J. W. KYLE.

CHILD'S FOLDING CRIB.

APPLICATION FILED SEPT. 30, 1912.

1,204,791.

Patented Nov. 14, 1916.

3 SHEETS—SHEET 1.

Fig. 1

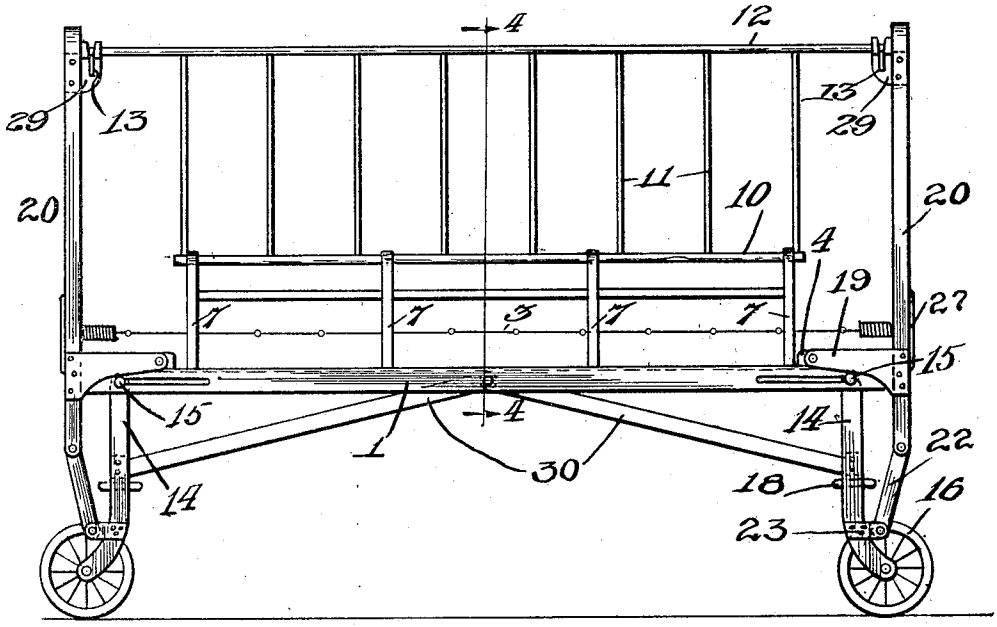
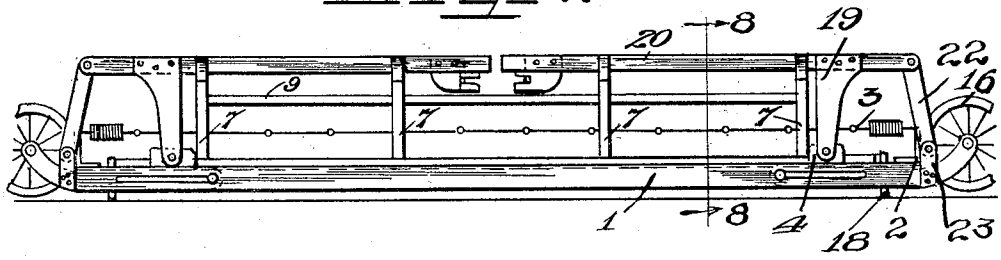


Fig. 2



Witnesses

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3 SHEETS—SHEET 2.

Fig. 3

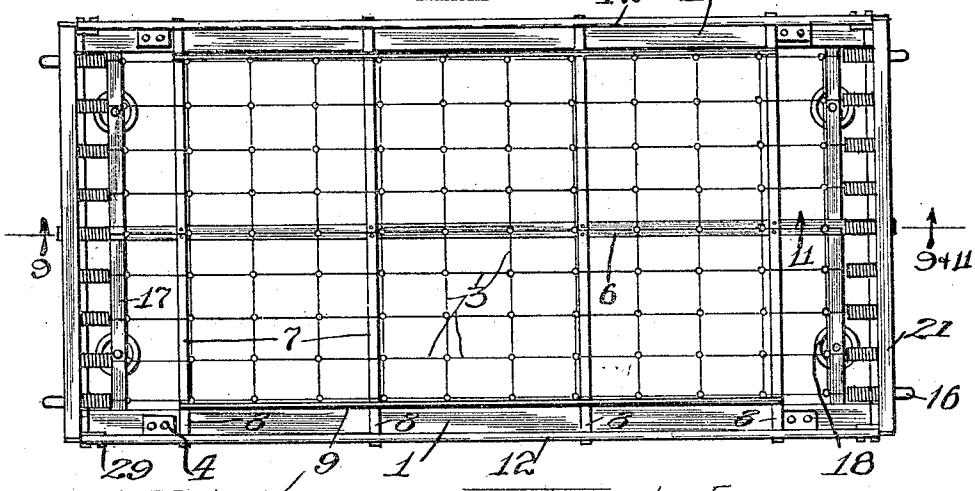


Fig. 4

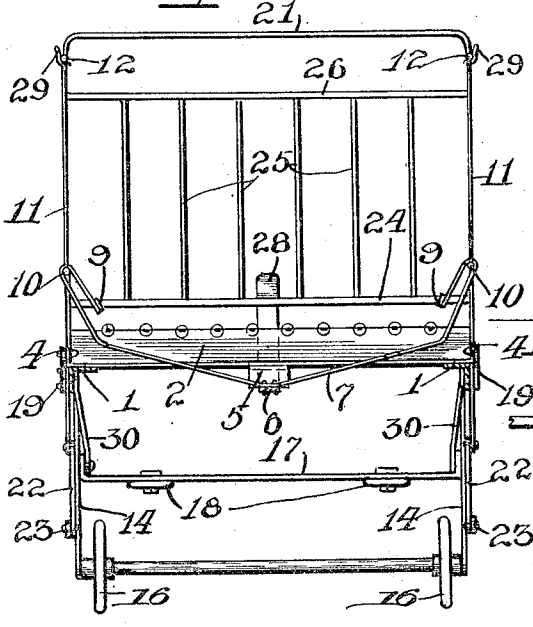


Fig. 5

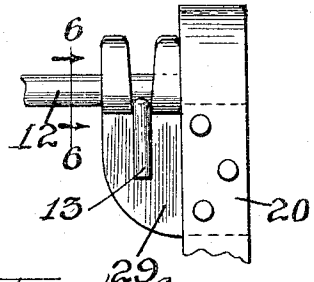


Fig. 6

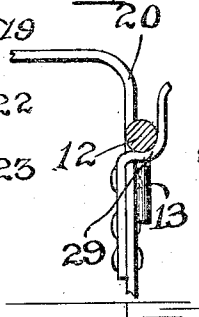
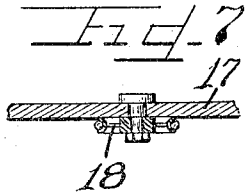


Fig. 7



Witnesses

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3 SHEETS—SHEET 3.

Fig. 8

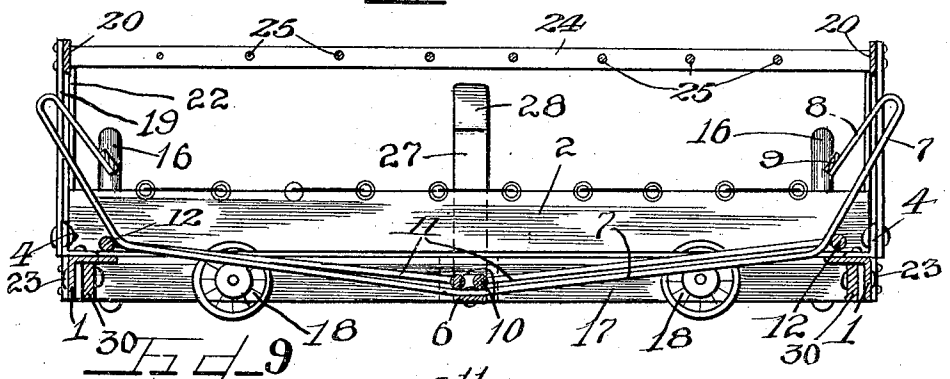


Fig. 9

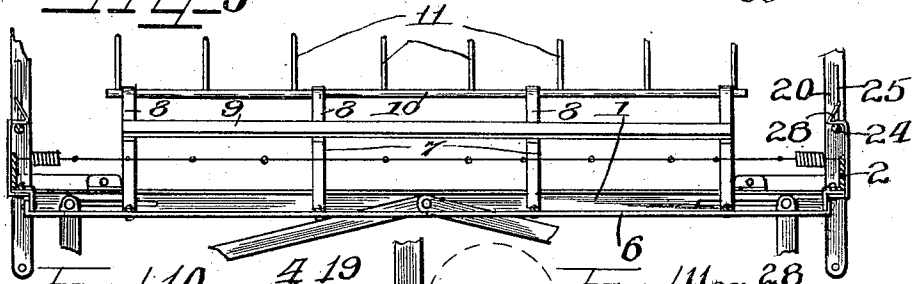


Fig. 10

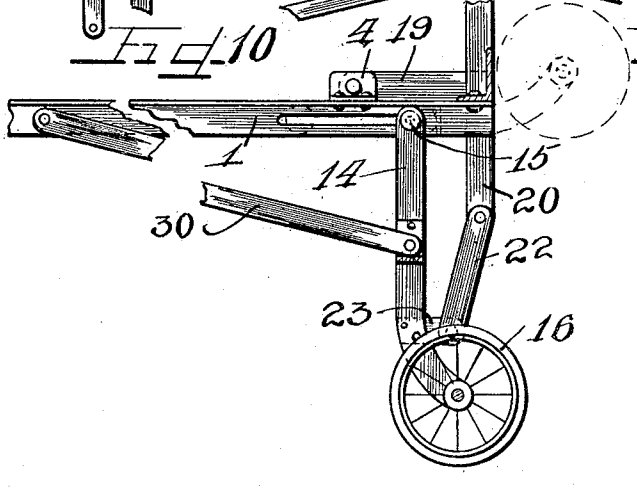
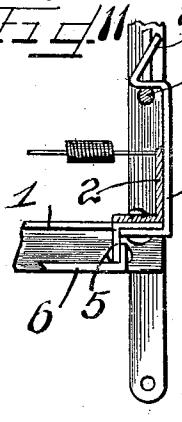


Fig. 11



Witnesses

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UNITED STATES PATENT OFFICE.

JOSEPH W. KYLE, OF CHICAGO, ILLINOIS.

CHILD'S FOLDING CRIB.

1,204,791. Specification of Letters Patent. Patented Nov. 14, 1916.

Application filed September 30, 1912. Serial No. 723,065.

To all whom it may concern:

Be it known that I, JOSEPH W. KYLE, a citizen of the United States, and a resident of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Children's Folding Cribs; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the numbers of reference marked thereon, which form a part of this specification.

As heretofore constructed a child's crib occupies considerable otherwise available space in a room, whether in use as a bed or not. It is important that the height of the crib when used as a bed, should be such as to bring the mattress thereof nearly on a level with the mattress of an ordinary bed to enable the occupant of the crib to be readily given such attention as may be required during the night, and this requirement has necessitated a large construction, which when not in use, occupies the otherwise available space within the room, proving very inconvenient during the day, especially where the apartment is not large.

The object of this invention is to afford a child's crib of standard size, in which the mattress or bed of the crib, when adjusted for use, is approximately at the level of an ordinary bed, but so constructed as to permit of collapsing or knocking down the device to occupy minimum space.

It is an object of the invention to afford a wheeled crib adapted when open to afford an elevated bed equipped with a side rail or rails, and adapted when closed to collapse to the floor to permit of rolling or sliding the same beneath the bed or another article of furniture.

It is an object to afford a construction wherein the crib when adjusted for use, is supported upon wheels and having other wheels or rollers journaled thereon and directed at a right angle with said wheels, and adapted to support the crib when closed to permit the same being rolled beneath another article of furniture.

It is a further object of the invention to afford a construction wherein one or both of the side boards positively lock and hold the crib in upright position, but wherein either side board may be adjusted to a point below the mattress to permit unobstructed access to the crib from that side.

It is also an object of the invention to afford an exceedingly simple, compact and durable construction, of light weight, and capable of easy manipulation for adjustment.

Other objects of the invention are disclosed in the subjoined specification and claims.

The invention (in a preferred form) is illustrated in the drawings, and hereinafter more fully described.

In the drawings: Figure 1 is a side elevation of a device embodying my invention, showing the crib erected for use. Fig. 2 is a similar view, showing the crib knocked down and ready to be rolled beneath the bed or other article of furniture. Fig. 3 is a top plan view thereof. Fig. 4 is a section on line 4—4 of Fig. 1. Fig. 5 is an enlarged detail illustrating the locking engagement between the foot and head members and side rails. Fig. 6 is a section on line 6 of Fig. 5. Fig. 7 is an enlarged, sectional detail taken through one of the transverse wheels or rollers. Fig. 8 is an enlarged section on line 8 of Fig. 2. Fig. 9 is a fragmentary section on line 9 of Fig. 3. Fig. 10 is an enlarged, fragmentary, sectional detail. Fig. 11 is an enlarged, fragmentary detail section on line 11, of Fig. 3, illustrating the construction of one of the end locks.

As shown in the drawings: A rectangular mattress frame is constructed of angle bars or other suitable material, and comprises side rails 1, and end rails 2, of suitable length to afford the required dimensions for the bed, and supported thereon, and secured thereto, is the spring fabric 3, which may be of any desired kind to afford a yielding support for the mattress, which is not shown. As shown, the side rails 1, of the mattress frame, are disposed with the flanges thereof uppermost, and with the edges directed inwardly, and the end rails are arranged with the flanges directed inwardly and supported on, and rigidly secured to the flanges of said side rails so that said end rails of the mattress frame lie above the side rail members. The web of each of said side rails is longitudinally slotted from near each end thereof inwardly, as shown in Figs. 1 and 2. Rigidly secured

on each of the side rails above said slot, is an upwardly directed lug 4. Secured centrally on each of the end rails, and directed downwardly therefrom, is a lug 5, which, as shown, comprises a short piece of angle bar rigidly secured on the under side of the flange of the end rail, as indicated in Figs. 4, 9, and 11. Said lug (which is the flange of said angle bar) extends downwardly to about the lower edge of the side rails, and secured thereon, and extending longitudinally and centrally of the mattress frame, is a bar 6. Secured transversely on said bar, are laterally directed spring strips 7, which incline upwardly to the top of the side rails of the mattress frame and thence are bent upwardly, extending above the end rails, and the extremities 8, thereof are turned inwardly and downwardly approximately to the fabric of the mattress, and the ends thereof, are connected by means of a longitudinal strip or strap 9, of metal or other suitable material. The side board or wall of the crib, as illustrated in the drawings, is constructed of metal tubes or other suitable material, and comprises a lower rod or tube 10, preferably shorter than the length of the crib, and connected by means of uprights or pipes or rods, 11, or any suitable grille with the upper rod or tube 12, which forms the top of said side board. The rods 12 are of a length approximately equal to the length of the crib, and each is provided on the outer end with a downwardly directed pin or extension 13, adapted to afford a lock with the end members of the crib, as hereinafter described. Said lower rod 10, lies within the loop of the transverse springs, as shown in Figs. 1, 4, and 9, while the upper rod or rail 12, lies outside said loops of the springs, thereby permitting said side wall members to be retracted by pulling the same downwardly and inwardly beneath the mattress supporting fabric, and within the mattress frame, as shown in Fig. 8.

Supporting legs are pivotally engaged with the mattress frame at each end thereof, at the inner side of the flange thereof, each, as shown, comprising a bar 14, provided at its upper end with a pin 15, which slidably engages in the appropriate slot in the mattress frame. Said bar at its lower end is curved outwardly, and journaled thereon in longitudinal alinement with the crib is a wheel 16, which, of course, may be rubber tired if desired, or of any suitable construction to avoid injury to the floor, and to afford noiseless operation. Extending transversely between, and rigidly connecting the legs at the same end of the mattress frame, is a transverse bar 17, the flat face of which is directed downwardly when the legs are in supporting position, as shown in Fig. 1, and journaled on said bar against the flat face thereof, are rollers or wheels 18, one near each end of the same, and adapted to support the crib when closed, as shown in Fig. 2, to permit the same to be moved transversely thereon.

Arms 19, are pivotally engaged on the lugs 4, and are of a length to extend beyond the mattress frame, and rigidly secured thereto at the free ends thereof at opposite ends of the mattress frame, are the head and the foot boards or members for the crib. The head and foot boards may obviously assume any desired form, and be of any desired construction. As shown, however, bars 20, afford the side members thereof, which are connected transversely of the crib at their upper ends by means of a bar or tube 21, to afford a finish, and the lower ends thereof extend beyond or below the brackets 19, as shown in Figs. 1 and 2, and are pivotally connected by means of connecting leg member, links or bars 22, with lugs or projections 23, secured near the lower ends of the legs, and which project outwardly in alinement with the side rails of the crib. The lengths of said links 22, and said projections 23, are such as to permit the legs to fold within the flanges of the side rails of the mattress frame when the end members or boards are folded inwardly, substantially parallel with the mattress frame, as shown in Fig. 2.

Any suitable grille or desired ornamental construction may be used for the head and foot board of the crib, and to fill the frame afforded by the side bars 20. As shown, however, a transverse bar or rod 24, rigidly connects the side bars 20, slightly above the top of the end rails of the mattress frame, and extending upwardly therefrom are rods or pipes 25, each at its upper end connecting with a similar transverse bar or rod 26.

Secured centrally on each end rail of the mattress frame, is a spring detent or latch 27, positioned to engage over the bar or rod 24, when the head or foot board are elevated to assist in retaining the same in place, while adjusting the crib in upright position, and, as shown, an extended end 28, is provided on said latch to permit of manual engagement for retracting the same.

Secured on each of the bars 20, near the top thereof, and projecting inwardly and upwardly, is an upwardly opening hooked detent 29, the outwardly and upwardly directed hook of which is provided with a slot, as shown in Fig. 5, to receive the locking pin 13, therein when the upper bar or rod 12 of the side board is engaged in the hook. Pivoted on the flange of the side rail of the mattress frame at a point substantially at the middle of said side rail, is a brace bar 30, the lower end of which pivotally engages above the lug 23, at any con-

venient point on the leg of the crib. Said brace bars coact with the end members of the crib and the links 22, to hold the legs rigidly extended when the crib is erected for use.

The operation is as follows: When opening and erecting the crib, the end boards or members are engaged and raised to a position at right angles with the mattress frame, thereby projecting the legs downwardly to a right angle with the mattress frame, said legs fulcruming on the end of the brace bar 30, and the pivot pin sliding outwardly along the slots in the mattress, the end of the slot acting as a stop therefor when the legs are in proper supporting position. The detent 27, at each end of the device, engages said end members sufficiently to hold the same in upright position, and the side boards or members are now withdrawn from beneath the mattress fabric by engaging the top bar 12, pulling the same outwardly and upwardly until the lower bar 10, is engaged in the loops of the springs. Said side member or board is then drawn upwardly against the tension of the springs sufficiently high to permit the ends of the upper rod or bar 12, to slip into the hooked detent on the respective end members of the crib, with the pins 13, thereon projecting downwardly in the slot in said hooks, the side and end members are thereby rigidly engaged together, and the crib may be rolled about on the floor or handled or used as desired without possibility of collapsing.

Should it be desired to use the crib with one of the side walls down, as, for instance, at the side adjacent another bed, it is obvious that a sufficient rigidity is afforded by the connection between the remaining side wall of the crib and the end members to answer every purpose, and to afford an effective lock for all parts, and to maintain the crib in its erected adjustment for use. The length of the spring loops is such that the same normally lie below the top of the mattress on the crib, thus preventing danger of injury to the occupant.

When it is desired to close the device, the side boards or members are lifted sufficiently against the tension of their springs, to clear the hooked detents, and then are slid inwardly within the mattress frame and beneath the fabric. A slight inward pull on the respective end members, releases said end members from their detents and fulcruming on the inner ends of the brackets 19, on the lug 4, the legs are swung outwardly, permitting the structure to descend to the floor, as shown in Fig. 2, to be supported upon the wheels or rollers 18. The wheels 16, owing to the curvature in said legs, are elevated clear of the floor, and the device having collapsed to a thickness or a height above the floor but little more than the thickness of the mattress and bedding, it may be rolled beneath a bed or other article of furniture, leaving the floor space previously occupied by the crib, unobstructed.

The arrangement of wheels is such that the frame or metallic portions of the device can never touch the floor, and the wheels for supporting the device both when erected, and when collapsed, being provided with tread surfaces or tires of resilient material, for example, rubber, or felt, no injury to the finish of the floor can be produced by the operation of the device. The mattress and all the bedding is retained in the crib when collapsed, in position for immediate use without rearrangement when the crib is erected, thus enabling the device to be almost instantly erected for use and with the least possible inconvenience to the operator.

Details of construction may, of course, be varied. It is not essential that the device be constructed wholly or even largely of metal, and the particular form of ornamentation of parts, of course, may vary as preferred. I have shown but a preferred form of my invention, and I therefore do not purpose limiting the patent granted on this application otherwise than necessitated by the prior art.

I claim as my invention:

1. A mattress frame, legs swingingly secured thereto, foot and head members fulcrumed on the mattress frame and operatively connected with the legs to project the same to supporting position when said head and foot members are erected on the mattress frame, and a side member adapted to engage said foot and head member to hold the same in operative position, and adapted when the device is closed to slide into the mattress frame.

2. A bed embracing a mattress frame, head and foot members fulcrumed thereon to fold inwardly into parallel relation with the mattress frame and upon the bedding, a side member slidably engaged in the mattress frame below the mattress and adapted to be extended and to engage the head and foot members to lock the same in upright position, resilient means acting to hold said side members firmly in such engagement, and legs engaged to the frame and operatively connected with the foot and end members, to maintain a substantially parallel relation therewith at all times and to extend in alinement with the mattress frame when the device is closed.

3. A device of the class described comprising a mattress frame, foot and head members, a bracket rigidly secured on each foot and head member at each side thereof, and pivotally engaging the mattress frame at a distance from the ends thereof approximating the thickness of the mattress and bedding, legs slidably secured to the mat-

tress frame, means constraining the upper ends of said legs to slide inwardly of the mattress frame when folded, and links connecting the lower ends of the head and foot member with the respective legs, and of a length to support the legs within the mattress frame and in alinement therewith when closed.

4. In a folding bed, a frame, legs connected thereon, means constraining said legs to fold outwardly and move inwardly relative said frame as the bed is folded, and end members pivoted to the bed frame and toggled to said legs to actuate the same in folding and unfolding of the device.

5. In a folding bed a frame, end members, legs adapted to fold away from one another in pairs, a sliding connection between said legs and frame, a pivoted member affording a fulcrum point and brace for said legs, and connections between said end members and said legs whereby the legs are actuated thereby.

6. In a device of the class described a bed frame comprising end and side sills, an end member, a bracket connected thereon and pivoted to a side sill remote from its end, a leg member pivotally and slidably connected to said side sill, a link pivoted to the end member and adapted to actuate the leg member into supporting position as the device is unfolded, and means connected to said leg member and to the side sill to normally hold said leg member toward the actuating link.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

JOSEPH W. KYLE.

Witnesses:
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CHARLES W. HILLS, Jr.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."