Sept. 27, 1949. A. E. PULS ET AL 2,483,062

COMBINED TABLE AND CHAIR

Filed June 22, 1945

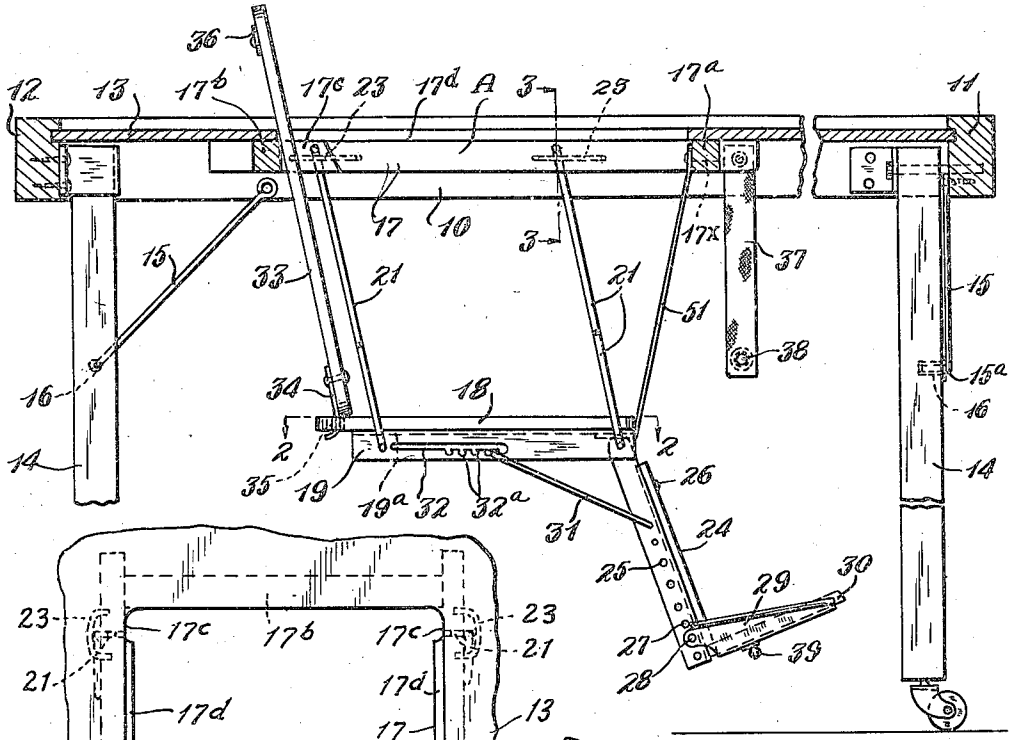


FIG. 1

FIG. 8

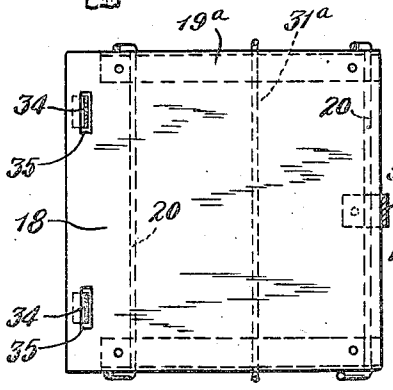


FIG. 2

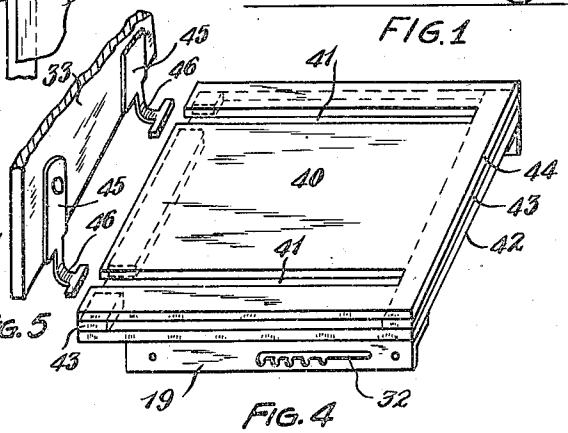


FIG. 5

FIG. 4

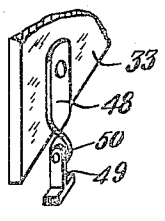


FIG. 7

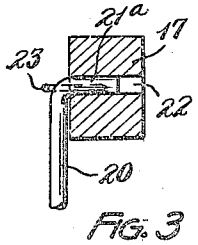


FIG. 3

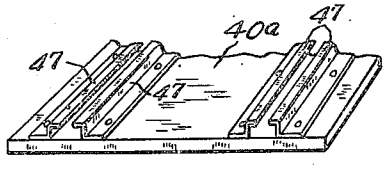


FIG. 6

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COMBINED TABLE AND CHAIR

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7 Claims. (Cl. 155—123)

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This invention relates to a table having a foldable chair combined therewith and which is designed with particular reference to its adaptability for use by infants.

It is the general purpose and object of the invention to produce a combined table and foldable chair of the type referred to wherein the chair may be quickly and conveniently folded upwardly in front of the opening which is provided in the table top for the reception of an infant and through which opening the back of the chair extends when the chair is in use.

A more limited object of the invention is to provide novel and adjustable means for supporting the footrest and "kick plate" in various adjusted positions with reference to the seat and to accomplish this object without impairing the ability of the chair to be folded into a compact condition and to be retained thereafter in such condition beneath the table top.

A further more limited object of the invention is to provide such foldable chairs with a cooperating construction between the bottom of the backrest and the seat which will enable the backrest, when in use, to be supported securely at its lower end and which will enable the said backrest, when not in use, to be slidably mounted upon the top of the seat.

A still further limited object of the invention is to provide novel and simplified means for foldably suspending the chair seat from members of the frame which extends around and beneath the opening in the table top.

We accomplish the foregoing objects in and through the construction and arrangement of parts shown in the drawings hereof, wherein Fig. 1 represents a fore-and-aft sectional elevational view of a combined table and folding chair, the parts of the chair being shown in elevation; Fig. 2 a sectional view taken on the line 2—2 of Fig. 1; Fig. 3 a detail in sectional elevation showing the manner in which the upper ends of the rigid members which support the chair bottom are secured to the side members of the frame which surrounds the opening in the table; Fig. 4 a perspective view of a modification of the seat shown in Figs. 1 and 2; Fig. 5 a perspective view of the lower end of a backrest similar to that shown in Fig. 1, but provided at its lower end with a modified form of the means for supporting the same, when in use, from the seat and with which supporting means the seat shown in Fig. 4 is especially designed to cooperate to enable the backrest, when not in use, to be slidably supported upon the seat; Fig. 6 a perspective view of a portion of a

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modification of the seat shown in Fig. 4; Fig. 7 a detail in perspective of a lower corner portion of a backrest having applied thereto a modification of the supporting means shown in Figs. 1 and 5; and Fig. 8 a detail in plan of a portion of the table top and the side rails shown in Fig. 1.

Describing the parts by reference characters, 10 denotes one of the side rails and 11 and 12 the front and rear rails, respectively, of the frame or apron of a table within which there is inserted a table top 13, which may be made of a sheet of suitable material such as plywood, or molded material such as "Masonite." The table is provided with four legs, two of which are indicated at 14 and each of which may be pivotally supported at a corner of the frame or apron and which may be held in its extended or supporting position by means of a rod 15 pivotally connected at its upper end to the appropriate rail, the lower end of each rod being bent as shown at 15a, and removably inserted within a bushing 16a in the leg. The manner in which the legs are pivotally supported constitutes no part of the invention sought to be protected hereby.

The table top is provided with an opening A, which opening is preferably rectangular in shape, the portions of the table top adjacent to the said opening being reinforced by a framework comprising a pair of longitudinally extending side rails 17 and front and rear rails 17a and 17b, respectively, the said rails being secured to and beneath the table top adjacent to the opening, or the front and rear rails 17a and 17b may be secured to the side rail 10 and the corresponding rail on the other side of the table. The side rails 10 and the rails 11 and 12 and top 13 combine to form the frame for the device of the invention.

The infant's chair comprises generally a seat, a footrest, a "kick plate," members for swingingly supporting the chair bottom and the attached parts from the side rails 17, and a removable backrest.

Referring more particularly to Figs. 1 and 2, 18 denotes the seat which is provided with an angle brace secured to each side thereof by means of its horizontal flange 19a, with its vertical flange 19 extending downwardly therefrom. The chair is pivotally suspended from the side rails 17 by means of front and rear rigid U-shaped elements each of which comprises a rigid bottom member 20, mounted in the vertical flanges of angle braces 19 and extending beneath the chair bottom, and vertically extending rigid members 21, the upper ends of which overlap the outer sides of the respective rails 17 and are bent at right angles, as

shown at 21a (Fig. 3). These ends extend into bearing openings 22 provided therefor in the appropriate rails. The upper ends of the rigid members (shown as rods) are retained against accidental removal by means of elongated staples 23 which extend across said upper ends and are driven into the rails 17. The members 21 are preferably of the same length and the front and rear members are parallel, whereby the chair seat will be retained substantially parallel with the table top throughout its entire range of folding movements.

24 denotes a leg rest or "kick plate" which has secured to each side of the rear surface thereof an angle brace having a rearwardly extending flange 25, the said braces being secured in place as by means of rivets 26 extending through the other flanges thereof. The upper ends of the flanges 25 are pivotally mounted upon the bottom member 20 of the U-shaped element by which the front of the seat is pivotally suspended from the rails 17. The angle braces not only support the "kick plate" but constitute hangers for the foot rest, the lower ends of the flanges 25 of the hangers being provided each with a vertical series of openings 27 for the reception of studs 28 by which brackets 29, which support opposite sides of the foot board 30 of said foot rest, may be adjusted vertically along the said hangers. The rear edge of the foot board 30 is adapted to abut against the bottom of the "kick plate" thereby to retain the foot rest in the supporting position shown in Fig. 1.

The lower inwardly bent ends of rigid brace members 31 project through openings provided therefor in the flanges 25. These brace members are conveniently formed as the legs of a U-shaped element the base member 31a of which extends transversely of the chair bottom, being supported beneath the said bottom by slots 32 extending longitudinally of the vertical flange 19 of each of the angle braces which are secured to the side edges of said bottom. In order to provide for the angular adjustment of the "kick plate" and footrest assembly with reference to the seat, notches 32a are provided in the bottom walls of the slots 32, which notches are adapted to receive the base member 31a.

33 denotes a backrest which is shown in Figs. 1 and 2 as having hooked members 34 secured to the bottom portion thereof adjacent to the sides thereof. These hooked members are adapted to be received within slots 35 provided therefor in the rear portion of the seat 18. When the chair is in the position shown in Fig. 1 and the hooked members of the backrest are inserted within their respective slots, the top of the backrest will project through the opening A and above the top of the table, with the upper portion of the back supported by the rear rail 17b and with its sides received within the notches 17c provided in the adjacent portions of the side rails 17. The backrest is preferably made of a size which will enable it to be fitted within the top of the opening A, thereby to form a continuation of the top 13, it being supported in such position by ledges 17d formed by the portions of the tops of the side rails 17 which project inwardly beyond the sides of the opening A. When thus applied to the top, the backrest will have the hooks on its then underside and the portions of the said hooks adjacent to what has been the lower edge of the seat will engage beneath that portion of the top which defines the front edge of the opening, while the opposite end of the backrest will be secured in place by means of a rotatable clip 36 mounted on the back of the backrest, near the top thereof and which is adapted when rotated to engage beneath the portion of the table top which defines the rear edge of said opening. Where the hooks are not deflected rearwardly a sufficient distance to clear the bottom of the rail 17a, the sides of the rail will be grooved, as shown at 17x, to accommodate these hooks and enable the bottom of the backrest to engage the portion of the table top above the said rail.

With the parts constructed and arranged as described thus far, by withdrawing the chair back and either using it as a means for closing the opening A in the table top or placing it on top of the chair bottom, the chair assembly may, without further manipulation, be swung up forwardly beneath the table top and the "kick plate" and footrest may be thereafter swung rearwardly beneath the chair seat by disengaging the lower ends of the rods 31 from the holes provided therefor in the flanges 25 and by folding the footrest 30 against the "kick plate"; or this folding of the "kick plate" and footrest against the chair seat may be effected before swinging the assembly forwardly and upwardly by means of the rods 21. It will be noted that the length of the front portion of the table necessary to accommodate this forward folding position of the chair assembly is indicated by showing this portion of the table top as being broken away in Fig. 1.

When the parts have thus been folded upwardly in assembled relation, they may be conveniently retained in such position by means of any suitable supporting means. The particular supporting means which we have shown herein consists of a pair of straps 37, one of which is secured to the forward end of each side rail 17 and which is provided at its lower end with fastening means, such as a snap fastener element 38, which is adapted to engage a corresponding snap fastener element 39 on the underside of the foot board 30. By merely disengaging these fasteners, the chair assembly will drop to approximately the position shown in Fig. 1, and the parts may be all made to assume such position by merely inserting the lower ends of the rods 31 into the appropriate openings in the flanges 25 and by inserting the backrest in place.

In Fig. 4, we have shown a modification of the means for detachably securing the lower edge of the chair back to the seat. In this view, the seat is indicated generally at 40 and is provided with inverted T-shaped slots 41, the said slots being located adjacent to the opposite sides of the said seat and extending from the rear of the seat toward but not through the front of the same. These slots may be conveniently formed by making the seat of three plies of wood or similar material 42, 43 and 44, and forming the widened part of the T slot in the intermediate ply 43 and the narrow part of the T slot in the uppermost ply 44. Cooperating with these slots are supporting members comprising bases 45 secured to the lower portion of the front of the chair back and each having a hooked end in the form of a T, 46, which T-shaped ends are adapted to be received within the slots 41.

By suitably proportioning the length and width of gap of the hooks 46, the lower hooked ends of the supporting members may be inserted into the slots 41, with the chair back projecting upwardly through the opening A in the same position which the chair back occupies in Fig. 1. There will be no tendency for the bottom of the chair back to

slide rearwardly, thereby to cause the back to be detached from the seat, because the angle of the back, together with the manner in which the thrust of the occupant of the chair is exerted through the back cushion against the back, will tend to force the lower end of the back forwardly. When the chair is not in use and it is desired to fold up the chair back, together with the seat, this can be accomplished without removing the back from the seat by swinging the chair assembly forwardly until the upper end of the back clears the rail 17b, whereupon the back may be slid forwardly along the seat until the hooks abut the unslotted front portion of the ply 43.

Obviously, the same result can be obtained by utilizing for the seat a single piece of wood or similar material of sufficient thickness to enable the T-shaped slots to be formed therein.

In Fig. 6, there is shown a modification of the invention for the seat construction shown in Fig. 4, wherein the inverted T-shaped slots for the reception of the hooks 46 are provided by means of pairs of Z-shaped members 47 secured to the top of the seat 40a, the members of each pair having their upper edges spaced apart for the reception of the narrowed portion of the said hooks.

In Fig. 7, there is shown a modification of the means for slidably connecting the chair back with a seat having inverted T-shaped slots therein such as shown in Figs. 4 and 6, said means comprising supporting members secured to the lower front corners of the back, each member comprising a base 48, the lower end of which has been twisted at right angles to the plane of the body portion thereof. To this lower end an inverted lower T-shaped member 49 is pivotally connected, as shown at 50.

In operation, the lower T-shaped members will be inserted into their respective slots in the manner indicated in Fig. 4, with the bottom of the backrest engaging the rear portion of the top of the seat. When it is desired to fold the back upon the seat, this can be easily accomplished by moving the bottom of the backrest forwardly a short distance, to enable the top of the same to clear the rail 17b, following which the backrest may be folded downwardly and, by thrusting forwardly, the lower T-shaped members will slide along the slots and the backrest can thereafter rest upon the top of the seat.

As illustrated in Fig. 1, the front of the seat is connected to the front frame member 17a by means of a crotch strap 51 so that the rigid bracing members or rods 21 are inclined forwardly and downwardly from their upper pivotal supports. Obviously, if not constrained to assume this position by the crotch strap, the rod supporting members 21 would assume a vertical position.

Having thus described our invention, what we claim is:

1. A table having a frame, a top provided with an opening therein and supporting members secured to the frame on the underside of the top adjacent to the rear and sides of said opening, a foldable chair comprising a seat having a flanged member secured to and extending downwardly from and along each side thereof, a front and a rear pair of rigid members pivotally connected at their upper ends to the respective supporting members and pivotally connected at their lower ends to the respective flanged members, adjacent to the front and rear portions of the latter, hangers pivotally supported at their upper ends from the said flanged members, a foot rest foldably connected with said hangers, bracing members removably connecting the said hangers with the said flanged members and adjustably associated with both said hangers and said flanged members, and a backrest detachably connected to the rear of the seat and extending through the opening.

2. In the combined table and chair set forth in claim 1, the rigid members for supporting the chair seat constituting legs of U-shaped elements, the bottoms of the said elements extending across and beneath the chair seat and through the flanged seat members to be retained in a fixed position with relation thereto for journal action therein.

3. A table having a frame, a top provided with an opening therein and supporting members secured to the frame on the underside of the top adjacent to the rear and sides of said opening, a foldable table comprising a seat having a flanged memer extending downwardly from and along each side thereof, a front and a rear pair of rigid members pivotally connected at their upper ends to the respective supporting members and pivotally connected at their lower ends to the respective flanged members, adjacent to the front and rear portions of the latter, hangers pivotally supported from the front portions of the sides of the seat, a footrest foldably connected to the lower end portions of said hangers, a kick plate secured to the hangers above the said footrest, means releasably connecting the hangers and bracing the same from the said flanged members whereby, by the disengagement of the bracing members and by folding the footrest upwardly, the said hangers, kick plate and footrest may be folded upwardly against the seat and the assembly including the aforesaid parts may be folded in turn upwardly beneath the table top in front of the opening in the latter, said means comprising a U-shaped bail the ends of which engage said hangers spaced from the pivoted end portions thereof, said flange members having longitudinally extending slots therein with locking recesses provided at the base portions thereof, the base portion of said bail being engaged with said slots and extending transversely of said seat to support said hangers on both sides of said seat when said bail base is engaged with locking recesses in said slot and whereby said hangers can be swung back and under the seat base when said bail base is free for longitudinally sliding movement in said slot.

4. A table having a frame, a top provided with an opening therein and supporting members secured to the frame on the underside of the top adjacent to the sides of said opening, a foldable chair comprising a seat having a bottom, and means for suspending the same from the members secured to opposite sides of said opening, the said chair seat having slots in the rear end of the bottom thereof and extending therethrough, the said chair also comprising a back adapted to extend from the rear of the seat through the said opening, and slot-engaging members secured to the lower end portion of the said back and adapted to be inserted into and withdrawn from the said slots.

5. A table having a frame, a top provided with an opening therein and supporting members secured to the frame on the underside of the top adjacent to the sides of said opening, a foldable table comprising a seat, a front and rear pair of rigid members pivotally connected at their upper ends to the respective supporting members and

pivotally connected at their lower ends to the respective sides of the seat and adjacent to the front and rear portions of the latter, hangers pivotally supported from the front portions of the sides of the seat, a footrest foldably connected to the lower end portions of said hangers, members detachably connecting the hangers with and bracing the same from the sides of the seat whereby, by the disengagement of the bracing members and by folding the footrest upwardly, the said hangers and footrest may be folded upwardly against the chair seat and the chair assembly including the aforesaid parts may be folded in turn upwardly beneath the table top in front of the opening in the latter, and straps secured to the side supporting members beneath the table top in front of opposite sides of the opening therein, the said straps and the footrest being provided with interengaging means for detachably supporting the chair assembly in its upwardly folded position.

6. A table having a frame, a top provided with an opening therein and supporting members secured to the frame adjacent to the sides of said opening, a foldable table comprising a seat, a front and a rear rigid member pivotally connected at their upper ends to the respective supporting members and pivotally connected at their lower ends to the respective sides of the seat adjacent to the front and rear portions of the latter, hangers pivotally supported from the front portions of the sides of the seat, a footrest foldably connected to the lower end portions of said hangers, members detachably connecting the hangers with and bracing the same from the sides of the seat whereby, by the disengagement of the bracing members and by folding the footrest upwardly, the said hangers and footrest may be folded upwardly against the chair seat and the chair assembly including the aforesaid parts may be folded in turn upwardly beneath the table top in front of the opening in the latter, and at least one strap associated with the underside of the table top in front of the opening therein, the said strap and the footrest being provided with interengaging means for detachably supporting the chair assembly in its upwardly folded position.

7. A table having a frame, a top provided with an opening therein and supporting members secured to the frame beneath the top adjacent to the sides of said opening, a foldable chair comprising a seat having a base member extending downwardly from and along each side thereof, a pair of rigid members pivotally connected at their upper ends to the respective supporting members and pivotally connected at their lower ends to the respective base members, hangers pivotally supported at their upper ends from the said base members, a footrest carried by said hangers, and bracing members connecting the said hangers with the said base members, the rigid elements for supporting the chair constituting legs of U-shaped elements, the bottoms of the said elements extending acvross and beneath the chair seat and through the said base members and the upper ends of the said hangers being pivotally supported on the bottom of one of the U-shaped elements which extends through the front portions of the said base members, said base members limiting lateral movement of said hangers thereon.

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