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2,509,972

CHAIR AND BASE THEREFOR RELEASABLY SECURED THERETO

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Fig. 1.

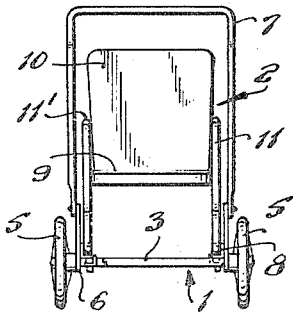


Fig. 2.

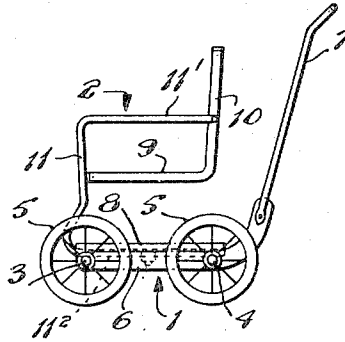


Fig. 3.

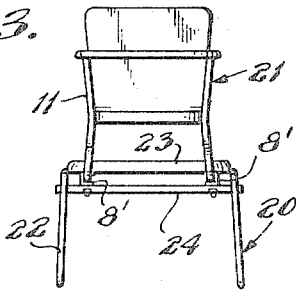


Fig. 4.

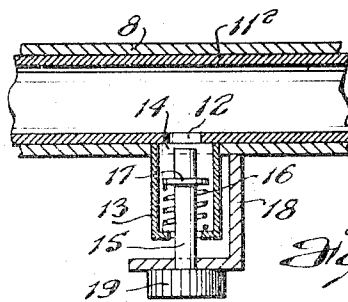
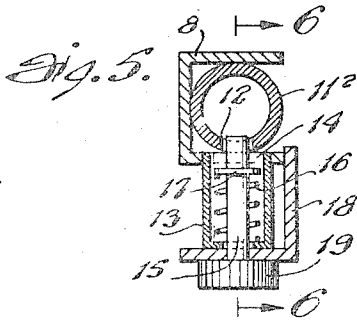
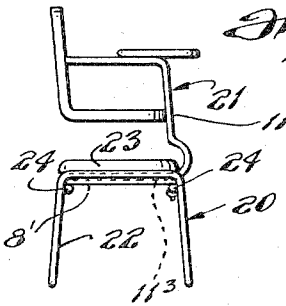


Fig. 7.

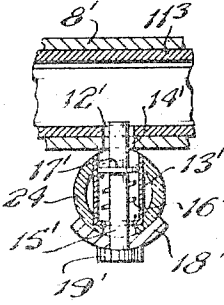
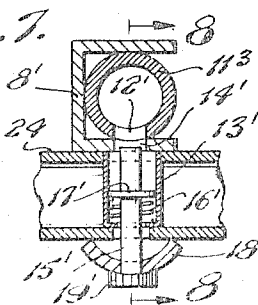


Fig. 8.

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UNITED STATES PATENT OFFICE

2,509,972

CHAIR AND BASE THEREFOR RELEASABLY
SECURED THERETO

Louis Gottfried, New York, N. Y.

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15 Claims. (Cl. 155—39)

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This invention relates to a device for releasably securing a chair to a base and particularly to a device for releasably securing a juvenile chair to a base formed by a running gear, a table used as support for a high chair or any other suitable base.

The present invention is a continuation-in-part of applicant's co-pending patent application Serial No. 35,360, filed June 26, 1948.

The particular juvenile chair has at its bottom two parallel bars which are received preferably by complementary members, as channel members, secured to the base of the chair, that is to the running gear, to the table, or to any other suitable base. It is of importance to secure the chair on its base in order to prevent accidental removal of the chair, which might harm the child using the chair. It has been proposed, therefore, to provide spring bolts, preferably secured to the said channels and extending into the path of said bars or tubes of the chair. The bars or tubes are equipped with corresponding openings which are disposed at the proper points to receive the ends of the spring bolts.

While a spring bolt disposed on each channel retains securely the chair in the mounted, operative position it is necessary to withdraw both spring bolts before the chair may be removed from its base, by sliding the rods or tubes from their channels. Thus, while one person is holding the spring bolts in their withdrawn position, a second person is required to release the chair from its base. This two-man operation for releasing the chair is considered a great disadvantage.

It is one object of the present invention to provide releasable means for securing the chair to its base, which means are one-man operated.

It is another object of the present invention to provide spring bolts for securing the parallel rods or tubes of the chair in the channels of its base, and means provided on the head of each spring bolt for retaining the latter in withdrawn position upon angular displacement of the head of the spring bolt.

With these and other objects in view, which will become apparent in the following detailed specification, the present invention will be clearly understood in connection with the accompanying drawing, in which

Figure 1 is an end elevational view of a stroller;

Fig. 2 is a side elevation of the stroller shown in Fig. 1;

Fig. 3 is a front elevational view of a convertible high-chair;

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Fig. 4 is a side elevation of the convertible high-chair, shown in Fig. 3;

Fig. 5 is an axial section of one embodiment of a spring bolt arrangement, as used on the stroller;

Fig. 6 is a section along the lines 6—6 of Fig. 5 the bolt being shown, however, in withdrawn position;

Fig. 7 is an axial section of another embodiment of a spring bolt arrangement, as used on the convertible high-chair; and

Fig. 8 is a section along the lines 8—8 of Fig. 7 the bolt being shown, however, in locking position.

Referring now to the drawing and particularly to Figs. 1, 2, 5 and 6, the stroller shown in Figs. 1 and 2 comprises a running gear 1 and a chair 2. The running gear 1 comprises in conventional manner two axles 3 and 4 carrying wheels 5, which axles are connected by means of bars 6 extending in longitudinal or diagonal direction. The rear ends of the bars 6 are preferably bent upwards and are connected to the pusher 7 for the stroller, though the pusher may also be secured to the chair instead of to the running gear. Two, preferably U-shaped, channel members 8 disposed in longitudinal direction in parallel arrangement are properly secured to the running gear 1 and are adapted to receive two preferably tubular parallel bars of the chair 2, as described later.

The chair 2 comprises a seat 9 and back 10 which are supported by two preferably tubular members 11, the horizontal upper portions 11' of which serve as arm supports, while the horizontally extending bottom portions 11² serve as bars to be received by the said channels 8. It is, of course, understood, that any other type of chair may be used, as long as two parallel bars are provided at its bottom to be received by said channel members 8.

The U-channel members 8 receive the tubular members 11², when the chair 2 is mounted on the running gear 1. As shown in Figs. 5 and 6, at least one of the tubular members 11² is equipped with a hole 12 which is disposed at a predetermined point and is adapted to receive a spring pressed bolt. A housing 13 is provided at the bottom or top of the channel 8 and a recess 14 receives one open end of the housing 13. A bolt 15 is inserted into the housing 13 which receives also a helical spring 16 one end of which abuts against the other closed end of the housing 13 while its other end abuts against a flange 17 provided on the bolt 15, thereby tending to press

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the bolt 15 axially in upper direction (Fig. 5). An angular member 18 is secured to the head of the bolt 15 outside of the housing 13. The angular member 18 consists of one portion extending perpendicularly to the bolt axis and at least one other portion extending parallel thereto. Said other portion of the angular member passes the bottom of the U-shaped channel member 8 in one position, shown in Fig. 5, thereby permitting the bolt 15 to enter the hole 12 of the tube 11, while upon angular displacement of 90° of the bolt 15 with the angular member 18 in withdrawn position, the said other portion of the angular member 18 will abut against the bottom face of the U-shaped channel 8 and, thereby, will retain the bolt 15 in its withdrawn position. Though not essential, it is preferable to provide, in addition, a knurled head 19 for the bolt 15, so that its angular displacement may be secured without any difficulty.

While the present invention has been described in an application on a stroller, the same principle can be used in an application on a convertible high-chair, as shown in Figs. 3, 4, 7 and 8 of the drawings. The high-chair comprises a table 20 and a chair 21. The table 20 consists in conventional manner of two U-shaped members 22 forming the legs of the table 20 which support the table top 23. Horizontally disposed cross-bars 24 connect the corresponding legs of the two U-shaped members 22. Preferably U-shaped channel members 8' are provided in parallel arrangement from the front to the rear of the table, which members 8' may be supported by the cross bars 24. The chair 21 may be of similar construction as that shown in Figs. 1 and 2, though again any type of chair may be used, which is equipped at its bottom with two preferably tubular members 11³ in parallel arrangement, which members 11³ may be a part of the tube 11 forming the chair 21. In order to secure one member 11³ in one of the U-shaped channel members 8' a spring bolt 15' is disposed, preferably at the crossing point of the channel member 8' with the cross bar 24. The spring bolt housing 13' is inserted into a recess of the cross-bar 24 and the bolt 15' extends entirely through the cross bar 24 and enters a corresponding hole 12' of the tubular member 11³ and a hole 14' of the channel member 8', respectively, when the chair is mounted on the table. A spring 16' is disposed in the housing 13' one end of which abuts against a flange 17' provided on the bolt 15', while its other end abuts against the closed end of the housing 13', thereby tending the bolt 15' into the locking position of the chair. The bolt 15' is equipped with a head 18' which follows substantially the outer face of the cross-bar 24 and is positioned close to the latter in the locking position (Fig. 8). Upon withdrawing the bolt 15' and displacing the same angularly for 90° the outer edges of the head 18' will abut against the cross-bar 24 and retain the bolt 15' in its withdrawn position (Fig. 7). An additional knurled head 19' may be provided on the bolt 15' in order to provide a better grip thereon.

While two embodiments of the present invention have been disclosed, it is to be understood that these embodiments are given by example only and not in a limiting sense, the scope of the invention being determined by the objects and the claims.

I claim:

1. In a device, a chair, a base supporting said chair, two parallel bars spaced at a predetermined distance, two parallel channel members spaced at

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the same distance as that of said bars and detachably receiving the latter by longitudinal sliding movement, said bars and said channel members forming parts of said chair and said base, respectively, at least one of such channel members carrying a locking structure including a housing projecting outwardly from such channel member, a bolt rotatably extending through the housing into aligned openings in the channel member and the bar received therein to lock the said bar to the channel member, a resilient element in said housing releasably retaining said bolt in locking position, a head rigidly carried by said bolt for retracting and rotating the same, a detent member fixed with respect to the bolt and movable upon manipulation of the head from a position in which it permits the bolt to lock said bar to the channel member to a position in which it holds the bolt clear of the bar.

2. In an article of manufacture for use by children, the combination of a chair having a seat and a connecting means extending from the seat including a pair of substantially horizontally disposed portions underlying and spaced from the seat and arranged to engage the ground, said horizontally disposed portions merging into other portions curved in an upward direction towards the upper portion of said chair, with an article of furniture underlying said seat and two substantially horizontally disposed guide members secured to said article of furniture and interengaging the said horizontally disposed portions, said guide members being secured to said article of furniture above the supporting surface therefor, said horizontally disposed portions being removably received in said guide members, at least one of such members carrying a locking structure including a housing projecting outwardly from such guide member, a bolt rotatably extending through the housing into aligned openings in the guide member and the said horizontally disposed portion received therein to lock the said portion to the guide member, a resilient element in said housing releasably retaining said bolt in locking position, a head rigidly carried by said bolt for retracting and rotating the same, and a detent member fixed with respect to the bolt and movable upon manipulation of the head from a position where it clears the respective guide member to a position in which it engages the latter and holds the bolt in retracted position.

3. Baby tending apparatus comprising in combination, a first article of furniture, and a second article of furniture removably connected to and overlying the first article and supported thereby; substantially horizontal guide members carried by said first article of furniture; and said second article of furniture comprising a seat element and a supporting structure therefor comprising a pair of members having substantially horizontal portions underlying and spaced from said seat element, said portions merging into other portions curved in an upward direction towards the seat and connected thereto, said horizontal portions being removably received in said guide members, at least one of such members carrying a locking structure including a housing projecting outwardly from such guide member, a bolt rotatably extending through the housing into aligned openings in the guide member and the said horizontal portion of the second supporting structure received therein to lock the said portion to the guide member, a resilient element in said housing releasably retaining said bolt in locking position, a head rigidly carried by said bolt for

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retracting and rotating the same, and a detent member fixed with respect to the bolt and movable upon manipulation of the head from a position where it clears the respective guide member to a position in which it engages the latter and holds the bolt in retracted position.

4. The combination with a baby tending device of a chair structure removably connected to and overlying said device and supported thereby; said device including substantially horizontal guide members carried by an upper portion thereof; and said chair structure comprising a seat and supporting structure therefor comprising a pair of elements having horizontally disposed portions underlying the seat and spaced therefrom, said portions merging into other portions curved in an upward direction towards and secured to the upper portion of said chair said horizontally disposed portions being removably received in said guide members, at least one of such members carrying a locking structure including a housing projecting outwardly from such guide member, a bolt rotatably extending through the housing into aligned openings in the guide member and the said horizontally disposed portion received therein to lock the said portion to the guide member, a resilient element in said housing releasably retaining said bolt in locking position, a head rigidly carried by said bolt for retracting and rotating the same, and a detent member fixed with respect to the bolt and movable upon manipulation of the head from a position where it clears the respective guide member to a position in which it engages the latter and holds the bolt in retracted position.

5. In an article of manufacture, the combination of a chair, having a seat and a connecting means extending from the seat and including two parallel, substantially horizontally disposed portions, with a supporting table having a top and comprising two parallel, substantially horizontally disposed guide members below said table top, said portions being removably received in said guide members, at least one of such members carrying a locking structure including a housing projecting outwardly from such guide member, a bolt rotatably extending through the housing into aligned openings in the guide member and the horizontal portion received therein to lock the said portion to the guide member, a resilient element in said housing releasably retaining said bolt in locking position, a head rigidly carried by said bolt for retracting and rotating the same, and a detent member fixed with respect to the bolt and movable upon manipulation of the head from a position where it clears the respective guide member to a position in which it engages the latter and holds the bolt in retracted position.

6. An article of manufacture comprising a table, a chair and means removably mounting said chair on said table, said table having a top and said chair mounting means including a pair of channel members disposed below said table top and rigidly secured to said table, and said chair comprising a seat and a support therefor, the latter including two parallel horizontally disposed leg portions to engage the ground, said leg portions removably received in said channel members, at least one of such members carrying a locking structure including a housing projecting outwardly from such channel member, a bolt rotatably extending through the housing into aligned openings in the channel member and the horizontally disposed leg portion received

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therein to lock the said portion to the channel member, a resilient element in said housing releasably retaining said bolt in locking position, a head rigidly carried by said bolt for retracting and rotating the same, and a detent member fixed with respect to the bolt and movable upon manipulation of the head from a position where it clears the respective channel member to a position in which it engages the latter and holds the bolt in retracted position.

7. An article of manufacture comprising a table, a chair and means removably mounting said chair on said table, said table having a top and said chair mounting means including a pair of parallel channel members disposed below said table top and rigidly secured to said table, said channel members having longitudinal slots disposed in the confronting sides thereof, and said chair comprising a seat and a support therefor, the latter including two parallel horizontally disposed leg portions, said leg portions being removably received in said channel members, at least one of such members carrying a locking structure including a housing projecting outwardly from such channel member, a bolt rotatably extending through the housing into aligned openings in the channel member and the said horizontally disposed leg portion received therein to lock the said portion to the channel member, a resilient element in said housing releasably retaining said bolt in locking position, a head rigidly carried by said bolt for retracting and rotating the same, and a detent member fixed with respect to the head from a position where it clears the respective channel member to a position in which it engages the latter and holds the bolt in retracted position.

8. An article of furniture comprising a table, a chair and means removably mounting said chair on said table, said table comprising a top having a pair of straight oppositely disposed edges, a pair of similar supports of inverted U-shape having straight web portions extending along said straight edges of the top and connecting the legs of the supports, and spaced parallel rods each connected to the upper portions of said supports; said chair comprising a seat and a support therefor comprising a strip of material shaped to form two similar members of U-shape, each having one straight leg arranged to engage the ground and a second leg secured to said seat, said straight legs being parallel; and said chair mounting means comprising a pair of channel members disposed below said table top and rigidly secured to said rods and having each a recess removably receiving one of the straight legs of the chair support, at least one of such members carrying a locking structure including a housing projecting outwardly from such channel member, a bolt rotatably extending through the housing into aligned openings in the channel member and the said straight leg received therein to lock the said leg to the channel member, a resilient element in said housing releasably retaining said bolt in locking position, a head rigidly carried by said bolt for retracting and rotating the same, and a detent member fixed with respect to the bolt and movable upon manipulation of the head from a position where it clears the respective channel member to a position in which it engages the latter and holds the bolt in retracted position.

9. In an article of manufacture, the combination of a chair, having a seat portion and a con-

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necting portion extending from the seat portion and including at least two parallel horizontal arm portions, with supporting means comprising a table top, at least two horizontal parallel guide members disposed below said table top and interengaging and removably receiving said horizontal arm portions of the chair beneath said table top so that the upper surface of the table top remains unobstructed, at least one of such members carrying a locking structure including a housing projecting outwardly from such guide member, a bolt rotatably extending through the housing into aligned openings in the guide member and the horizontal arm portion received therein to lock the said portion to the guide member, a resilient element in said housing releasably retaining said bolt in locking position, a head rigidly carried by said bolt for retracting and rotating the same, and a detent member fixed with respect to the bolt and movable upon manipulation of the head from a position where it clears the respective guide member to a position in which it engages the latter and holds the bolt in retracted position.

10. In an article of manufacture, the combination of a chair, having a seat portion and a connecting portion extending from the seat portion and including at least two parallel horizontal arm portions, with a supporting table comprising two substantially parallel inverted U-members, connecting bars between said U-members, at least two horizontal parallel guide members supported by said connecting bars beneath the top of said table, said arm portions being removably received in said guide members, at least one of such members carrying a locking structure including a housing projecting outwardly from such guide member, a bolt rotatably extending through the housing into aligned openings in the guide member and the horizontal arm portion received therein to lock the said portion to the guide member, a resilient element in said housing releasably retaining said bolt in locking position, a head rigidly carried by said bolt for retracting and rotating the same, and a detent member fixed with respect to the bolt and movable upon manipulation of the head from a position where it clears the respective guide member to a position in which it engages the latter and holds the bolt in retracted position.

11. An article of furniture comprising a table, a chair and means removably mounting said chair on said table; said table comprising a top having a pair of straight oppositely disposed edges, a pair of supports of inverted U-shape having straight web portions disposed for extension thereof along said straight edges of the top and connecting the legs of the supports, and spaced parallel rods each connected to upper portions of said supports; said chair comprising a seat and a support therefor made up of a strip of material shaped to form two similar members, each having one straight portion arranged to engage the ground and a second portion extending therefrom and secured to said seat, said straight portions being parallel; and said chair mounting means comprising a pair of channel members disposed below said table top and rigidly secured to said rods, said straight portions being removably received in said channel members, at least one of such members carrying a locking structure including a housing projecting outwardly from such channel member, a bolt rotatably extending through the housing into aligned openings in the channel member and the said straight portion received therein to lock the said portion to

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the channel member, a resilient element in said housing releasably retaining said bolt in locking position, a head rigidly carried by said bolt for retracting and rotating the same, and a detent member fixed with respect to the bolt and movable upon manipulation of the head from a position where it clears the respective channel member to a position in which it engages the latter and holds the bolt in retracted position.

12. In a baby tending device, a chair, a base supporting said chair, two parallel bars spaced apart at a predetermined distance, two parallel channel members spaced at the same distance as that of said bars and detachably receiving the latter by longitudinal sliding movement, said bars and said channel members forming parts of said chair and said base, respectively, a locking structure including a housing secured to said base and disposed adjacent one of said bars, a bolt rotatably extending through the housing into an aligned opening in the bar to lock said bar in its position in the channel member, a resilient element in said housing releasably retaining said bolt in locking position, a head rigidly carried by said bolt for retracting and rotating the same, a detent member fixed with respect to the bolt and movable, upon manipulation of the head, from a position in which it permits the bolt to lock said bar in its position in the channel member to a position in which it holds the bolt clear of the bar.

13. In a baby tending device, a chair, a base supporting said chair, at least two horizontally disposed bars, two of which are parallel and spaced apart at a predetermined distance, two parallel channel members spaced at the same distance as that of said bars and detachably receiving the latter by longitudinal sliding movement, said bars and said channel members forming parts of said chair and said base, respectively, an element secured to said base adjacent said bars, said element carrying a locking structure including a housing disposed adjacent one of said bars, a bolt rotatably extending through the housing into an aligned opening of the bar to lock said bar in the channel member, a resilient element in said housing releasably retaining said bolt in locking position, a head rigidly carried by said bolt for retracting and rotating the same, a detent member fixed with respect to the bolt and movable, upon manipulation of the head, from a position in which it permits the bolt to lock said bar to said element to a position in which it holds the bolt clear of the bar.

14. Baby tending apparatus comprising in combination, a first article of furniture, and a second article of furniture removably connected to and overlying the first article and supported thereby, substantially horizontal guide members carried by said first article of furniture; and said second article of furniture comprising a seat element and second supporting structure comprising at least two substantially horizontal portions underlying and spaced from said seat element, two of said portions merging into other portions curved in an upward direction towards the seat and connected thereto, two of said horizontal portions being removably received in said guide members, a locking structure including a housing secured to said first article of furniture and disposed adjacent to one of said horizontal portions, a bolt rotatably extending through the housing into an aligned opening of said one of said horizontal portions, a resilient element in said housing releasably retaining said bolt in locking position,

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a head rigidly carried by said bolt for retracting and rotating the same, a detent member fixed with respect to the bolt and movable, upon manipulation of the head, from a position in which it permits the bolt to extend into said aligned opening of said one horizontal portion to a position in which it holds the bolt in retracted position.

15. In an article of manufacture, the combination of a chair, having a seat and a connecting means extending from the seat and including at least two parallel, substantially horizontally disposed portions, with a supporting table having a top and comprising two parallel, substantially horizontally disposed guide members below said table top, two of said portions being removably received in said guide members, said table carrying a locking structure including a housing adjacent one of the said horizontally disposed portions, a bolt rotatably extending through the housing into an aligned opening of the respective

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horizontal portion to lock the said portions to the guide members, a resilient element in said housing releasably retaining said bolt in locking position, a head rigidly carried by said bolt for retracting and rotating the same, and a detent member fixed with respect to the bolt and movable, upon manipulation of the head, from a position where it holds the bolt clear of said aligned opening of the respective portion to a position in which it permits the resilient element to hold the bolt in locking position.

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REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
903,712	Hamel	Nov. 10, 1908
2,066,557	Cox	Jan. 5, 1937