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CARRYCOT WITH COUPLER FOR ATTACHING TO A CARRIAGE, STAND, OR OTHER SUPPORT STRUCTURE

Abstract

In one example, a carrycot couples to a support frame to support the carrycot above a support surface. The carrycot has a carrycot frame having a first side and a second side that are spaced from one another so as to define a space therebetween that supports a child therein. The carrycot has a set of attachment features that is disposed at the first side and removably attaches to a bayonet of the support frame. The set of attachment features includes (1) a bayonet receptacle that receives a first portion of the bayonet and (2) a plunger that is spaced below the bayonet receptacle with respect to a vertical direction and is configured to engage an opening in a second portion of the bayonet.

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Background/Summary

CROSS-REFERENCE TO RELATED APPLICATIONS [0001] This application is a continuation of U.S. application Ser. No. 17/922,849 filed Nov. 2, 2022, which is a National Stage of PCT/US2021/031285 filed May 7, 2021, which claims priority to U.S. Provisional Application No. 63/021,974, filed May 8, 2020, the disclosures of which are hereby incorporated by reference as if set forth in their entirety herein.

TECHNICAL FIELD

[0002] The present disclosure relates generally to child carriers, and in particular, to child carriers such as carrycots and systems having carrycots.

BACKGROUND

[0003] Carrycots are portable cots or bassinets that can be used to transport infants. A conventional carrycot includes a frame that defines a receiving space for the infant, and soft goods attached to the frame to provide comfortable surfaces for the infant. A conventional carrycot can include a handle or pair of handles that a caregiver can grasp to carry the carrycot. In addition, a conventional carrycot can include attachment features to attach the carrycot to a stroller.

Description

BRIEF DESCRIPTION OF THE DRAWINGS

[0004] The following description of the illustrative embodiments may be better understood when read in conjunction with the appended drawings. It is understood that potential embodiments of the disclosed systems and methods are not limited to those depicted.

[0005] FIG. 1 shows a perspective view of a carrycot according to one example;

[0006] FIG. 2 shows a perspective view of the carrycot of FIG. 1 coupled to a carriage according to one example;

[0007] FIG. 3 shows a perspective view of a carrycot coupled to a wheelless stand according to one example, with soft goods removed from the carrycot;

[0008] FIG. 4 shows a perspective view of the stand of FIG. 3 according to one example;

[0009] FIG. 5 shows a perspective view of a frame of the carrycot of FIG. 1 according to one example, with soft goods removed;

[0010] FIG. 6 shows a perspective view of a bottom wall of the carrycot of FIG. 1;

[0011] FIG. 7 shows a perspective view of a support of the frame of FIG. 5 according to one example;

[0012] FIG. 8 shows a perspective view of a coupler of the bottom wall of FIG. 6 that is configured to couple to the support of FIG. 7;

[0013] FIG. 9 shows a perspective view of the coupler of FIG. 8 being coupled to the support of FIG. 7;

[0014] FIG. 10 shows a perspective view of an inner side of another support of the frame of FIG. 5 according to one example, the support including attachment features configured to attach to a support frame of a carriage or stand;

[0015] FIG. **11** shows an enlarged view of a coupler of the support of FIG. **10** according to one example, the coupler being configured to couple to the bottom wall of FIG. **6**;
[0016] FIG. **12** shows a cross-sectional side view of the coupler of FIG. **11** being coupled to a coupler of the bottom wall of FIG. **6**;
[0017] FIG. **13** shows a perspective view of the coupler of the bottom wall of FIG. **12**;
[0018] FIG. **14** shows a perspective view of the coupler of the bottom wall of FIG. **13** being coupled to the coupler of FIG. **11**;
[0019] FIG. **15** shows a perspective view of an outer side of the support of FIG. **10** according to one example;
[0020] FIG. **16** shows a plan view of the support of FIG. **15** with a surface of a receptacle thereof removed to show a bayonet received in the receptacle;
[0021] FIG. **17** shows a bayonet according to one example that can be used to implement a bayonet of the carriage of FIG. **2** or the stand of FIG. **4**;
[0022] FIG. **18** shows a side view of the bayonet of FIG. **17** being inserted into a receptacle of the support of FIG. **15**;
[0023] FIG. **19** shows a cross-sectional view of the bayonet of FIG. **17** and support of FIG. **15**, where the bayonet is received in the receptacle;
[0024] FIG. **20** shows a perspective view of the support of FIG. **15** with an outer surface removed to show an actuator that is configured to actuate a plunger of the support;
[0025] FIG. **21** shows a perspective view of the plunger of FIG. **20** in a latched position; and
[0026] FIG. **22** shows a perspective view of the plunger of FIG. **20** in an unlatched position.

DETAILED DESCRIPTION

[0027] Referring to FIGS. **1** to **4**, in general, a carrycot **100** of the disclosure is configured to be removably coupled to a support frame to support the carrycot **100** above a support surface, such as a floor. The support frame can be, for example, a frame of a carriage **200** or a stand **300**, and the carrycot **100** can comprise at least one set **102** of attachment features that enables the carrycot **100** to be removably coupled to at least one bayonet of a support frame. In some examples, the carrycot **100** can have first and second sets **102(1)** and **102(2)** of attachment features positioned at opposing sides of the carrycot **100**, where the first and second sets **102(1)** and **102(2)** of attachment features are configured to removably couple to first and second bayonets (e.g., **400(1)**, **400(2)**), respectively, of a support frame.

[0028] Referring more specifically to FIG. **2**, in some examples, the support frame can be a frame **202** of a carriage **200** such as a stroller. The frame **202** can comprise a plurality of legs **204**, such as at least three legs **204**, or such as at least four legs **204**. The carriage **200** comprises a plurality of wheels **206**, such as three wheels **206** or four wheels **206**, attached to the frame **202** such that the wheels **206** are configured to translate the frame **202** along the support surface. FIG. **2** shows one specific example in which the carriage **200** comprises four legs **204** and four wheels **206**. In particular, the carriage **200** comprises first and second rear legs **204** and first and second front legs **204**. The rear legs **204** are spaced from one another along a lateral direction A. The front legs **204** are spaced from one another along the lateral direction A. At least a portion of the front legs **204**, such as lower ends of the front legs **204**, are offset from the rear legs **204** along a longitudinal direction L, perpendicular to the lateral direction A. The legs **204** are configured to support the carrycot **100** such that the carrycot **100** is spaced from the support surface along a vertical direction V, perpendicular to both the lateral direction A and the longitudinal direction L.

[0029] The carriage **200** can comprise at least one bayonet **400** disposed on at least one side of the carriage **200**. In some examples, the carriage **200** can comprise first and second bayonets **400**, disposed on opposing sides of the carriage **200**. Note that, in FIG. **2**, the second bayonet **400** is disposed on the side of the carriage **200** that is behind the carrycot **100** and thus is not visible in the view of FIG. **2**. The opposing sides, and hence the first and second bayonets **400**, can be spaced from one another along the lateral direction A. In some examples, the carriage **200** can comprise a

push handle **210** that extends upwards from the frame **202**. The push handle **210** can extend above the carrycot **100** when the carrycot **100** is coupled to the carriage **200**. The push handle **210** is configured to be engaged by a caregiver to push the carriage **200** along the support surface.

[0030] Turning to FIG. 3, in other examples, the support frame can be a frame **302** of a wheelless stand **300**. The frame **302** comprises at least one leg **304**, such as at least two legs **304**, such as at least three legs **304**, such as at least four legs **304**. FIG. 3 shows one specific example in which the stand **300** comprises four legs **304**. In particular, the stand **300** comprises first and second rear legs **304** and first and second front legs **304**. The rear legs **304** are spaced from one another along the lateral direction A. The front legs **304** are spaced from one another along the lateral direction A. At least a portion of the front legs **304**, such as lower ends of the front legs **304**, are offset from the rear legs **304** along the longitudinal direction L. The legs **304** are configured to support the carrycot **100** such that the carrycot **100** is spaced from the support surface along the vertical direction V. The stand **300** can comprise at least one bayonet **308(1)**, **308(2)** disposed on at least one side of the stand **300**. For example, the stand **300** can comprise first and second bayonets **308(1)** and **308(2)**, disposed on opposing sides of the stand **300**. The opposing sides can be spaced from one another along the lateral direction A.

[0031] Turning to FIG. 5, a frame **104** of the carrycot **100** is shown according to one example. The carrycot **100** can additionally comprise soft goods **101** (shown in FIG. 1) attached to the frame **104** to provide comfortable surfaces for the child when the child is positioned within the carrycot **100**. The frame **104** can comprise an upper end **104a** and a lower end **104b** that are offset from one another along the vertical direction V. The frame **104** can comprise a first side **104c** and a second side **104d** that are offset from one another along the lateral direction A. The frame **104** can comprise a first end **104e** and a second end **104f** that are offset from one another along the longitudinal direction L. The frame **104** can have a length from the first end **104e** to the second end **104f** that is greater than a width of the frame **104** from the first side **104c** to the second side **104d**. The frame **104** defines a receiving space **106** that extends into the upper end **104a** towards the lower end **104b**. The receiving space **106** is closed at the lower end **104b**. The receiving space **106** is disposed between the first and second sides **104c** and **104d** and between the first and second ends **104e** and **104f**.

[0032] The frame **104** can comprise an upper rim **108** disposed at the upper end **104a**. In some examples, the carrycot **104** can comprise a handle **105** that extends up from the upper rim **108**. The handle **105** can be grasped by a caregiver to carry the carrycot **100**. The upper rim **108** can extend along a plane that extends along the lateral direction A and the longitudinal direction L. The upper rim **108** can define a closed shape, such as a rectangle, a rectangle with rounded corners, or an oval. The upper rim **108** can comprise a tube or bar that is curved (e.g., bent) to define the closed shape. The upper rim **108** can be formed from a metal or other suitably rigid material. The carrycot **100** can comprise a bottom wall **112** disposed at the lower end **104b**. The bottom wall **112** can be spaced below the upper rim **108**. The bottom wall **112** can define a surface that supports the child when the child is positioned in the carrycot **100**. The bottom wall **112** can extend from the first side **104c** to the second side **104d**. The bottom support wall **112** can extend from the first end **104e** to the second end **104f**. The bottom wall **112** can have a substantially planar shape in a plane that extends along the lateral direction A and the longitudinal direction L. The bottom wall **112** can be formed from a rigid medium density particle board, wood, a polymer, or any other suitably rigid material.

[0033] With reference to FIGS. 5 and 7, the frame **104** can comprise at least one support **110**, where each support **110** extends upwards from the lower end **104b** and spaces the upper rim **108** entirely from the lower end **104b**. For example, the frame **104** can comprise a first support **110(1)** disposed at the first end **104e** and a second support **110(2)** disposed at the second end **104f**. Each support **110** can be coupled to the upper rim **108** and the bottom wall **112**. Each support **110** can comprise an upper end **110a** and a lower end **110b** that are spaced from one another along the

vertical direction V. Each support **110** can have a first side **110c**, and a second side **110d** opposite the first side **110c**. Each support **110** can have an inner side **110e** that faces towards the receiving space **106** of the carrycot **100** and an outer side **110f**, opposite the inner side **110e**. In some examples, the inner and outer sides **402** and **404** can be offset from one another along the longitudinal direction A. In some examples, each support **110** can have a height from the upper end **110a** to the lower end **110b** that is greater than a width from the first side **110c** to the second side **110d**, and a width from the first side **110c** to the second side **110d** that is greater than a thickness from the inner side **110e** to the outer side **110f**. However, it will be understood that other dimensions are contemplated. Each support can be formed from a polymer, such as a molded plastic, or any other suitably rigid material.

[0034] Each support **110** can have an upper coupler **110g** that is configured to couple to the upper rim **108**. The upper coupler **110g** can be disposed at the upper end **110a** of the support **110**. The upper coupler **110g** can be any suitable coupler that can couple the support to the upper rim **108**. In some examples, each support **110** can be rotatably coupled to the upper rim **108**. As one such example, the upper coupler **110g** can define an opening **110h** therein that is configured to receive the upper rim **108** therein such that the upper rim **108** can be rotated within the opening **110h**. Each support **110** can be rotated to transition the carrycot **100** between an expanded configuration and a collapsed configuration, wherein the at least one support **110** spaces the upper rim **108** further from the lower end **104b** when the carrycot **100** is in the expanded configuration than when the carrycot **100** is in the collapsed configuration. In alternative examples, each support **110** can be removably coupled to the upper rim **108** such that the carrycot **100** can be transitioned to the collapsed configuration by decoupling each support **110** from the upper rim **108**.

[0035] Referring to FIGS. 7 to 9, each support **110** can be coupled to the bottom wall **112**. Each support **110** can have a lower coupler **110j** that is configured to couple to the bottom wall **112**, such as to a coupler **114** of the bottom wall **112**. Each coupler **114** of the bottom wall **112** can be fixedly attached to the bottom wall **112**. In some examples, the coupler **114** can be formed from a molded plastic. The carrycot frame **104** can be devoid of a lower rim or tube that couples each support **110** to the bottom wall **112**, and instead, each support **110** can directly couple to the bottom wall **112** via the couplers **110j** and **114**.

[0036] The lower coupler **110j** can be any suitable coupler that can couple the support to the bottom wall **112**. The lower coupler **110j** and bottom wall coupler **114** can be configured to couple to one another so as to fix the bottom wall **112** and the support **110** to one another with respect to movement along at least one, such as all, of the longitudinal direction L, the lateral direction A, and the vertical direction V. One of the lower coupler **110j** and the coupler **114** of the bottom wall **112** can define a plug, and the other can define a receptacle that receives the plug. In the example of FIGS. 7 to 9, the coupler **110j** is configured as the plug and the coupler **114** is configured as the receptacle. In some examples, each support **110** can be removably coupled to the bottom wall **112**. As one such example, the lower coupler **110j** can define at least one opening **110k** therethrough. The lower coupler **110j** can comprise a crossmember **110m** that extends into the opening **110k**. The crossmember **110m** can be disposed within the opening **110k** such that the opening **110k** is open above the crossmember **110m**.

[0037] The coupler **114** can comprise a receptacle **114a**. The receptacle **114a** can have a first portion **114b** attached to a body of the bottom wall **112** and extending along an insertion direction D.sub.I, a second portion **114c** that extends from the first portion **114b** along the vertical direction V, and a third portion **114d** that extends from the second portion **114c** along a second direction, opposite the first direction, such that the first portion **114b** and the third portion **114d** are spaced from one another along the vertical direction V so as to define a recess **114e** therebetween. The recess **114e** can be configured to receive the crossmember **110m** of the support **110** therein along the insertion direction D.sub.I such that the second portion **114c** and the third portion **114d** of the receptacle **114a** limit movement of the crossmember **110m** along the insertion direction D.sub.I and

the vertical direction V, respectively. The coupler **114** can comprise a spring arm **114f** having an engagement surface **114g** that is configured to engage an engagement surface **110n** of the support **110** so as to create an interference that prevents movement of the crossmember **110m** out of the recess **114e** along a direction opposite the insertion direction D.sub.I. The spring arm **114f** can be resiliently biased into an engagement position where the engagement surface **114g** is in engagement with the engagement surface **110n**. Further, the spring arm **114f** can be configured to be engaged by a caregiver to flex along the vertical direction V to a position where the interference is removed such that the crossmember **110m** can be removed from the recess **114e**. Once the spring arm **114f** is released, the spring arm **114f** resiliently moves back to the engagement position.

[0038] Turning now to FIGS. 5 and 10, the carrycot **100** comprises at least one set **102** of attachment features, where each set removably couples to a bayonet (e.g., **400**, **400(1)**, **400(2)**) of a support frame (e.g., **202**, **302**). Each set **102** of attachment features is disposed at a different side **104c**, **104d** of the carrycot **100**. In some examples, the carrycot **100** can have first and second sets **102(1)** and **102(2)** of attachment features positioned at opposing sides of the carrycot **100**, where the first and second sets **102(1)** and **102(2)** of attachment features are configured to removably couple to first and second bayonets **400(1)**, **400(2)**, respectively, of a support frame. The first set **102(1)** can be disposed at the first side **104c** of the carrycot **100** and the second set **102(2)** can be disposed at the second side **104d** of the carrycot **100**.

[0039] In some examples, each set **102** of attachment features can be carried by a support **116**. In other examples, each set **102** of attachment features need not be carried by a single support **116**. Each support **116** can extend upwards from the lower end **104b** and can space the upper rim **108** entirely from the lower end **104b** along the vertical direction V. Each support **116** can be disposed at one of the first and second sides **104c** and **104d** of the carrycot **100**. Each support **116** can provide structural stability between the upper rim **108** and the bottom wall **112**. In some examples, the frame **104** can comprise a first support **116(1)** (labeled in FIG. 5) disposed at the first side **104c** and a second support **116(2)** disposed at the second side **104d**. Each support **116** can be spaced from a support **110** so as to define an opening therebetween. The soft goods **101** (FIG. 1) can be attached to the frame **104** so as to cover the openings such that the soft goods **101** define sidewalls of the carrycot **100**.

[0040] Each support **116** can be coupled to the upper rim **108** and the bottom wall **112**. Each support **116** can comprise an upper end **116a** and a lower end **116b** that are spaced from one another along the vertical direction V. Each support **116** can have a first side **116c**, and a second side **116d** opposite the first side **116c**. Each support **116** can have an inner side **116e** that faces towards the receiving space **106** of the carrycot **100**, and an outer side **116f** opposite the inner side **116e**. In some examples, each support **116** can have a height from the upper end **116a** to the lower end **116b** that is greater than a width from the first side **116c** to the second side **116d**, and a width from the first side **116c** to the second side **116d** that is greater than a thickness from the inner side **116e** to the outer side **116f**. However, it will be understood that other dimensions are contemplated. Each support can be formed from a polymer, such as a molded plastic, or any other suitably rigid material.

[0041] Each support **116** can have an upper coupler **116g** that is configured to couple to the upper rim **108**. The upper coupler **116g** can be disposed at the upper end **116a** of the support **116**. The upper coupler **116g** can be any suitable coupler that can couple the support to the upper rim **108**. In some examples, each support **116** can be rotatably coupled to the upper rim **108**. As one such example, the upper coupler **116g** can define an opening **116h** therein that is configured to receive the upper rim **108** therein such that the upper rim **108** can be rotated within the opening **116h**. Each support **116** can be rotated to transition the carrycot **100** between an expanded configuration and a collapsed configuration, wherein the at least one support **116** spaces the upper rim **108** further from the lower end **104b** when the carrycot **100** is in the expanded configuration than when the carrycot **100** is in the collapsed configuration. In alternative examples, each support **116** can be removably

coupled to the upper rim **108** such that the carrycot **100** can be transitioned to the collapsed configuration by decoupling each support **116** from the upper rim **108**.

[0042] Referring to FIGS. **11** to **14**, each support **116** can be coupled to the bottom wall **112**. Each support **116** can have a lower coupler **116j** that is configured to couple to the bottom wall **112**, such as to a bottom wall coupler **124** of the bottom wall **112**. The lower coupler **116j** and bottom wall coupler **124** can each be any suitable coupler that can couple the support **116** to the bottom wall **112**. The lower coupler **116j** and bottom wall coupler **124** can be configured to couple to one another so as to fix the bottom wall **112** and the support **116** to one another with respect to movement along at least one, such as all, of the longitudinal direction L, the lateral direction A, and the vertical direction V. The coupler **124** of the bottom wall **112** can be fixedly attached to the bottom wall **112**. In some examples, the coupler **124** can be formed from a molded plastic. The carrycot frame **104** can be devoid of a lower rim or tube that couples each support **116** to the bottom wall **112**, and instead, each support can directly couple to the bottom wall **112** via the couplers **116j** and **124**.

[0043] In some examples, each support **116** can be removably coupled to the bottom wall **112**. One of the lower coupler **116j** and the bottom wall coupler **124** can be configured as a plug, and the other one of the lower coupler **116j** and the bottom wall coupler **124** can be configured as a receptacle that is configured to receive the plug. In the example of FIGS. **11** to **14**, the lower coupler **116j** is configured as the receptacle and the bottom wall coupler **124** is configured as the plug. The receptacle defines an opening **116k** therein, and the plug defines a protrusion **124a** that is configured to be received in the opening **116k**. The receptacle can define an engagement surface **116n**, and the plug can define an engagement surface **124b** that is configured to engage the engagement surface **116n** of the receptacle to limit an insertion depth of the plug into the receptacle along an insertion direction D.sub.I. The receptacle can define a latch surface **116m**, and the plug can define a latch surface **124c** that is configured to engage the latch surface **116m** of the receptacle to prevent the plug from being removed along a removal direction, opposite the insertion direction D.sub.I.

[0044] In some examples, the latch surface **116m** of one of the plug and the receptacle can be disposed on a crossmember **116p**. The crossmember **116p** can extend along the longitudinal direction L. The crossmember **116p** can be disposed in an opening of the one of the plug and the receptacle, such as in the opening **116k** of the receptacle. In some examples, the latch surface **124c** of one of the plug and the receptacle can be disposed on a spring arm **124d**. The spring arm **124d** can be configured to engage the crossmember **116p**. The spring arm **124d** can comprise an actuation surface **124e** that is configured to be engaged by a caregiver to move the spring arm **124d** from a latched position, wherein the latch surfaces **116m** and **124c** engage one another to secure the plug to the receptacle, to an unlatched position, wherein the latch surfaces **116m** and **124c** are disengaged from one another to allow the plug to be removed from the receptacle. The spring arm **124d** can be resiliently biased towards the latched position. In some examples, the spring arm **124d** can be configured to flex along the vertical direction V.

[0045] Referring briefly to FIG. **17**, as discussed above, each set **102** of attachment features can be configured to couple to a bayonet **400**. An example of a bayonet **400** is shown that can be used to implement each of the bayonets **400**, **400(1)**, **400(2)**. The bayonet **400** can have a first portion **400a**, and a second portion **400b** spaced below the first portion **400a** along the vertical direction V. As will be described further below, the first portion **400a** is configured to couple to a first attachment feature **118** of the carrycot **100**, and the second portion **400b** is configured to couple to a second attachment feature **120** of the carrycot **100**. The bayonet **400** comprises an inner side **402**, and an outer side **404** that is offset from the inner side **402**. In some examples, the inner and outer sides **402** and **404** can be offset from one another along the lateral direction A. The inner side **402** is configured to face the carrycot **100** when the carrycot **100** is coupled to the bayonet **400**.

[0046] The bayonet **400** comprises an upper end **406** and a lower end **408** that are offset from one

another along the vertical direction V. The first portion **400a** of the bayonet **400** can include the upper end **406**. In some examples, the second portion **400b** of the bayonet **400** can include the lower end **408**. In some examples, the upper end **406** can define a recess **414** that extends therein towards the lower end **408**. The recess **414** can be configured to align the bayonet **400** within an attachment feature (e.g., a bayonet receptacle **118**) of the carrycot **100** or can engage with a stop within the attachment feature that limits insertion of the bayonet **400** upwards into the attachment feature. The bayonet **400** comprises a first side **410** and a second side **412** that are offset from one another. In some examples, the first and second sides can be spaced from one another along the longitudinal direction L. The inner and outer sides **402** and **404** can extend between the first and second sides **410** and **412** and between the upper and lower ends **406** and **408**. In some examples, the bayonet **400** can have a height from the upper end **406** to the lower end **408** that is greater than a width from the first side **410** to the second side **412**, and the width from the first side **410** to the second side **412** can be greater than a thickness from the inner side **402** to the outer side **404**.

[0047] The outer side **404** can define at least one opening **416** that extends therein towards the inner side **402**. The at least one opening **416** can be disposed at the second portion **400b**. In some examples, the at least one opening **416** can be offset from a midline ML of a body of the support **116** along the longitudinal direction L. In some examples, the outer side **404** can define first and second openings **416** that are spaced from one another along a direction that extends from the first side **410** to the second side **412**. The first and second openings **416** can be disposed on opposing sides of the midline ML.

[0048] Referring to FIGS. **15** to **19**, an example of a set **102** of attachment features that can be used to implement one or both of the sets **102(1)** and **102(2)** is shown. It will be understood that, in some examples, the set **102(2)** of attachment features can be a mirror image of the set **102(1)** of attachment features. Each set **102** of attachment features of the carrycot **100** defines a bayonet receptacle **118** configured to receive the first portion **400a** of one of the bayonets (e.g., **400**, **400(1)**, **400(2)**) of the support frame (e.g., **202**, **302**). Each bayonet receptacle **118** has an upper end **118a** and a lower end **118b** that are offset from one another along the vertical direction V. The bayonet receptacle **118** has an opening **118c** that extends upwards therein along the vertical direction V and that is configured to receive the first portion (e.g., **400a**) of the bayonet therein. For example, the opening **118c** can extend into the lower end **118b** towards the upper end **118a**. In some examples, the upper end **118a** can limit, or prevent altogether, movement of the bayonet **400** upwards along the vertical direction V when the bayonet **400** is received in the receptacle **118**. In some examples, the receptacle **118** can include a protrusion **118h** that extends downward into the opening **118c**. The protrusion **118h** can be configured to be received in the recess **414** of the bayonet **400**. The protrusion **118h** and recess **414** can mate with one another so as to align the bayonet **400** within the receptacle **118**. Additionally, or alternatively, the protrusion **118h** and recess **414** can mate with one another so as to limit, or prevent altogether, movement of the bayonet **400** upwards along the vertical direction V when the bayonet **400** is received in the receptacle **118**.

[0049] The receptacle **118** has an inner wall **118d** (labeled in FIG. **18**) and an outer wall **118e** (labeled in FIG. **18**) that are opposite one another along the lateral direction A. The inner and outer walls **118d** and **118e** can limit, or prevent altogether, movement of the bayonet **400** along the lateral direction A when the bayonet **400** is received in the receptacle **118**. The receptacle **118** can have first and second sides **118f** and **118g** that are offset from one another along the longitudinal direction L. The first and second sides **118f** and **118g** can limit, or prevent altogether, movement of the bayonet **400** along the longitudinal direction L when the bayonet **400** is received in the receptacle **118**.

[0050] Turning to FIGS. **20** to **22**, each set **102** of attachment features of the carrycot **100** defines at least one plunger **120** that is configured to engage the second portion **400b** of a bayonet **400** when the carrycot **100** is coupled to the bayonet **400**. In some examples (not shown), each set **102** of attachment features can define a pair of plungers **120** that are configured to be received in a pair of

openings **416** of the bayonet **400**. Each plunger **120** can be configured to be received in one of the at least one openings **416** of the bayonet **400**. Each plunger **120** is spaced below the receptacle **118** along the vertical direction V. The receptacle **118** can be positioned along or above a midline that is midway between the lower end **104b** and the upper end **104a** of the carrycot **100**, while each plunger **120** can be disposed below the midline. For example, each plunger **120** can be adjacent the lower end **104b** of the carrycot **100**. In some examples, each plunger **120** can be disposed below the bottom wall **112**.

[0051] By spacing the receptacle **118** and the at least one plunger **120** from one another, the carrycot **100** can be more resistant to rotation about an axis that extends along the lateral direction A (e.g., through the pair of receptacles **118**) when the carrycot **100** is attached to the support frame (e.g., **202**, **302**) than a comparable carrycot in which the plunger **120** is disposed within the receptacle **118**. Moreover, disposing the plunger **120** below the bottom wall **112** can allow the plunger **120** to have a greater stroke length (e.g., travel distance between the latched and unlatched configurations) because the plunger **120** can travel under the bottom wall **112**. In contrast, if the plunger **120** were disposed above the bottom wall **112**, then the plunger **120** might extend into the receiving space **106** that receives the child if the plunger **120** were not shortened.

[0052] The plunger **120** can be configured to transition between a latched position (FIG. **21**) and an unlatched position (FIG. **22**). The plunger **120** can extend further out from the support **116** along the lateral direction A when in the latched position than in the unlatched position. The carrycot **100** can comprise an actuator **122** that is configured to be actuated by a caregiver to transition the plunger **120** between the latched and unlatched positions. The actuator **122** can include an actuator surface **122a**, such as a surface of a button, lever, or handle, that is configured to be engaged by a caregiver to actuate the actuator **122**. In some examples, the actuator surface **122a** can be disposed at the upper end **104a** of the carrycot **100**.

[0053] FIGS. **15** to **17** show one specific example of an actuator **122**. It will be understood that the actuator **122** could be implemented in another other suitable manner to transition the plunger **120** between the latched and unlatched positions. In FIGS. **15** to **17**, the actuator **122** comprises a lever **126** that comprises the actuator surface **122a**. The lever **126** is pivotably coupled to a body of the carrycot **100**, such as to the support **116**, about a pivot axis that is spaced from the actuator surface **122a**. The lever **126** can be configured to be moved between an unactuated position and an actuated position. For example, the lever **126** can be depressed by a caregiver along a vertical direction to move the lever **126** from the unactuated position to the actuated position. The lever **126** can be resiliently biased towards the unactuated position. In one example, the actuator **122** can comprise a spring **130d** or resilient member that biases the lever **126**.

[0054] The lever **126** can be configured to pivot about the pivot axis when transitioned to the actuated position. For example, the actuator surface **122a** can move along the vertical direction V (i.e., upward or downward) as the lever **126** pivots. The actuator **122** can comprise a linkage **128**, such as a rod, shaft, cable, other suitable structure, or combination thereof, that couples the lever **126** to the plunger **120**. The linkage **128** can extend inside of the support **116** from the lever **126** to the plunger **120**. The actuator **122** is configured such that actuation of the lever **126** causes the linkage **128** to move, thereby causing the plunger **120** to transition between the latched position (FIG. **21**) and the unlatched position (FIG. **22**). The linkage **128** can be configured to move along the vertical direction V. In one example, the linkage **128** can define a slot **128a** that is angled with respect to the vertical direction V and the lateral direction A, and the plunger **120** can comprise a protrusion **120a** that is received in the slot **128a**. As the linkage **128** moves along the vertical direction V, the protrusion **120a** rides within the slot **128a**, thereby causing the plunger **120** to transition between the latched position and the unlatched position.

[0055] It should be noted that the illustrations and descriptions of the examples and embodiments shown in the figures are for exemplary purposes only, and should not be construed limiting the disclosure. One skilled in the art will appreciate that the present disclosure contemplates various

embodiments. Additionally, it should be understood that the concepts described above with the above-described examples and embodiments may be employed alone or in combination with any of the other examples and embodiments described above. It should further be appreciated that the various alternative examples and embodiments described above with respect to one illustrated embodiment can apply to all examples and embodiments as described herein, unless otherwise indicated.

[0056] Conditional language used herein, such as, among others, “can,” “could,” “might,” “may,” “e.g.,” and the like, unless specifically stated otherwise, or otherwise understood within the context as used, is generally intended to convey that certain embodiments include, while other embodiments do not include, certain features, elements, and/or steps. Thus, such conditional language is not generally intended to imply that features, elements, and/or steps are in any way required for one or more embodiments or that one or more embodiments necessarily include logic for deciding, with or without author input or prompting, whether these features, elements and/or steps are included or are to be performed in any particular embodiment. The terms “comprising,” “including,” “having,” and the like are synonymous and are used inclusively, in an open-ended fashion, and do not exclude additional elements, features, acts, operations, and so forth. Also, the term “or” is used in its inclusive sense (and not in its exclusive sense) so that when used, for example, to connect a list of elements, the term “or” means one, some, or all of the elements in the list.

[0057] While certain examples have been described, these examples are not intended to limit the scope of the inventions disclosed herein. Thus, nothing in the foregoing description is intended to imply that any particular feature, characteristic, step, module, or block is necessary or indispensable. Indeed, the novel methods and systems described herein may be embodied in a variety of other forms; furthermore, various omissions, substitutions, and changes in the form of the methods and systems described herein may be made without departing from the spirit of the inventions disclosed herein. The accompanying claims and their equivalents are intended to cover such forms or modifications as would fall within the scope and spirit of certain of the inventions disclosed herein.

[0058] The words “inward,” “outward,” “upper,” and “lower” refer to directions toward or away from, respectively, the geometric center of the carrycot and its components. It will be understood that reference herein to “a” or “one” to describe a feature such as a component or step does not foreclose additional features or multiples of the feature. For instance, reference to a device having, comprising, including, or defining “one” of a feature does not preclude the device from having, comprising, including, or defining more than one of the feature, as long as the device has, comprises, includes, or defines at least one of the feature. Similarly, reference herein to “one of” a plurality of features does not foreclose the invention from including two or more of the features. For instance, reference to a device having, comprising, including, or defining “one of a protrusion and a recess” does not foreclose the device from having both the protrusion and the recess.

Claims

1. A carrycot configured to be removably coupled to a support frame to support the carrycot above a support surface, the carrycot comprising: a carrycot frame having a first side and a second side that are spaced from one another so as to define a space therebetween sized to receive a child therein; a set of attachment features disposed at the first side and removably attachable to a bayonet of the support frame, the set of attachment features comprising (1) a bayonet receptacle having an opening sized to receive a first portion of the bayonet and (2) a plunger; and an actuator that is configured to transition the plunger between a latched position and an unlatched position.
2. The carrycot of claim 1, wherein the actuator comprises an actuator surface that is configured to be engaged by a caregiver to move the actuator between an unactuated position and an actuated

position.

3. The carrycot of claim 2, wherein the actuator comprises: a lever that comprises the actuator surface; and a linkage that couples the lever to the plunger such that movement of the lever causes the plunger to transition between the latched position and the unlatched position.

4. The carrycot of claim 3, wherein carrycot includes a body, and wherein the actuator is pivotably coupled to the body about a pivot axis that is spaced from the actuator surface.

5. The carrycot of claim 4, wherein the lever is movable between an unactuated position and an actuated position.

6. The carrycot of claim 5, further comprising a biasing member for biasing the lever to the unactuated position.

7. The carrycot of claim 6, wherein the actuator includes a linkage coupling the lever to the plunger.

8. The carrycot of claim 7, wherein the linkage includes a slot received in a protrusion of the plunger.

9. The carrycot of claim 1, wherein the plunger is disposed outside of the bayonet receptacle.

10. The carrycot of claim 1, wherein the plunger is disposed adjacent a lower end of the carrycot.

11. The carrycot of claim 1, wherein the carrycot comprises an upper end and a lower end, the bayonet receptacle is disposed along or above a midline between the upper end and the lower end, and the plunger is disposed below the midline.

12. The carrycot of claim 1, wherein the carrycot comprises a bottom wall at a lower end, and the plunger is disposed below the bottom wall.

13. The carrycot of claim 1, wherein: the carrycot comprises a bottom wall at a lower end; the carrycot frame comprises an upper rim spaced above the bottom wall; and the carrycot frame comprises a support disposed at the first side that spaces the upper rim above the bottom wall, wherein the support carries the bayonet receptacle and the plunger.

14. The carrycot of claim 1, wherein: the carrycot comprises a second set of attachment features disposed at the second side and configured to removably attach to a second bayonet of the support frame, the second set of attachment features comprising (1) a second bayonet receptacle configured to receive a first portion of the second bayonet and (2) a second plunger that is spaced below the second bayonet receptacle with respect to the vertical direction and is configured to engage an opening in a second portion of the second bayonet; and the carrycot frame comprises a second support disposed at the second side that spaces the upper rim above the bottom wall, wherein the second support carries the second bayonet receptacle and the second plunger.

15. The carrycot of claim 1, wherein the bayonet receptacle has an upper end and a lower end that are offset from one another along a vertical direction, and the bayonet receptacle has an opening that extends upwards therein along the vertical direction and that is configured to receive the first portion of the bayonet therein.

16. The carrycot of claim 1, wherein: the first and second sides are spaced from one another along a lateral direction; the carrycot comprises: a first end and a second end that are spaced from one another along a longitudinal direction, perpendicular to the lateral direction; a bottom wall at a lower end; an upper rim spaced above the bottom wall; a first pair of supports at the first and second ends that space the upper rim above the bottom wall; and a second pair of supports at the first and second sides that space the upper rim above the bottom wall.

17. The carrycot of claim 1, wherein: the first and second sides are spaced from one another along a lateral direction; a latch is configured to transition between a latched position and an unlatched position, wherein the latch projects out further along the lateral direction when in the latched position than when in the unlatched position.

18. A system, comprising: the carrycot of claim 1; and the support frame configured to support the carrycot above a support surface, the support frame having a first side and a second side, and having the bayonet disposed on the first side.

19. The system of claim 18, wherein the bayonet comprises the first portion that is configured to be received in the bayonet receptacle, and the second portion defining the opening therein that is configured to receive the plunger.

20. The system of claim 18, further comprising a wheeled carriage or wheelless stand that comprises the support frame.
