Oct. 18, 1949. W. C. F. DIETZ 2,485,436

COLLAPSIBLE BABY BED

Filed July 12, 1945 2 Sheets-Sheet 1

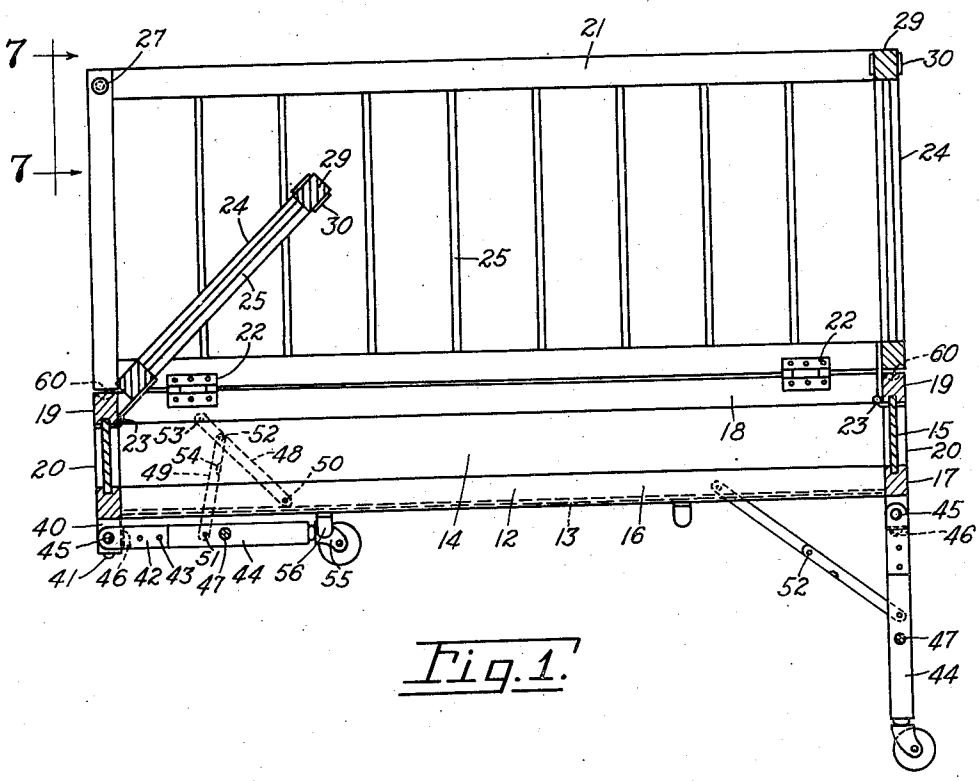
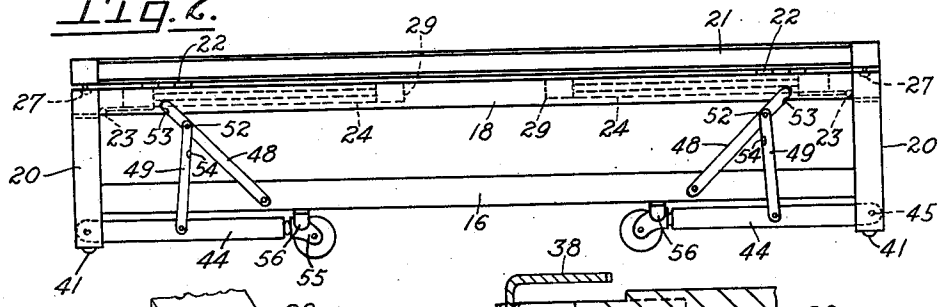


Fig. 1.

Fig. 2.



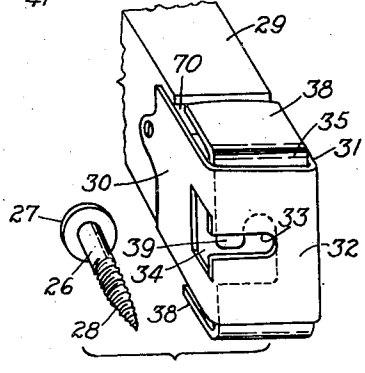


Fig. 3.

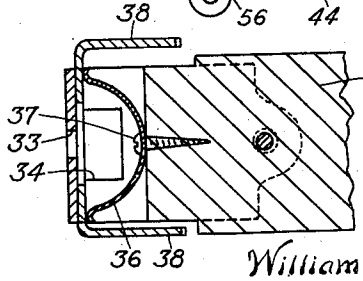


Fig. 4.

INVENTOR,
William C. F. Dietz
BY
Zugelter & Zugelter
Attys.

Oct. 18, 1949. W. C. F. DIETZ 2,485,436

COLLAPSIBLE BABY BED

Filed July 12, 1945 2 Sheets-Sheet 2

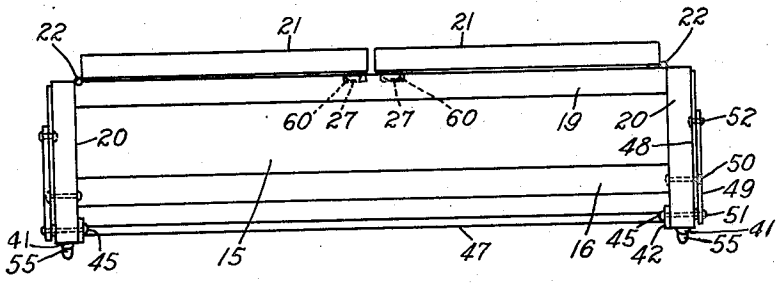


Fig. 5.

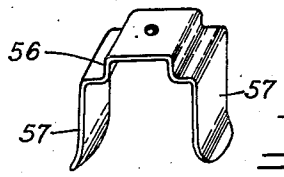


Fig. 6.

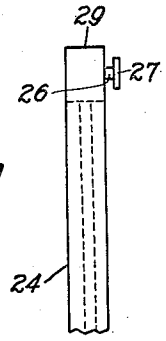


Fig. 7.

INVENTOR,
William C. F. Dietz
BY
Zugelter & Zugelter
Atty's.

Patented Oct. 18, 1949

2,485,436

UNITED STATES PATENT OFFICE

2,485,436

COLLAPSIBLE BABY BED

William C. F. Dietz, Cincinnati, Ohio

Application July 12, 1945, Serial No. 604,668

8 Claims. (Cl. 5—99)

1

The present invention relates to a folding crib or the like, which possesses various novel features and advantages, the most important of which are mentioned in the following statements of the objects of the invention.

Among the objects of the invention are: to provide a folding crib which may be quickly converted into a play pen or the like, adapted to rest upon the floor or other supporting surface; further, it is an object of the invention to provide means associated with a folding crib, whereby with little effort, the crib may be collapsed or folded into compact form, and rolled underneath a bed or other article of furniture so as to be concealed and out of the way when not in use; further, an object is to provide a novel construction of folding crib including a box-like shallow base mounted upon rollers or wheels, and in which all the necessary bed clothing, mattress, and springs or other mattress support, may be stored in flat condition when the device is not in use.

Other objects of the invention are to improve the structural features of a device of this kind, so that it will be exceptionally sturdy and durable, as well as easy to manipulate in setting up for use, or in collapsing the structure to the compact form; a further object is to provide in a folding crib an improved collapsible leg structure, with means associated therewith for automatically converting into fixed rollers the swivel casters with which the leg structure is provided; further, it is an object of the invention to provide novel and convenient means for latching in the upright extended position the hinged side and end members of the crib, the latching means being so constituted as to offer no risk of injury to a child's hands coming into contact therewith, the latch means being, moreover, safe and secure.

Among the objects of the invention, is that of so arranging the foldable members of the crib, that an attendant may without strain or inconvenience, quickly actuate the latch means and fold the structure to the collapsed condition, or set it up for use, without any assistance from other persons.

A further object is to impart to a device of the character mentioned, extreme simplicity, durability, and serviceability, while at the same time minimizing the cost of manufacture and maintenance to the greatest possible extent.

The foregoing and other objects are attained by the means described herein and illustrated in the accompanying drawings, in which:

Fig. 1 is a longitudinal vertical section of the folding crib, showing certain parts in the folded or partially folded condition at the left of the figure.

2

Fig. 2 is a side elevational view of the folding crib in the completely collapsed condition, with its casters so latched as to constitute wheels enabling the structure to be easily rolled beneath a bed or other article of furniture.

Fig. 3 is a detailed perspective view on an enlarged scale, showing the latch elements which maintain the foldable sides and ends in the extended condition.

Fig. 4 is a fragmental vertical section taken through the latch element illustrated by Fig. 3.

Fig. 5 is an end elevational view of the device in the completely collapsed condition.

Fig. 6 is an enlarged perspective view showing a retainer which holds the swivel caster in the position illustrated by Fig. 2.

Fig. 7 is a fragmental elevational view taken on line 7—7 on Fig. 1, and indicating the mode of mounting one of the latched parts.

My improved device is exemplified as comprising a shallow box-like base, indicated generally by the character 12, and furnished with any suitable form of bottom member 13 adapted to support the mattress and bed clothing normally contained within the box-like base. The bottom member 13 preferably, though not necessarily, is resilient or flexible, and may consist of the usual flat spring commonly found in cots, gliders, or other articles of furniture not requiring coil or box springs. If desired, the bottom member may be in the form of a board or sheet of wood, metal, fabric or any other suitable material capable of supporting the mattress and bed clothing of the crib.

The shallow box-like base preferably is rectangular in shape, and has shallow sides 14 and ends 15 of uniform height. The sides and ends might be paneled as shown, although in practice it is quite possible to eliminate the panels and substitute for them any suitable arrangement of spindles, grilles or the like, as may be desired. The side and end panels illustrated herein are shown merely by way of example, and the invention is not to be understood as being limited thereto.

The sides and ends of the base may include, for the purpose of rigidity and strength, lower side and end rails 16 and 17, respectively, and along the upper edge of the shallow box-like base, similar side and end rails 18 and 19 may be furnished for the same reason. At the four corners of the base structure, the various rails

may be joined by means of vertical corner posts, each of which is indicated by the character **20**.

To the upper edges of the sides of the base are hinged the crib side members **21**, the hinges therefor being indicated at **22**. Similarly, by means of hinges **23** end members **24** are mounted upon the top of the box-like base for movement from the vertical to the horizontal position, as suggested at the left of Fig. 1. It may be noted that the hinged side members **21**, and the hinged end members **24**, are rectangular frames suitably provided with spindles **25** or equivalent means for preventing a child from rolling or falling from the crib and possibly onto the floor beneath. When the hinged side and end members are in the upright or extended condition as illustrated at the right of Fig. 1, they are to be latched or fastened to preclude accidental return thereof to the collapsed or horizontal position of Figs. 2 and 5. It may here be noted that the end members **24**, when folded inwardly to the horizontal position, rest beneath the upper edge of the box-like base. That is to say, the end members when folded inwardly do not extend upwardly beyond the top edge of the box-like base. The hinged side members **21** when folded inwardly, rest flatly on top of the previously folded end members, as plainly illustrated by Fig. 2.

The latching means used for holding the hinged end members and side members in the extended or upright position, may be of the type illustrated by Fig. 3, wherein **26** indicates a pin or stud having a head or button **27** at one end, and an anchoring means **28** at the opposite end whereby the pin or stud may be secured to the hinged side member **21**, one at each upper corner. In the upright condition of the side members, the pins or studs project inwardly of the crib, with the heads or buttons spaced from the material in which the pins are anchored. Four such pins are applied to the crib.

The top rail **29** of each hinged end member has, at each of its ends, a latch such as is illustrated by Figs. 3 and 4. This latch may consist of a metallic U-shaped strap having legs **30** and **31** screwed or otherwise fixed to rail **29**, with the connecting end portion **32** capping the rail end. Portion **32** may be slotted as at **33** to accommodate the shank of pin or stud **26**, whereas one leg **30** has an aperture **34** connecting with the slot and adapted to permit disposition of the head or button **27** within the confines of the latch.

An actuator for the latch in the form of a slide **35**, extends across the end member **32** of the strap and may be held yieldingly against the inside face thereof by means of a leaf spring or the like **36** (Fig. 4) having an anchorage **37** in the end of rail **29**. Finger pieces **38**, flush fitted to the rails at **70**, are not readily manipulated by an infant yet they provide a convenient means of shifting the slide to latching and releasing positions. When the slide is lowered, as in Fig. 3, a finger **39** blocks the entrance to slot **33** and precludes the release of pin or stud **26** therefrom. Upon elevating the slide, the finger **39** is withdrawn from intercepting relationship with the slot, and permits ready entry and withdrawal of the pin or stud shank. Fig. 3 shows the pin or stud in the normal relationship to the latch member, so that it is easily apparent how the pin or stud may be received in the latch slot when the latch slide is elevated and the latch is moved bodily to the left for engaging the pin or stud. This same action occurs when the hinged side member **24** at the left of Fig. 1 is swung to the

upright position. The construction at the right of Fig. 1 is similar, there being four latch means applied to the crib. As will be understood, the latches simultaneously lock all the side and end members together, preventing disengagement both sidewise and endwise. This double locking at both ends of the curb aids the attendant in quickly folding and setting up the crib, without assistance. In the folded condition of the crib, the heads or buttons **27** may rest within recesses **60** (Figs. 1 and 5), formed in the upper edges of the end rails **19**. Recesses **60** may include latches for the buttons **27**.

The folding leg structure of the crib is constructed as follows. Each of the four corner posts **20** has a vertical depending extension **40** provided at its terminal end with a foot **41** which may be in the form of a smooth button or the like commonly known as a dome of silence. A metallic hinge **42**, preferably in the form of a flat strap riveted or otherwise secured as at **43** to the leg **44**, may be hinged as at **45** to the inner face of extension **40**. The hinged end of the leg preferably is recessed at **46** to receive the button member **41** when the leg is extended to the upright position, thereby to stabilize the hinge connection and impart a high degree of rigidity thereto. The two legs at each end of the crib may be joined by means of a connecting bar **47** to insure unitary movement of the legs to the extended and collapsed positions.

Limiting means in the form of toggle braces **48** and **49** serve to latch the legs in the extended position so that they might not accidentally fold. Brace **48** may be pivoted to the side frame member **12** at the location **50**, while brace **49** is pivoted to the leg at **51**. A pivoted connection between the braces is indicated at **52**, and the characters **53** and **54** indicate friction means tending to maintain the aligned condition of the braces illustrated at the right of Fig. 1. It will be understood, of course, that any suitable form of bracing means might be employed for the purpose of establishing and maintaining the desired extended relationship of the legs relative to the body of the crib.

Each of the four legs may be furnished at its free end, with a swivel caster **55** whereby the crib may be rolled and directed along a floor or other surface. When all of the legs are extended, the casters are free to swivel. When the legs are folded as indicated at the left of Fig. 1, however, it is desirable that the swivel movement of the casters be restrained so that the wheels of the casters will perform as rollers mounted upon rigid horizontal axles extending transversely of the length of the crib. To establish this non-swivel relationship of the casters, means may be furnished in the form of caster retainers or clips **56** screwed or otherwise fastened in a depending position to the lower edge of rail **12**, such clip being shown in detail by Fig. 6. It will be observed that each clip has a pair of depending legs **57** to embrace the flat-sided fork members of a caster, so as to retain the caster fork in the non-swivel position shown at the left of Fig. 1, leaving the caster wheel free to rotate upon its axle. The legs of the retaining device might preferably be resilient in character, so that when they embrace the caster fork the latter is gripped thereby to preclude the possibility of the foldable leg dropping to the extended position inadvertently. Each of the four retainers **56** constituting a set for the crib, is properly spaced from the pivot **45**, so as to automatically receive the caster

fork when the leg is swung to a folded position substantially flatly against the under side of the crib base. As will be understood, the leg structures may be swung to the folded position while the crib is standing on end, the casters naturally assuming a rotated position at which the wheels thereof are disposed in vertical planes, so that the forks of the casters will be immediately receptive to the retaining clips. Thus it is unnecessary for the operator to manipulate the casters individually by hand, in order to fit them into the retaining clips.

To prepare the device for storage, the hinged side and end members may be folded down to compact form, and thereafter the crib may be stood on end to render the leg structures most easily accessible for folding against the crib bottom. After folding the leg structures, the completely folded crib may easily be rolled beneath a bed or other article of furniture. In the folded condition, the shallow box-like base of the crib will contain the usual mattress and bed clothing, so that the device will be immediately ready for subsequent use. The completely collapsed condition of the crib is plainly illustrated by Fig. 2.

It may be noted that the buttons 41 at the lower ends of the corner posts' extensions, are elevated but slightly above floor level when the crib is resting upon the floor with the legs thereof folded under it. By reason of this fact, it is possible to use the crib as a play pen by simply unfolding the hinged side and end members to the upright position. The parts then will assume the Fig. 1 relationship, with all legs folded under, and it will be noted that the buttons 41 in that event will be sufficiently close to the floor as to present serious tilting of the crib as the infant therein moves from one end of the crib to the other. It is possible also to remove the casters entirely when the crib is used as a play pen.

In conclusion, it may be noted that all constituent parts of the collapsible crib are simple and inexpensive in character, thereby facilitating manufacture and assembly while at the same time maintaining cost at a minimum. The device is sturdy and durable, and the user will experience no difficulty in manipulating it without the assistance of other persons. It is important to note that the latching means at each end of the crib are within easy reach of the operator, the arrangement being such that the hinged members 24—24 may be folded inwardly in succession without requiring the operator to reach the full length of the crib in manipulating the latching devices. Extending the crib to the use position is as easily accomplished, as folding it to the collapsed or non-use position. When completely folded, the crib conveniently may be rolled beneath a bed or other article of furniture so that it will be concealed from view. Other advantages inherent in the structure have been previously stated amongst the objects of the invention appearing at the forepart of this description.

What is claimed is:

1. A folding crib, comprising a main box-like base rectangular in shape, with shallow sides and ends of uniform height and having a resilient bottom, two upright end members hinged to the upper part of the two ends of said base at a lower elevation than said upper part of the ends, so the said hinged upright end members, when folded down inwardly, shall not extend above the top edge of said box-like base, and two upright side members of such height and so hinged to upper parts of the sides of said base, so said upright side members when folded inwardly, will

lie flat on top of the said folded upright end members, and two sets of legs hinged to fold flatly against the under side of said box-like base, free-rolling swivel casters on said legs and means operative incident to folding the legs under the crib, for holding said casters in non-swivel but free-rolling position, thus permitting the folded crib to be rolled underneath an ordinary bed, on its own casters.

2. A foldable crib comprising a shallow box-like base having a bottom, ends, and sides to accommodate bed clothing, pivot means near the corners of said base, and legs attached to the base by said pivot means for swinging movement from upright position to a folded position at which the legs are disposed substantially flatwise along the bottom of the crib, a swivel caster on the free end of each leg to support the crib for dirigibility of movement along a floor, and means operative to fix the casters against swiveling incident to movement of the legs to the folded position, the casters remaining free-rolling in vertical planes while so fixed against swiveling, to ensure straight-line wheeling of the crib in opposite directions.

3. A foldable crib comprising a shallow box-like base having a bottom, ends, and sides to accommodate bed clothing, pivot means near the corners of said base, and legs attached to the base by said pivot means for swinging movement from upright position to a folded position at which the legs are disposed substantially flatwise along the bottom of the crib, a swivel caster on the free end of each leg to support the crib for dirigibility of movement along a floor, and means operative to fix the casters against swiveling while the legs are so folded, the casters remaining free-rolling in vertical planes while so fixed against swiveling, to ensure straight-line wheeling of the crib in opposite directions, and means at the corners of the box-like base serving as feet in the folded condition of the legs and as stabilizers for the legs when disposed in the upright position.

4. A foldable crib comprising a shallow box-like base having a bottom, ends, and sides to accommodate bed clothing, pivot means near the corners of said base, and legs attached to the base by said pivot means for swinging movement from upright position to a folded position at which the legs are disposed substantially flatwise along the bottom of the crib, a swivel caster on the free end of each leg to support the crib for dirigibility of movement along a floor, and means operative to fix the casters against swiveling while the legs are so folded, the casters remaining free-rolling in vertical planes while so fixed against swiveling, to ensure straight-line wheeling of the crib in opposite directions, said caster fixing means being in the form of clips secured to the bottom of the crib to embrace the sides of the casters incident to swinging of the legs to the folded position.

5. A foldable crib comprising a shallow box-like base having a bottom, ends, and sides to accommodate bed clothing including a mattress, said base including corner posts each having a depending extension to serve as a mount for a leg of the crib, the extensions being of a length approximating a cross-sectional dimension of the legs, a leg pivoted to each extension for swinging movement from a position of alignment with a corner post to a folded position substantially flatwise against the bottom of the box-like base, a swivel caster at the end of each leg to support the crib for movement in the aligned positions of the legs, and means for restraining the swivel move-

ments of the casters when the legs are displaced to the folded position, the extensions of the corner posts being elevated to a limited extent above floor level when the legs are so folded, to perform as stops limiting tilting of the crib at the ends thereof while supported upon the casters in the non-swivel relationship.

6. In a folding crib, the combination which comprises a box-like base having sides and ends, a pair of hinged end members movable from an upright position upon the ends of the base to a horizontal position at which said end members are substantially parallel to the base, side members hinged to the base for movement from an upright position to one at which the side members rest in substantial parallelism with the base, keepers in the form of headed studs applied to the side members with the heads spaced from said side members and extending centerward of the crib, and latch means on each hinged end member including a slotted body to receive a keeper head when one of the end members is swung to the upright position subsequently to disposition of a side member to the upright position, and a latch slide movable vertically downwardly to a flush relationship with the end member, said latch slide including a finger for engaging the keeper head and precluding release thereof from the slot of the latch body, thereby simultaneously locking the side and end members against sidewise and endwise disengagement.

7. A folding crib comprising a main box-like base rectangular in shape, with shallow sides and ends extending upwardly to a uniform height, a bottom for said box-like base, two opposed upright end members and means hinging said end members to the ends of the base for swinging movement from the upright position to a folded horizontal position at which the end members are substantially flush with the top of the box-like base, two opposed upright side members, and means hinging said side members to the sides of the base so that the side members when folded inwardly from the upright position, will lie flatly on top of the folded end members, two sets of legs hinged upon the base to fold substantially flatly against the under side of said base, free-rolling swivel casters on said legs, and means for

holding said casters in non-swivel but free-rolling position when the legs are folded beneath the base, thus permitting the folded crib to be rolled on its own casters beneath an ordinary bed.

8. A folding crib comprising a main box-like base rectangular in shape, with shallow sides and ends extending upwardly to a uniform height, a bottom for said box-like base, two opposed upright end members and means hinging said end members to the ends of the base for swinging movement from the upright position to a folded horizontal position at which the end members are substantially flush with the top of the box-like base, two opposed upright side members, and means hinging said side members to the sides of the base so that the side members when folded inwardly from the upright position, will lie flatly on top of the folded end members, two sets of legs hinged upon the base to fold substantially flatly against the under side of said base, free-rolling swivel casters on said legs, and means for holding said casters in non-swivel but free-rolling position when the legs are folded beneath the base, said holding means being in the form of resilient clips fixed to the base for embracing and yieldingly holding the sides of the casters in the non-swivel relationship only when the legs are so folded.

WILLIAM C. F. DIETZ.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
215,040	Bostwick	May 6, 1879
274,982	Shepard	Apr. 3, 1883
394,010	Powers	Dec. 4, 1888
440,731	Wagner	Nov. 18, 1890
802,728	Amos	Oct. 24, 1905
1,135,022	Hummel	Apr. 13, 1915
1,138,247	Rakowsky	May 4, 1915
1,671,774	McIntosh	May 29, 1928
2,002,607	McDaniel	May 28, 1935
2,114,586	Bowen	Apr. 19, 1938
2,281,672	Buchanan	May 5, 1942

Certificate of Correction

Patent No. 2,485,436 October 18, 1949

WILLIAM C. F. DIETZ

It is hereby certified that errors appear in the printed specification of the above numbered patent requiring correction as follows:

Column 4, line 7, for "curb" read *crib*; column 5, line 37, for "present" read *prevent*;

and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 17th day of January, A. D. 1950.

[SEAL]

THOMAS F. MURPHY,
Assistant Commissioner of Patents.