

Dec. 27, 1955

J. N. WHALEN

2,728,374

COMBINED CHAIR AND TABLE

Filed Aug. 12, 1952

2 Sheets-Sheet 1

FIG. 1

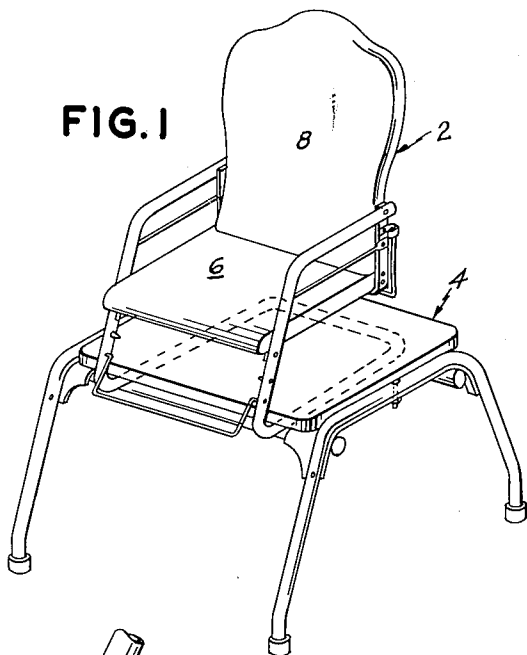


FIG. 2

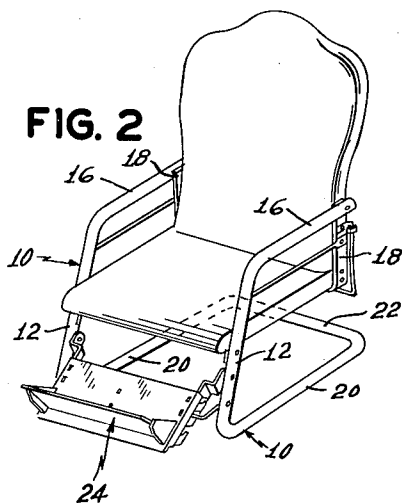


FIG. 4

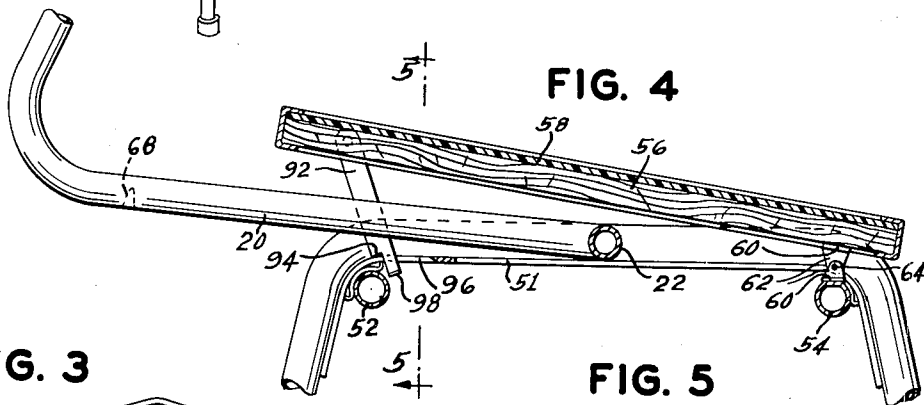


FIG. 3

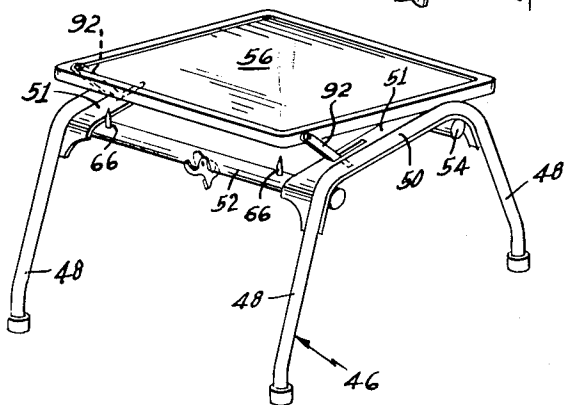
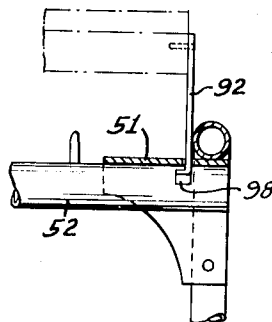


FIG. 5



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FIG. 6

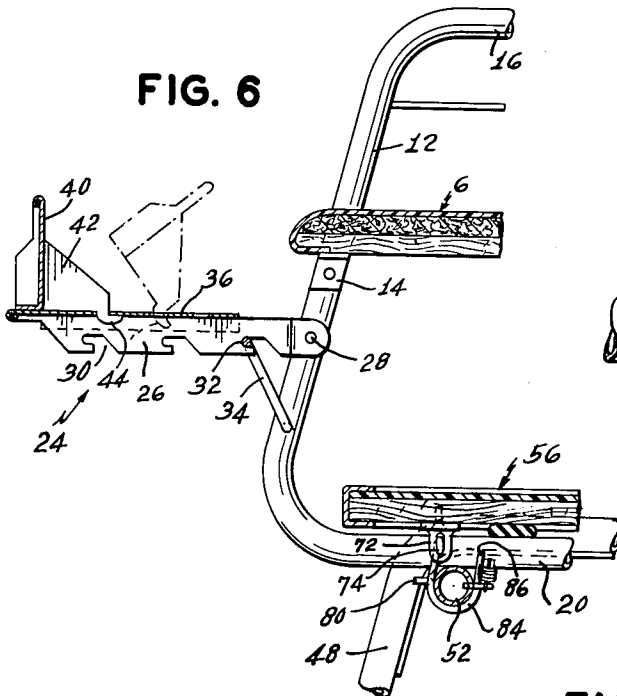


FIG. 8

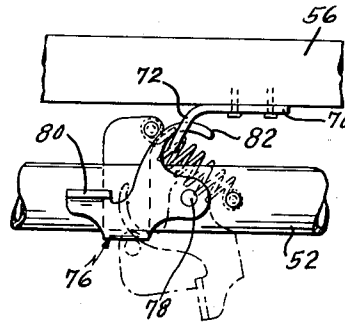
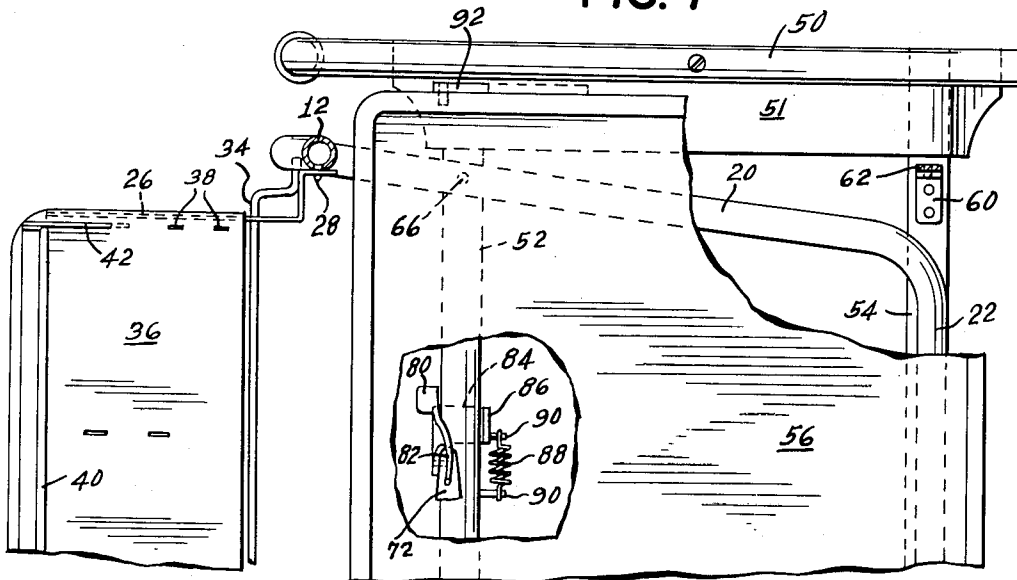


FIG. 7



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2,728,374

COMBINED CHAIR AND TABLE

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Application August 12, 1952, Serial No. 303,963

5 Claims. (Cl. 155—39)

This invention relates to convertible high chairs, and more particularly to an article of furniture consisting of a table member and a chair member which may be used as a low table and chair, or which may be combined to form a high chair.

Several prior proposals for supporting a chair on a table for use as a high chair have been made. In some instances the horizontal supporting members or runners of the chair, when assembled, rest on the top of the table. This results in scratching or otherwise injuring the surface of the table detracting from its appearance when used as a table.

Another proposal is the provision of channel bars on the under surface of the table top in which the horizontal runners of the chair are received. This construction is open to several objections. Either the channel bars must be accurately spaced in parallelism to avoid binding when the chair runners are inserted, or a tolerance must be provided to allow assembly even though the channel members are slightly out of parallel. This results in the production of many chair and table combinations in which the chair is loose when mounted on the table and is therefore unsatisfactory.

In my prior application Serial No. 261,768, filed December 15, 1951, now Patent No. 2,667,208, granted January 26, 1954, I have disclosed a table and chair combination in which the chair runners rest on the cross bars which are arranged beneath the table top and connect the U-shaped leg members. One of the cross bars is provided with locking means engaging the runners to prevent accidental displacement of the chair. The table top is hinged to the other cross bar to permit it to be raised for engagement of the locking means on the cross bar with the chair runners.

The present invention is directed to improvements in the construction of the chair and table combination. In the product of this application, an improved hinge construction is provided for securing the table top to the rear cross bar together with an improved spring latch to fasten the table top in normal position, after the chair has been inserted.

A further improvement consists in the provision of improved means for retaining the table top in a partly raised position while the chair is being inserted. If the front edge of the table is raised too high, the rear portion interferes with the placement of the rear runner on the rear cross bar. I accordingly provide an arm or arms pivoted on the under side of the table top and passing through slots in sheet metal members extending between the front and rear cross bars. By engaging a shoulder on the arm with the end of the slot, the table top can be retained in a partly raised position.

In the accompanying drawings, I have shown one embodiment of the invention. In this showing:

Fig. 1 is a perspective view showing the chair in position on the table to function as a high chair;

Fig. 2 is a similar view of the chair;

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Fig. 3 is a perspective view of the table with the table top in partially raised position;

Fig. 4 is a vertical, sectional view of the table, with the top in the position shown in Fig. 3, and illustrating the runners of the chair in a partly inserted position;

Fig. 5 is a detailed, sectional view on line 5—5 of Fig. 4;

Fig. 6 is a detailed, vertical, sectional view of the front portion of the assembled table and chair, illustrating an improved form of foot-rest;

Fig. 7 is a horizontal sectional view taken in a plane just above the table top; and

Fig. 8 is a detailed view of the spring catch by means of which the table top is retained in normal position.

Referring to the drawings, the assembly consists of a chair member 2 and a table member 4. The two units may be assembled with the chair on the table, as illustrated in Fig. 1 to form a high chair, or the chair may rest on the floor or ground, as in Fig. 2, and the units used to form a low table and chair combination.

The chair includes a seat 6 and a back 8. The back is preferably adjustable, as disclosed in my copending application. A pair of frame members 10, preferably of tubular stock, are arranged at each side of the chair. They include substantially vertical portions 12 extending above and below the seat. The front of the seat is connected to these members by clips 14 (see Fig. 6). The upper ends of the frame members extend rearwardly above the seat to form arms 16. Vertically extending supports 18 are connected to the rear of the arms and support the rear of the seat. At a suitable distance below the seat, the members 10 extend horizontally, or parallel to the seat, to form side runners 20, connected by a rear runner 22.

An adjustable foot-rest 24 is connected to vertical members 12. As shown, see Fig. 6, the foot-rest comprises a pair of side members 26, one pivoted to each vertical member, as at 28. Each of these members is provided with a series of notches 30 on its lower edge. A supporting bar 32 is adapted to be received in one of these notches of each of the members 26. The ends 34 of the supporting member are extended at right angles and received in the vertical members 12 to pivotally support it. Thus the position of the foot-rest may be angularly adjusted, as will be apparent from an inspection of Figs. 2 and 6. The foot-rest includes a back 36 in the form of a plate connected to the members 26. This plate is provided with a series of openings 38 at each side and preferably in the center of the plate (see Fig. 7). The foot-rest proper consists of a plate 40 at right angles to plate 36. It is held on plate 36 by end and center members 42. The members have hooks or engaging elements 44 which cooperate with the openings 38 in plate 36. As shown in Fig. 6, by tilting the foot-rest, as indicated in dotted lines, engaging members 44 enter openings 38 and, when the foot-rest is moved to the full line position, members 44 engage beneath plate 36 to hold the foot-rest in position. Both the force of gravity and the child's weight tend to prevent its displacement.

The other part of the table and chair combination is shown in detail in Figs. 3 to 5 of the drawings. It includes a pair of U-shaped leg members 46, one arranged at each side of the table. Each of them consists of a pair of legs 48 and a connecting portion 50. A plate 51 is secured to each of the leg members. These plates extend the full length of the connecting portion 50, and a slight distance down each leg, as clearly shown in Fig. 3. They form connecting means between the leg members and the front and rear cross bars 52 and 54, and also serve to reinforce and strengthen the table.

Cross bars 52 and 54 support table top 56, and also support the chair when the two units are assembled as a

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high chair. The table top may be formed of wood, a plastic material or a wooden body portion with a plastic surface 58 (see Fig. 4). It is hingedly connected to rear cross bar 54 to permit it to be raised to the position shown in Figs. 3 and 4, for insertion of the chair runners. It will be apparent that when the table top is in normal position, it must be spaced from cross bars 52—54 a distance sufficient for reception of the chair runners 20—22. The hinges consist of plates 60 secured to the under side of the table and the top of the rear cross bar 54 (see Figs. 4 and 7). These plates have upstanding ears 62 which are connected by pins 64 to form the hinged connection. The ears are of suitable length to properly space the table top from the cross bar. The hinges are placed adjacent each side, out of the area occupied by the chair runners. The side runners 20 of the chair converge rearwardly and thus provide plenty of room for the hinges (see Figs. 1 and 7).

When the chair is assembled on the table, the rear runner 22 rests on the rear cross bar 54 (see Fig. 7). The side runners 20 are supported by front cross bar 52. I find it advisable to provide means for locking the chair in place to prevent accidental displacement. For this purpose I provide a pair of pins 66 on the front cross bar which are received in openings 68 (see Fig. 4) in the side runners 20 when the units are assembled. With the table top locked in the normal position shown in Figs. 1 and 6, the chair is held rigidly in position.

After the chair runners are slid inwardly under the raised table top, as indicated in Fig. 4, until pins 66 enter openings 68, the table top is locked in the closed position of Fig. 1. The locking mechanism is best shown in Figs. 6 to 8. As shown, plate 70 is secured to the under side of the table top over the front cross bar 52. One end 72 of the plate extends downwardly and is provided with a slot or opening 74 (see Fig. 6). Cooperating member 76 is pivoted at 78 on the cross bar 52. Member 76 has an operating end 80 and a curved end 82 which is received in slot 74 of the cooperating member. A plate 84 also extends under the cross bar 52 and carries an extension 86 arranged in the rear side of the cross bar (see Fig. 7). Spring 88 is connected to pins 90 on this member and the cross bar 52. The arrangement is such that when the member 76 is swung on its pivot from either one of its positions to the other (shown in full and dotted lines in Fig. 8), the spring passes over dead center and moves the member 76 to its position with a snap. Also the curvature of locking end 82 tends to more firmly draw the table top toward the cross bar as it moves to locked position.

Another important feature of the invention is the provision of means for holding the table top elevated at just the right position for insertion of the chair. It will be apparent that if the top is raised too high, it would hit the back or seat of the chair. Also, it might lower that portion of the top rearwardly of the hinge to a point where it would interfere with the insertion of the chair runners. Pivoted on each side of the table top adjacent the front, I provide an arm 92. As shown (see Fig. 4), the arm is reduced in width adjacent its end, forming a shoulder 94. The arm extends through a slot 96 in plate 51. The end 98 of the arm is extended at right angles to prevent its displacement from the slot. As shown in Fig. 4, when the chair is to be inserted, the shoulder 94 is arranged on the top of the plate 51, at the end of the slot, and holds the table top in the position illustrated in Figs. 3 and 4. This not only prevents the top from being raised too high, but it also permits the person inserting the chair to use both hands for that purpose. While two arms 92 are shown in the drawings, I have found that only one is really necessary.

With the top as illustrated in Fig. 3, the chair is slid into position and lowered so that pins 66 enter openings 68. The top is then lowered to normal position by swinging arm 92 counter-clockwise until shoulder 94 clears the end of the slot. Locking member 76 is then moved

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from the dotted line position of Fig. 8 to the full line position to firmly lock the table top in position. Displacement of the chair is then impossible. The table top limits upward movement of the runners 20—22 and thus pins 66 cannot be removed from openings 68. To remove the chair from the table, the reverse order of operation is conducted. The table and chair then can be used as separate units.

I claim:

1. An article of furniture comprising a table, the table having substantially U-shaped leg members at each side, cross bars arranged at the front and rear of the table, a table top pivotally mounted on the rear cross bar, a locking member secured to the under side of the table top over the front cross bar, the locking member having an angular portion extending downwardly toward the front cross bar, said angular portion being provided with an opening, a cooperating member pivoted on the front cross bar, said member including a curved end to be received in the opening of the other member, a coiled spring connected to the second member and to the cross bar, the spring moving over dead center when the curved member is swung on its pivot from a locking to a non-locking position, and a chair member comprising a seat, a pair of vertically extending side frame members extending below the seat, horizontal runners formed on the lower ends of the side frame members, said runners being adapted to rest upon the cross bars of the table when the chair is assembled on the table, the table top being spaced from the cross bars at a distance sufficient to admit the chair runners therebetween and locking means carried by one of the cross bars and engaging the runners to prevent displacement of the chair.

2. An article of furniture comprising a table, cross bars arranged at the front and rear of the table, a table top pivotally mounted on the rear cross bar, a locking member secured to the under side of the table top over the front cross bar, the locking member having an angular portion extending downwardly toward the front cross bar, said angular portion being provided with an opening, a cooperating member pivoted on the front cross bar, said member including a curved end to be received in the opening of the other member, a coiled spring connected to the second member and to the cross bar, the spring moving over dead center when the curved member is swung on its pivot from a locking to a non-locking position, the table top being spaced from the cross bars, and a chair member comprising a seat, a pair of vertically extending side frame members extending below the seat, horizontal runners formed on the lower ends of the side frame members, said runners being adapted to rest upon the cross bars of the table when the chair is assembled on the table, and locking means carried by one of the cross bars and engaging the runners to prevent displacement of the chair.

3. An article of furniture comprising a table, cross bars arranged at the front and rear of the table, a table top pivotally mounted on the rear cross bar, a spring catch to secure the table top to the front cross bar, the table top being spaced from the cross bars, a plate secured to each of the leg members and extending from the rear cross bar to the front cross bar, one of said plates being provided with a slot, an arm secured to the table top and passing through the slot, the arm being adapted to engage the end of the slot to hold the table top in a partially raised position, and a chair member comprising a seat, a pair of vertically extending side frame members extending below the seat, horizontal runners formed on the lower ends of the side frame members, said runners being adapted to rest upon the cross bars of the table when the chair is assembled on the table, and locking means carried by one of the cross bars and engaging the runners to prevent displacement of the chair.

4. An article of furniture comprising a table, the

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table having substantially U-shaped leg members at each side, cross bars arranged at the front and rear of the table, a table top pivotally mounted on the rear cross bar, a locking member secured to the under side of the table top over the front cross bar, the locking member having an angular portion extending downwardly toward the front cross bar, said angular portion being provided with an opening, a cooperating member pivoted on the front cross bar, said member including a curved end to be received in the opening of the other member, a coiled spring connected to the second member and to the cross bar, the spring moving over dead center when the curved member is swung on its pivot from a locking to a non-locking position, a plate secured to each of the leg members and extending from the rear cross bar to the front cross bar, one of said plates being provided with a slot, an arm secured to the table top and passing through the slot, the arm being adapted to engage the end of the slot to hold the table top in a partially raised position, and a chair member comprising a seat, a pair of vertically extending side frame members extending below the seat, horizontal runners formed on the lower end of the side frame members, said runners being adapted to rest upon the cross bars of the table when the chair is assembled on the table, the table top being spaced from the cross bars at a distance sufficient to admit the chair runners therebetween, and locking means carried by one of the cross bars and engaging the runners to prevent displacement of the chair.

5. An article of furniture comprising a table, the table having substantially U-shaped leg members at each side, cross bars arranged at the front and rear of the table, plates secured to the rear cross bar adjacent each side of the table, a table top, cooperating plates secured to the under side of the table top, ears formed on the plates, hinge pins mounted in the ears to space the

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table top a desired distance from the cross bars, a locking member secured to the under side of the table top over the front cross bar, the locking member having an angular portion extending downwardly toward the front cross bar, said angular portion being provided with an opening, a cooperating member pivoted on the front cross bar, said member including a curved end to be received in the opening of the other member, a coiled spring connected to the second member and to the cross bar, the spring moving over dead center when the curved member is swung on its pivot from a locking to a non-locking position, and a chair member comprising a seat, a pair of vertically extending side frame members extending below the seat, horizontal runners formed on the lower ends of the side frame members, said runners being adapted to rest upon the cross bars of the table when the chair is assembled on the table, the table top being spaced from the cross bars at a distance sufficient to admit the chair runners therebetween, and locking means carried by one of the cross bars and engaging the runners to prevent displacement of the chair.

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