(No Model.)

C. P. KENNA.

FOLDING CRADLE.

No. 335,203. Patented Feb. 2, 1886.

Fig. 1.

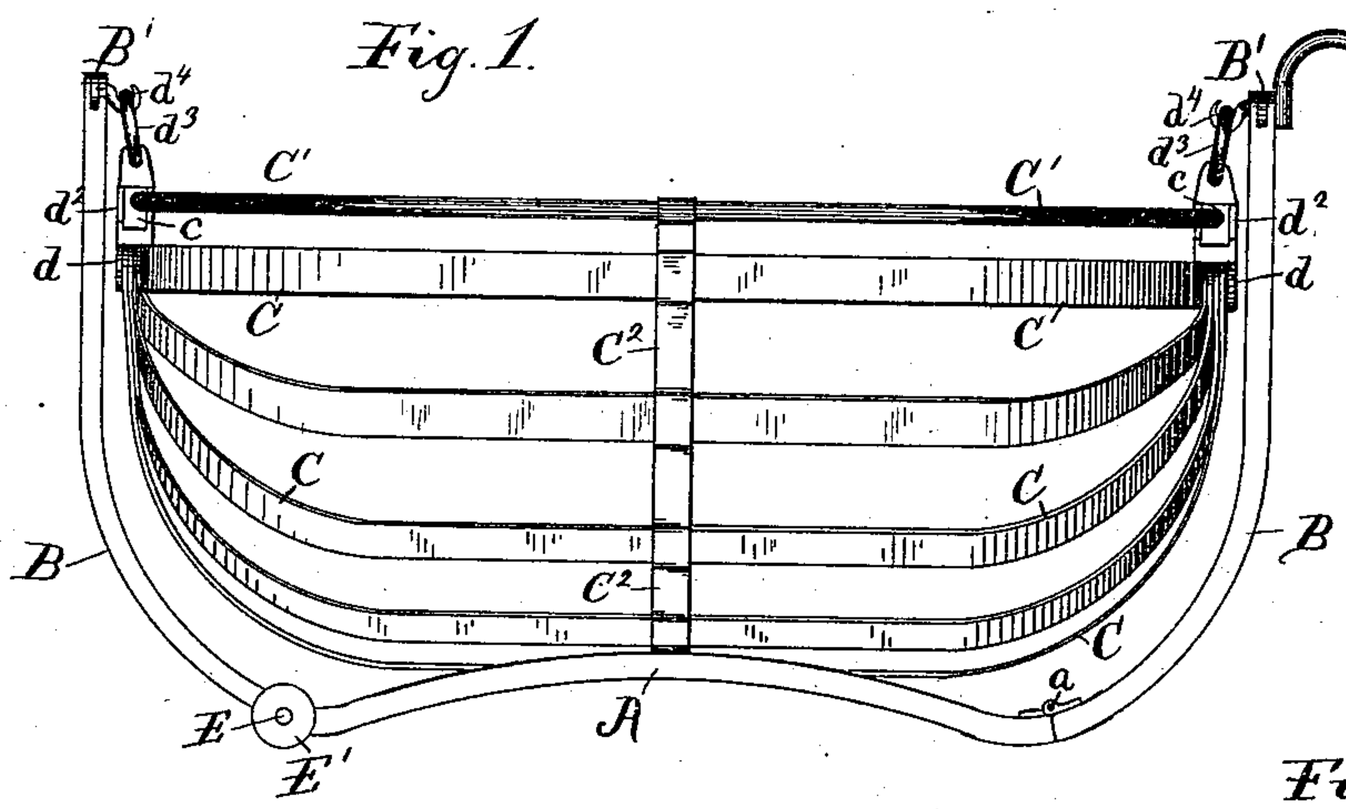


Fig. 2.

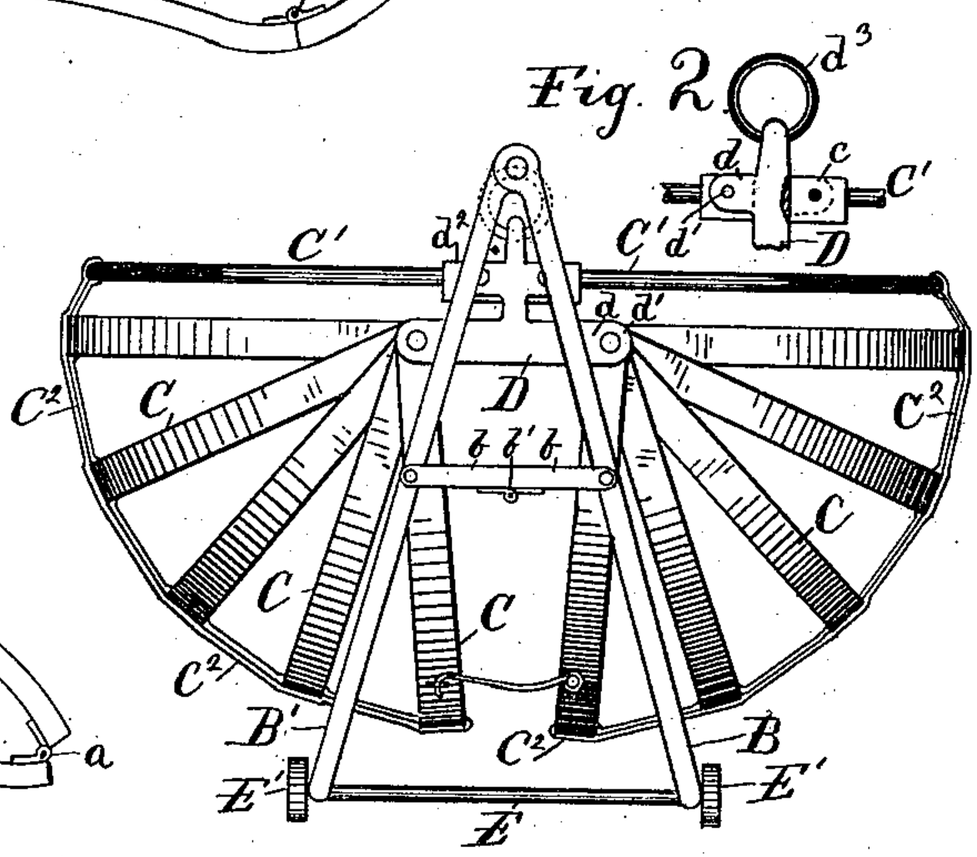


Fig. 4.

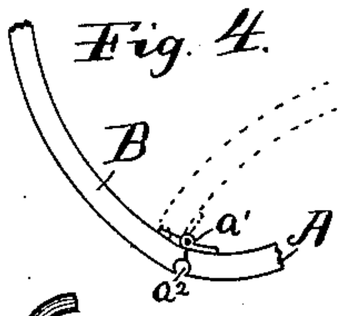


Fig. 5.

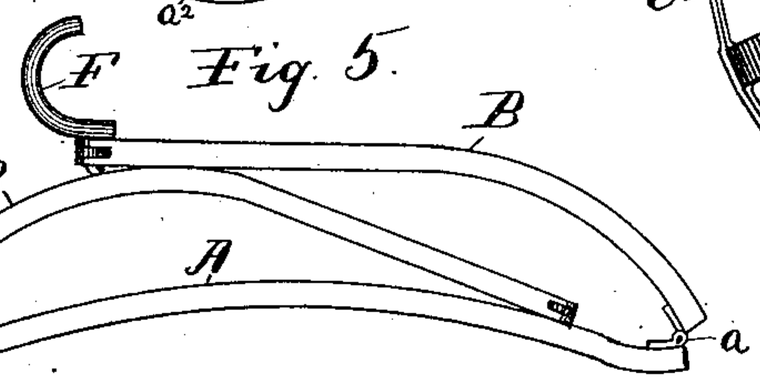
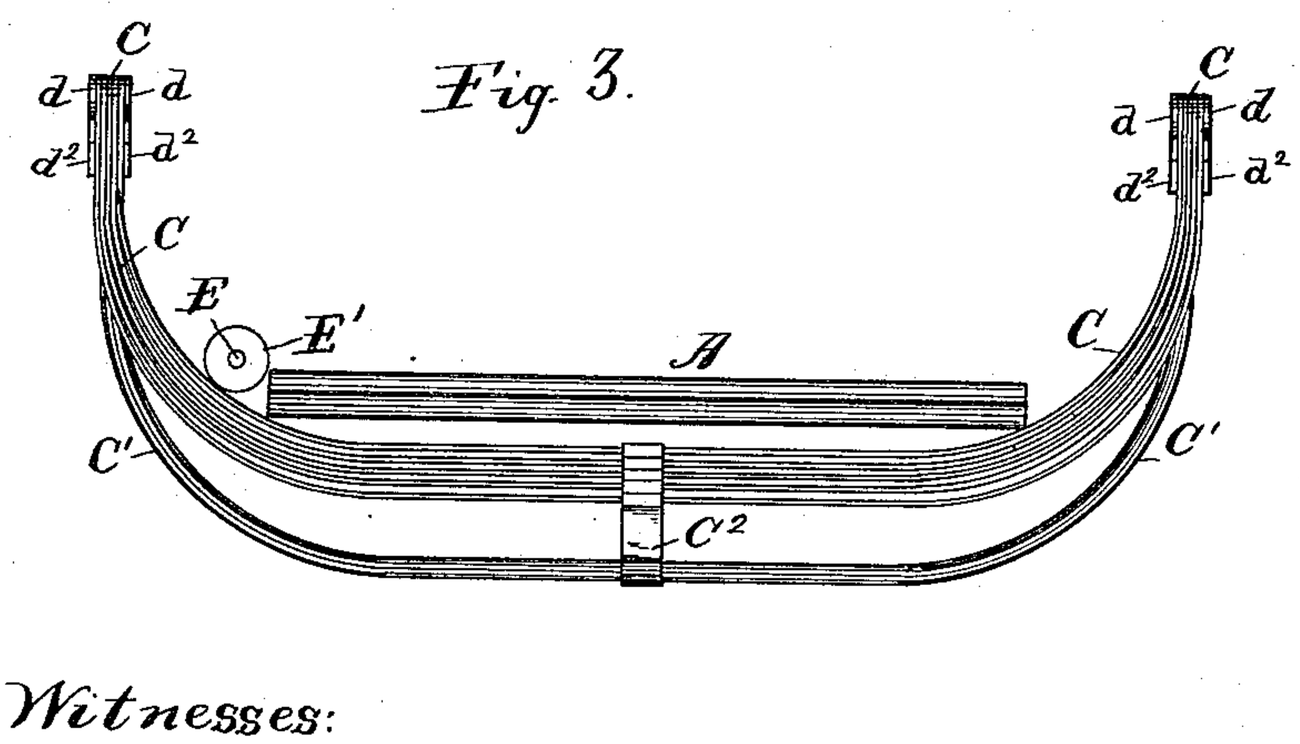


Fig. 3.



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UNITED STATES PATENT OFFICE.

CHARLES P. KENNA, OF CHICAGO, ILLINOIS.

FOLDING CRADLE.

SPECIFICATION forming part of Letters Patent No. 335,203, dated February 2, 1886.

Application filed October 20, 1885. Serial No. 180,413. (No model.)

To all whom it may concern:

Be it known that I, CHARLES P. KENNA, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Folding Cradles, of which the following is a specification.

The object of my invention is to provide a folding cradle of a simple, cheap, and durable construction which may be readily folded into a compact shape for storage or shipment or unfolded and set up for use, and without the necessity of removing screws or fastenings or taking the structure to pieces; and to this end my invention consists in a cradle-body composed of bent or curved longitudinal ribs pivoted together at each end and adapted to shut or fold inside each other.

Another feature of my invention consists, in conjunction with the pivoted longitudinal ribs, of a flexible strap or connection between them to sustain the separate ribs in position and permit them to be folded or shut together.

Another feature consists in arranging the pivoted longitudinal ribs in two or more sets or series, each set or series being separately pivoted to a common end or frame piece at each end of the cradle.

It also consists in providing the end or frame pieces to which the ribs are pivoted with separately-pivoted longitudinal top rails or frame-bars, adapted to fold together upward and to turn down only to a horizontal position or opposite each other when the cradle is extended for use, and thus form a rigid support for the pivoted ribs flexibly connected therewith.

It also consists in a frame or support for the cradle-body, composed of two or more (preferably three) pieces pivoted or jointed together, the pivots or joints being located inside the line of support at each end of the cradle-body, so that the weight of the cradle-body will serve to hold the jointed frame rigid.

The invention also consists in providing one of the joints of the frame with sockets or recesses to receive the axles of the wheels when the frame is opened or extended. The mere act of opening the frame thus fastens the wheels in place, and the moment the frame is closed the wheels are released therefrom.

The invention further consists in making the supporting-frame of two sides or parts pivoted together at each end at the top, so that they will fold into more compact shape; and the invention also consists in the novel devices and novel combinations of devices or parts herein shown and described, and more particularly pointed out in the claims.

In the accompanying drawings, which form a part of this specification, and in which similar letters of reference indicate like parts, Figure 1 is a side elevation of a cradle embodying my invention. Fig. 2 is an end view of the same. Fig. 3 is a view showing the cradle folded. Fig. 4 is a detail view of the frame-joint which serves to secure the axle, and Fig. 5 is a side view of the frame as folded.

In said drawings the folding frame or support upon which the cradle-body is mounted is shown as being composed of two bottom rails or bars, A, each having an upright folding part, B B′, jointed or hinged thereto at each end. The upright parts B B′ are pivoted together at their upper ends, so that the two sides or parts of the frame A B B and A B′ B′ may close or fold together. A brace or stretcher, *b*, preferably having a joint, *b′*, at its middle, and pivoted at each end to the uprights B B′, so that it will fold, serves to hold the two sides or parts of the frame rigid when the same are extended or spread apart.

The joints or hinges *a a′* at the ends of the bars A should be located inside the line of support at each end of the cradle-body, so that the weight of the cradle will serve to hold the uprights B B and B′ B′ extended, as indicated in Fig. 1—that is to say, the bottom rails, A, should be shorter than the cradle-body, and by this means also the frame, when folded, is adapted to be placed inside the bent or curved longitudinal ribs C, which form the body of the cradle, as indicated in Fig. 3.

The adjoining or abutting ends of the folding frame-pieces A B and A B′ are provided, one or both, with recesses or grooves a^2, to receive the axle E of the wheels E′, and thus afford a means of readily attaching and securing the wheels in place when the cradle is extended for use. This socket a^2, for attaching the wheels, may be formed in the hinge-plates or on separate brackets attached to the folding arms A B B′, if desired.

The cradle-body is composed of longitudinal

folding ribs or slats C, pivoted or hinged together at or near their ends.

D D are the end pieces or castings, to which the ribs C are pivoted at two projections or arms, *d*, thereon by the pins *d'*, one on each side of the center or median line of the cradle-body. These arms *d* are or should be provided with slots, in which the ends of the ribs C fit.

To the end pieces, D, are also pivoted the folding top or frame ribs, C', which have square ends or other stops, *c*, to hold them rigid when turned at right angles to the suspension-pieces D, and thus afford means of supporting the ribs C. The ribs C are connected to each other—that is to say, all those which are pivoted at the same point to the end pieces, D, and to the upper or frame rib, C', by means of flexible straps C^2. The frame-ribs C' are pivoted to slotted arms or projections d^2 on the end pieces, D, which are or should be sufficiently shorter than the arms or projections *d* to permit the ribs C to reverse or fold together upward from the position shown in Figs. 1 and 2 to that shown in Fig. 3 without obstruction from said arms d^2. The frame-ribs C' may, however, be pivoted to the end pieces, D, in other relative positions than that shown without departing from my invention.

The end pieces, D, are provided with rings or eyes d^3, by which the cradle-body is suspended on the hooks d^4 on the supporting-frame, so that it can freely swing and be readily attached or removed.

F is a handle attached to the folding frame at one end—the end to which the wheels are not applied.

Each successive folding rib C is slightly larger than its preceding or inner one, so that the ribs will shut or fold inside each other.

The bottom slats, C, of each set or side may be connected together by hooks c^4 or other suitable fastenings.

The ribs C, as well as the frame-ribs C', are bent or curved in shape, so that when extended they will form a cradle-shaped body, as shown in Figs. 1 and 2.

I hereby disclaim as forming no part of my invention the folding cradle shown and described in Letters Patent No. 237,820, to C. C. Clark, dated February 15, 1881.

In my invention the cradle-body consists of one or more (preferably two) sets or series of bent longitudinal ribs pivoted together at their ends, and adapted to shut or fold together, one inside of another, and to form when extended a rigid cradle-shaped frame or body, and each set or series of longitudinal bent ribs consists of three or more (preferably five) ribs pivoted together.

I claim—

1. A cradle-body consisting in a series of folding longitudinal ribs or slats pivoted together at their ends, adapted to fold together and to form a cradle-shaped body when extended, substantially as specified.

2. The combination of end or suspension pieces D with two series of folding longitudinal slats, C, pivoted to said end pieces at two different points, substantially as specified.

3. The combination of end pieces, D, with a series of folding longitudinal ribs or slats, C, and two folding frame-ribs, C', pivoted to said end pieces, substantially as specified.

4. The combination, with a cradle-body consisting of a series of folding longitudinal ribs or slats, C, pivoted together at their ends, of a folding frame or support therefor, consisting of a bottom and folding uprights pivoted thereto, substantially as specified.

5. The combination, with suitable end or suspension pieces, of a series of folding longitudinal bent ribs or slats pivoted to said end pieces and a flexible connection or strap between said folding ribs or slats, substantially as specified.

6. A cradle-body consisting of a series of folding longitudinal ribs or slats pivoted together at their ends, and having a flexible connection or strap between them, substantially as specified.

7. The combination of end pieces, D, with a series of folding longitudinal ribs or slats, C, folding frame-ribs C', and a flexible connection between said frame-ribs C' and ribs C, to support the latter from the former, substantially as specified.

8. The combination, with a cradle-body consisting in a series of folding longitudinal bent ribs or slats pivoted together at their ends, said slats or ribs being adapted to shut or fold one inside another, of a folding frame or support therefor, consisting of a bottom and folding uprights pivoted thereto within the line of support at each end of said cradle-body, so that the weight of the cradle will hold the folding uprights extended, substantially as specified.

9. The combination, with a cradle-body and a frame or support therefor provided with a jointed or folding upright, the joint between said frame or support and its folding upright being provided with a recess for attaching the wheels by simply opening or extending the upright, substantially as specified.

10. The combination, with frame-piece A and upright B, pivoted thereto, of the wheels and a socket or bearing at the joint between said upright and frame-piece for the axle of the wheels, said socket or bearing being adapted to be closed to secure the axle in place by opening or extending said upright, substantially as specified.

11. A folding cradle-frame having wheels removably attached thereto at the joint between the folding parts of said frame by opening or closing the same, the socket or recess for attachment of said wheels being in part formed in or secured to each of the folding parts of said frame, substantially as specified.

12. The combination, with end pieces, D, provided with arms *d* d^2, of two series folding longitudinal bent or curved ribs C and folding frame-ribs C', said ribs C' being pivoted to said arms d^2, and said series of ribs C being

pivoted to said arms *d*, said ribs C and C′ being adapted to fold upward together, substantially as specified.

13. The combination, with end pieces, D, provided with arms *d* and d^2, of folding longitudinal bent or curved ribs C, and folding frame-ribs C′, and a flexible strap, C^2, or connection between said slats C and frame-ribs C′, substantially as specified.

14. The combination, with a cradle-body, of a folding supporting-frame therefor, consisting of the bottom rails, A A, folding uprights B B B′ B′, said parts B B′ being hinged or pivoted together at their upper ends, and a folding spreader or brace, *b*, made in two parts pivoted together, substantially as specified.

CHARLES P. KENNA.

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