



US 20030226204A1

(19) **United States**

(12) **Patent Application Publication**
Dodge

(10) **Pub. No.: US 2003/0226204 A1**

(43) **Pub. Date: Dec. 11, 2003**

(54) **TRANSPORTABLE BABY CRIB WITH LEG BUMPERS**

Related U.S. Application Data

(76) Inventor: **James R. Dodge**, Worthington, MA
(US)

(60) Provisional application No. 60/387,644, filed on Jun. 11, 2002.

Publication Classification

Correspondence Address:

WILLIAM C. CRUTCHER
MCCORMICK, PAULDING & HUBER, LLP
185 ASYLUM STREET, CITY PLACE II, 18TH
FLOOR
HARTFORD, CT 06103-4102 (US)

(51) **Int. Cl.⁷** **A47D 7/00**; A47C 31/00

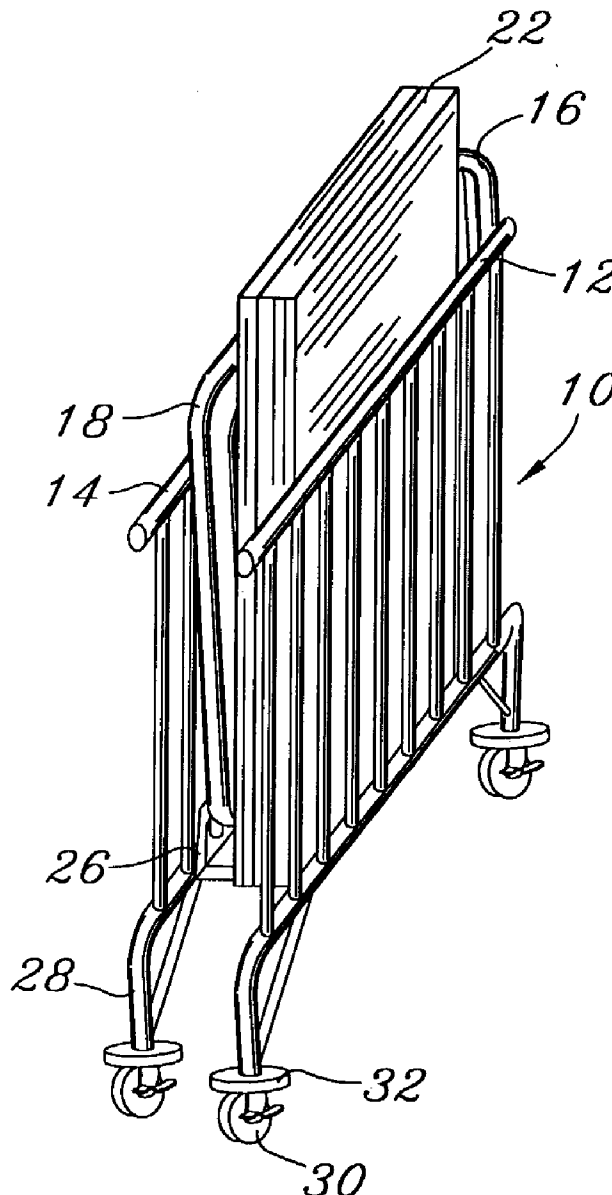
(52) **U.S. Cl.** **5/93.1**; 5/663

(57) **ABSTRACT**

Baby crib bumpers on the legs protect doorways, walls and furniture when transporting the crib on swivel casters. The bumpers are preferably high impact plastic foam disks, arranged to rotate on the crib legs when striking objects and prevent damage.

(21) Appl. No.: **10/445,459**

(22) Filed: **May 27, 2003**



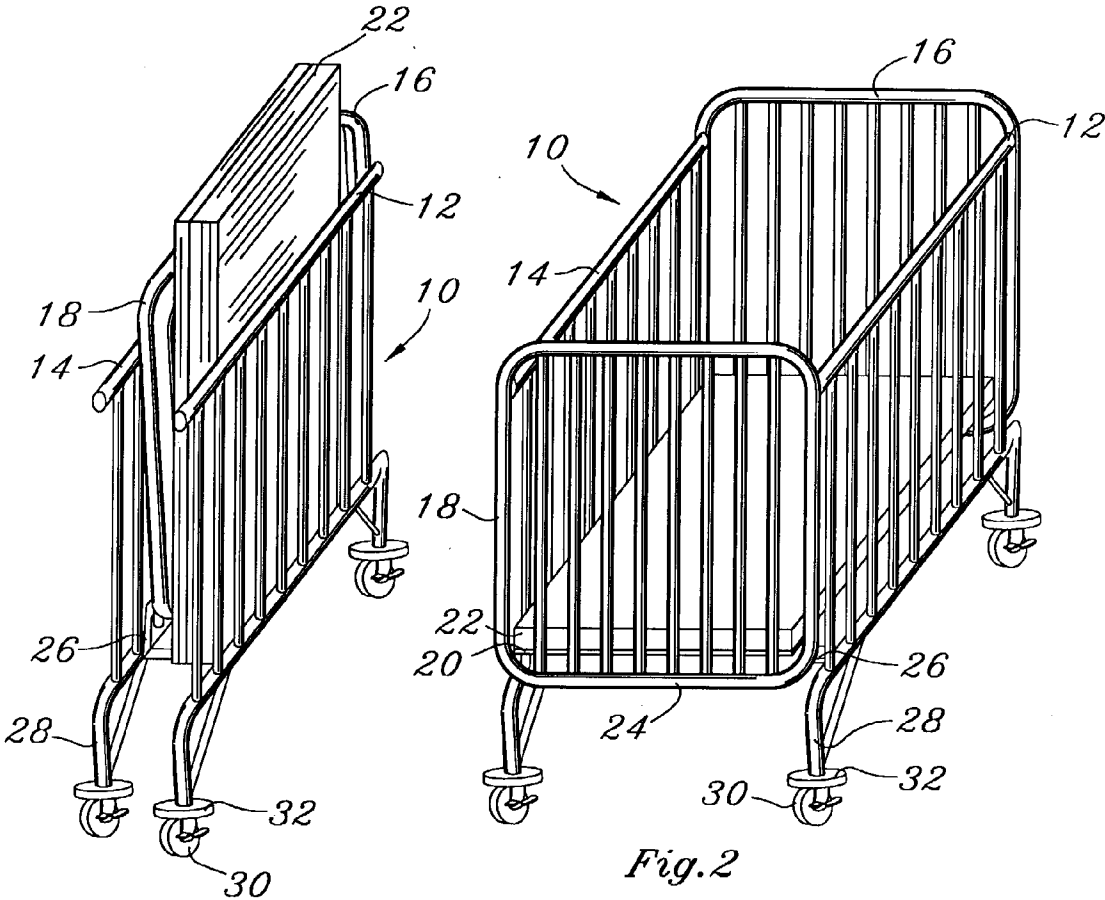


Fig. 1

Fig. 2

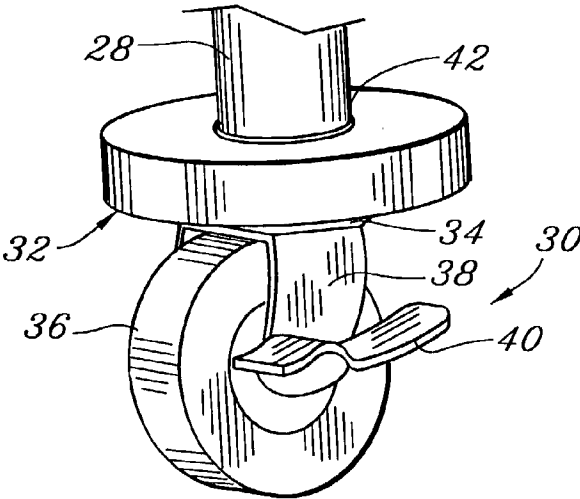


Fig. 3

TRANSPORTABLE BABY CRIB WITH LEG BUMPERS

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefits of prior filed, co-pending provisional patent application Serial No. 60/387644 filed of Jun. 11, 2002.

BACKGROUND OF THE INVENTION

[0002] Transportable or rollable baby cribs are well known in the art. The usual baby crib design comprises two end members and two side members, which are attached together at the corners to provide a baby crib frame. The frame is provided with a mattress support which is held within the frame to support the crib mattress. Columnar legs support the frame at the corners and are equipped with swivel casters at the bottom ends.

[0003] The baby crib frame may either be of the fixed or foldable type. A typical fixed type is exemplified by the The Mini Crib model produced by L.A. Baby of Los Angeles, Calif. In this design, the side members and end members are made of metal tubes attached together at the crib corners by screws. The legs are provided with swivel casters to enable re-positioning the crib or rolling the crib from room to room.

[0004] Another type of frame is a foldable frame having hinged end members, which enable folding the crib into a smaller size for storage. Exemplary of a foldable frame is The Holiday Crib also produced by L.A. Baby.

[0005] A common problem with a transportable crib is that the legs or corners of the crib may strike and damage furniture when moving the crib about in the room, or may damage doorways or walls when moving the crib from room to room. This is a particularly difficult and costly problem with commercially available baby cribs used in hotels, where the cribs are frequently moved from room to room, or in and out of storage. It would be desirable to have a transportable baby crib, which would reduce the possibility of damage to surrounding objects and doorways when moving the crib about.

[0006] Accordingly, one object of the present invention is to provide an improved transportable baby crib that reduces damage to surrounding objects.

[0007] Another object of the invention is to provide an improved transportable baby crib which protects both the crib and other property from damage.

SUMMARY OF THE INVENTION

[0008] Briefly stated, the invention comprises an improvement to a baby crib of the type, which has opposed sides, opposed ends connected to the opposed sides at corners, a columnar leg depending from each corner, and a swivel caster disposed on the end of each said columnar leg to make the crib transportable, said improvement comprising a bumper disposed on each said columnar leg above the swivel caster, the bumper being substantially in the shape of a disk defining a central hole therein arranged to receive said columnar leg therethrough, the central hole being dimensioned so as to enable rotation of the bumper about the columnar leg when striking an object while transporting the crib on the swivel casters.

[0009] Preferably, the bumper is comprised of dense impact-absorbing, closed cell, plastic foam, is supported on top of the caster swivel plate, and has an outer diameter approximately the same as, or larger than that of the caster wheel.

DRAWINGS

[0010] The invention will be better understood by reference to the following description, taken in connection with the accompanying drawings, in which:

[0011] **FIG. 1** is a perspective view of a transportable, foldable baby crib in open position,

[0012] **FIG. 2** is a perspective view of the baby crib of **FIG. 1** in folded position, and

[0013] **FIG. 3** is an enlarged perspective view of one lower leg of the baby crib shown in **FIGS. 1 and 2**.

DETAILED DESCRIPTION

[0014] Referring to **FIG. 1** of the drawing, a transportable baby crib is shown generally at **10** and comprises a pair of tubular metal side members **12, 14** and a pair of tubular metal end members **16, 18**. Both end members and side members include protective vertical bars designed to contain the infant within the frame. A horizontal carrier member **20**, and a mattress **22** are supported within the frame by attachments (not shown), which are not material to the present invention.

[0015] End members **16, 18** are hinged in the middle with hinges, such as the one shown at **24**, and pivotally connected to the side members **18** at the corners by pivotal connections, such as the one shown at **26**.

[0016] The frame is supported on columnar legs at each of the four corners. One such columnar leg is indicated at **28**, which may conveniently be an extension of the side member **18**. At the terminating lower end of each columnar leg, is a swivel caster of conventional design, such as the one indicated at **30**.

[0017] Referring to **FIG. 2** of the drawing, the crib **10** is illustrated in a folded position. The ends **16, 18** have been folded at hinges **24**, and the two sides **12, 14** have been drawn together by virtue of the pivotable connection **26**. Carrier member **20** and mattress **22** have been removed and may be conveniently stored in the space between sides **12, 14**.

[0018] All of the above description is conventional and well known for a foldable transportable baby crib. Constructional details of transportable baby cribs will vary considerably in design. For example, the columnar legs are sometimes formed as extensions of the side members, as shown in the illustrated embodiment. However, other constructions may form the columnar legs as extensions of the end members. Such a construction is used in a fixed crib frame design, exemplified by The Mini Crib by L.A. Baby.

[0019] In accordance with the present invention, bumpers **32** of special design have been applied to each of the columnar legs **28** as seen in **FIGS. 1 and 2**.

[0020] Referring to **FIG. 3**, the details of the improvement of the present invention will be better understood. The swivel caster shown at **30** is of conventional design. The

swivel caster comprises a swivel plate **34** with a connected expandable pin housing and pin (not shown) extending up into columnar leg **28**. The pin housing holds the swivel caster **30** in place by a friction fit and allows the caster to rotate about a vertical axis in columnar leg **28**. Swivel caster **30** includes a wheel **36** rotatably supported on an axle between side pieces **38** depending from swivel plate **34**. In some cases, a safety brake **40** is added to prevent the wheel **36** from turning.

[0021] In accordance with the present invention, a bumper member **32** comprised of dense impact-resistant, closed cell plastic foam is disposed around leg **28** on top of caster plate **34**. Bumper **32** is disc-shaped with a central hole like a donut. Central hole **42** is dimensioned to receive the columnar leg **28**. The outer diameter of bumper **32** is approximately the same as, or greater than, the diameter of wheel **36**.

[0022] Typically, in a swivel caster, the axle for the wheel does not lie directly below the axis of the pin about which the caster swivels, but is offset. This forces the caster to swivel about the vertical axis when the motion commences, and the wheel will follow the direction of movement. By dimensioning the outer diameter of the disc-shaped bumper substantially the same as, or greater than, the wheel diameter, this insures that the leading edge of bumper **32** is always in advance of the edge of the wheel. Therefore, the bumper **32** will be first to strike an object.

[0023] An important feature of the invention is to make the dimension of central hole **42** such that it fits snugly about columnar leg **28**, but yet is sufficiently loose to enable the bumper **32** to rotate about leg **28** when striking an object. This absorbs the impact and allows the bumper **32** to roll around the object in the path of the crib without damaging it.

[0024] A preferred material for the impact-resisting foam material of bumper **32** is polyurethane. The dimensions of a suitable bumper for the L.A. Baby Holiday Crib, model no. 82 is 3 $\frac{5}{8}$ inches in diameter, $\frac{7}{8}$ inch in thickness, with a central hole one inch in diameter. During assembly, the bumper is inserted first over the crib leg, and then the swivel caster is separately attached in the normal manner.

[0025] While there has been described what is considered to be the preferred embodiment of the invention, other modifications will occur to those skilled in the art, and it is desired to secure all such modifications herein, which fall within the scope of the invention.

1. Improvement to a baby crib of the type having opposed sides, opposed ends connected to said opposed sides at corners, a columnar leg depending from each of said corners, and a swivel caster disposed on the end of each columnar leg, each said swivel caster having a known type of rotatably mounted caster wheel of a pre-selected diameter arranged to swivel below a caster swivel plate, said improvement comprising:

a bumper disposed on each of said columnar legs above its respective swivel caster, said bumper being in the shape of a disk defining a central hole therethrough arranged to receive said columnar leg therethrough, the central hole being dimensioned so as to enable said bumper to rotate about the columnar leg when striking an object while transporting the crib on the swivel casters.

2. The improvement according to claim 1, wherein said bumper is comprised of dense impact absorbing, closed cell plastic foam.

3. The improvement according to claim 1, wherein the disk diameter of each of said bumpers is greater than that of said caster wheel pre-selected diameter.

4. The improvement according to claim 1, wherein said bumper is a disk comprised of closed cell, polyurethane plastic foam.

5. The improvement according to claim 4, wherein the disk diameter of a said bumper is on the order of 3 $\frac{5}{8}$ inches.

6. The improvement according to claim 4, wherein the disk thickness of a said bumper is on the order of $\frac{7}{8}$ inches.

7. The improvement according to claim 4, wherein the diameter of a said central hole in a said bumper is on the order of 1 inch.

8. Improvement to a baby crib of the type having opposed sides, opposed ends connected to said opposed sides at corners, a columnar leg depending from each of said corners, and a swivel caster disposed on the end of each columnar leg, each said swivel caster having a known type of rotatably mounted caster wheel of a pre-selected diameter arranged to swivel below a caster swivel plate, said improvement comprising:

a bumper disposed on each of said columnar legs above its respective swivel caster, said bumper being comprised of dense impact absorbing, closed cell plastic foam, said bumper being in the shape of a disk defining a central hole therethrough arranged to receive said columnar leg therethrough, wherein the disk diameter of each of said bumpers is greater than that of said caster wheel pre-selected diameter, the central hole being dimensioned so as to enable said bumper to rotate about the columnar leg when striking an object while transporting the crib on the swivel casters.

9. The improvement according to claim 8, wherein said bumper is a disk comprised of closed cell, polyurethane plastic foam, said disk having a diameter on the order of 3 $\frac{5}{8}$ inches and a thickness on the order of $\frac{7}{8}$ inches.

10. The improvement according to claim 8, wherein said bumper is arranged to rest on a said caster swivel plate and rotate thereon about a said columnar leg when the bumper strikes an object.

* * * * *