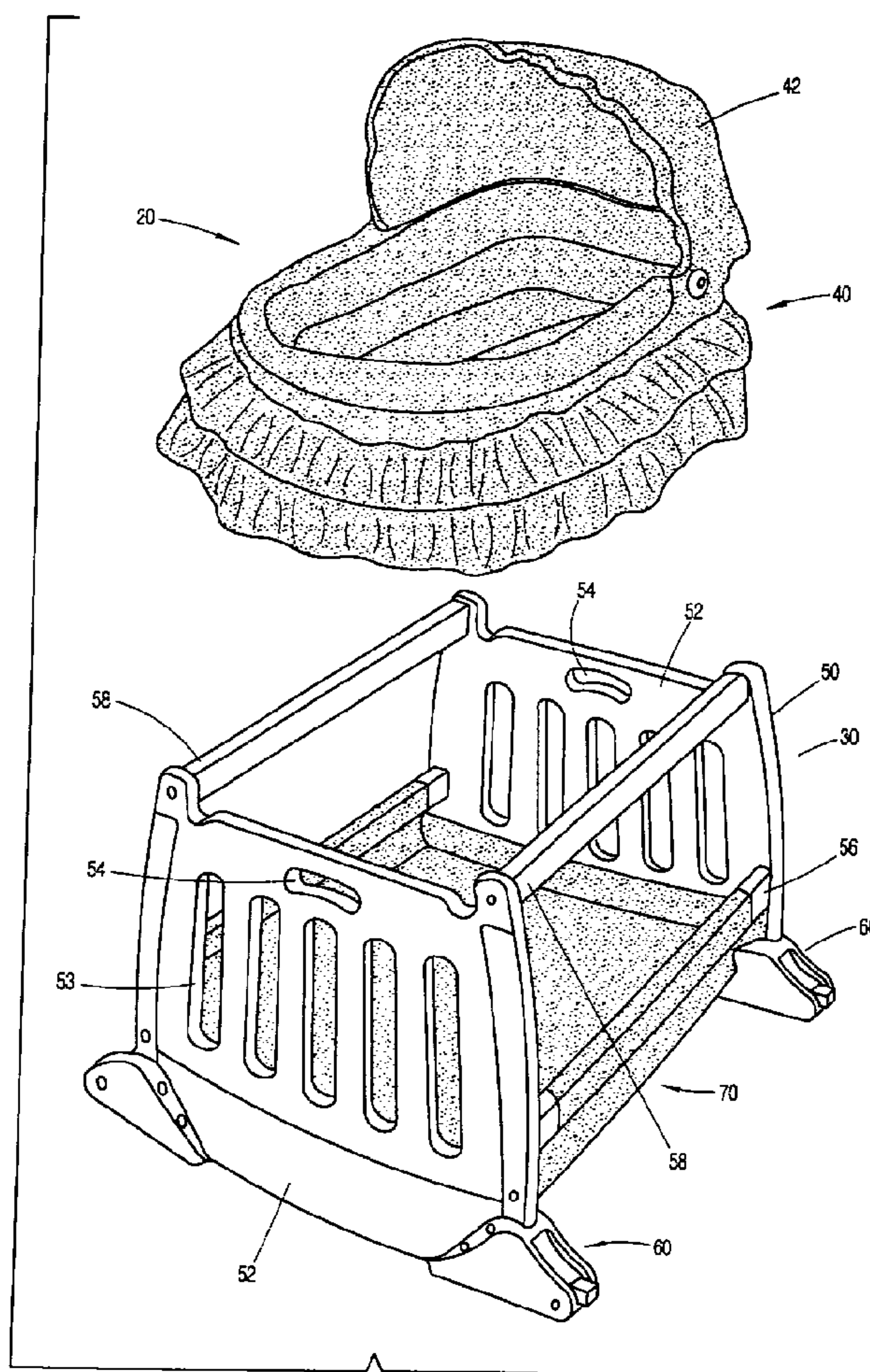




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(54) **BERCEAU ET COFFRE A JOUETS COMBINES**
(54) **COMBINATION BASSINET AND TOY BIN**



(57) A convertible piece of infant furniture (20) includes a pair of opposed end panels (52) connected by a pair of bottom rails (56) and a pair of top rails (58) at respective corners of the end panels (52). A basket assembly (70) is carried by the bottom rails (56) and with a bassinet (40) detachably secured to the top rails (58) is configured as a storage shelf. With the bassinet (40) removed, the basket assembly (70) is expanded to be configured as a toy bin (50). A wheel assembly (60) is connected to each bottom corner of end panels (52). Each wheel assembly (60) is movable between an extended rolling position and a retracted position.

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ABSTRACT OF THE DISCLOSURE

A convertible piece of infant furniture (20) includes a pair of opposed end panels (52) connected by a pair of bottom rails (56) and a pair of top rails (58) at
5 respective corners of the end panels (52). A basket assembly (70) is carried by the bottom rails (56) and with a bassinet (40) detachably secured to the top rails (58) is configured as a storage shelf. With the bassinet (40) removed, the basket assembly (70) is expanded to be
10 configured as a toy bin (50). A wheel assembly (60) is connected to each bottom corner of end panels (52). Each wheel assembly (60) is movable between an extended rolling position and a retracted position.

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COMBINATION BASSINET AND TOY BIN

TECHNICAL FIELD

This invention relates to furniture used for
5 infants and toddlers. More particularly, this invention
relates to a piece of furniture which in a first
configuration is a bassinet that is stationary and in a
second configuration is a toy bin which is selectively
moveable upon wheels. Specifically, the present invention
10 relates to such furniture which is easily converted
between a bassinet and toy bin.

BACKGROUND ART

As illustrated in several U.S. patents, namely,
15 U.S. Patent Nos. 4,967,432; 5,553,336; and 5,778,465, it
is known to provide a bassinet which has an alternative
use after the infant has grown and no longer sleeps in the
bassinet. Generally, these aforementioned patents
disclose a playpen which supports the bassinet. After the
20 bassinet is no longer needed, it is stored and the playpen
is available for use.

These types of constructions have several
limitations. First, the supporting structure or base
assembly is fully enclosed. As such, the bassinet
25 configuration does not provide an easily accessed storage
area for diapers, clothing, or the like. Yet another
drawback of this prior art is that when it is converted
into a playpen, it is not easily moved from one place to
another. None of the aforementioned assemblies provide
30 wheel assemblies to allow easy re-positioning of the
bassinet or playpen. Nor do any of the aforementioned
devices provide a locking mechanism for easily securing
the bassinet to the base assembly.

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Thus, the need exists for a convertible bassinet and toy bin which allows for storage while the bassinet is in use and which allows for wheeled movement for when used as a toy bin.

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DISCLOSURE OF THE INVENTION

It is therefore an object of the present invention to provide a piece of infant furniture which is convertible between a bassinet and a toy bin.

10

It another object of the present invention to provide the convertible piece of furniture, as above, in which the bassinet is provided with a storage shelf and wherein the bassinet is secured to a stationary base assembly.

15

It is yet another object of the present invention to provide the convertible piece of furniture, as above, in which the toy bin is provided with enclosed sides and the base assembly includes wheels to allow for easy re-positioning.

20

It is still another object of the present invention to provide a convertible piece of furniture, as above, in which a basket assembly is carried by the base assembly and functions as the shelf for the bassinet configuration and which is then later expanded to form the enclosed sides for the toy bin configuration.

25

It is a further object of the present invention to provide a convertible piece of furniture, as above, in which retractable wheel assemblies are provided at each bottom corner of the base assembly.

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It is yet a further object of the present invention to provide a convertible piece of furniture, as above, in which a push tab is provided for the retractable wheel assembly, whereby actuation of the push tab conceals the wheel assembly.

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It is an additional object of the present invention to provide a convertible piece of furniture, as above, in which the bassinet is provided with a spring-biased lock for engaging rails provided by the base assembly.

These and other objects of the present invention, as well as the advantages thereof over existing prior art forms, which will become apparent from the description to follow, are accomplished by the improvements hereinafter described and claimed.

In general, a furniture piece convertible between a bassinet and a toy bin includes a pair of opposed end panels connected by a plurality of rails. A bassinet is detachably secured to a top pair of rails and a basket assembly is carried by a bottom pair of rails. A plurality of retractable wheel assemblies are coupled to the end panels. Accordingly, a first configuration of the furniture piece is a bassinet with the wheel assemblies placed in a concealed position for use as a rocking bassinet, or deployed for use as a stationary bassinet and moving the bassinet around the room; and a second configuration of the furniture piece is a toy bin with the wheel assemblies in an extended position.

In accordance with another aspect of the present, the bassinet includes a frame for carrying a mattress board and at least one locking mechanism secured to an underside of the board. The locking mechanism has a slide member with a tapered head which is biasingly deflected by one of the top rails when the bassinet is secured upon the top rails. A plurality of downwardly extending feet extend from the mattress board to assist in positioning the bassinet onto the top rails.

Another aspect of the present invention relates to a basket assembly which includes a tray with upwardly

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extending side and end borders. The side borders include rail pockets for receiving the bottom rails. Detachable flaps are provided by the border to retain an enclosure which is securable to the top rails when in the toy bin mode.

Still another feature of the present invention involves retractable wheel assemblies which include a body that conceals the wheel when stored and which allows for pivoting of the wheel assembly to an extended position.

A preferred piece of furniture that is convertible between a bassinet and a toy bin, incorporating the concepts of the present invention, is shown by way of example in the accompanying drawings without attempting to show all the various forms and modifications in which the invention might be embodied, the invention being measured by the appended claims and not by the details of the specification.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a perspective view of a convertible piece of furniture made in accordance with the present invention and shown in a bassinet configuration.

Fig. 2 is a perspective view of the convertible piece of furniture shown in a toy bin configuration.

Fig. 3 is a perspective view of a basket assembly shown in the bassinet configuration.

Fig. 4 is a perspective view of the basket assembly shown in the toy bin configuration.

Fig. 5 is an end elevational view of a base end panel of the toy bin configuration.

Fig. 6 is an elevational view of the retractable wheel assembly used in conjunction with the piece of furniture.

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Fig. 7 is an exploded assembly drawing showing elements of the retractable wheel assembly.

Fig. 8 is a partial sectional view of the retractable wheel assembly taken substantially along line 8-8 of Fig. 6.

Fig. 9 is a sectional view of the retractable wheel assembly taken substantially along line 9-9 of Fig. 8.

Fig. 10 is an elevational view of a bassinet frame assembly.

Fig. 11 is an elevational view of the frame assembly showing a locking mechanism in partial cross-section.

Fig. 12 is a sectional view of the locking mechanism substantially along line 12-12 of Fig. 10.

PREFERRED EMBODIMENT FOR CARRYING OUT THE INVENTION

A convertible piece of infant furniture, which may be used as a bassinet or as a toy bin, made in accordance with the concepts of the present invention, is indicated generally by the numeral 20 in the accompanying drawings and is best seen in Figs. 1 and 2. It can be seen that furniture 20 includes a base assembly 30 which carries a bassinet 40 that may be provided with a retractable canopy 42.

As best seen in Fig. 2, when bassinet 40 is removed, a toy bin configuration, generally indicated by the numeral 50, is shown. The advantages of the bassinet configuration and the toy bin configuration will become apparent as the description proceeds. Generally, the bassinet configuration provides a storage shelf underneath the bassinet for baby clothes and related items. Once the infant has outgrown sleeping in the bassinet, the

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furniture 20 may be converted to a toy bin, wherein all four sides of base assembly 30 are enclosed.

Base assembly 30 includes a pair of opposed end panels 52 which may be provided with a series of vertical openings 53. Each end panel 52 is provided with a handle 54 at or near a top mid-point section thereof. The bottom corners of each end panel 52 are interconnected by a pair of bottom rails 56. Likewise, a pair of top rails 58 interconnect the top corners of each end panel 52 to one another. Extending from each bottom corner of end panel 52 is a wheel assembly 60 which is shown in a retracted or concealed position in Fig. 1 and in an extended position in Fig. 2.

A basket assembly 70 is carried by bottom rails 56 between end panels 52. In Fig. 1, basket assembly 70 is shown in a folded-down or shelf mode for the bassinet 40 configuration. In Fig. 2, basket assembly 70 is expanded for when toy bin 50 is configured.

As best seen in Fig. 3, basket assembly 70 is provided in a shelf mode which includes a tray 72. Tray 72 includes a bottom 74 with a pair of opposed side borders 76. A detachable side flap 78 that folds upon itself is securable to side border 76. A rail pocket 80 extends from each side border 76 and receives a respective bottom rail 56 so that base assembly 30 can carry basket assembly 70. Tray 72 is also provided with opposed end borders 82 that are attached to each side border 76. A detachable end flap 84 that folds upon itself is securable to end border 82. It will be appreciated that basket assembly 70 may be a cloth/plastic construction with enclosed slats to give support and stability to the basket assembly.

As best seen in Fig. 4, basket assembly 70 is convertible from the shelf mode to a bin mode when

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bassinet 40 is removed from base assembly 30. The bin mode includes an enclosure 88 which is stored in side flaps 78 and end flaps 84. When side flaps 78 and end flaps 84 are opened, enclosure 88 is lifted up from bottom 74 as shown. Enclosure 88 includes a top edge 90 from which extends a pair of rail flaps 92. Each rail flap 92 is provided with an attachment mechanism such as snaps, hook-and-loop fasteners, buttons, zippers, and the like. Rail flaps 92 are secured over top rails 58 to carry enclosure 88. An end strap 94 may be provided at each end of enclosure 88 for looping through handles 54 to allow further securement and support of the toy bin to base assembly 30. It will be appreciated that enclosure 88 may be provided without ends if desired. However, in the preferred embodiment, enclosure 88 provides four sides so that any toys stored do not lodge between end panels 52 and the sides of enclosure 88.

As best seen in Figs. 5-9, each wheel assembly 60 includes a body designated generally by the numeral 100. Each body 100 includes a roller wheel 102 that is rotatably mounted within a carrier 104. A wheel pin 106 extends upwardly from carrier 104 and is pivotably mounted within body 100. A locking lever 108 extends from carrier 104 and allows for a braking force to be applied to roller wheel 102. When depressed, locking lever 108 prevents rotation of roller wheel 102. A retract assembly 110 is coupled to carrier 104 and wheel pin 106. Actuation of assembly 110 allows for concealment of wheel assembly 60.

Body 100 includes a flange 114 that is attached with fasteners to a corner of end panels 52. Body 100 includes opposed frame walls 116 which are connected by a cross-piece 118. Frame walls 116 and cross-piece 118 define a cavity 120. A channel 122 extends from cross-piece 118 between frame walls 116. A stop bar 124

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connects ends of frame walls 116 and in conjunction with cross-piece 118 forms a slot 126. Interior surfaces of frame walls 116 are provided with a pair of ribs 127 which form a groove 128. Transversely extending through each
5 frame wall 116 is a hole 130. Body 100 allows for receipt of a rocker 134 in cavity 120. Rocker 134 includes a spring 136 and a tab 140. Rocker 134 is secured to body 100 by insertion of a pivot pin 142 through each respective hole 130.

10 Rocker 134 includes a main shaft 146 which, when installed in body 100, receives wheel pin 106 in a manner well known in the art. A main flange 148 extends from main shaft 146. A transverse shaft 150 extends from a top
15 portion of main shaft 146 to receive pivot pins 142. This allows for rotatable movement of rocker 134 within cavity 120. Rocker 134 includes a major surface 154 that extends from main flange 148. Major surface 154 has an outer diameter which is substantially flush with the outer surface of stop bar 124 when wheel assembly 60 is in its
20 extended position. Main flange 148 also supports a minor surface 156 and a minor surface 158 which have diameters slightly smaller than major surface 154. Inner surface 156 has substantially the same width as major surface 154 and is exposed at the bottom of wheel assembly 60 when in
25 its retracted position. Minor surface 158 provides a smaller width to allow for clearance away from ribs 127 when rocker 134 is placed in its retracted position. The main flange 148 includes a rocker notch 160 that provides an edge 164.

30 Tab 140 is coupled to rocker 134 and biased by spring 136. Tab 140 includes an actuation surface 168 from which extends a neck 170. As best seen in Fig. 7, spring 136 is disposed between an undersurface of neck 170 and a top surface of main shaft 146. A pair of shoulders

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172 project from neck 168 and are received in grooves 128 when rocker 134 is assembled to body 100. Neck 170 also provides a pair of slits 174 which slidably fit over main flange 148 when assembled. Neck 170 also provides a shaft opening 176 that slidably fits over transverse shaft 150.

In the extended position, spring 136 biases shoulders 172 into grooves 128 and ribs 127 function to preclude rotation of tab 140 and in turn rocker 134. As such, wheel assembly 60 allows for slidable movement of base assembly 30. This mode is employed when it is desired to move the toy bin from one place to another. Of course, the wheels may be extended when the bassinet is in use. When it is desired to convert the piece of furniture from a wheeled to a stationary configuration, the user depresses tab 140 which in turn compresses spring 136 and allows for shoulders 172 to be disengaged from ribs 127. As tab 140 is compressed, slits 174 slide over main flange 148 until such time that top edge 164 is engaged. Simultaneously, shaft opening 176 slides over transverse shaft 150. As such, there is no lateral movement of tab 140 during actuation. Once shoulders 172 have cleared ribs 127, rocker 134 and, of course, carrier 104 are rotatable within cavity 120. This rotatable movement continues until tab 140 abuts or is placed adjacent to stop bar 124. If all four wheel assemblies 60 are placed in a retracted position, the bassinet cannot be slidably moved, but must be lifted and carried to a desired position. It will be appreciated that all wheel assemblies may be retracted when the toy bin configuration is in use. Rocker 134 is returned to its extended position by rotating rocker 134 in an opposite direction and slightly depressing tab 140 so that shoulders 172 are re-engaged in grooves 128.

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As seen in Figs. 10-12, bassinet 40 includes a bassinet frame 200. A mattress board 202 is secured to frame 200 with rivets, fasteners, or the like. A plurality of feet 204 extend downwardly from mattress board 202 and are positioned to fit inside top rails 58 of base assembly 30. At least one locking mechanism 206 is secured to an underside of mattress board 202.

Mattress board 202 is provided with a pair of openings 208. A pair of angled side bars 210 are provided with nubs 212 that fit in openings 208. An oval ring 214 is carried by side bars 210, wherein oval ring 214 and side bars 210 support a padded covering as is well known in the art. It will be appreciated that oval ring 214 is removable from mattress board 202 by folding side bars 210 so that they lay flat against oval ring 214. This facilitates storage of bassinet 40 when the toy bin configuration is in use. A canopy bracket 216 extends from oval ring 214 for carrying and supporting the canopy 42.

Locking mechanism 206 includes a fixed bracket 220 as best seen in Figs. 11 and 12. Fixed bracket 220 includes a spring cavity 222 for receiving a spring 224. Bracket 220 includes ribs 226 to carry a slide member 230 that is slidably received upon fixed bracket 220. Slide member 230 includes a tapered head 232 which is moveable when engaged by top rail 58. Top rail 58 engages slide member 230 until it is compressed to clear top rail 58, whereupon spring 224 is released and slide member 230 returns to its original position. Tapered head 232 includes a notch 236 which conforms to the underside of top rail 58 for when bassinet 40 is carried by top rails. As such, bassinet 40 cannot be lifted away from top rails without actuation of locking mechanism 206. Release of

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bassinet 40 is completed by compressing slide member 230 and lifting the bassinet upwardly.

In view of the foregoing, it should thus be evident that a combination bassinet and toy bin as
5 described herein accomplishes the objects of the present invention and otherwise substantially improves the art.

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CLAIMS

What is claimed is:

- 1 1. A furniture piece convertible between a bassinet and a
2 toy bin, comprising a pair of opposed end panels; a
3 plurality of rails connecting said opposed end panels;
4 a bassinet detachably securable to said plurality of
5 rails; a basket assembly carried by said plurality of
6 rails; and a plurality of retractable wheel assemblies
7 coupled to said end panels, said basket assembly
8 configured as a tray when the bassinet is in place and
9 said basket assembly configured as the toy bin when
10 the bassinet is removed.
- 1 2. A furniture piece according to claim 1, wherein said
2 bassinet includes a frame for carrying a mattress
3 board; at least one locking mechanism secured to an
4 underside of said board, said locking mechanism having
5 a slide member with a tapered head which is biasingly
6 deflected by one of said plurality of rails when said
7 bassinet is secured upon said plurality of rails.
- 1 3. A furniture piece according to claim 2, wherein said
2 mattress board includes a plurality of downwardly
3 extending feet which fit inside a pair of top rails
4 extending between said end panels when said bassinet
5 is secured.
- 1 4. A furniture piece according to claim 1, wherein said
2 basket assembly includes a tray having upwardly
3 extending side borders and end borders, each said side
4 border having a rail pocket for receiving a bottom
5 rail for carrying said basket assembly.

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- 1 5. A furniture piece according to claim 4, wherein said
2 basket assembly includes side flaps extending from
3 said side borders and end flaps extending from said
4 end borders; and an expandable enclosure stored within
5 said side and end flaps.
- 1 6. A furniture piece according to claim 5, wherein said
2 expandable enclosure includes a pair of rail flaps
3 which can be detachably secured around a pair of top
4 rails.
- 1 7. A furniture piece according to claim 1, wherein each
2 said retractable wheel assembly includes a body
3 secured to a bottom corner of each said end panel,
4 said body having opposed walls connected by a cross
5 piece and a stop bar forming a slot therebetween, said
6 slot receiving a rocker which carries a roller wheel,
7 said rocker movable between a retracted position
8 between said opposed walls and an extended position.
- 1 8. A furniture piece according to claim 7, wherein each
2 said opposed wall forms a groove, said opposed walls
3 having a pivot hole therethrough; a pivot pin securing
4 said rocker to said body at said pivot hole, said
5 rocker having a spring-biased tab extending from said
6 slot, said tab having shoulders received in said
7 grooves when said rocker is in said extended position.
- 1 9. A furniture piece according to claim 8, wherein said
2 tab is adjacent said cross-piece in said extended
3 position and adjacent said stop bar in said retracted
4 position.

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- 1 10. A convertible piece of infant furniture, comprising a
2 pair of opposed end panels; a pair of bottom rails
3 connecting bottom corners of said end panels, and a
4 pair of top rails connecting top corners of said end
5 panels; a basket assembly carried by at least said
6 bottom rails; and a wheel assembly connected to each
7 bottom corner of said end panels, each said wheel
8 assembly being movable between an extended rolling
9 position and a retracted position.
- 1 11. A convertible piece of infant furniture according to
2 claim 10, wherein said wheel assembly includes a body
3 with opposed frame walls which form a cavity; and a
4 roller wheel coupled to said body, said roller wheel
5 being received in said cavity in said retracted
6 position.
- 1 12. A convertible piece of infant furniture according to
2 claim 11, wherein said opposed frame walls are
3 connected by a cross-piece and a stop bar which forms
4 a slot, and wherein a retract assembly is pivotably
5 secured in said slot.
- 1 13. A convertible piece of infant furniture according to
2 claim 12, wherein said retract assembly includes a
3 rocker coupled to a spring-biased tab, said tab
4 holding said roller wheel in said extended rolling
5 position.
- 1 14. A convertible piece of infant furniture according to
2 claim 13, wherein said tab includes a neck with at
3 least one projecting shoulder engaged by said body,
4 said neck having a shaft opening and a pair of slits
5 transverse from said shaft opening, and wherein said

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6 rocker includes a main flange with a transversely
7 extending shaft; a spring is disposed between said tab
8 and said rocker such that said shaft opening slidably
9 moves over said transverse shaft and said slits
10 slidably move over said main flange.

1 15. A convertible piece of infant furniture according to
2 claim 10, wherein said basket assembly is expandable
3 and carried by said top rails and said bottom rails.

1 16. A convertible piece of infant furniture according to
2 claim 10, further comprising a bassinet which includes
3 a plurality of downwardly extending feet that fit
4 within said pair of top rails.

1 17. A convertible piece of infant furniture according to
2 claim 16, wherein said bassinet further includes at
3 least one locking mechanism which detachably engages
4 at least one of said pair of top rails.

1 18. A bassinet, comprising a pair of opposed end panels; a
2 plurality of rails connecting said end panels; a
3 bassinet including a bassinet frame for carrying a
4 mattress board; and at least one spring-biased locking
5 mechanism secured to said mattress board, said locking
6 mechanism allowing selective attachment of said
7 bassinet frame to said plurality of rails.

1 19. A bassinet according to claim 18, wherein said
2 bassinet frame includes a plurality of downwardly
3 extending feet which fit inside said plurality of
4 rails when said bassinet frame is selectively
5 attached.

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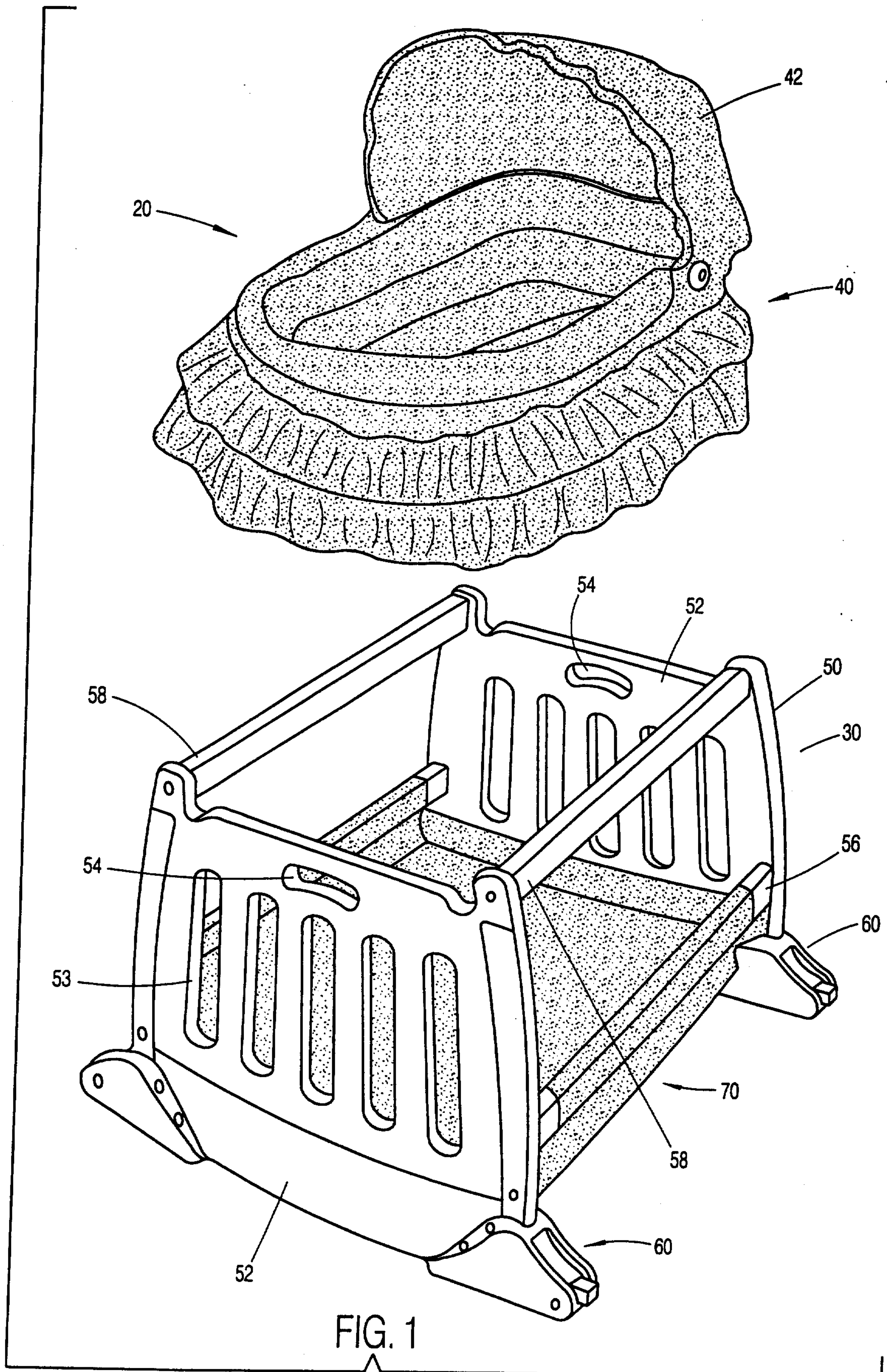
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- 1 20. A piece of infant furniture, comprising a pair of
2 opposed end panels; a plurality of rails connecting
3 said opposed end panels; a wheel assembly connected to
4 each bottom corner of said end panels, each said wheel
5 assembly being movable between an extended rolling
6 position and a retracted position.
- 1 21. A piece of infant furniture according to claim 20,
2 wherein said wheel assembly includes a body with
3 opposed frame walls which form a cavity; and a roller
4 wheel coupled to said body, said roller wheel being
5 received in said cavity in said retracted position.
- 1 22. A piece of infant furniture according to claim 21,
2 wherein said opposed frame walls are connected by a
3 cross-piece and a stop bar which forms a slot, and
4 wherein a retract assembly is pivotably secured in
5 said slot.
- 1 23. A piece of infant furniture according to claim 22,
2 wherein said retract assembly includes a rocker
3 coupled to a spring-biased tab, said tab holding said
4 roller wheel in said extended rolling position.
- 1 24. A piece of infant furniture according to claim 23,
2 wherein said tab includes a neck with at least one
3 projecting shoulder engaged by said body, said neck
4 having a shaft opening and a pair of slits transverse
5 from said shaft opening, and wherein said rocker
6 includes a main flange with a transversely extending
7 shaft; a spring is disposed between said tab and said
8 rocker such that said shaft opening slidably moves
9 over said transverse shaft and said slits slidably
10 move over said main flange.

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1 25. A convertible piece of infant furniture, comprising a
2 pair of opposed end panels; a pair of bottom rails and
3 a pair of top rails connecting respective corners of
4 said end panels; a basket assembly carried by said
5 pair of bottom rails, said basket assembly having a
6 plurality of flaps for concealing a toy bin enclosure
7 which may be expanded and secured to said plurality of
8 top rails in one variation; a wheel assembly connected
9 to each bottom corner of said end panel; each said
10 wheel assembly being movable between an extended
11 rolling position and a retracted position; and a
12 bassinet having a locking mechanism that is securable
13 to said pair of top rails in another variation when
14 said toy bin enclosure is concealed.



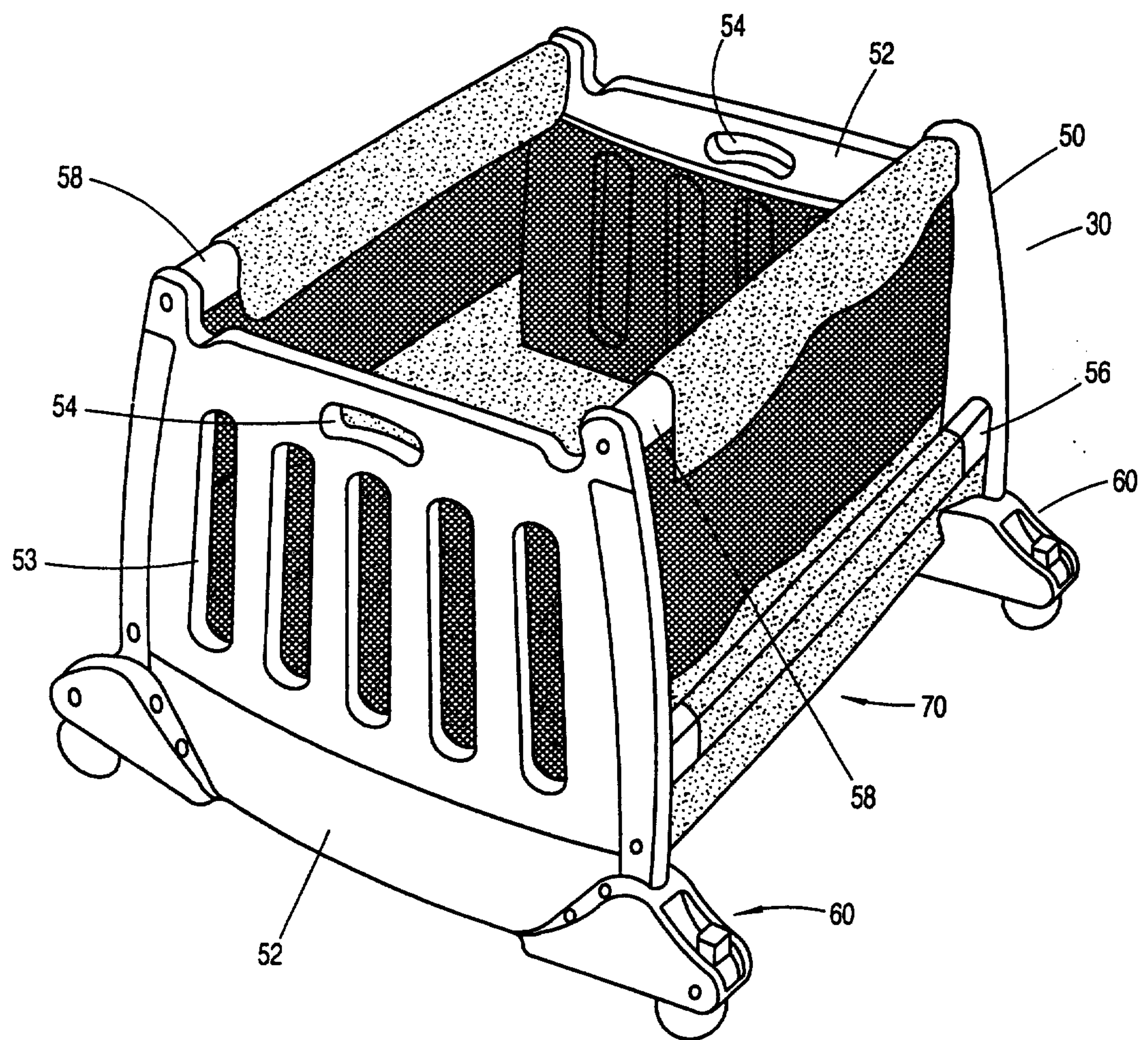


FIG. 2

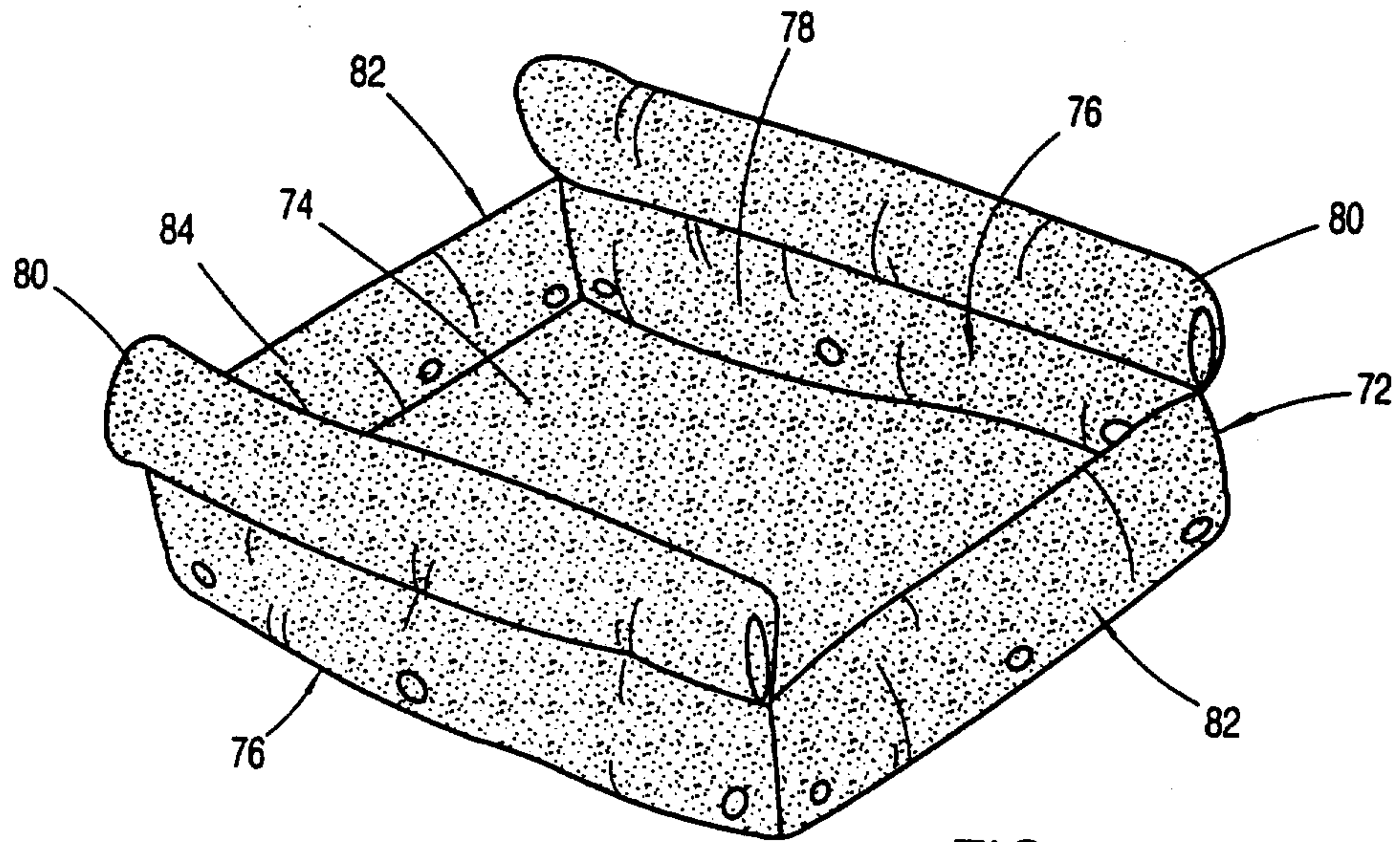


FIG. 3

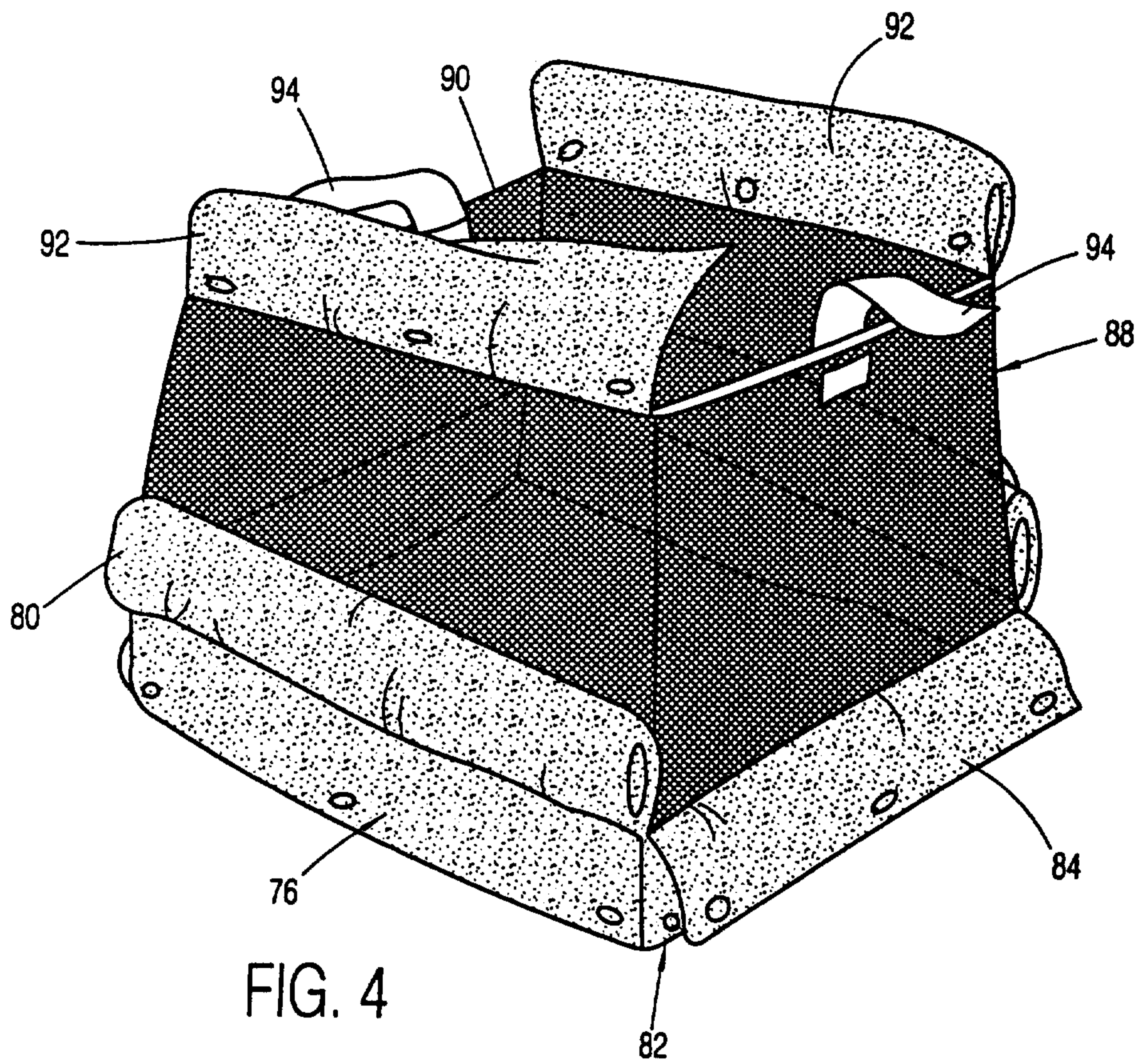


FIG. 4

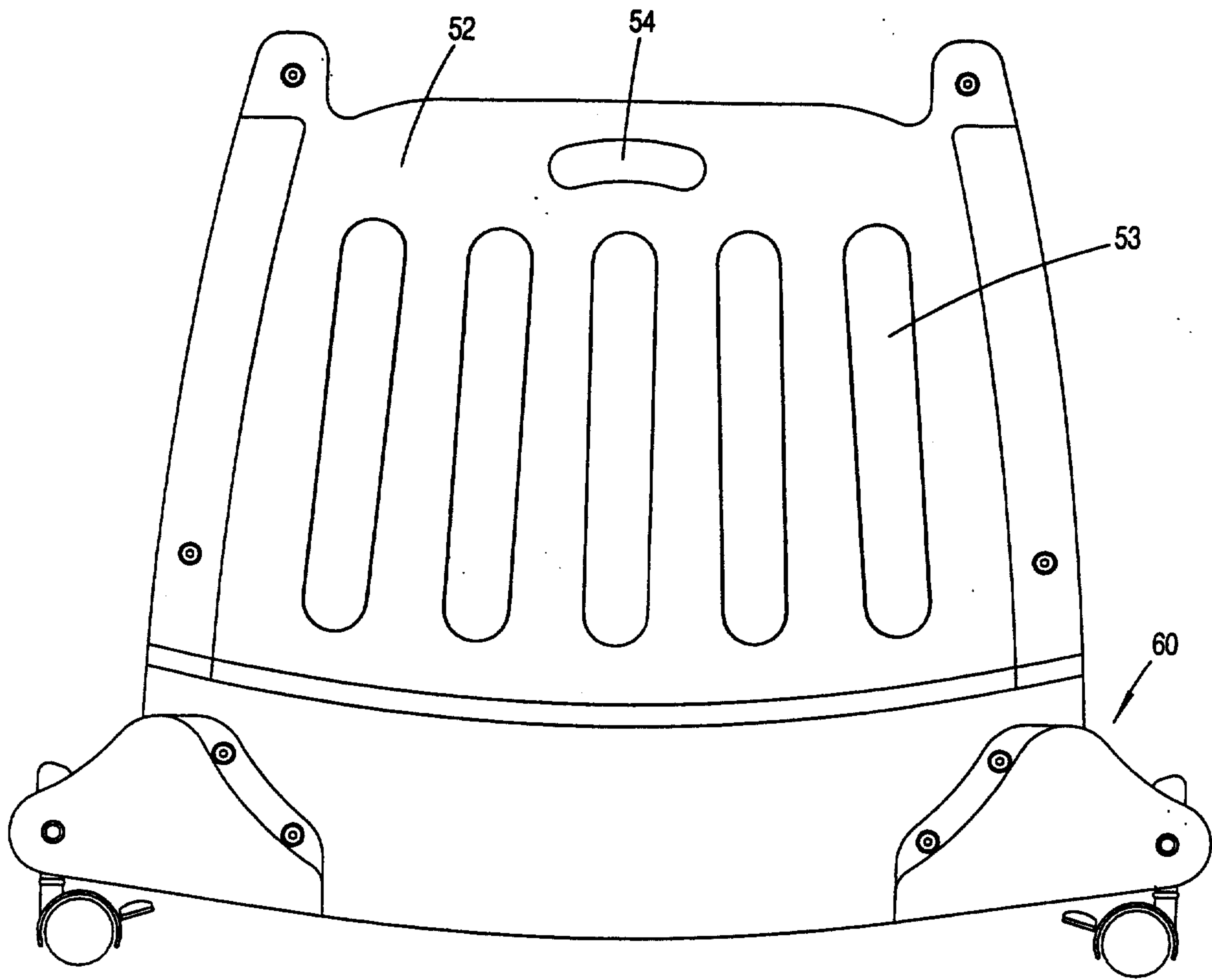


FIG. 5

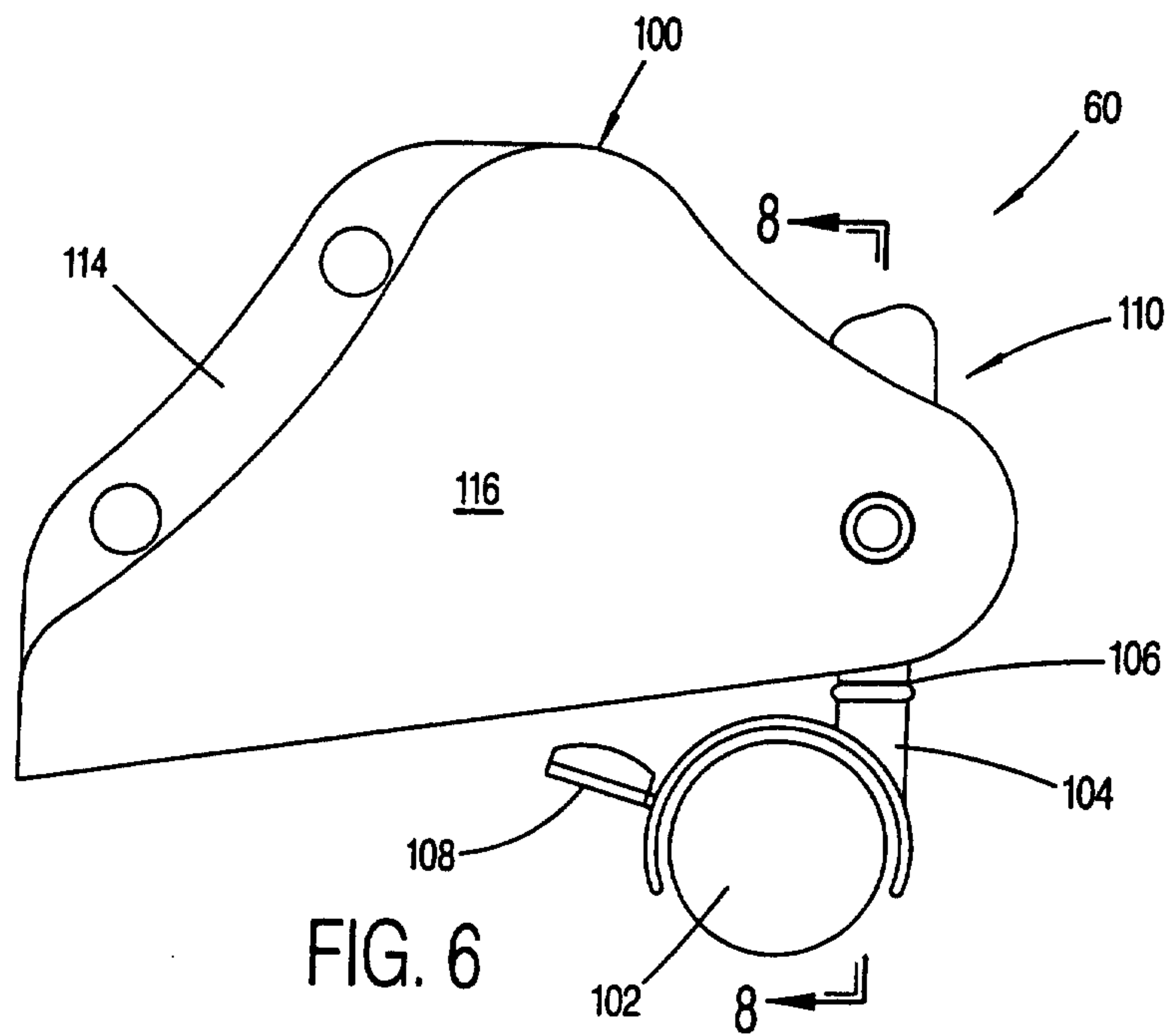


FIG. 6

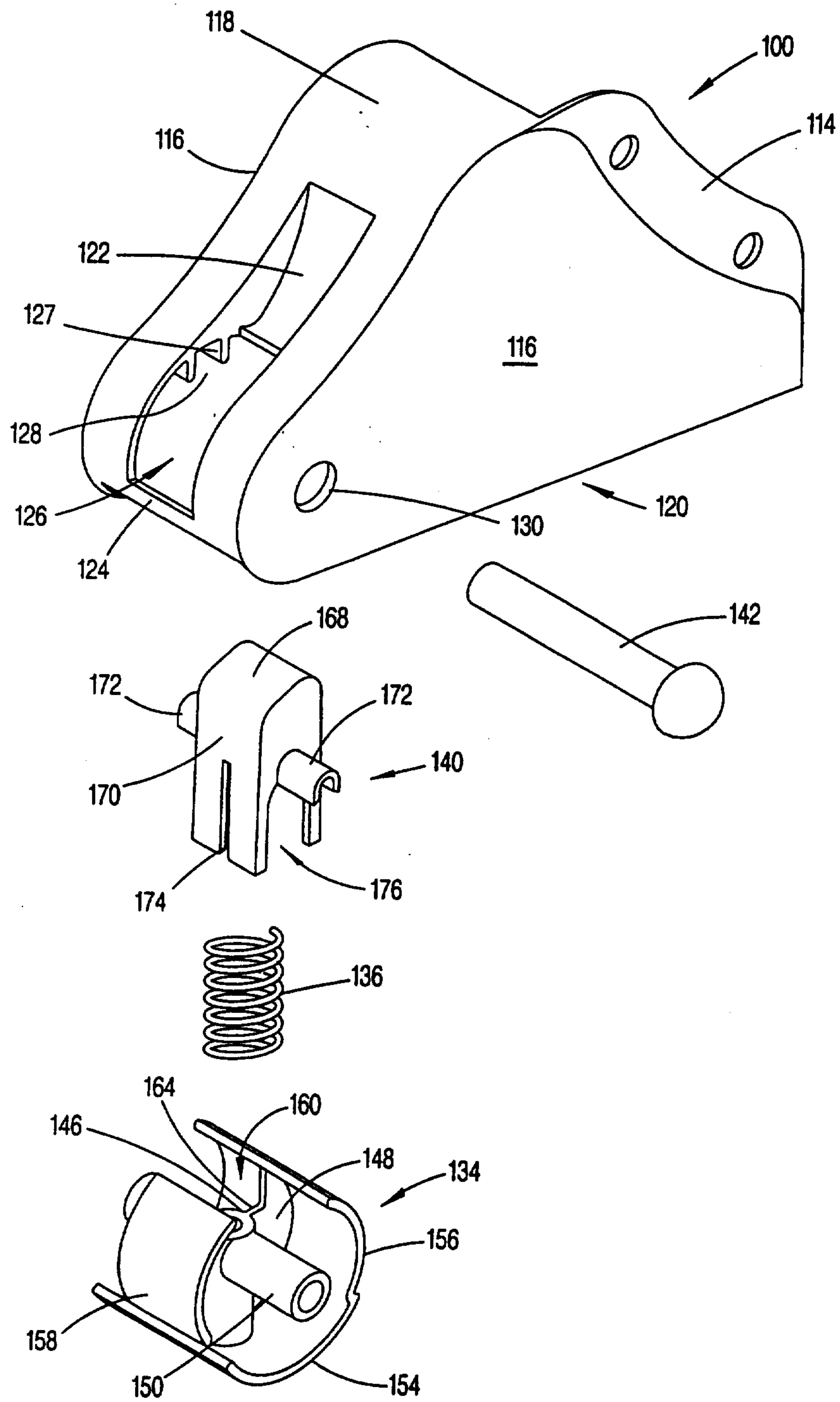
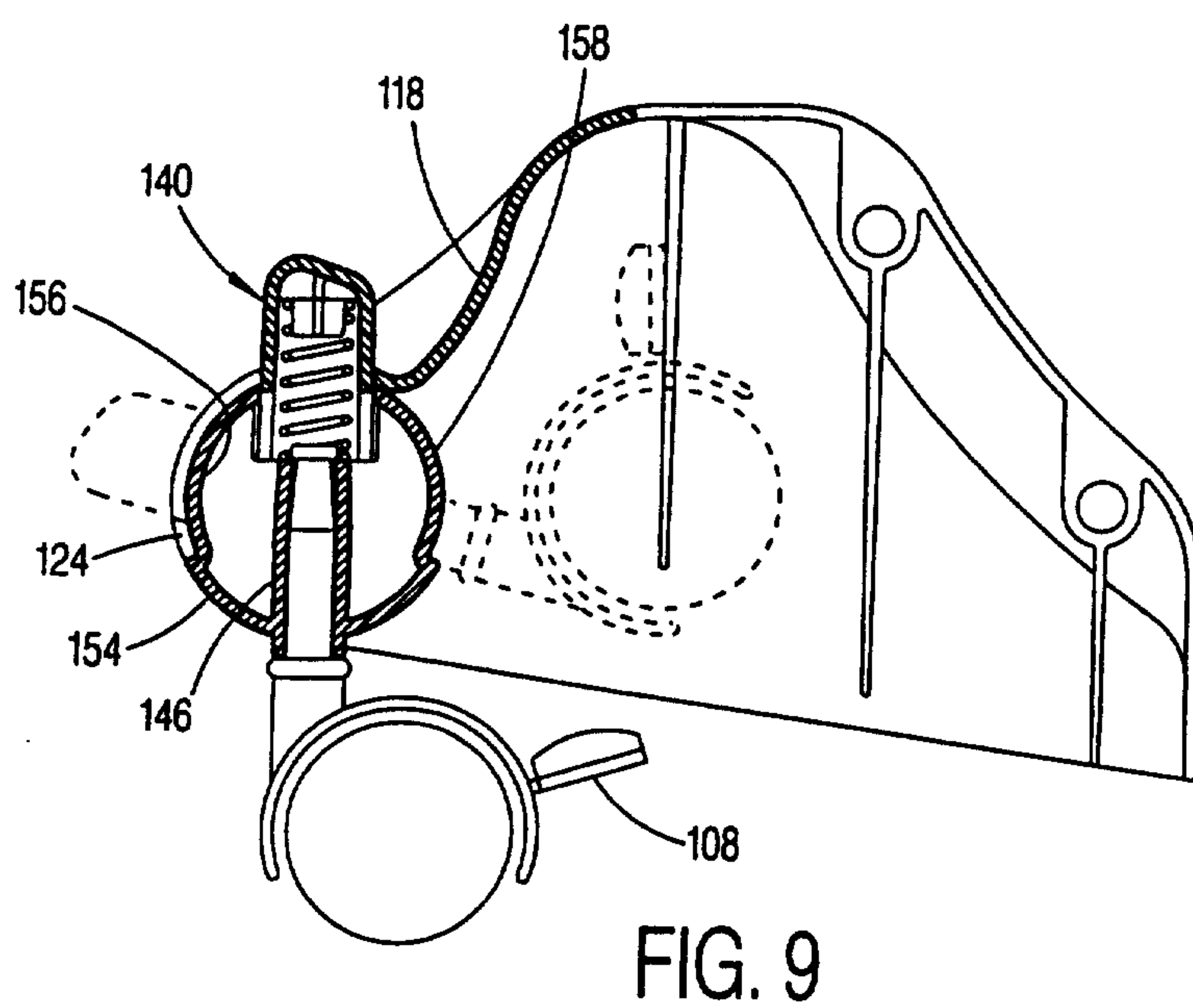
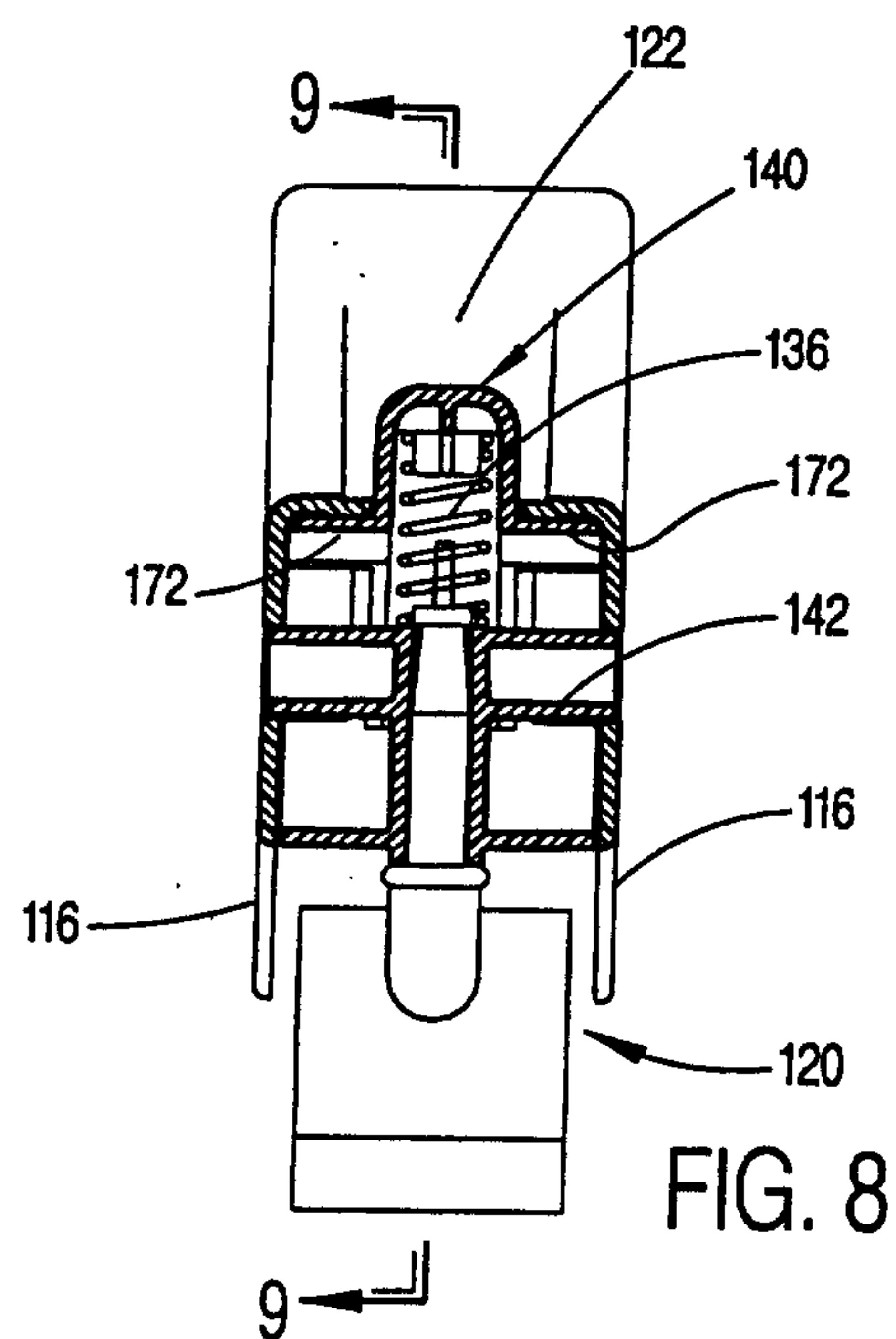


FIG. 7



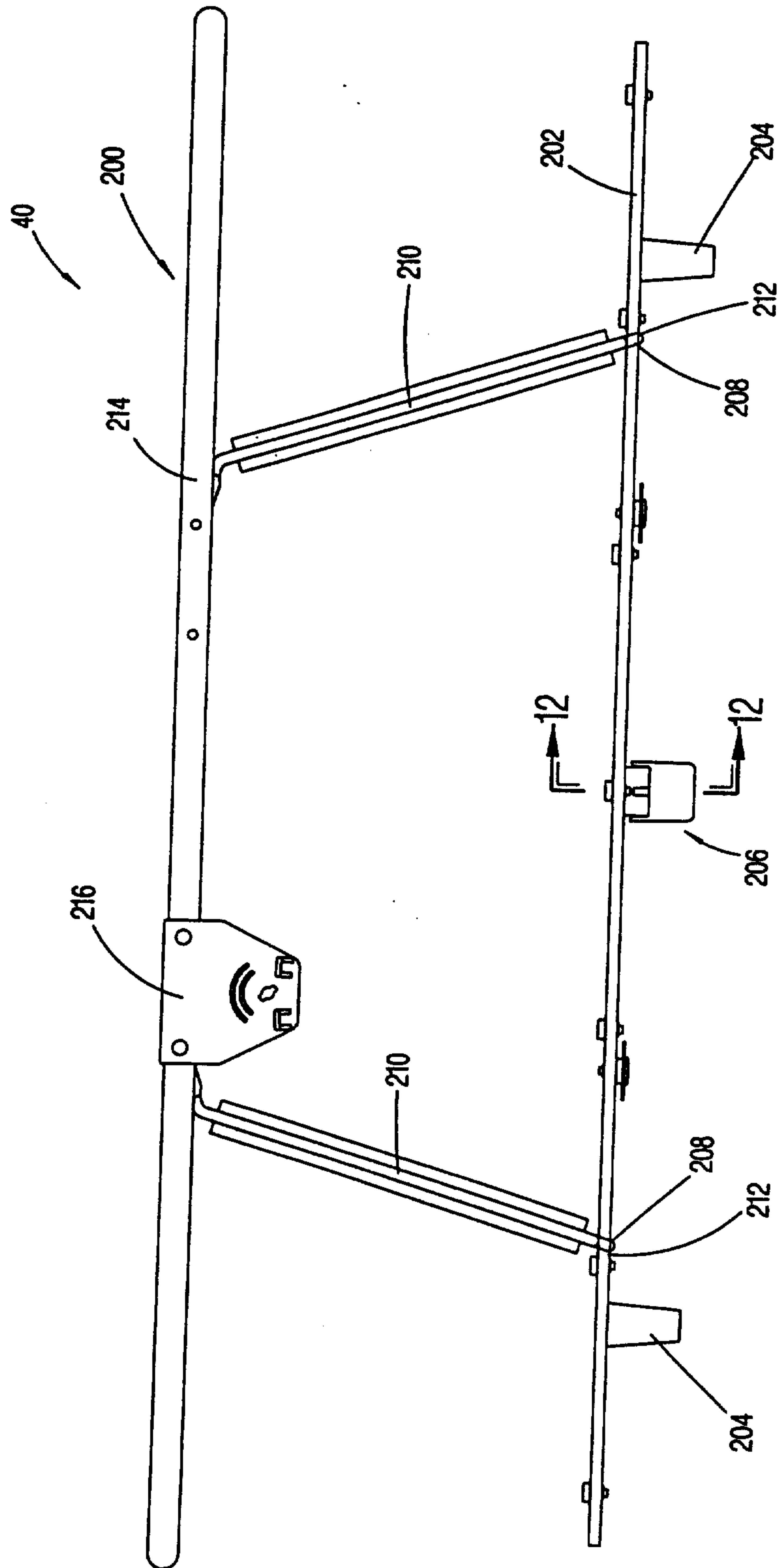


FIG. 10

