-1", and more preferably no more than about 0.25"-0.5", remain when the tray is stowed in the storage compartment). In example embodiments, the tray-storage compartment **150** defines a substantially enclosed chamber or enclosure bounded on the top by the seat shell **112**, on the bottom by the base panel **140**, and on the back and both sides by the intersection or confronting portions of the seat shell and the base panel. For example, the tray-storage compartment **150** thereby forms a five-sided enclosure with an opening at the front of the seat **110**. In example embodiments, when the tray **132** is in the stowed position within the tray storage compartment as shown in FIG. **23**, the front face of the tray generally matches the surrounding contours of the front and side surfaces of the seat shell to substantially cover the open front of the storage compartment **150**. The tray-storage compartment **150** optionally comprises one or more guide tracks to guide the insertion and removal of the tray **132** in and out of the compartment, and/or one or more retention members for removably retaining the tray in the stowed position in the compartment. In example embodiments, the side walls **120** of the seat shell **112** taper inwardly from bottom to top, such that the base **140** of the seat is wider than the upper portion of the seat **110** at which the tray **132** attaches in the use position, for stability and to allow sufficient width at the base to receive the tray within the storage compartment **150**.

[0066] In example embodiments, and as shown in FIG. **24**, the base panel **140** defines a footprint having an outer periphery or profile generally matching and flush with or extending slightly beyond at least a portion of the outer periphery or profile of the seat shell **112**, along the front, back and both sides of the seat **110**, to provide improved stability and resist tipping over when a child is seated therein. In example embodiments, when in use with an infant seated therein (or a simulated infant used for testing purposes), the seat **110** maintains stability with the base panel **140** supported on a test surface, retains the infant in the seat, and resists tipping for at least a one minute test duration, when the test surface is inclined at 20° from horizontal in any angular position, including the most onerous (most subject to tipping) forward, sideward or rearward position(s), with the seat being prevented from sliding on the test surface if necessary but not prevented from tipping. In example embodiments, the seat **110** maintains stability with the base panel **140** supported on a test surface, retains the infant in the seat, and resists tipping for at least a one minute test duration, when the test surface is inclined at 30° from horizontal in any angular position, including the most onerous (most subject to tipping) forward, sideward or rearward position(s), with the seat being prevented from sliding on the test surface if necessary but not prevented from tipping.

[0067] As further shown in FIG. **24**, in example embodiments the base panel **140** comprises a substantially solid or continuous panel along the entire bottom of the seat shell **112**, optionally defining a wave-shaped or undulating wall configuration, and/or one or more structural reinforcement members, to increase the base panel's rigidity and brace the seat shell to prevent the sidewalls **120** from splaying outwardly, thereby providing improved structural support and rigidity when the seat is loaded with an infant seated on the bottom-support portion **118**. One or more elastomeric support feet **160** (four are shown, each at a respective corner) are optionally provided on the bottom surface of the base panel **140**, for example formed of a soft polymeric or rubber material for improved gripping to prevent the seat from sliding on a support surface. In example embodiments, the

support feet **160** may be attached to the base by fasteners, adhesive, snap-fitting, press-fit, over-molding or co-molding, or other attachment means. A harness-storage compartment **170** is optionally provided in the base panel **140** to receive harness straps or other securing members for attaching the seat **110** to an adult chair or other support surface and/or for securing a child on the booster seat.

[0068] FIG. **26** shows another example embodiment of a booster seat **210** having features substantially similar to those described above, with exceptions as noted. The seat **210** comprises a seat shell **212** and a bottom base panel **240** attached to or integrally formed with the seat shell. In this embodiment, the base panel **240** further comprises one or more stabilizer extensions **245** projecting laterally outwardly beyond the periphery of the seat shell. In example embodiments, the stabilizer extensions **245** are provided at both front corners of the seat **110** as depicted, extending laterally forward beyond the periphery of the seat shell to resist tipping in the forward direction, for example if a child seated on the booster seat leans forward. In further embodiments, stabilizer extensions can additionally or alternatively be provided extending rearwardly from the back corners of the seat, and/or outwardly to one or both sides of the seat, and/or outwardly from the center portion of the front and/or back of the seat.

[0069] While the invention has been described with reference to preferred and example embodiments, it will be understood by those skilled in the art that a variety of modifications, additions and deletions are within the scope of the invention, as defined by the following claims.

What is claimed is:

1. A booster seat comprising:

a seat shell comprising a seating surface for supporting a child seated thereon;

a tray configured for removable attachment to the seat shell, the tray being repositionable between a use position accessible by the child seated on the seating surface, and a stowed position at least partially within a tray storage compartment in the booster seat.

2. The booster seat of claim **1**, further comprising a base panel mounted to a bottom portion of the seat shell, wherein the tray storage compartment is positioned between the seat shell and the base panel.

3. The booster seat of claim **2**, further comprising a harness storage compartment formed in the base panel.

4. The booster seat of claim **2**, wherein the base panel defines an outer periphery at least partially matching and extending at least flush with an outer periphery of the seat shell.

5. The booster seat of claim **4**, wherein the base panel comprises at least one stabilizer extension projecting laterally outwardly beyond the outer periphery of the seat shell.

6. The booster seat of claim **2**, wherein the base panel provides sufficient stability to resist tipping at a test angle of at least 20° from horizontal.

7. The booster seat of claim **2**, wherein the base panel provides sufficient stability to resist tipping at a test angle of at least 30° from horizontal.

8. The booster seat of claim **2**, wherein the seat shell comprises first and second sidewalls, and wherein the base panel extends across a bottom portion of the seat shell from the first sidewall to the second sidewall.

9. The booster seat of claim **8**, wherein the base panel defines an undulating surface contour providing structural stiffness.

10. The booster seat of claim **1**, wherein the tray storage compartment bounds the tray in the stowed position along five sides of the tray, and wherein a sixth side of the tray at least partially covers the tray storage compartment when the tray is in the stowed position.

11. The booster seat of claim **10**, wherein the tray storage compartment is formed between the seat shell and a base panel mounted to a bottom portion of the seat shell.

12. The booster seat of claim **10**, wherein the tray storage compartment is formed in a seatback portion of the seat shell.

13. A booster seat comprising a base panel, first and second sidewalls extending upwardly from the base panel, a seating surface between the first and second sidewalls, and a tray, wherein the tray is selectively repositionable between a use position in front of a child seated on the seating surface, and a stowed position at least partially within a tray storage compartment formed within the booster seat above the base panel and between the first and second sidewalls.

14. The booster seat of claim **13**, wherein the base panel extends across the width of the booster seat from the first sidewall to the second sidewall.

15. The booster seat of claim **13**, wherein the tray storage compartment is between the seating surface and the base panel.

16. The booster seat of claim **13**, wherein the tray storage compartment has a compartment width defined between the first and second sidewalls, and wherein the tray has a tray width slightly less than the compartment width, whereby the tray is configured to fit closely within the tray storage compartment.

17. The booster seat of claim **13**, further comprising a strap storage compartment formed within the base panel.

18. The booster seat of claim **13**, wherein the first and second sidewalls taper inwardly from lower portions adjacent the base panel to upper portions to which the tray is attached in the use position.

19. The booster seat of claim **13**, wherein the base panel defines an outer periphery at least partially matching and extending at least flush with an outer periphery of the first and second sidewalls and the seating surface.

20. The booster seat of claim **19**, wherein the base panel comprises at least one stabilizer extension projecting laterally outwardly beyond the outer periphery of the first and second sidewalls and the seating surface.

21. The booster seat of claim **13**, wherein the base panel provides sufficient stability to resist tipping at a test angle of at least 20° from horizontal.

22. The booster seat of claim **13**, wherein the base panel provides sufficient stability to resist tipping at a test angle of at least 30° from horizontal.

23. A booster seat comprising:

a base panel;

a seating surface elevated above the base panel;

first and second sidewalls on opposite sides of the seating surface;

a seatback behind the seating surface extending upward and away from the base panel; and

a tray;

wherein the tray is selectively repositionable between a use position opposite the seating surface from the

seatback, releasably attached to the first and second sidewalls where it is accessible by a child seated on the seating surface, and a stowed position at least partially within a tray storage compartment formed between the base panel and the seating surface and between the first and second sidewalls.

24. The booster seat of claim **23**, wherein the tray fits substantially entirely within the tray storage compartment in the stowed position, with a front panel of the tray substantially covering the tray storage compartment.

25. The booster seat of claim **23**, wherein the base panel comprises stabilizer extensions projecting outwardly beyond an outer periphery of the remainder of the booster seat.

26. The booster seat of claim **23**, wherein the base panel provides sufficient stability to resist tipping at a test angle of at least 20° from horizontal.

27. The booster seat of claim **23**, wherein the base panel provides sufficient stability to resist tipping at a test angle of at least 30° from horizontal.

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