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Singer

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(54) **SKELETON FOR TRUCK BED AND CONVERTIBLE TOP**

USPC 296/3
See application file for complete search history.

(71) Applicant: **Nicholas J. Singer**, Irvine, CA (US)

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(72) Inventor: **Nicholas J. Singer**, Irvine, CA (US)

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days. days.

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(21) Appl. No.: **15/336,702**

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Primary Examiner — Joseph D. Pape

Assistant Examiner — Dana D Ivey

(51) **Int. Cl.**
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B60J 10/15 (2016.01)
B60J 10/90 (2016.01)
B60R 9/04 (2006.01)

(74) *Attorney, Agent, or Firm* — Stetina Brunda Garred and Brucker

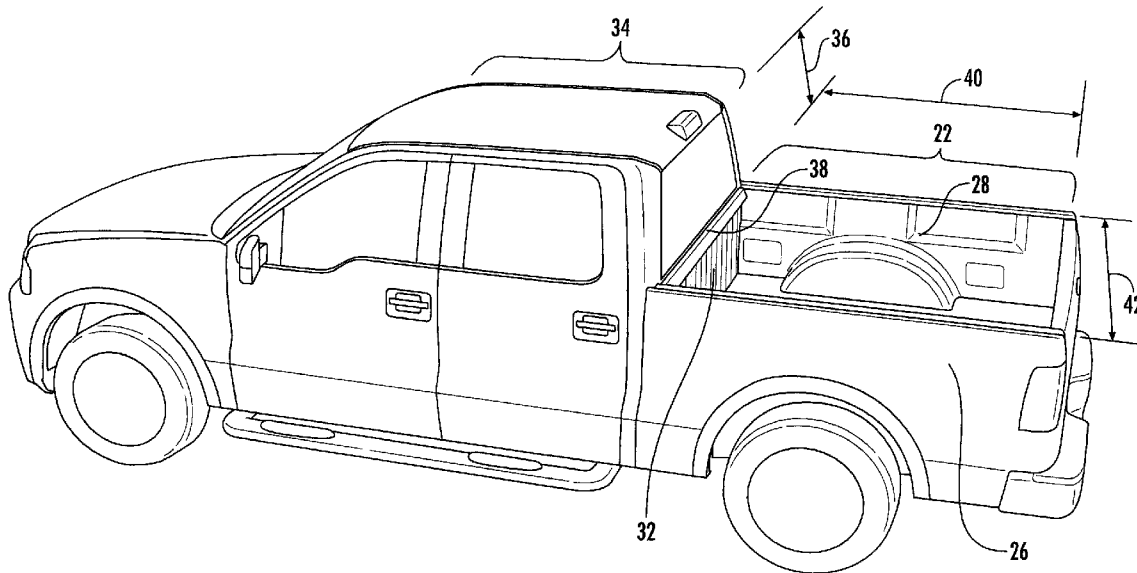
(52) **U.S. Cl.**
CPC **B60J 7/141** (2013.01); **B60J 10/15** (2016.02); **B60J 10/90** (2016.02); **B60R 9/04** (2013.01)

(57) **ABSTRACT**

A truck bed accessory frame is disclosed therein which allows for reconfiguration between an opened position and a closed position. In the open position, objects taller than the frame can loaded onto the truck bed. In the closed position, objects placed in the truck bed can be protected from the environmental elements (e.g. rain and UV rays from the sun).

(58) **Field of Classification Search**
CPC .. B60J 7/141; B60J 10/15; B60J 10/90; B60R 9/04

12 Claims, 24 Drawing Sheets



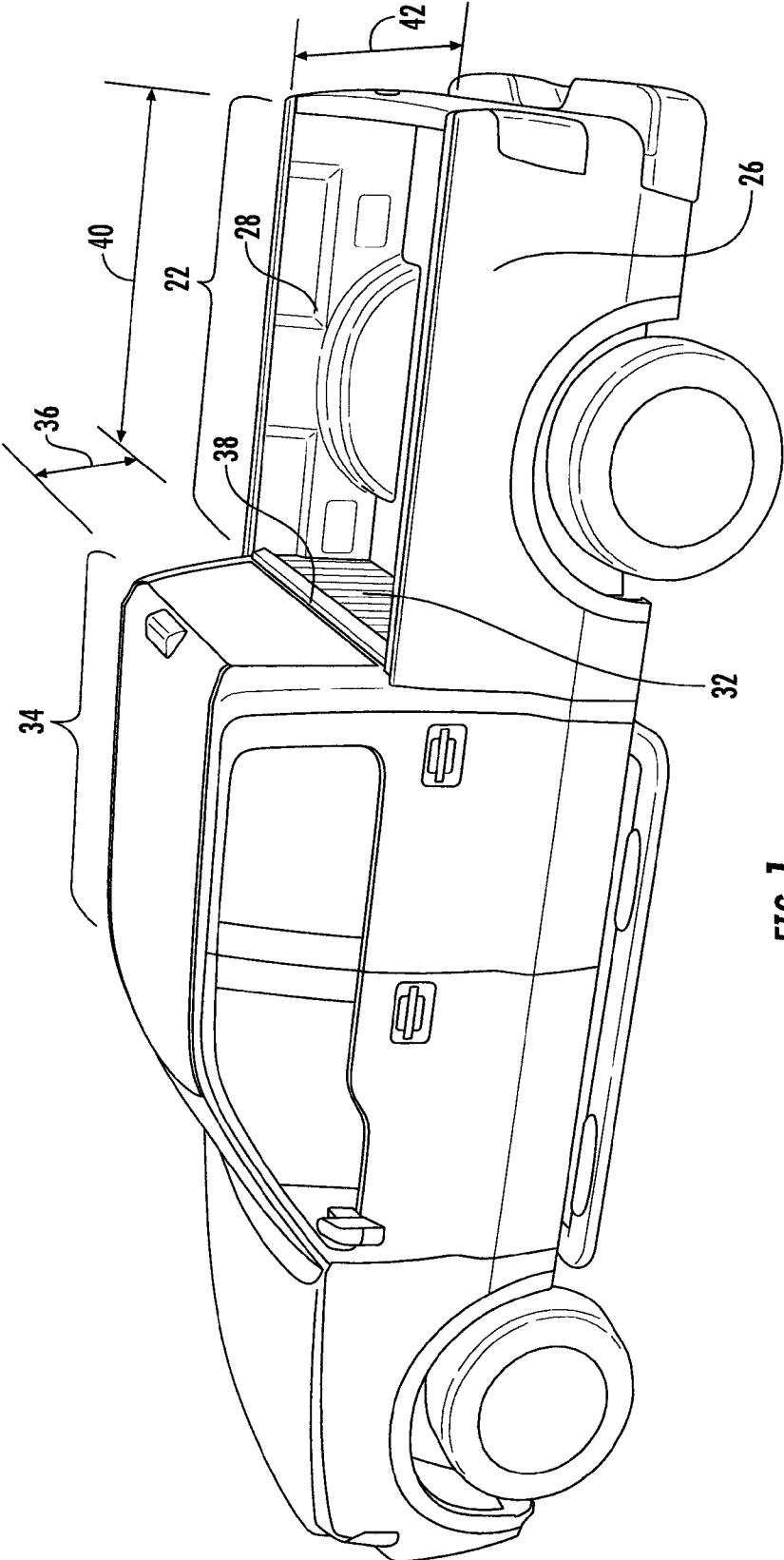


FIG. 1

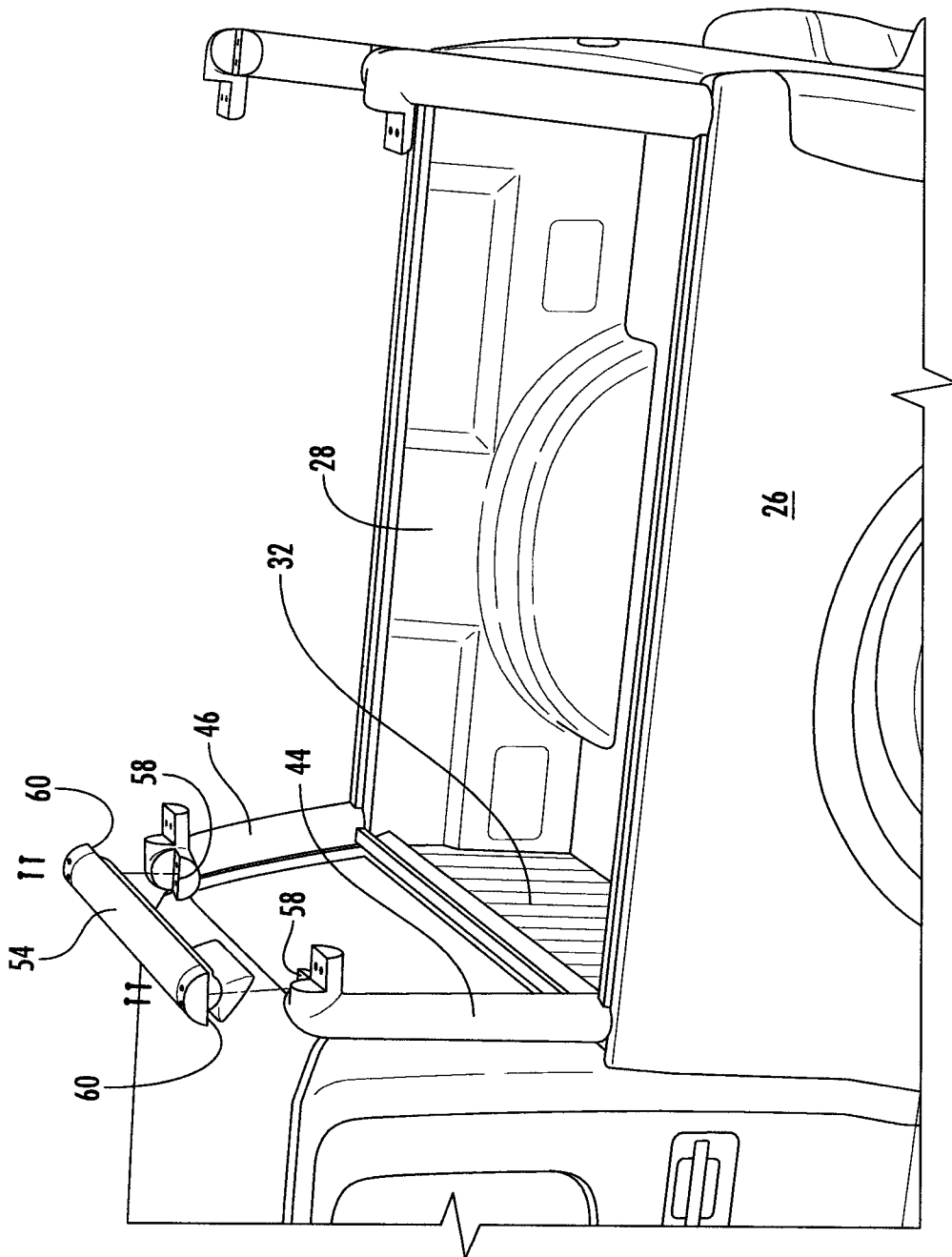


FIG. 2

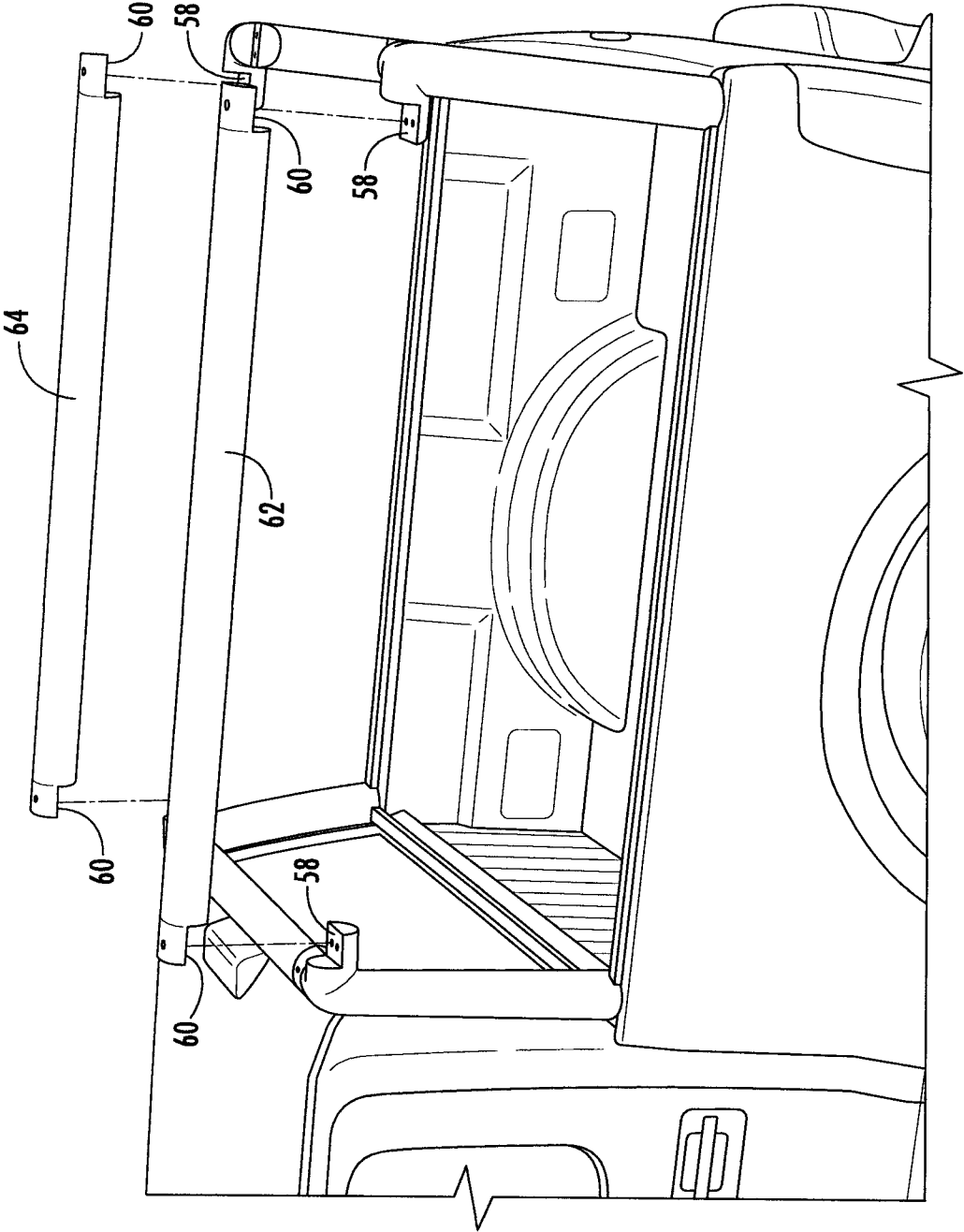


FIG. 3

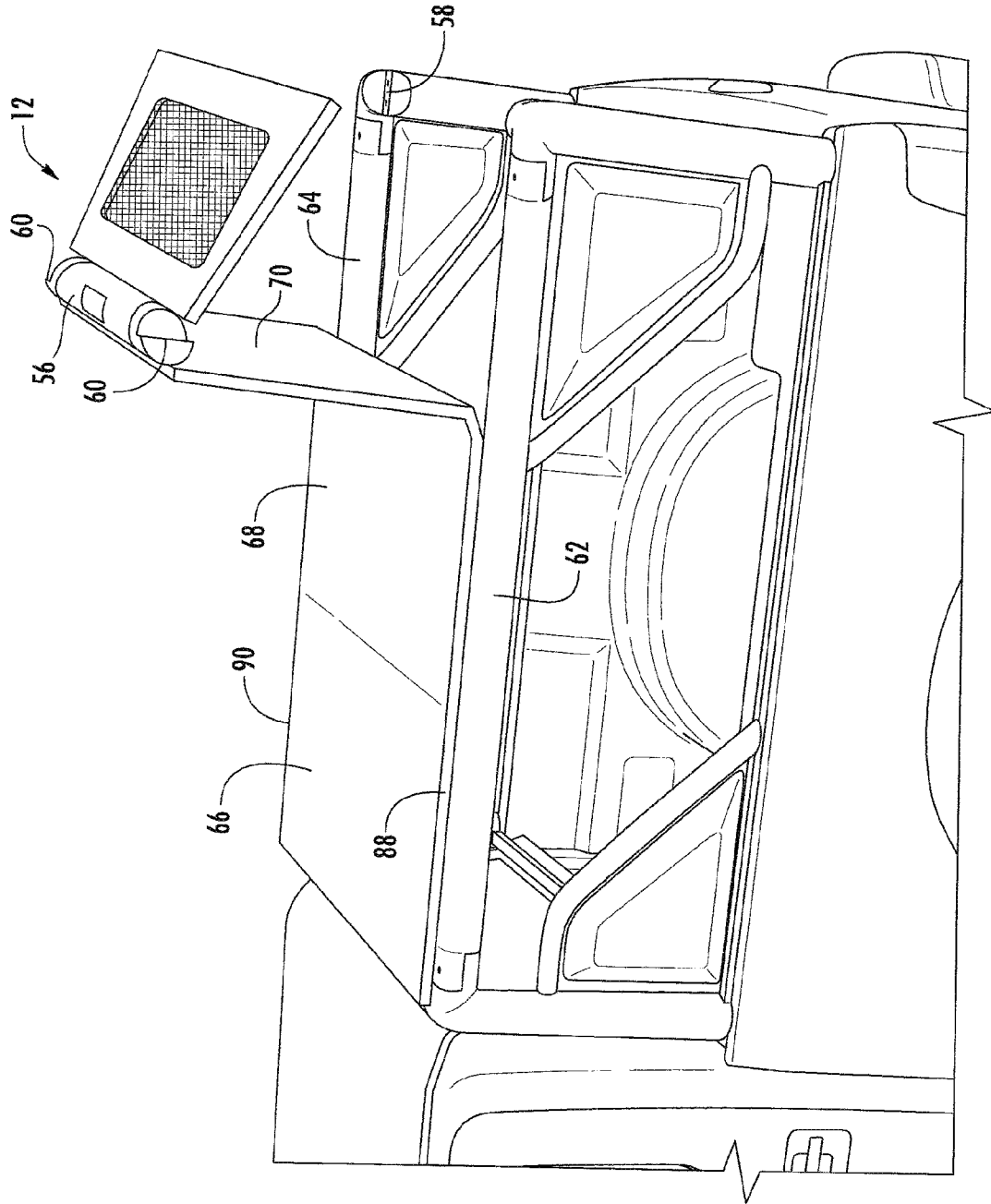


FIG. 5

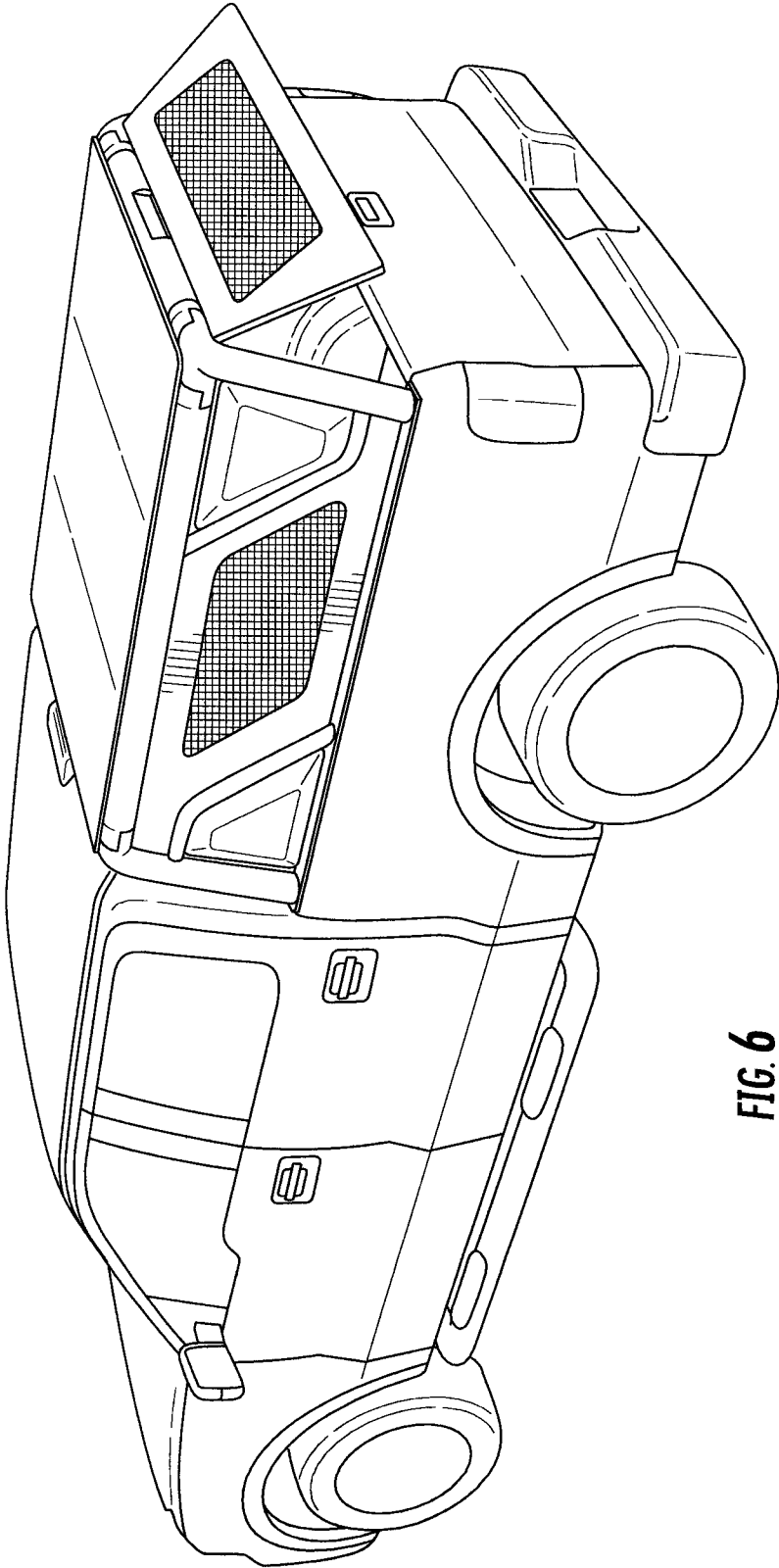


FIG. 6

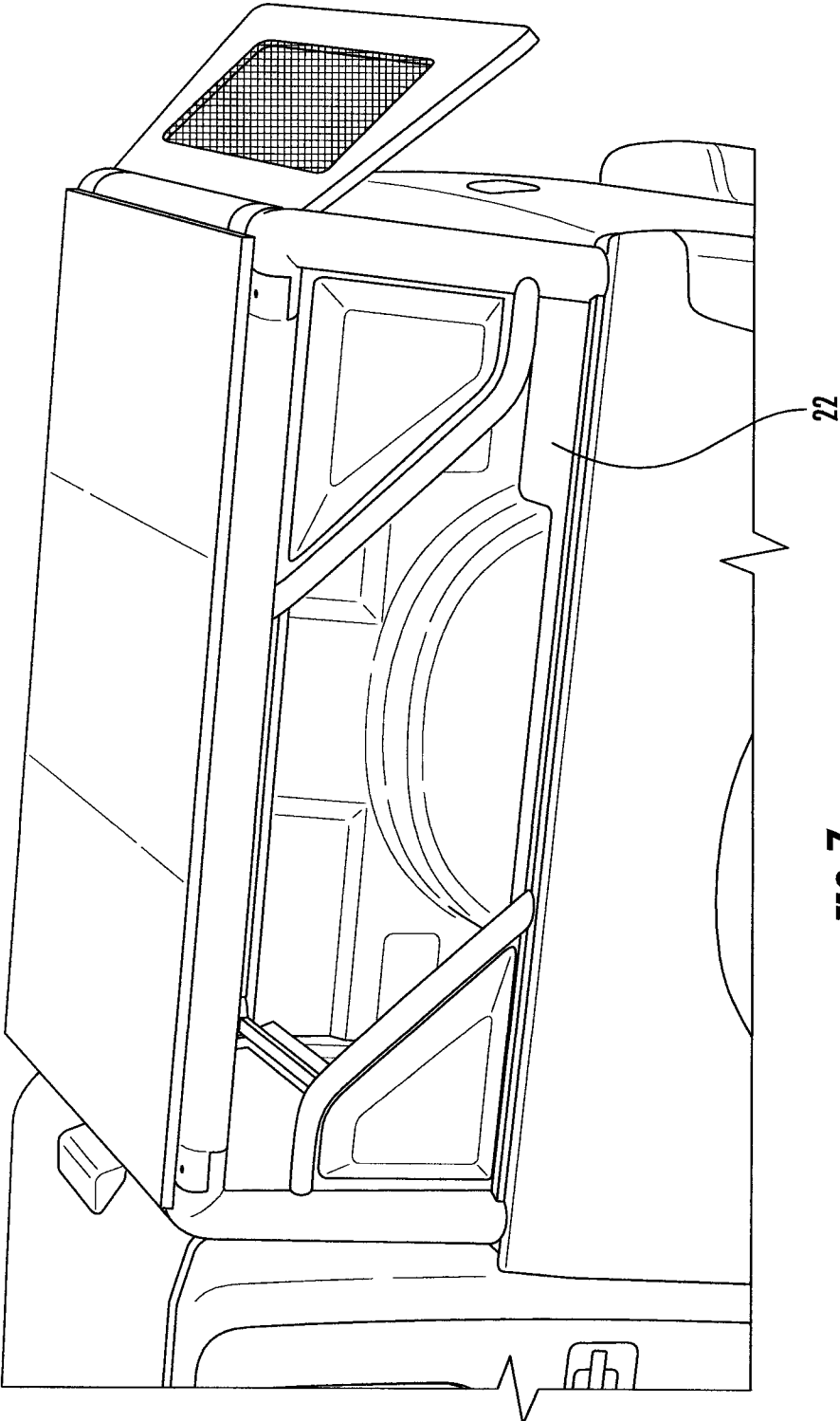


FIG. 7

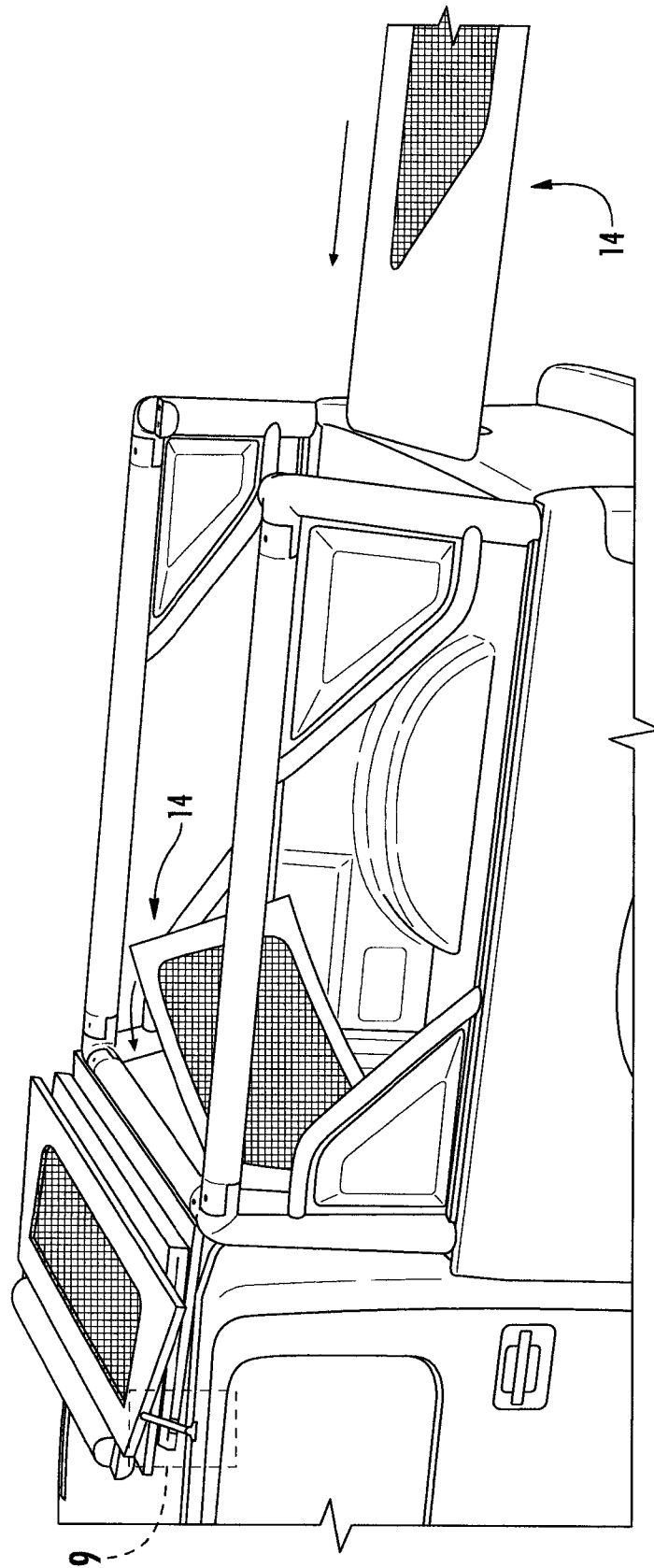


FIG. 8

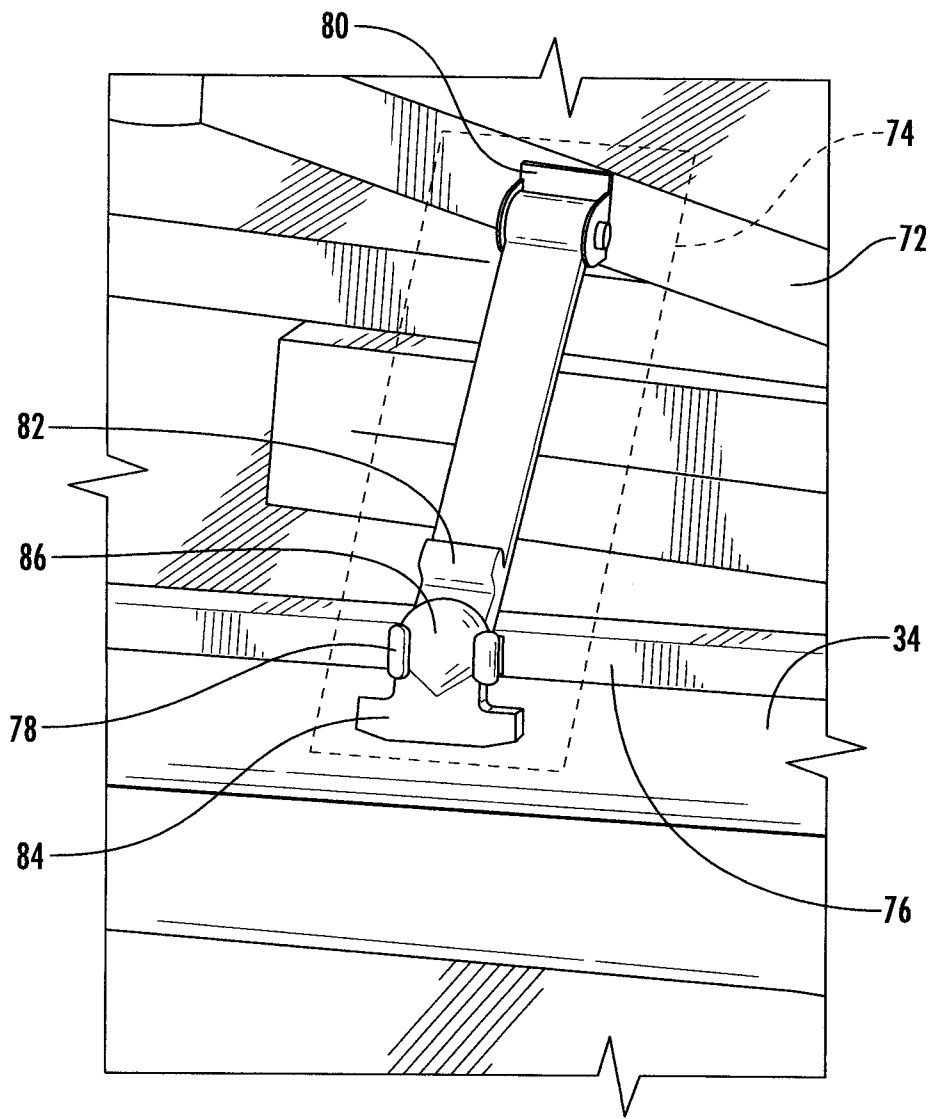


FIG. 9

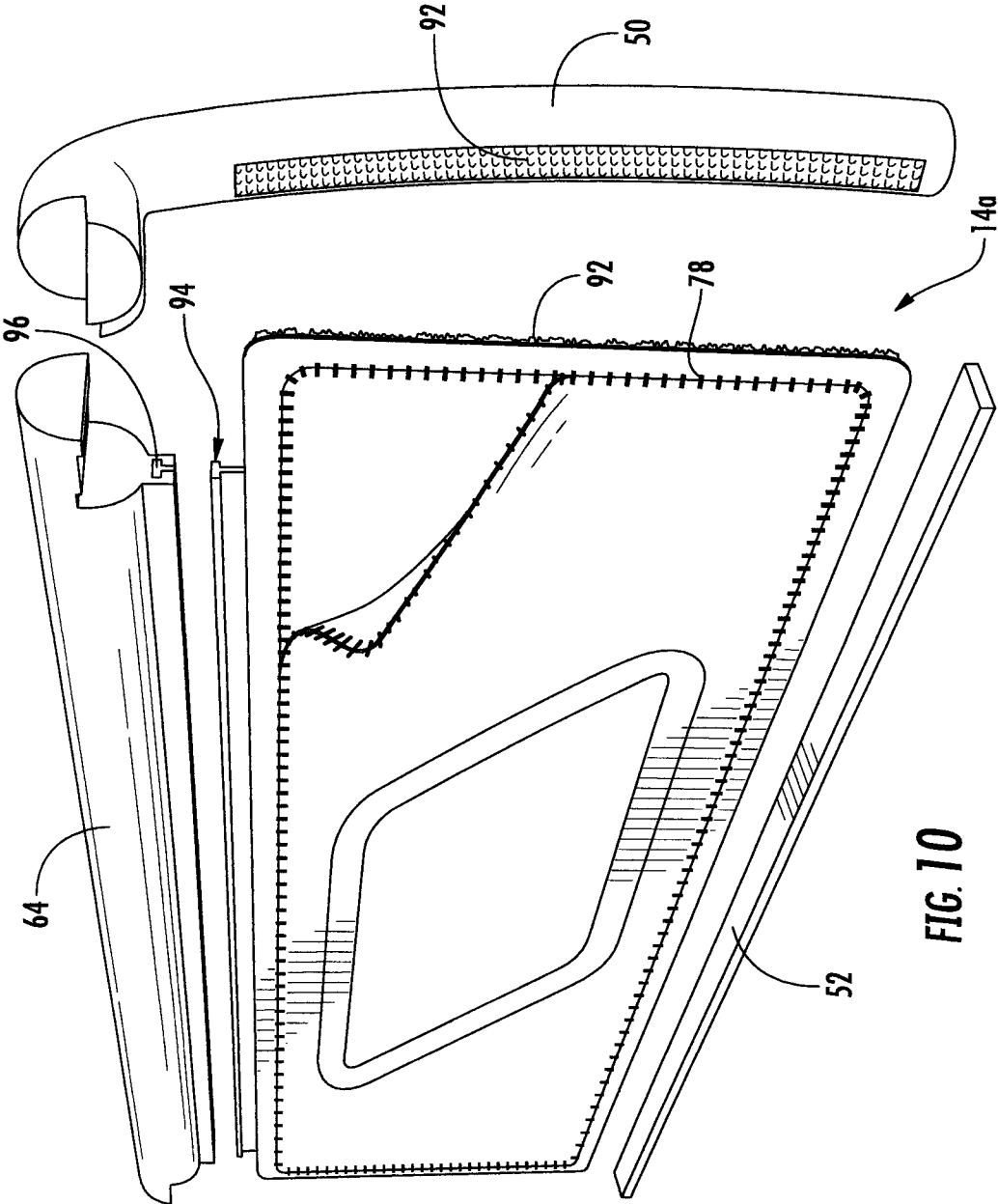
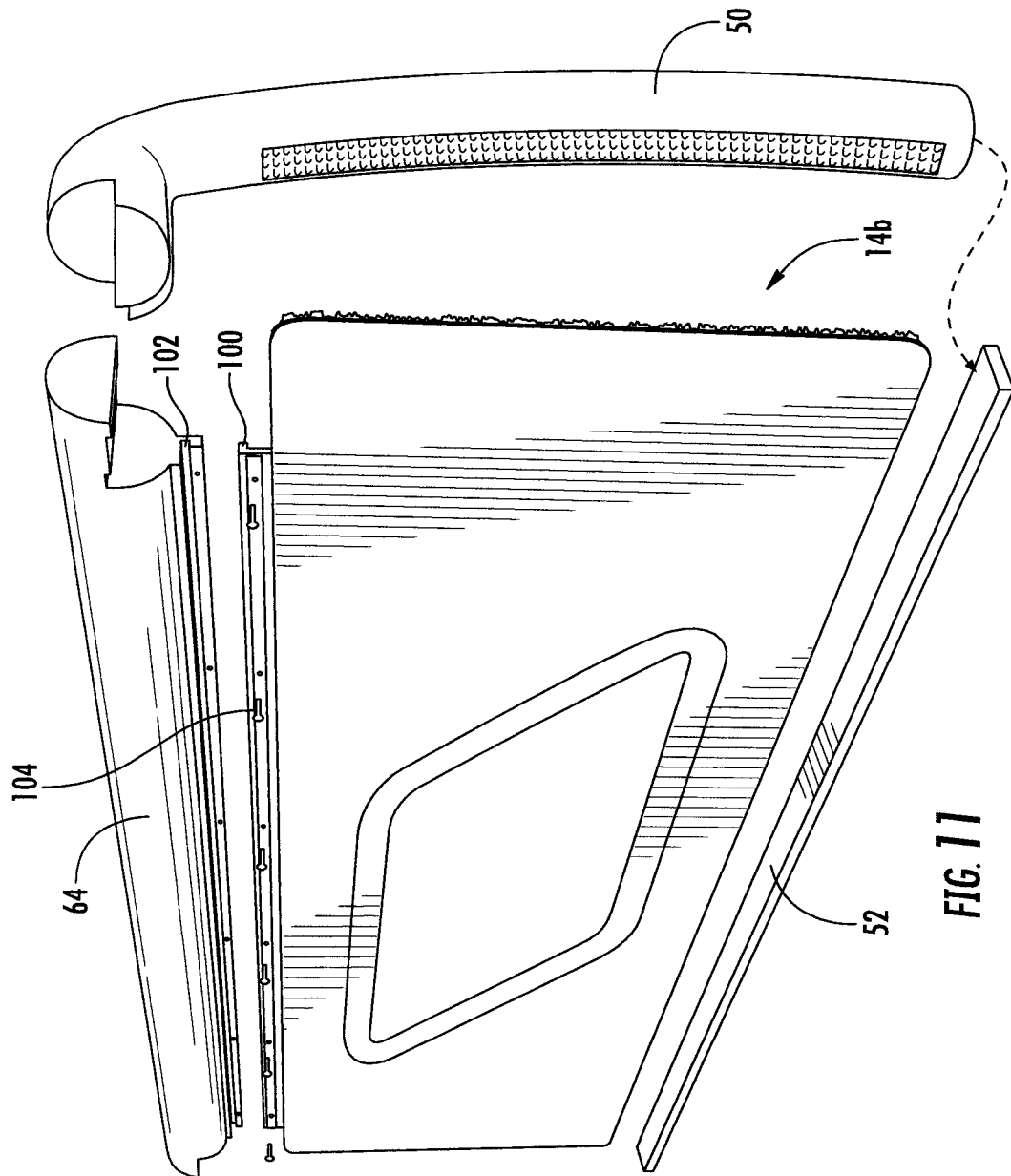


FIG. 10



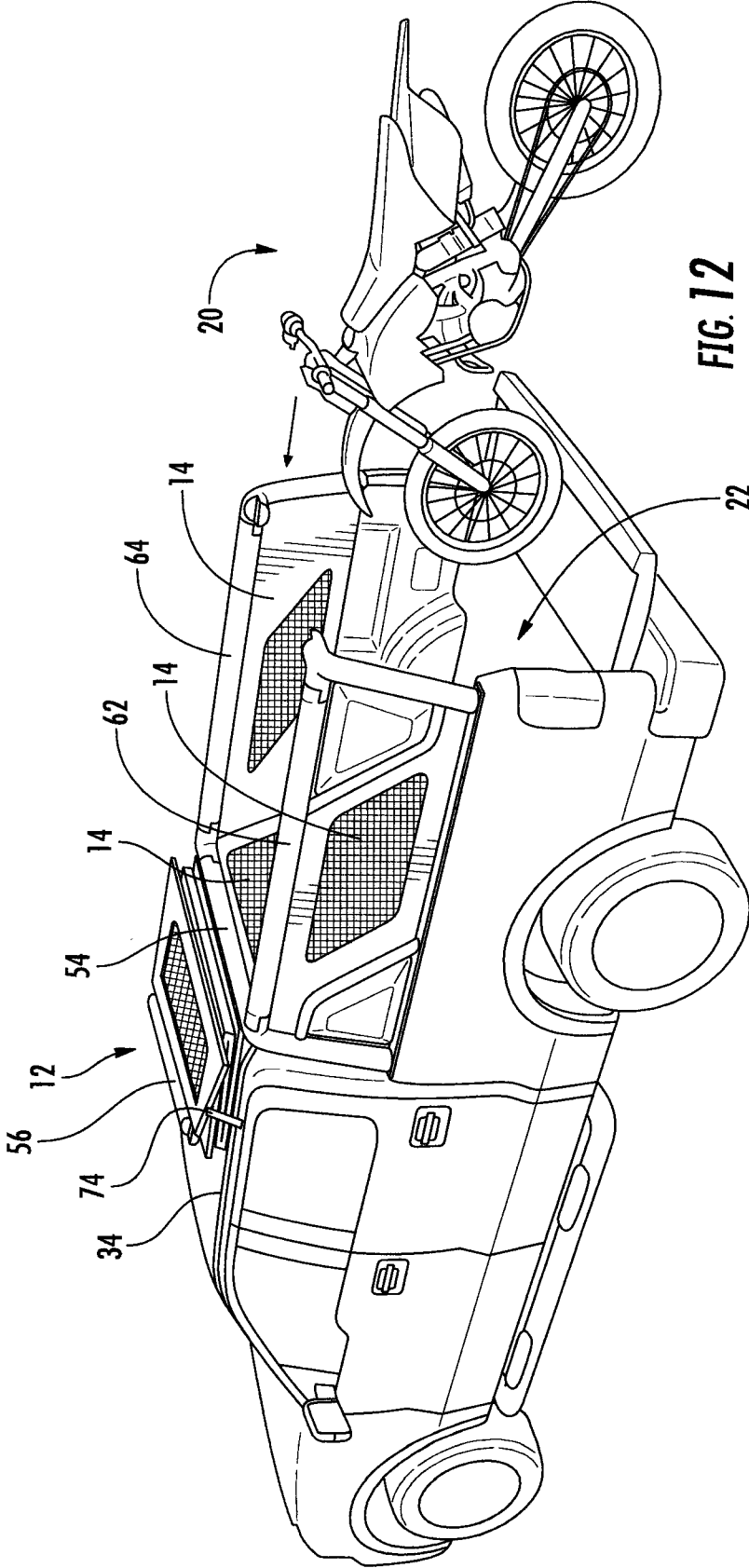


FIG. 12

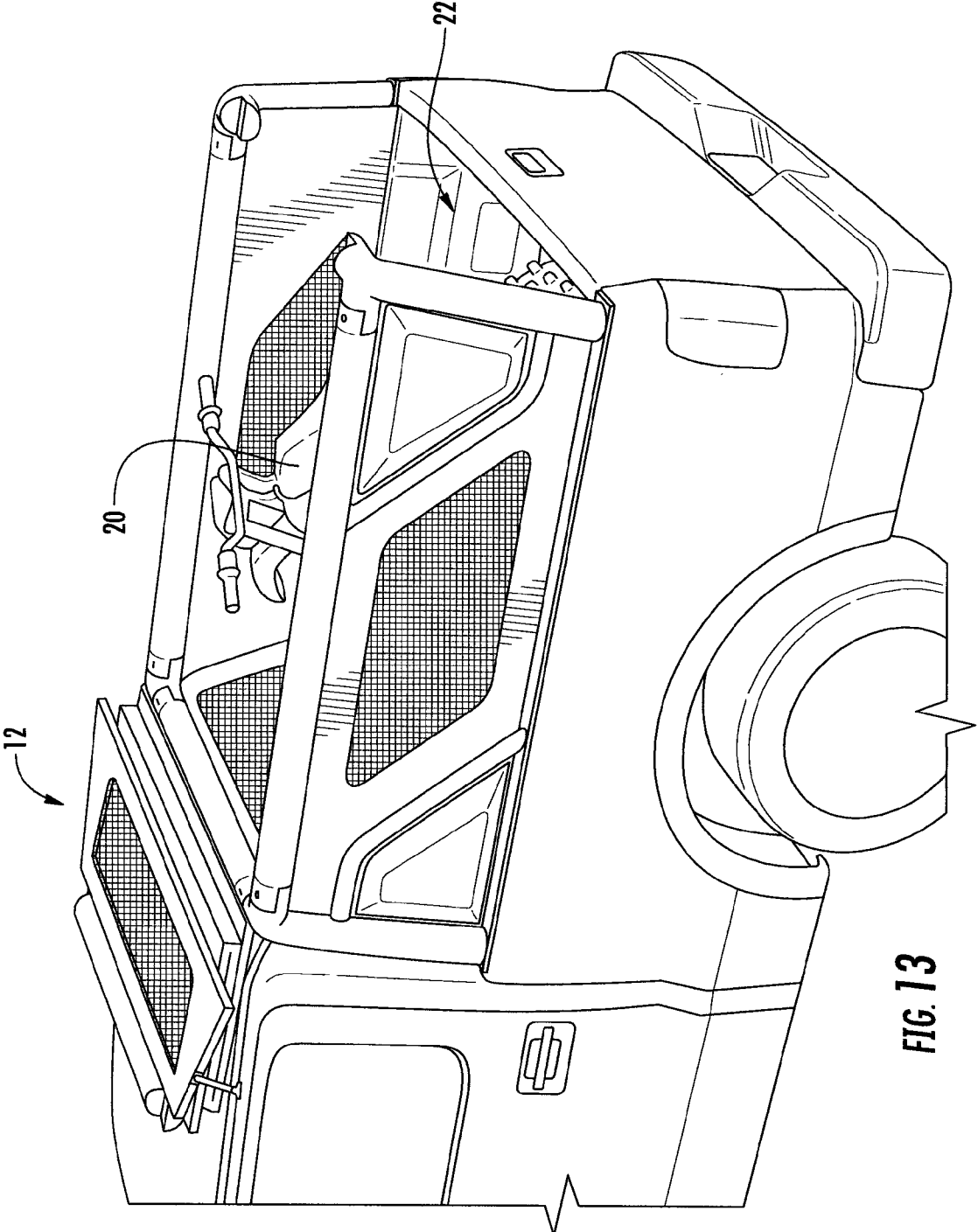


FIG. 13

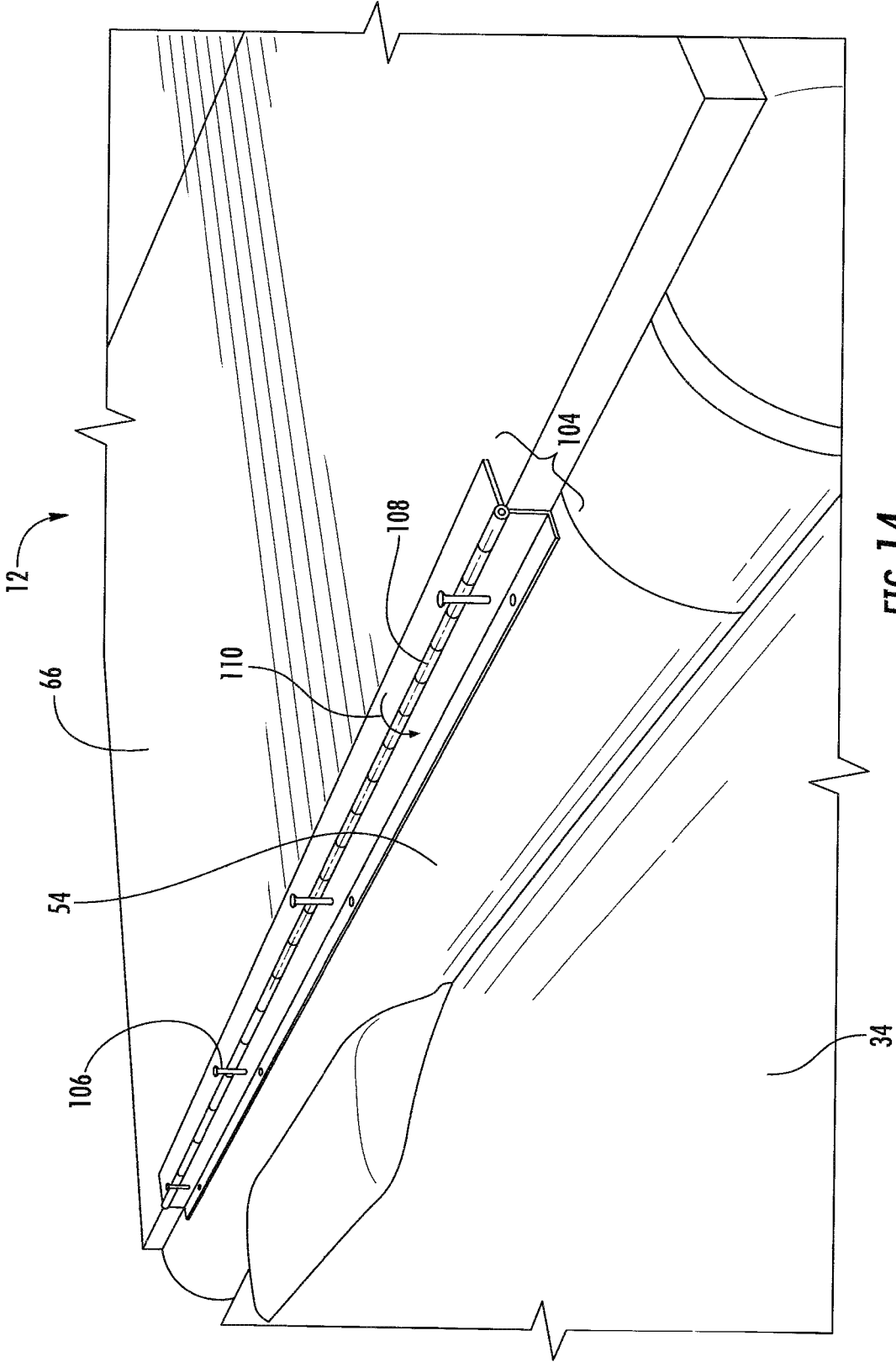


FIG. 14

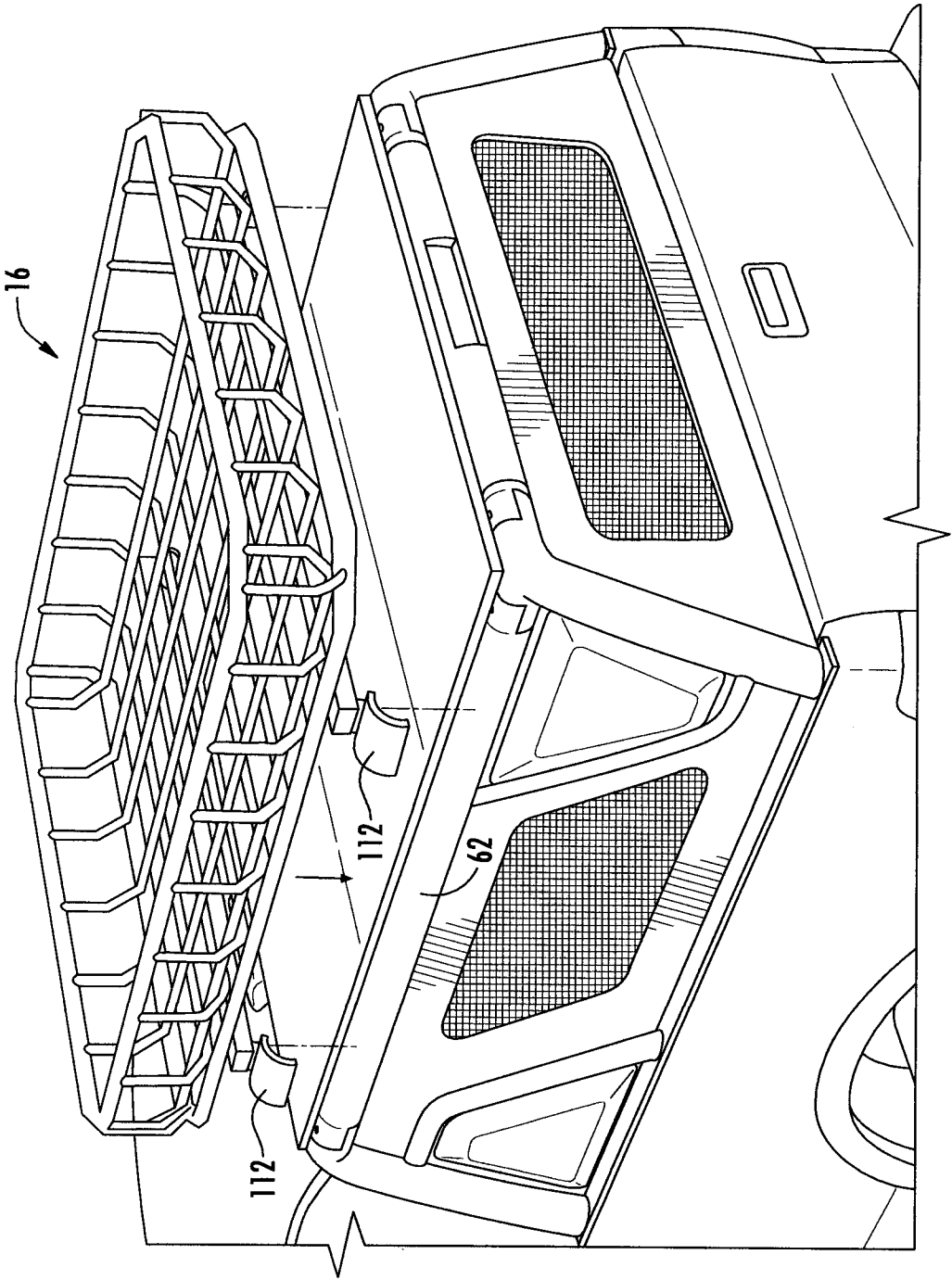


FIG. 15

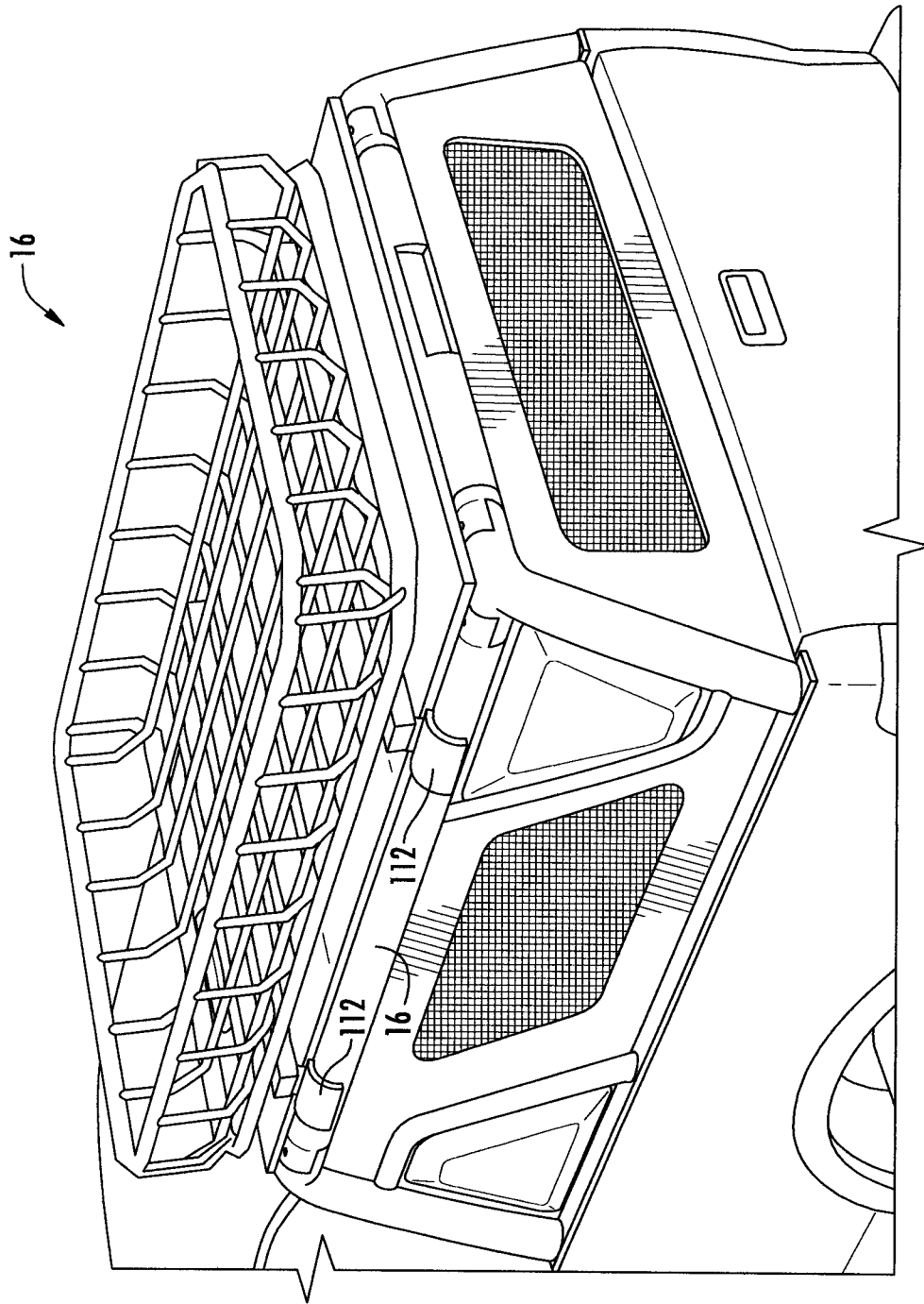


FIG. 16

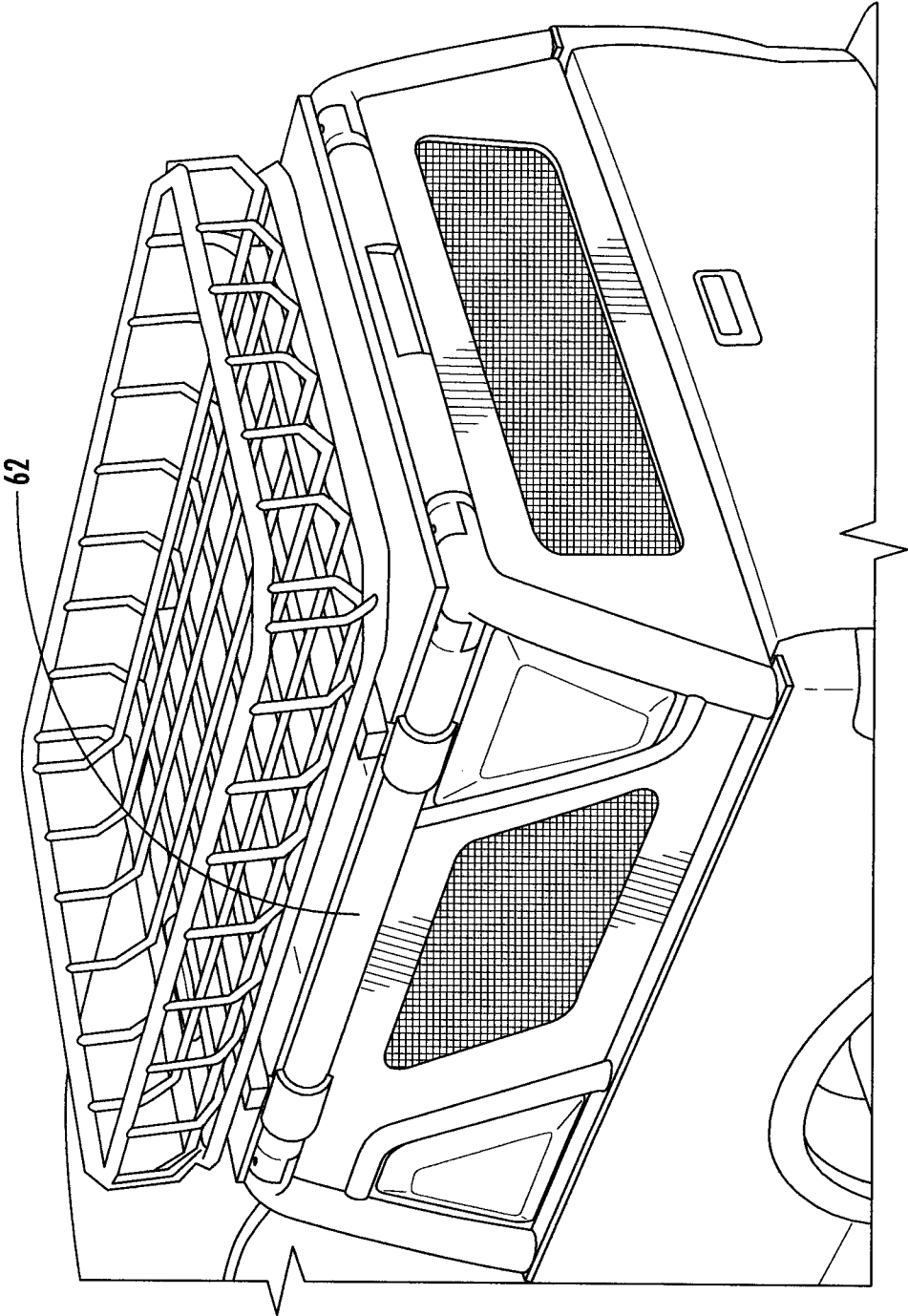


FIG. 17

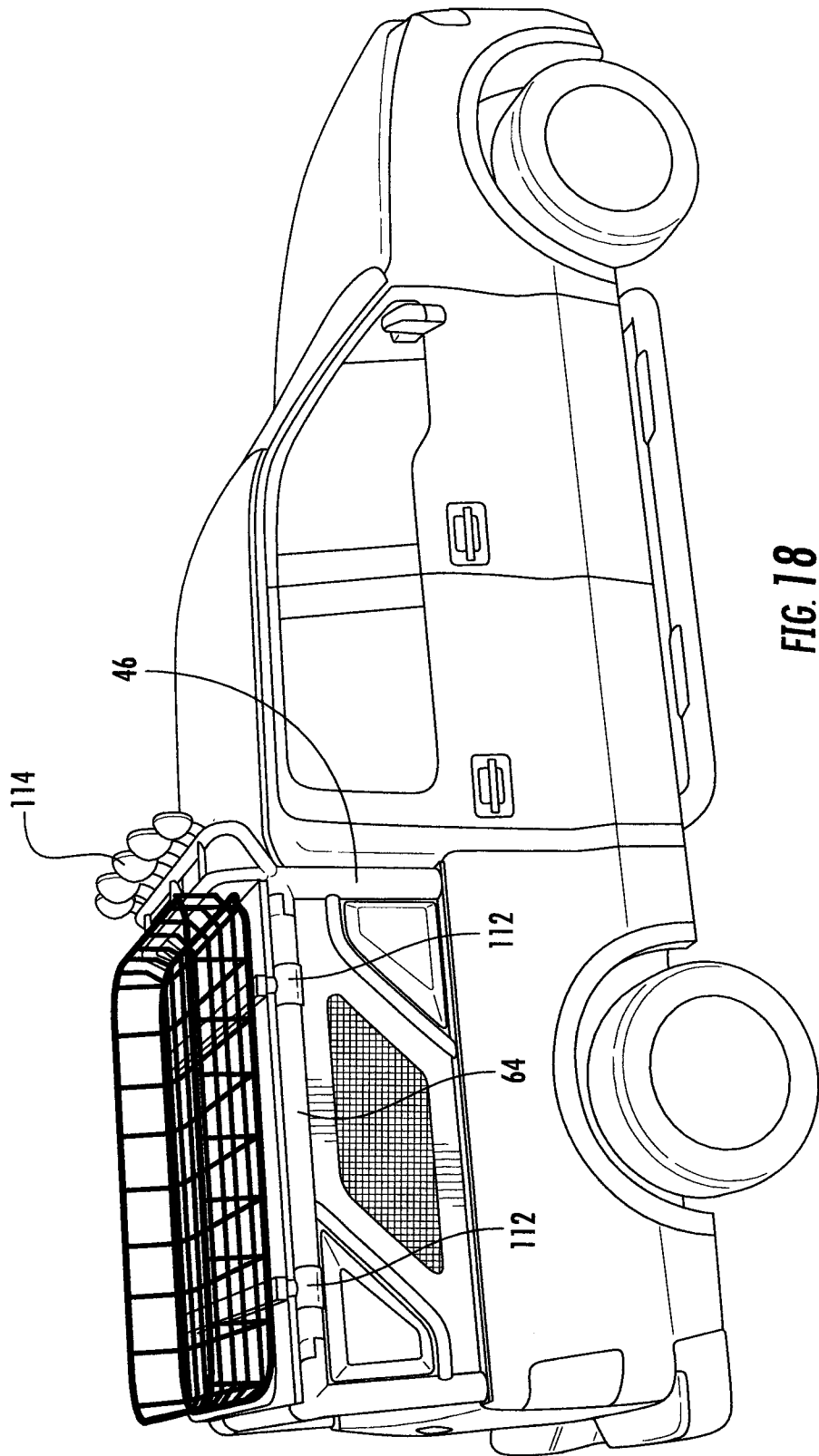


FIG. 18

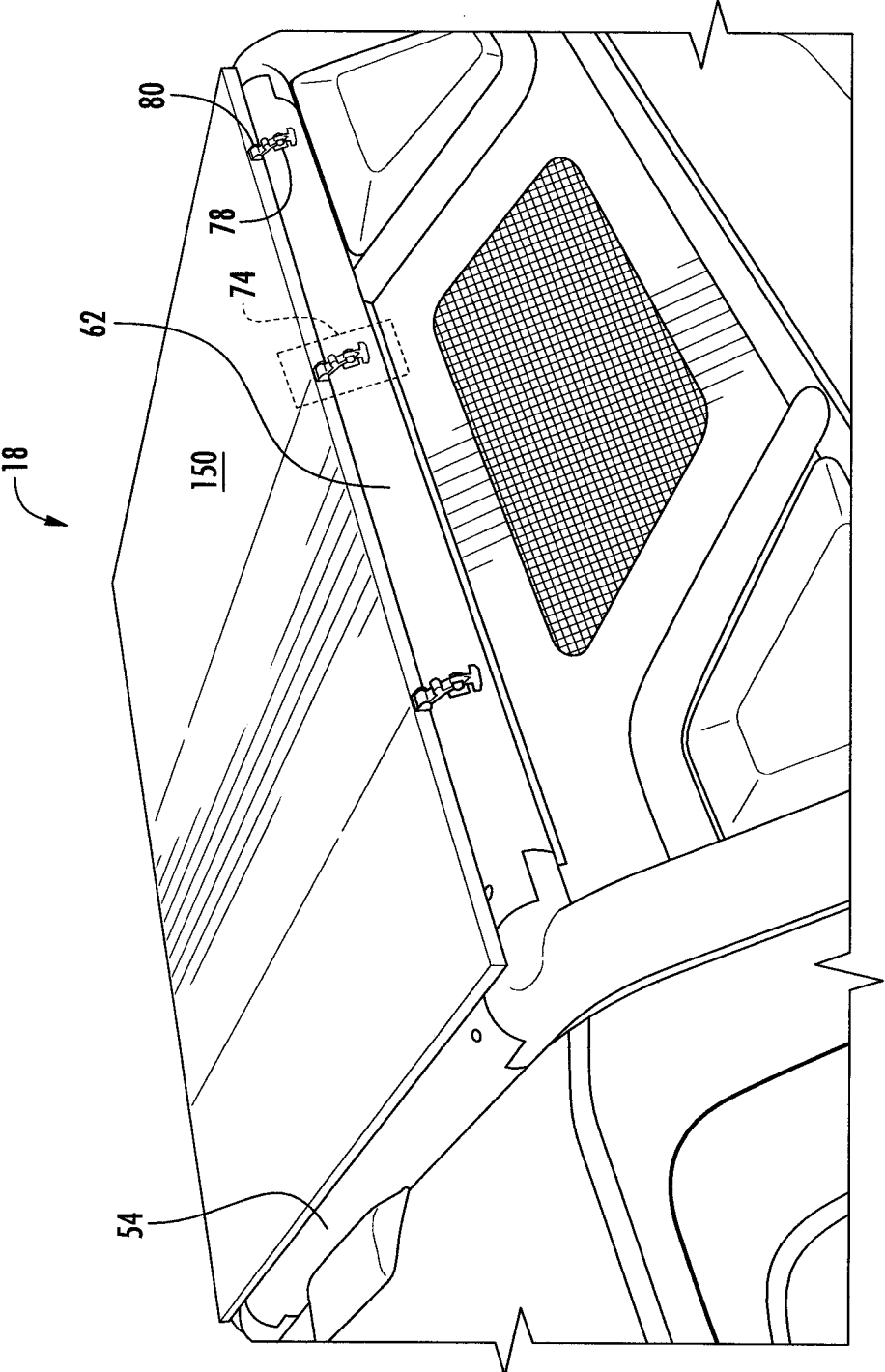


FIG. 19

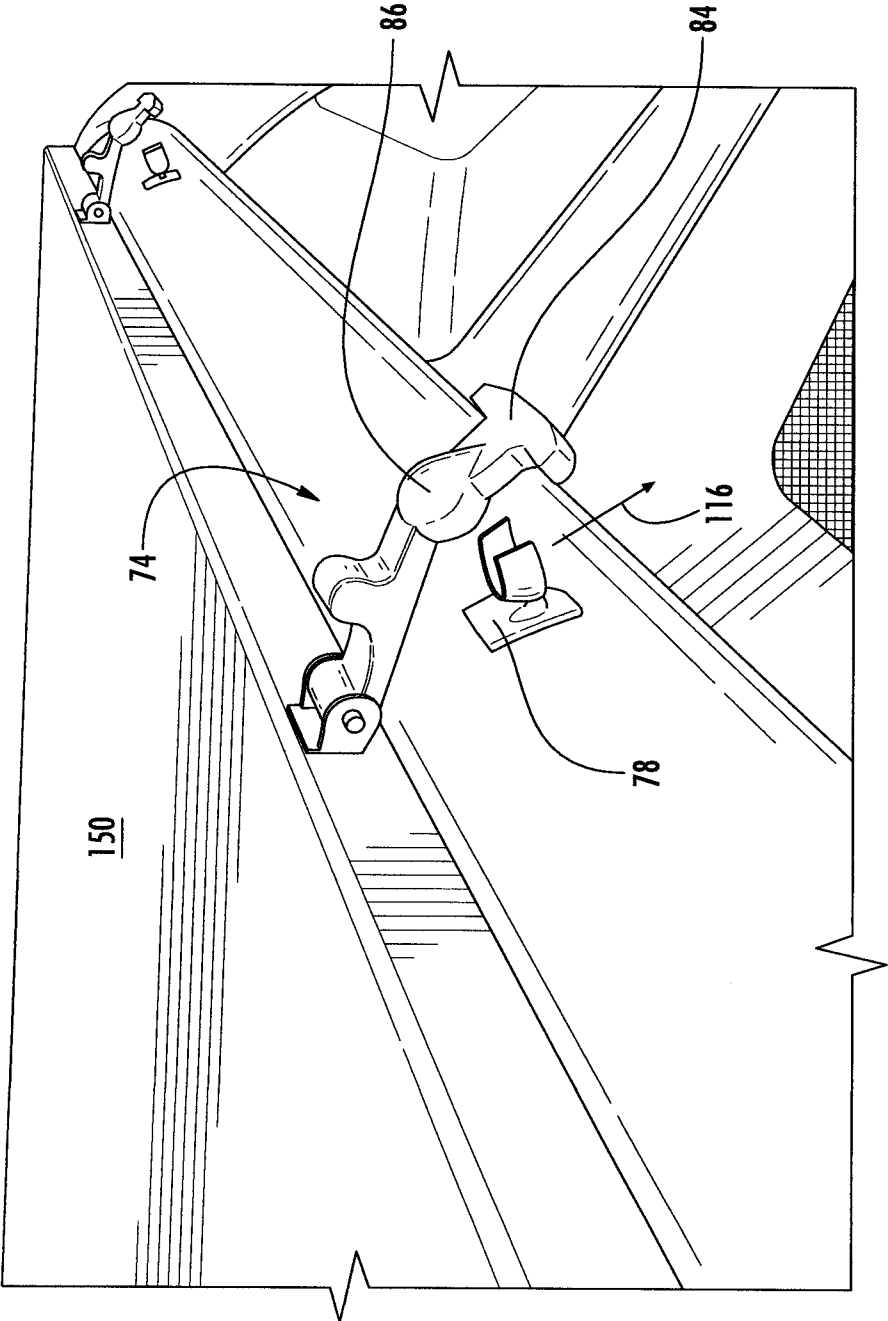


FIG. 20

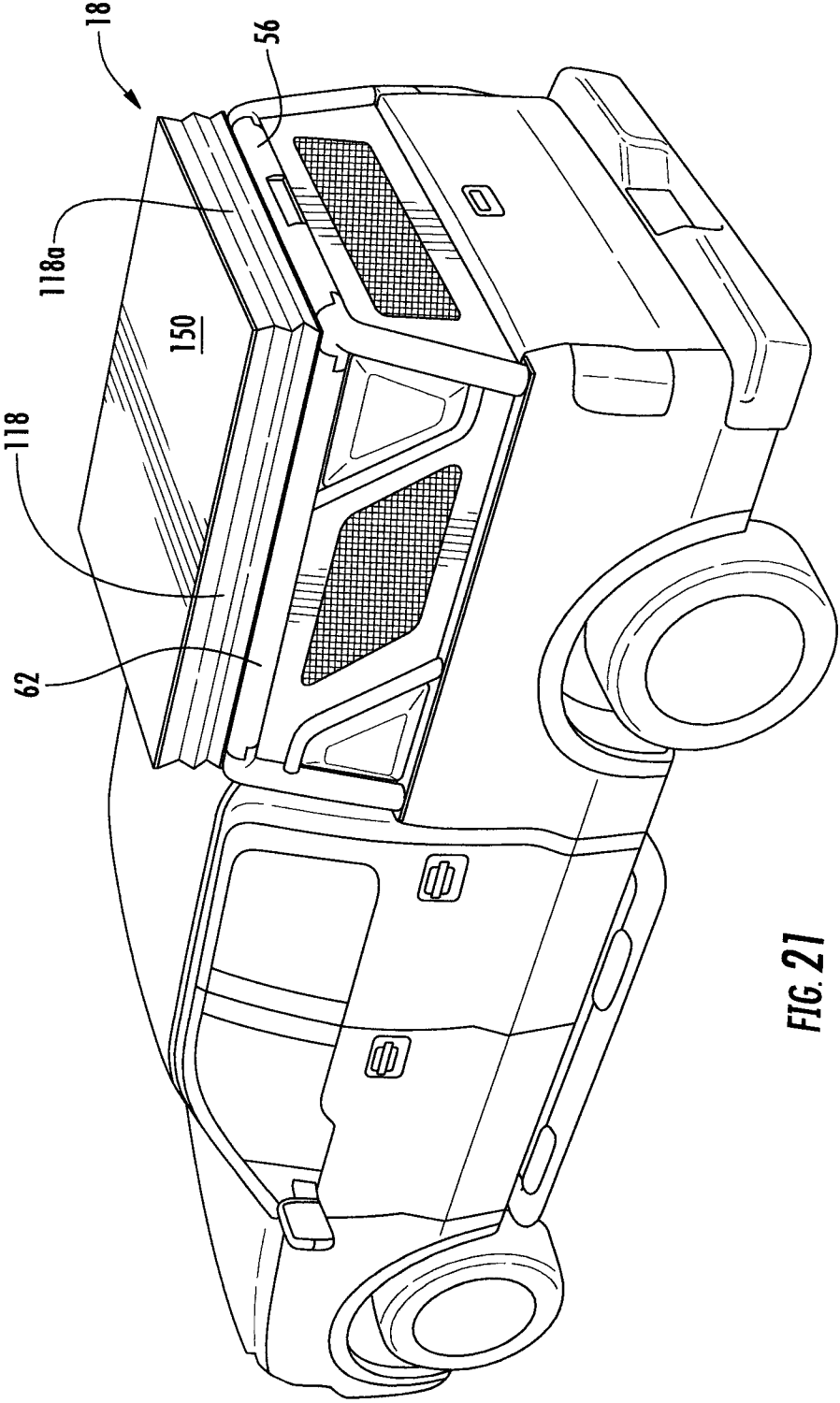
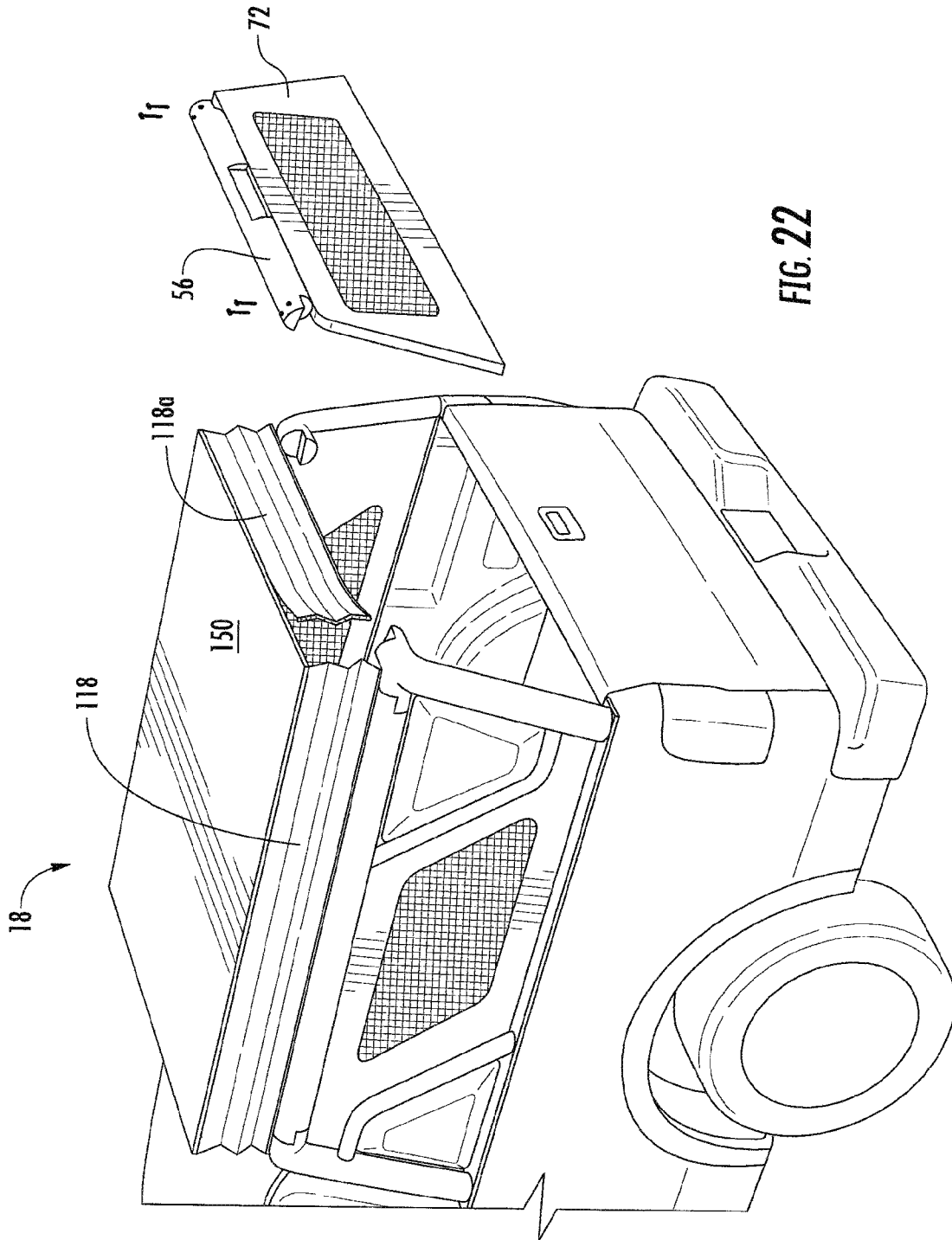


FIG. 21



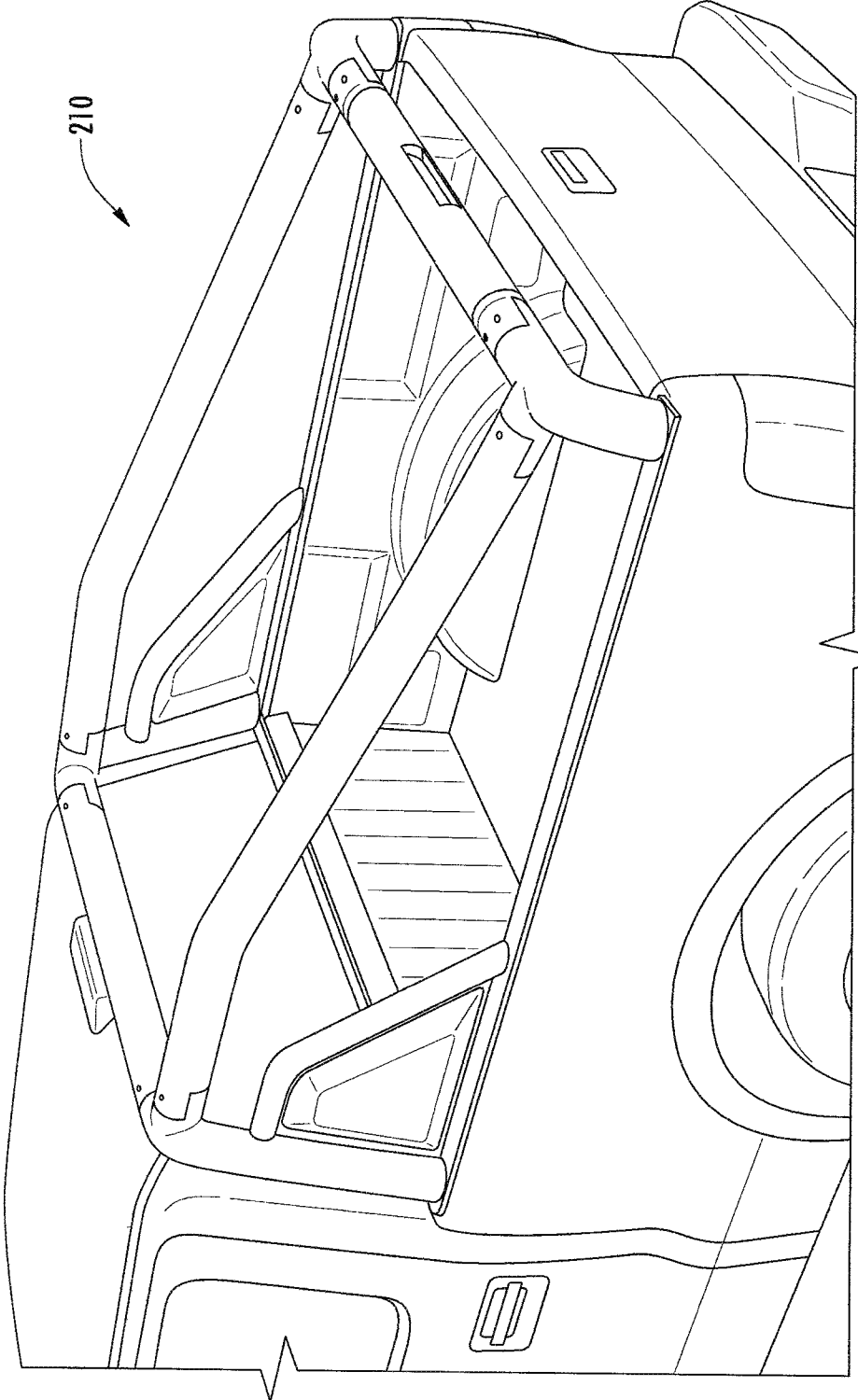


FIG. 23

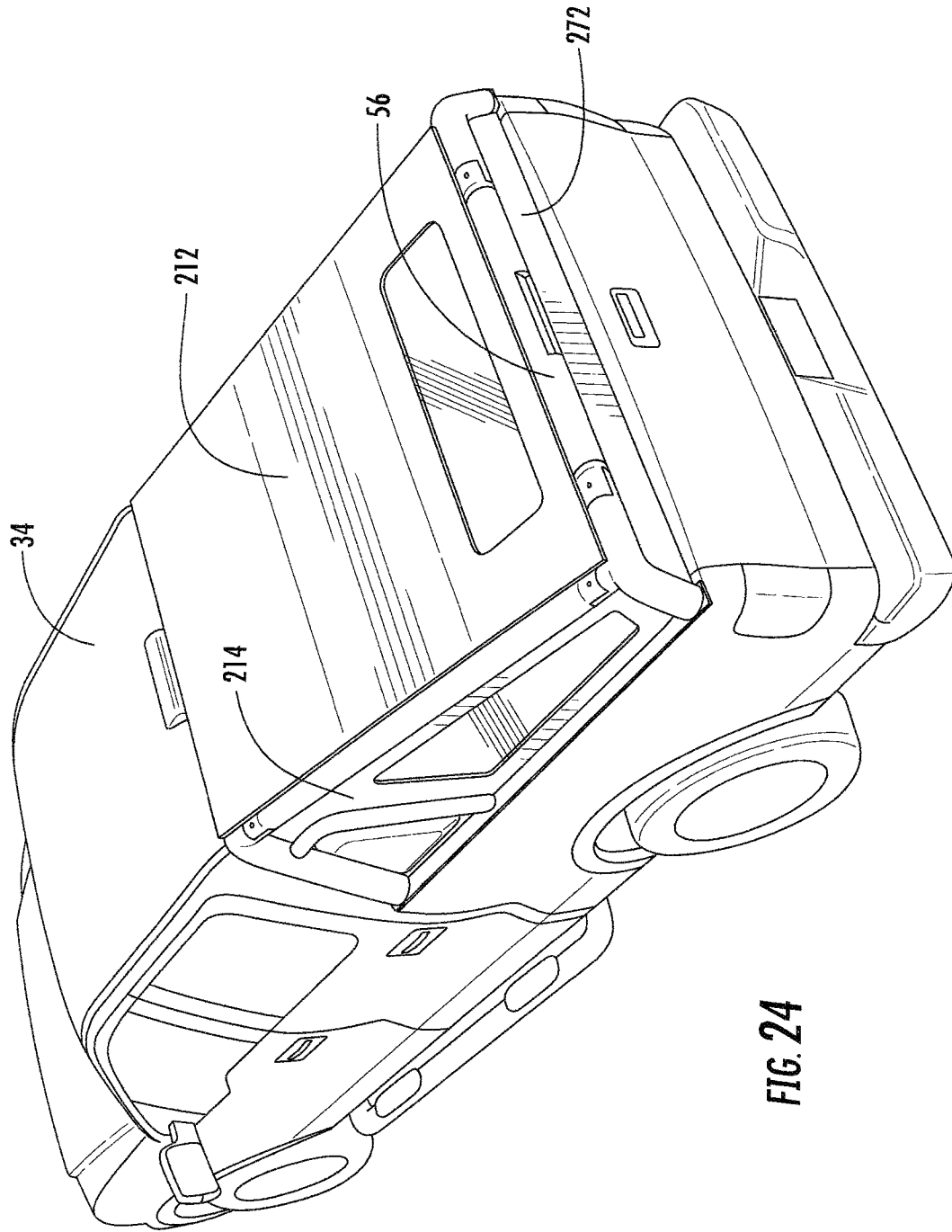


FIG. 24

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**SKELETON FOR TRUCK BED AND
CONVERTIBLE TOP**CROSS-REFERENCE TO RELATED
APPLICATIONS

Not Applicable

STATEMENT RE: FEDERALLY SPONSORED
RESEARCH/DEVELOPMENT

Not Applicable

BACKGROUND

The various embodiments and aspects described herein relate to a truck bed accessory.

Sales of trucks have grown in the United States and abroad. These trucks are not only for industrial use but also for personal use. Individuals like trucks because they are versatile in that they can carry a load in the truck bed and also be configured to provide a protective covering over the truck bed. However, there are certain deficiencies in truck bed accessories.

Accordingly, there is a need in the art for improvement in use of truck bed accessories.

BRIEF SUMMARY

An accessory frame for a truck bed of the truck is disclosed herein. The accessory frame can be configured to provide for enclosure and also reconfigured so that the driver can utilize the full length, width, and height of the truck bed. For example, the accessory frame when configured to be open, a motorcycle can be loaded onto the truck bed even if the motorcycle is taller than the accessory frame. If the driver wants to form an enclosure over the truck bed, a foldable top can be deployed over the frame and also side panels can be attached to the frame to form the enclosure. Other accessories are also removably attachable to the frame including but not limited to a rack, flood lights and other accessories.

More particularly, a truck bed frame with a top traversable between a first opened configuration and a second closed configuration is disclosed. The may comprise the following components. A forward driver side post and a forward passenger side post disposed at forward corners of the truck bed, the forward driver and passenger side posts extending vertically upward with distal ends terminating at least about a height of the cab. A first set of rearward driver side post and a rearward passenger side post disposed at rearward corners of the truck bed. The first set of the rearward driver and passenger side posts may extend vertically upwards. A first set of driver and passenger side longitudinal extension members may extend between the forward and rearward driver and passenger side posts. A first top part of the top may be extendable between and may be removably attachable to the first set of driver and passenger side longitudinal extension members so that the first top part is traversed to the first opened configuration when the first top part is removed from the first set of driver and passenger side longitudinal extension members, and the top is traversed to the second closed configuration when the first top part is attached to the first set of driver and passenger side longitudinal extension members.

The first top part may further comprise a first rear cross member that extends between and is removably attachable to

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the upper portions of the rearward driver and passenger side posts of the first set. The first rear cross member may be removed from the upper portions of the first set of rearward driver and passenger side posts when the first top part is traversed to the first opened configuration. The first rear cross member may be attached to the upper portions of the first set of rearward driver and passenger side posts when the first top part is traversed to the second closed configuration.

The first top part may further comprise a first rear covering attachable to the first rear cross member and the first set of rearward driver and passenger side posts for providing a rain water tight seal with the first set of rearward driver and passenger side posts and the first rear cross member.

The frame may further comprise a front cross member that extends between and is attached to the upper portions of the forward driver and passenger side posts.

The frame may further comprise a front covering attachable to the front cross member and the forward driver and passenger side posts for providing a rain water tight seal with the forward driver and passenger side posts and the front cross member.

The frame may further comprise first driver and passenger side coverings attachable to the first set of driver and passenger side longitudinal extension members and the forward driver and passenger side posts and the first set of the rearward driver and passenger side posts for providing a rain water tight seal with the first set of driver and passenger side longitudinal extension members and the forward driver and passenger side posts and the first set of rearward driver and passenger side posts.

The first top part may be collapsible.

The frame may further comprise a second set of rearward driver side post and a rearward passenger side post which are shorter than the first set of the rearward driver side post and rearward passenger side post; and a second set of driver and passenger side longitudinal extension members that extend between and is attachable to the forward driver and passenger side posts and the second set of rearward driver and passenger side posts.

The frame may further comprise a second top part extendable between and is removably attachable to the second set of driver and passenger side longitudinal extension members so that the second top part is traversed to the first opened configuration when the second top part is removed from the second set of driver and passenger side longitudinal extension members, and the second top part is traversed to the second closed configuration when the second top part is attached to the second set of driver and passenger side longitudinal extension members.

The second top part may further comprises a second rear cross member that extends between and is removably attachable to the upper portions of the rearward driver and passenger side posts of the second set. The second rear cross member may be removed from the upper portions of the second set of rearward driver and passenger side posts when the second top part is traversed to the first opened configuration, and the second rear cross member may be attached to the upper portions of the second set of rearward driver and passenger side posts when the second top part is traversed to the second closed configuration.

The frame may further comprise second driver and passenger side coverings attachable to the second set of driver and passenger side longitudinal extension members and the forward driver and passenger side posts and the second set of the rearward driver and passenger side posts for providing a rain water tight seal with the second set of driver and passenger side longitudinal extension members and the

forward driver and passenger side posts and the second set of rearward driver and passenger side posts.

The second top part may further comprise a second rear covering attachable to the second rear cross member and the second set of rearward driver and passenger side posts for providing a rain water tight seal with the second set of rearward driver and passenger side posts and the second rear cross member.

BRIEF DESCRIPTION OF THE DRAWINGS

These and other features and advantages of the various embodiments disclosed herein will be better understood with respect to the following description and drawings, in which like numbers refer to like parts throughout, and in which:

FIG. 1 is a perspective view of a truck;

FIG. 2 is a perspective view of a truck bed with the frame being assembled on the truck bed;

FIG. 3 is a perspective view of the truck bed with the frame being further assembled on the truck bed;

FIG. 4 is a perspective view of the truck bed and the frame with a top folded over a cab of the truck;

FIG. 5 is a perspective view of the truck bed and frame with the top being deployed on the frame;

FIG. 6 is a perspective view of the truck bed and the frame with the top and side panels deployed on the frame;

FIG. 7 is a perspective view of the truck bed and the frame with the side panels removed from the frame;

FIG. 8 illustrates side panels being mounted to the frame;

FIG. 9 illustrates rubber lockouts for securing the folded top to the cab, as shown in FIG. 4;

FIG. 10 illustrates the side panel and a first embodiment of securing the side panel to the frame;

FIG. 11 illustrates a side panel and a second embodiment of securing the side panel to the frame;

FIG. 12 illustrates a motorcycle being loaded on the truck bed and the top being in a stored position over the cab;

FIG. 13 illustrates a motorcycle loaded on the truck bed;

FIG. 14 illustrates a front edge of the top capable of being pivoted so that the folded top can be stored on top of the cab;

FIG. 15 illustrates a rack being mountable to the frame;

FIG. 16 illustrates the rack of FIG. 15 resting on the frame;

FIG. 17 illustrates the rack of FIG. 15 with clamps secured to the frame;

FIG. 18 illustrates front headlights mounted to the frame;

FIG. 19 illustrates a pop up top in a down position;

FIG. 20 illustrates rubber lockouts being disengaged so that the pop up top can be traversed to an up position;

FIG. 21 illustrates the pop up top in the up position;

FIG. 22 illustrates how to open up the pop up top so that a motorcycle being higher than frame can fit within the truck bed;

FIG. 23 illustrates a second embodiment of the frame; and

FIG. 24 illustrates the second embodiment shown in FIG. 23 with the foldable top and removably attachable side panels.

DETAILED DESCRIPTION

Referring now to the drawings, a truck bed accessory frame 10, 210 (see FIGS. 4 and 23) is shown. The frame 10, 210 allows for various accessories to be removably mounted thereto such as a foldable top 12 (see FIGS. 4 and 14), removable side panels 14 (see FIG. 8), roof rack 16 (see FIG. 16), and pop-up top 18 are shown. The truck bed accessory frame 10, 210 may be configured to be enclosed, as shown

in FIG. 15, partially open by removing one or more panels 14 or have an open top by removing the top 12 (see FIG. 13) so that a motorcycle 20 can fit in a truck bed 22. The truck bed accessory frame may form a box configured storage area, as shown in FIG. 9, or a slant back configuration, as shown in FIGS. 12, and 23-25. The truck bed accessory frame 10, 210 provides for flexible configuration that allows the user to have an enclosed truck bed area and one that is reconfigurable so that the full-length and height of the truck bed can be utilized and does not prevent the user from loading a motorcycle or something that is too high on the truck bed because of the truck bed accessory frame 10, 210.

Referring now to FIG. 1, a truck 24 shown. The truck 24 may have the truck bed 22. The truck bed has first and second sidewalls 26, 28, a tailgate 30, a front wall 32 and a cab 34 which is disposed in front of the front wall 32. The cab 34 also has a height 36 that extends vertically above a top edge 38 of the front wall 32. The truck bed 22 may have a length 40 of a short bed (e.g. 6 feet to 6.5 feet) or a long bed (e.g. 7 feet to 8 feet). The truck bed accessory frame 10, 210 may be sized and configured to be mounted to truck beds having various lengths 40 and widths 42.

Referring now to FIG. 2, the truck bed accessory frame 10 may have a forward driver side post 44, a forward passenger side post 46, a rearward driver side post 48, a rearward passenger side post 50 which are respectively aligned to corners of the truck bed 22, namely, the intersection between the first side wall 26 and the front wall 32, the intersection between the second sidewall 28 and the front wall 32 and the rear end portions of the first and second sidewalls 26, 28. The forward driver side and passenger side posts 44, 46 and the rearward driver side and passenger side posts 48, 50 may be mounted to a subframe 52. The subframe 52 may extend from the forward driver side post 44 to the rearward driver side post 48 and from the forward driver side post 44 to the forward passenger side post 46 and from the forward passenger side post 46 to the rearward passenger side post 50. The posts 44, 46, 48, 50 may be welded to the subframe 52. The subframe 52 may extend along the length of both sidewalls 26, 28 and along the front side above the top edge 38 of the front wall 32. The rearward driver side and passenger side posts 48, 50 may be similarly sized to the forward driver side and passenger side posts 44, 46, or alternatively, a rearward driver side and passenger side posts 248, 250 may be shorter as shown in FIG. 23, as will be discussed further below.

The truck bed accessory frame 10, 210 may have a front crossmember 54 and a rear crossmember 56. The front crossmember 54 may be secured to the forward driver side and passenger side posts 44, 46 with fasteners. The front crossmember 54 and the upper end portions of the forward driver side and passenger side posts 44, 46 may have mating cutouts 58, 60, as shown in FIG. 2. The rear crossmember 56 may be secured to the rearward driver side and passenger side posts 48, 50 with fasteners as well. Similar to the front crossmember 54, the rear crossmember 56 and the upper end portions of the rearward driver side and passenger side posts 48, 50 may have mating cutouts 58, 60, as shown in FIG. 5. Although fasteners are not shown, they may be inserted into the apertures and received into respective threaded apertures. Additionally, the rear crossmember 56 may be easily removed and attached to the rearward driver side and passenger side posts 48, 50 by utilizing speed fasteners such as ball-lok pins fabricated by Avibank Manufacturing in Burbank, Calif.

Referring now to FIG. 3, the truck bed accessory frame 10 may also have driver and passenger side longitudinal exten-

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sion members **62, 64**. The extension members **62, 64** may be secured to the forward and rearward driver side posts **44, 48** wherein the extension member **62, 64** on opposing end portions thereof and the upper end portions of the forward and rearward driver side posts **44, 48** may have mating cutouts **58, 60** that are secured to each other with fasteners, and the upper end portions of the forward and rearward passenger side posts **46, 50** may have mating cutouts **58, 60** that are secured to each other with fasteners.

Referring now to FIGS. 4-7, the foldable top **12** is shown. The foldable top **12** may be stored above the cab **34** when the user wants full use of the truck bed **22**. Alternatively, the user can deploy the top **12** as shown in FIGS. 6 and 7 so that the truck bed **22** is enclosed. The enclosure formed by the truck bed accessory frame **10** may be fully enclosed by securing side panels **14** to the respective posts **44, 46, 48, 50** and the front crossmember **54**. The top **12** may have three panels **66, 68, 70** and a rear hatch **72**. The panels **66, 68, 70** and the rear hatch **72** may be folded upon each other and stored above the cab **34**, as shown in FIG. 4. The foldable top **12** may be secured to the roof of the cab **34** with rubber lockouts **74** (see FIG. 9). The rubber lockouts **74** may be attached to the rear hatch **72** and the roof of the cab **34** on both sides of the rear hatch **72**. The rubber lockouts **74** may be secured to roof accessory rails **76** of the cab **34**. The rubber lockouts **74** has a first part **78** secured to the rail **76** of the roof of the cab **34**. The rubber lockouts **74** also has a second part **80** secured to the rear hatch **72**. There is a rubber extension member **82** that is pivotally secured to the second part **80**. The rubber extension member **82** may have a handle **84** that can be grasped to stretch the rubber extension member **82** so that an enlarged portion **86** can be pulled out of the first part **78** to dislodge the enlarged portion **86** of the rubber extension member **82** out of the first part **78**. In this way, the panels **66, 68, 70** and the rear hatch **72** may be traversed from the stored position as shown in FIG. 4 to the deployed position as shown in FIG. 7. Left and right edges **88, 90** of the panels **66, 68, 70** may be secured to the driver and passenger side longitudinal extension members **62, 64** with removable fasteners including but not limited to screws, ball-lok pins and rubber lockouts **74** that are secured along the length of the edges **88, 90** and the driver and passenger longitudinal extension members **62, 64**. Also, the rear crossmember **56** may be secured to the upper end portions of the rearward driver side and passenger side posts **48, 50** with fasteners or quick release fasteners.

Referring now to FIGS. 5-7, the rubber lockouts are not shown. However, this is merely for purposes of clarity. As is the case in relation to FIG. 19, the rubber lockouts **74** may be disposed about the top **12** in order to hold the top **12** down while driving the truck **24**.

Referring now to FIG. 8, panels **14** may be secured to the frame **10** in order to form an enclosure. The panels **14** may be attached to the sides and the front of the frame **10**. The panels **14** may be removably secured to the posts **44, 46, 48, 50** and the front crossmember **54** as shown in FIGS. 10 and 11. In FIGS. 10 and 11, the side panel **14** is shown as being removably securable to the passenger longitudinal extension member **64** and the rearward passenger side post **50** and the subframe **52**. The subframe **52** and the rearward passenger side post **50** are shown as being detached from each other but this is for clarity. The bottom end of the rearward passenger side post **50** may be permanently secured to the subframe **52**. The rearward passenger side post **50** is shown as being detached from the passenger longitudinal extension member **64** for the purpose of showing the interconnection between the panel **14** and the subframe **52**, the rearward

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passenger side post **50** and the passenger longitudinal extension member **64**. FIGS. 10 and 11 illustrate two different means of attaching the panel to the frame **10**. In FIG. 10, the panel **14a** may be secured to the rearward passenger side post **50** with hooks and loops. The upper edge of the panel **14a** may be secured to the passenger longitudinal extension member **64** with a T slot. The panel **14a** may have a T shaped male prong **94** and the passenger longitudinal extension member **64** may have a mating T shaped cavity **96**. The T shaped male prong **94** may be slid into the female cavity **96**. Thereafter, the passenger longitudinal extension member **64** may be secured to the passenger side posts **46, 50** with fasteners. The hooks and loops **92** may be used to attach the panel **14a** to the forward and rearward passenger side posts **46, 50**. Hooks and loops may also be used to secure the panel **14a** to the subframe **52**. Once the panel **14a** is secured, a zipper **98** may be used to open up or close the side of the frame **10**. The same structure used to secure the panel **14a** to the passenger side of the frame **10** may also be utilized to secure a panel **14a** to the front and driver sides of the frame **10**.

In FIG. 11, the panel **14b** may be secured to the frame **10** in the same manner except that the panel **14b** does not have a zippered window and the interconnection between the panel **14b** and the passenger longitudinal extension member **64** may be with an L shaped slot. In particular, this embodiment allows the panel **14b** to be secured to the frame while the passenger longitudinal extension member **64** is already mounted to the passenger side posts **46, 50**. The L shaped prong **100** may be received into an L shaped cavity **102**. Fasteners **106** may be used to screw and hold the L shaped prong **100** into the L shaped cavity **102**. The interconnections between the T shaped prong and the L shaped prong **94, 100** form a watertight connection. The T shaped prong and the L shaped prong **94, 100** connects to form a watertight connection with the passenger longitudinal extension member **64**, driver longitudinal extension member **62** and the front crossmember **54**.

Referring now to FIGS. 12 and 13, the motorcycle **20** may be loaded onto the truck bed. This is true even if the height of the motorcycle extends above the front cross member **54** and the driver and longitudinal extension members **62, 64**. When the motorcycle **20** is loaded onto the truck bed **22**, the foldable top **12** is secured to the cab **34** with the rubber lockouts **74**. Additionally, the panels **14** prevent dirt and debris from entering the truck bed **22**. The motorcycle **20** may be locked down to the truck bed **22**.

Referring now to FIG. 14, a hinge **104** is shown which allows the foldable top **12** to be stored over the cab **34**. In particular, the hinge **104** may be secured to the front cross member **54** with fasteners **106** and the panel **66** of the foldable top **12**. The panel **66** is rotatable 180° about a pivot axis **108** in the direction of rotational arrow **110**.

Referring now to FIGS. 15-18, the rack **16** may be secured to the driver and passenger longitudinal extension members **62, 64**. In particular, the rack **16** may have clamps **112** that can be traversed between the released position, as shown in FIGS. 15-16 and an engaged position as shown in FIG. 17. With the clamps **112** in the released position, the clamps **112** are laid on top of the driver and passenger longitudinal extension members **62, 64** as shown in FIG. 16. The clamps **112** are then traversed (i.e. rotated) in order to clamp to the driver and passenger longitudinal extension members **62, 64**.

Additionally, in FIG. 18, flood lights **114** may be mounted to the frame **10**, namely, the forward driver side and passenger side posts **44, 46** and/or the front crossmember **54**.

Referring now to FIGS. 19-22, a pop-up top 18 is shown. The pop-up top 12 may be extended upward, as shown in FIG. 21 so that the interior volume defined by the frame 10 may be enlarged in order to hold larger items within the truck bed 22. The pop-up top 18 may have a generally rigid top panel 150. The top panel 150 may be sufficiently large to cover the entire area from the front crossmember 54 to the rear crossmember 56 between the driver and passenger longitudinal extension members 62, 64. The top panel 150 of the pop-up top 18 is biased to the up position as shown in FIG. 21. In order to hold the top panel 150 in the down position which is shown in FIG. 19, the pop-up top 18 may include a plurality of rubber lockouts 74 around the periphery of the top panel 150.

The first part 78 may be attached to the driver and passenger longitudinal extension members 62, 64 and the front and rear crossmembers 54, 56. The second part 80 may be attached to the periphery of the top panel 150. In FIG. 19, the rubber lockouts 74 are shown as being only on the driver side of the top panel 150 but it is also contemplated that the rubber lockouts 74 may be disposed around the entire periphery so that one or more rubber lockouts 74 are on opposed sides of the top panel, specifically, the front and rear sides of the top panel 150 and/or the driver and passenger sides of the top panel 150.

Referring now to FIG. 20, the rubber lockout may be disengaged so that the top panel 150 can pop upward. By gripping the handle 84 and pulling downward in the direction of arrow 116, the enlarged portion 86 is removed from the first part 78. Once the enlarged part 86 clears the first part 78, the user releases the handle 84. All of the rubber lockouts 74 are disengaged so that the top panel 150 may be traversed upward. Additionally or alternatively, although not shown, rubber lockouts 74 may be placed on the inside or under the top panel 150 and on the interior of the frame 10. In this regard, the rubber lockouts 74 must be disengaged by having the user climb into the truck bed and disengage each of the rubber lockouts 74. The rubber lockouts 74 disposed on the inside may be placed about a periphery in the same manner as that of the rubber lockouts 74 disposed on the exterior side shown in FIGS. 19-20.

Referring now to FIG. 21, the pop-up top 18 is shown. The top panel 150 is in the up position. In that up position, there are a plurality of pleated sides 118 about the entire periphery of the top panel 150 that extends from the top panel 150 to the front and rear crossmembers 54, 56 and the driver and passenger longitudinal extension members 62, 64. The pleated sides 118 and the top panel 150 enlarge the interior volume of the frame 210 so that, if needed, the truck bed 22 can fit a motorcycle. In order to fit the motorcycle, the pleated side 118a on the backside of the top panel 150 may be removed. In particular, as shown in FIG. 22, the pleated side 118a may be secured to the back edge of the top panel 150, the left and right pleated sides 118 and the rear crossmember 56 through any connection mechanism including but not limited to hooks and loops, snaps and other fastening mechanisms known in the art. In order to fit a motorcycle into the truck bed, the pleated side 118 may be removed as well as the rear crossmember 56 and the rear hatch 72. The motorcycle may be placed in the truck bed 22 then the pleated side 118a and the rear crossmember 56 and rear hatch 72 may be mounted back onto the pop-up top 18 and the frame 10. Instead of removing the pleated side 118a, the short left and right vertical sides may be removed from the driver side and passenger side pleated sides 118. Also, the bottom of the pleated side 118 may be removed from the

rear crossmember 56. The pleated side 118a may be flipped up and over so that it rests on top of the top panel.

Referring now to FIGS. 23-25, a second embodiment of the frame 210 is shown. In particular, the frame 210 may have a shortened rearward driver side and passenger side posts 248, 250. The rearward driver side and passenger side posts 48, 50 as well as the forward driver side and passenger side posts 44, 46 may extend up to about a height of the cab 34. In the frame 210, the forward driver side and passenger side posts 44, 46 may still come up to about the height of the cab 34 but the rearward driver side and passenger side posts 248, 250 may be about one half or less of the height of the forward driver side and passenger side posts 44, 46. The driver and passenger longitudinal extension members 262, 264 may extend backwards and slope downward as shown in FIG. 23. The second embodiment of the frame 210 illustrates a different configuration from that of the frame 10 to illustrate that the frame may have different configurations but nevertheless can form an enclosed volume as shown in FIG. 24 in the truck bed but also allow the side panels 214 to be removably attachable to the frame 210 in the same manner as that described in relation to the frame 10. Additionally, the top 212 and the rear hatch 272 may be foldable and stored on top of the cab for the same manner as that described in relation to frame 10.

The various accessories (e.g. foldable top, pop-up top, rack, floodlights, side panels) that are multiple to the frame 10 may also be configured to be used in relation to the frame 210. By way of example and patient, the top 212 may be stored above the cab 34 and held over the cab with rubber lockouts 74. This is the stored position of the top 212. The deployed position in order to form the enclosure is shown in FIG. 24. A pop-up top may be void on the frame 212. Instead of being traversed vertically up as shown in FIG. 21, the pop-up top employed on the frame 210 will be traversed upward at an angle defined by the driver and passenger longitudinal extension members 262, 264. The rack may be attached to the driver and passenger longitudinal extension members 262, 264 in the same manner described above in relation to frame 10. Likewise, floodlights may be mounted to the frame 210 in the same manner described above in relation to frame 10. Additionally, side panels may be shaped to the size of the frame 210 and the side panels may be mounted to the frame 210 in the same manner described above in relation to the frame 10.

The frames may have triangular reinforcement bars 116 that extend from forward driver side posts to the subframe 52, from the forward passenger side posts 46 to the subframe 52, from the driver longitudinal extension member 62 to the rear driver side post 48 and from the passenger longitudinal extension member 64 to the rear passenger side post 50. The triangular reinforcement bar 116 adds rigidity to the frame 10, 210.

The top and side panels may form a waterproof seal along with the front cross member, rear cross member and the driver and passenger longitudinal extension members with a gasket placed around a section or the entire periphery of the top and panels 14. The gasket may be an elongate rubber piece that mates with both the top and side panels and the front cross member, rear cross member and the driver and passenger longitudinal extension members. The weight of the top may press down on the gasket to form the watertight seal. Also, the rubber lockouts may place downward pressure from the top onto the gasket to further ensure the watertight seal. Other means of forming the waterproof seal are also contemplated such as the means explained in relation to FIGS. 10 and 11. Moreover, the side panels 14

may form a waterproof seal with the forward and rearward driver side posts and the forward and rearward passenger side posts with a gasket disposed between the side panels and the forward and rearward driver side posts and the forward and rearward passenger side posts. Other means of forming the waterproof seal are also contemplated such as the means explained in relation to FIGS. 10 and 11. In particular, the interconnection shown in FIGS. 10 and 11 may be formed between the panel and the forward and rearward driver side posts and the forward and rearward passenger side posts as well as the subframe 52.

The above description is given by way of example, and not limitation. Given the above disclosure, one skilled in the art could devise variations that are within the scope and spirit of the invention disclosed herein. Further, the various features of the embodiments disclosed herein can be used alone, or in varying combinations with each other and are not intended to be limited to the specific combination described herein. Thus, the scope of the claims is not to be limited by the illustrated embodiments.

What is claimed is:

1. A truck bed frame with a top traversable between a first opened configuration and a second closed configuration, the frame comprising:

a forward driver side post and a forward passenger side post disposed at forward corners of the truck bed, the forward driver and passenger side posts extending vertically upward with distal ends terminating at least about a height of the cab;

a first set of rearward driver side post and a rearward passenger side post disposed at rearward corners of the truck bed, the first set of the rearward driver and passenger side posts extending vertically upwards;

a first set of driver and passenger side longitudinal extension members that extend between the forward and rearward driver and passenger side posts;

the top is traversed to the first opened configuration when the top is removed from the first set of driver and passenger side longitudinal extension members, and the top is traversed to the second closed configuration when the top is attached to the first set of driver and passenger side longitudinal extension members;

a front cross member that extends between and is attached to the upper portions of the forward driver and passenger side posts;

first driver and passenger side coverings attached to an inner periphery of the first set of driver and passenger side longitudinal extension members and the forward driver and passenger side posts and the first set of the rearward driver and passenger side posts for providing a rain water tight seal with the first set of driver and passenger side longitudinal extension members and the forward driver and passenger side posts and the first set of rearward driver and passenger side posts and for making the driver and passenger side longitudinal extension members, forward driver and passenger side posts, rearward driver and passenger side posts externally visible.

2. The frame of claim 1 wherein the first top part further comprises a first rear cross member that extends between and is removably attachable to the upper portions of the rearward driver and passenger side posts of the first set, the first rear cross member being removed from the upper portions of the first set of rearward driver and passenger side posts when the first top part is traversed to the first opened configuration, and the first rear cross member being attached

to the upper portions of the first set of rearward driver and passenger side posts when the first top part is traversed to the second closed configuration.

3. The frame of claim 2 wherein the first top part further comprises a first rear covering attachable to the first rear cross member and the first set of rearward driver and passenger side posts for providing a rain water tight seal with the first set of rearward driver and passenger side posts and the first rear cross member.

4. The frame of claim 1 further comprising a front covering attachable to the front cross member and the forward driver and passenger side posts for providing a rain water tight seal with the forward driver and passenger side posts and the front cross member.

5. The frame of claim 1 wherein the first top part is collapsible.

6. The frame of claim 1 further comprising:

a second set of rearward driver side post and a rearward passenger side post which are shorter than the first set of the rearward driver side post and rearward passenger side post;

a second set of driver and passenger side longitudinal extension members that extend between and is attachable to the forward driver and passenger side posts and the second set of rearward driver and passenger side posts.

7. The frame of claim 6 further comprising:

a second top part extendable between and is removably attachable to the second set of driver and passenger side longitudinal extension members so that the second top part is traversed to the first opened configuration when the second top part is removed from the second set of driver and passenger side longitudinal extension members, and the second top part is traversed to the second closed configuration when the second top part is attached to the second set of driver and passenger side longitudinal extension members.

8. The frame of claim 7 wherein the second top part further comprises a second rear cross member that extends between and is removably attachable to the upper portions of the rearward driver and passenger side posts of the second set, the second rear cross member being removed from the upper portions of the second set of rearward driver and passenger side posts when the second top part is traversed to the first opened configuration, and the second rear cross member being attached to the upper portions of the second set of rearward driver and passenger side posts when the second top part is traversed to the second closed configuration.

9. The frame of claim 6 further comprising second driver and passenger side coverings attachable to the second set of driver and passenger side longitudinal extension members and the forward driver and passenger side posts and the second set of the rearward driver and passenger side posts for providing a rain water tight seal with the second set of driver and passenger side longitudinal extension members and the forward driver and passenger side posts and the second set of rearward driver and passenger side posts.

10. The frame of claim 6 wherein the second top part further comprises a second rear covering attachable to the second rear cross member and the second set of rearward driver and passenger side posts for providing a rain water tight seal with the second set of rearward driver and passenger side posts and the second rear cross member.

11. The frame of claim 1 wherein the top includes a first top part, the first top part being extendable between and is removably attachable to the first set of driver and passenger

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side longitudinal extension members, the top is traversed to the first opened configuration when the first top part is removed from the first set of driver and passenger side longitudinal extension members, and the top is traversed to the second closed configuration when the first top part is attached to the first set of driver and passenger side longitudinal extension members.

12. The frame of claim 1 wherein the rain water tight seal is formed with a tongue and groove connection.

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