Feb. 26, 1935. E. KOSANEK 1,992,434

COMBINATION TABLE AND CHAIR

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Fig. 1.

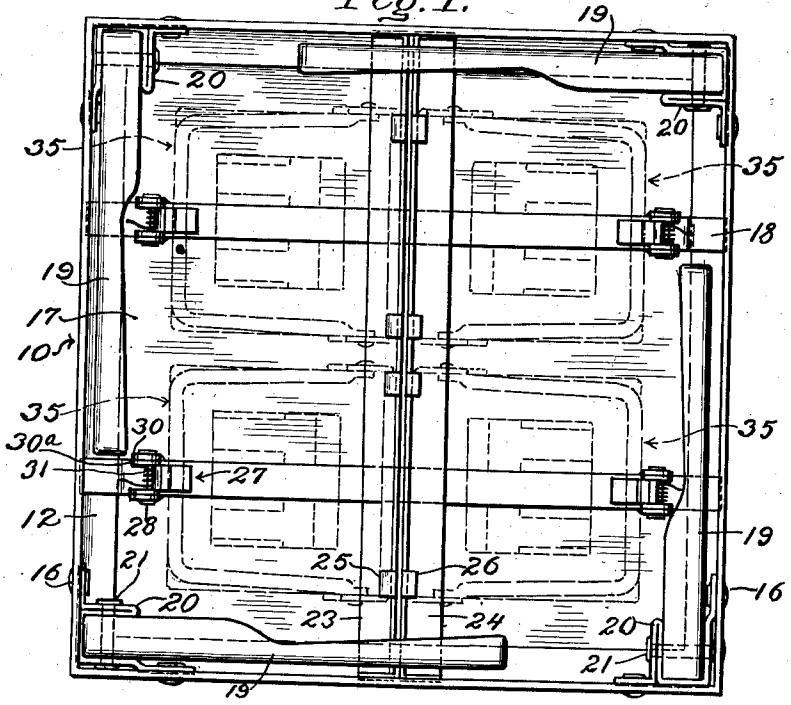



Fig. 2.

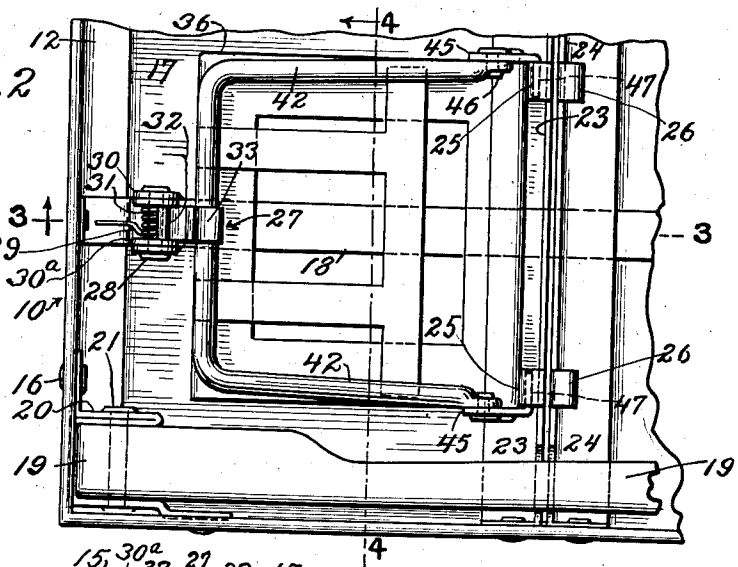
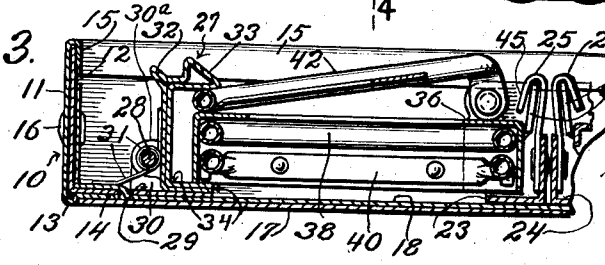



Fig. 3.




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Fig. 4

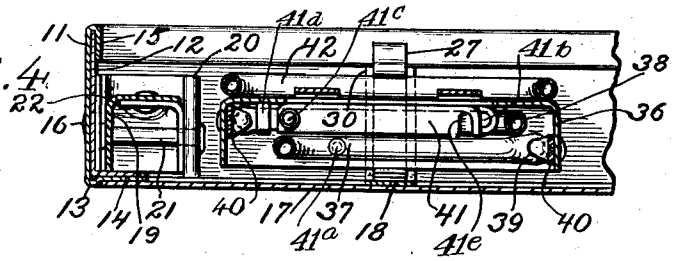



Fig. 5

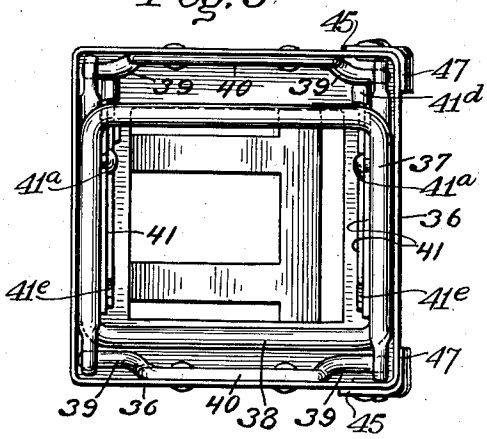
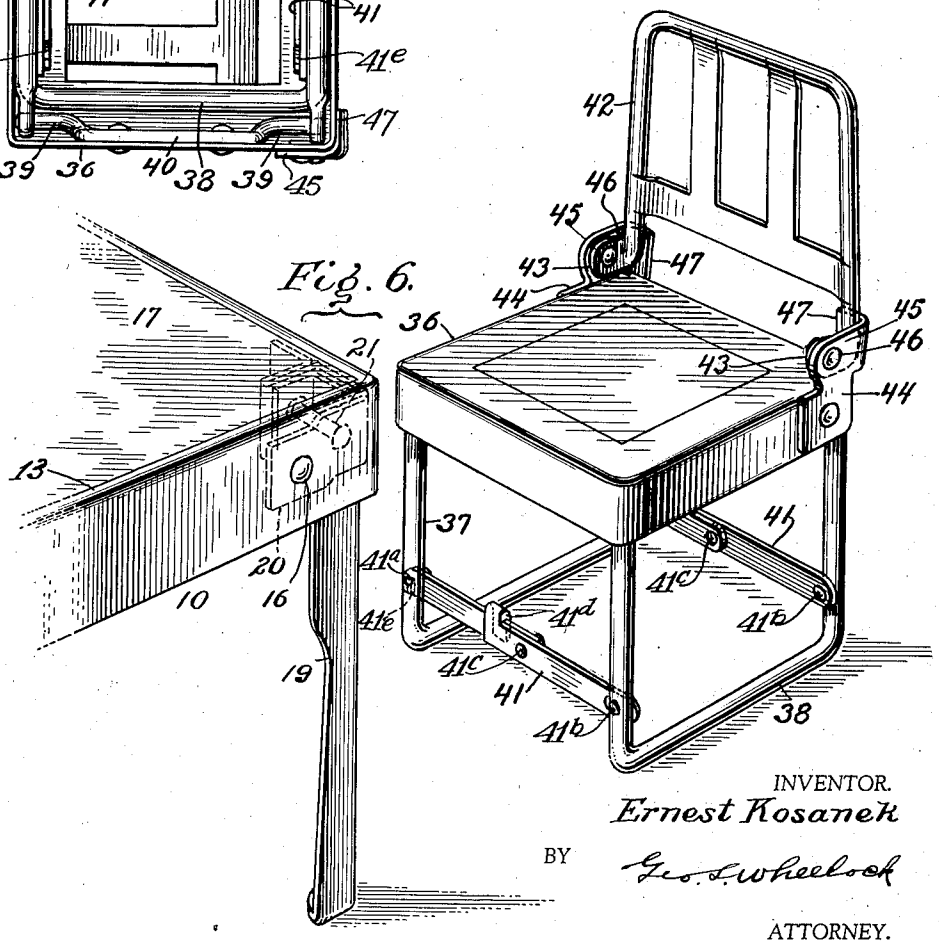



Fig. 6




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# UNITED STATES PATENT OFFICE

1,992,434

## COMBINATION TABLE AND CHAIR

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Application November 10, 1933, Serial No. 697,374

4 Claims. (Cl. 155—123)

The present invention relates to a table and a combination of chairs therewith, the chairs being mounted on the table so as to be readily removable therefrom, whereby the chairs may be placed around the table for use therewith, the table and the chairs each being preferably foldable, although in the broad aspect of the invention the table is not necessarily foldable but it is preferred to be.

An object of the present invention is to provide upon the underside of the top of the table means for securing a folded chair removably thereto, such means being preferably independent of the legs of the table so that the chair may be readily removed and unfolded for use or may be again folded and removably secured to the underside of the table top by means independent of the legs of the table, such means being particularly useful when repeated at a plurality of locations under the top of the table, so that a plurality of folded chairs may be secured in position independently the one of the other, enabling any one chair to be removed without disturbing any part of the table proper or the other chairs, or all of the chairs may be independently removed.

A further object of the invention is to provide independent means such as referred to which will engage portions of the chair from opposite sides of its seat, thereby securely holding the chair in position for removal.

A specific object of the invention is to provide a table which has a rectangular top with means for securing upon the underside thereof a plurality of folded chairs for independent removal, such securing means being repeated in each of the four quarters of the top of the table, for separately removably supporting a folded chair at each quarter of the top.

A specific object of the securing means is to provide it on the one hand with a stationary securing member for a folded chair and on the other hand with a spring actuated keeper to cooperate with the stationary member in the engagement of different parts of the folded chair whereby to conveniently and reliably hold the chair in position, enabling it to be removed by the mere retraction of the spring actuated keeper.

Another specific object is to provide a spring actuated keeper, such as referred to, with means for automatically raising the folded chair away from the top of a table when the keeper is released from the chair.

Another specific object is to provide such a keeper with means whereby it will be caused to be automatically retracted by the engagement of a folded chair therewith and then automatically lock the chair removably to a table.

A most desirable specific object of the present invention is to provide interengaging means between a plurality of folded chairs and the top of the table for positively preventing the shifting of one chair toward another, whereby each chair is definitely held individually at its selected location.

Other objects of the invention are to provide a specifically improved folded table and a folding chair which are peculiarly adapted for a combination with each other in order to support the chair on the table.

These being among the objects of the present invention, the same consists of certain features of construction and combinations of parts to be hereinafter described and then claimed with reference to the accompanying drawings illustrating a desirable embodiment of the invention and wherein

Fig. 1 is an underside plan of a folded table and folded chairs supported upon the underside thereof for independent removal;

Fig. 2 is a similar view enlarged to illustrate but one quarter of the underside of a table top and a folded chair secured thereto, the rest of the top being broken away for such purpose;

Fig. 3 is a section on the line 3—3, Fig. 2, parts being in elevation;

Fig. 4 is a section on the line 4—4, Fig. 2, as viewed in the direction of the arrows;

Fig. 5 is an underside view of a folded chair, inasmuch as Figs. 1 and 2 show the upper side of said chair; and

Fig. 6 is a perspective view of a chair according to the preferred construction and shown in using position, a portion of the table being also shown.

Referring to Figs. 1 to 4 inclusive a folded table is illustrated the same preferably being constructed with a rectangular metal frame 10 for the table top. Frame sections 11 and 12 are preferably composed of angle metal suitably constructed and arranged for composing the frame 10. The frame section 11 is formed with a bead 13 and an inset flange 14, together with a lip 15, the frame section 12 being secured in the inner corner of the frame section 11 in such way that the inset flange 14 rests upon the adjacent flange of the frame section 12, while the lip 15 is bent around onto the inner surface of the other flange of the frame section 12. Rivets 16 assist in hold-

ing the two frame sections in close relation, although they do not need to be used for that purpose.

The drawings do not illustrate an unfolded folding table as that is not necessary for understanding the invention, but it will be understood that when the table is in using position the bead or rim 13 and the inset flange 14 will be at the top of the table. A sheet 17 of suitable material may be set upon the flange 14 and within the surrounding bead 13 so that the upper surface of the sheet will be substantially flush with the upper edge of the bead 13, such top proper 17 being preferably cemented or otherwise secured in position. It is obvious that the sheet 17 forming the top proper may be covered by a cloth. Preferably metal strips 18 are secured cross-wise of the underside of the table top 17, they extending to the vertical flanges of the angle metal frame 10 whereto they may be riveted or otherwise rigidly secured. These strips 18 reinforce and give additional support for the table top proper 17.

The legs 19 of the table are preferably foldable against the table top, to which end sheet metal brackets 20 are secured by the rivets 16 in the inner corners of the rectangular frame 10, and pivot pins 21 pass therethrough and through the adjacent inner ends of the legs 19. The legs 19 may be made of sheet metal and have brackets 22 rigidly attached to their inner ends, through which brackets the pivot pins 21 also pass, but the construction of the legs may of course be varied in this connection. Across the approximate mid-width of the table top there are two preferably sheet metal cross pieces 23, 24 of angular cross-section, two flanges of each extending in opposite directions and their ends being secured permanently as by rivets or otherwise in the inner angles of the sheet metal frame 10 of the table top, the other flanges of such cross pieces in normal using position of the table extending downwardly adjacent each other as more clearly shown in Fig. 3.

Means are provided upon the underside of the table top for holding and locking separately in position, preferably independently of the legs of the table, a plurality of folded chairs. Such securing means are preferably constructed and arranged so as to cooperate with different parts of a folded chair so as to hold it in a secure position from which it can be removed, the securing means being to that end provided in two sets or units, one set being preferably stationary on the underside of the table top and the other set or securing device being preferably movable so as to be readily engaged with a chair and hold it against the stationary securing device. Preferably to this end suitably bent sheet metal hooks 25, 26 are employed for constituting the preferably stationary securing means. The hooks 25 are riveted, welded or otherwise rigidly secured to the vertical flange of the cross-piece 23 and in the same manner the hooks 26 are secured to the vertical flange of the cross-piece 24, so that when the table is in using position the hooks will depend with their beaks or inturned portions extending upwardly, thereby providing recesses for engagement by certain parts of the folded chair to be hereinafter explained. The hooks 25 or 26 are preferably arranged in pairs for engagement with opposite side portions of the folded chair.

The other member of the securing means preferably resides in a keeper or latch 27 which is positioned in suitably spaced relation to each pair of hooks for a chair and which is located on a line about midway of the hooks of each pair. In other words, the keeper 27 and the pair of hooks with which it cooperates are arranged in substantially triangular formation. Each keeper 27 depends from the top of the table when the table is in using position, although in the drawings the table is shown in inverted position. Each keeper 27 is mounted to swing on a pivot 28 which connects ears $30^a$ of the keeper and ears 30 of a bracket 29 which is rigidly secured to the end of each reinforcing strip 18. Each bracket 29 may be welded to its support or otherwise secured. Springs 31 are coiled around the pivots 28 and each spring is in engagement with an appropriate part of the table and the corresponding keeper 27 so that the spring acts to return the keeper to normal position automatically and it permits the keeper to be depressed or released from a chair.

Preferably each keeper 27 is especially constructed and it may be made up of a strip of bent up sheet metal. Each keeper is provided with a projecting finger abutment 32 for engagement by one's fingers in order to release the keeper; it is also provided with a retaining nose 33 which is inclined inwardly at its outer surface; and the keeper is also provided with a lifting toe 34. The inclined nose 33 permits the keeper to be automatically retracted by the engagement of a chair therewith, and the lifting toe 34 causes a corresponding side of the chair to be moved away from the table top to enable the chair to be conveniently grasped and removed, when the keeper is retracted by the engagement of the projecting finger abutment 32. It will be noted that the retaining nose 33 is located to one side of the pivot of the keeper, while the lifting toe 34 is located to the other side of the pivot, the space between the lifting toe 34 and the nose 33 providing a recess in which a corresponding portion of a folded chair may be received.

The preferred construction and arrangement whereby a plurality of folded chairs such as 35, shown in Fig. 1, is secured to the table, will now be described.

Each folded chair 35 when removably secured to a rectangular table is preferably located in each quarter of the area of the table top, that is as the top has four quarters, four folded chairs will be secured removably thereto, in such manner that each is secured and removable independently of any other chair, and preferably entirely independently of the legs of the table. By reason of the preferred construction a relatively thin combined table and chair unit is provided, although it is obvious that with slight obvious modification the table may be made to fold in half like a valise. Such a compact combination of folded table and chairs is partially due to the fact that the chair securing devices are all surrounded or enclosed by the vertical flange of frame 10, so that the closely arranged chairs are located within the space formed by such flange, whereby the thickness of such combination need not be greater than the vertical thickness of the frame 10 itself, while the chairs may be quickly mounted on the table. A different number of folded chairs may of course be secured independently in position in much the same manner and the form of the top of the table may also be different instead of being rectangular.

To express the invention as regards the preferred form thereof, the same is specifically defined as comprising a table having a rectangular

top and a downward edge flange 10 extending around the top, legs 19 pivotally mounted within the four corners of the flange to fold in at right angles to each other, each pivotal connection 21 preferably residing solely in a single pivot, located close up within a corner, to leave a maximum area at the underside of the top corresponding in size with the entire space between the thus pivoted legs 19 when they are folded in, and which area is free from obstruction by any movable parts of the legs, together with a set of securing means entirely independent of the legs and upon the underside of the top, in one quarter of such maximum area, for detachably engaging different, preferably opposite, edges of a removable folded chair such as chair 35, and supporting it in such quarter, such set including a depending securing device 27 located closely in lateral juxtaposition to an adjacent infolded leg 19 and also a depending securing device 25 separate and remote therefrom, and such securing means 27, 25 being repeated in corresponding sets in the four quarters of such area, of which repeated securing means the remote securing devices 25 are preferably arranged in slightly spaced relation from each other as shown at opposite sides of and in juxtaposition to a diameter of the rectangular top to provide such a set in each of the four quarters of the top defined by such diameter and the intersecting diameter of the top, for separately removably supporting such a chair 35 between such securing devices 27, 25 in each quarter of such area, whereby each quarter of such area, except for the slight spaces occupied by the securing devices 27, 25 therein, is adapted to be fully occupied by a folded chair and four chairs may be separately supported independently in such maximum area of the top, and may be supported free from and independent of the legs 19 in closely assembled edgewise relation in all of such four quarters.

Referring more particularly to Figs. 5 and 6 the preferred construction of folding chair will now be described, Fig. 5 being an underside view of the folded chair. An angle metal frame 36 for the seat of the chair is provided on which U-shaped members 37, 38, preferably of metal tubing, are mounted by means of pivots 39 upon opposite sides of the frame so as to provide supporting legs or the like for the chair. The leg members 37, 38 extend into the inner corners of the seat frame 36, the pivots 39 being provided by the ends of bars 40 permanently secured to opposite sides of the frame 36. In this manner a simple and strong construction is provided for the mounting of the leg members, and the leg members may be folded inwardly one on top of the other within the vertical flange of the seat frame 36. Preferably the leg members 37, 38 may be firmly united together by means of the break-joint braces 41 when the chair is adjusted to unfolded position for use. In Figs. 4 and 5 the braces 41 are shown as folded, inasmuch as the chair is here shown in its folded condition.

The leg member 37 of the chair is provided with inwardly projecting pins 41*a* and the braces 41 are connected with the leg member 38 by pivot pins 41*b*. The braces are each formed in two pieces which are connected together by pivot pins 41*c*, so that the braces may be folded together or straightened out. When straightened out a hook 41*d* on one of the pieces of each brace engages with the other piece in a stopping position whereby the braces may be held stiff, and then notches 41*e* in the free ends of the outer pieces of the braces are caused to receive the pins or studs 41*a* by moving the braces to such position that the notches will receive the pins 41*a*. Then the leg-members 37, 38 will be held firmly in their supporting position.

A back 42 is preferably provided and which may be composed of metal tubing bent into the shape of a U-shaped frame having flattened angular deflected end portions 43. Bracket plates 44 are firmly riveted or otherwise secured to opposite sides of the rear portions of the vertical flanges of the angle metal frame 36, such plates having upwardly extending members 45, that is projecting portions which extend above the frame 36 adjacent its rear edge. Pivots 46 connect the upwardly extending members 45 and the deflected end portions 43 of the back 42 so that the back is pivotally mounted. The pivots 46 are located forwardly of stops 47 which are located above the seat frame 36, and when the back 42 is raised the elbows or lower ends of the back will abut against the stops 47 thereby rigidly supporting the back against further movement away from the seat frame. Preferably the stops 47 are in the form of lugs bent inwardly from the members 45 of the brackets, along the rear edge of the seat frame so as to extend a suitable distance upwardly therefrom. As shown, each member 45 and the corresponding stop 47 are bent up from angle metal. When the back 42 is moved down against the seat frame 36 and the legs are also folded in, the chair will be in a compact folded condition, and is well adapted for removable securement to the top of the table.

Again referring to Figs. 1 to 4 inclusive, a folded chair such as 35, Fig. 1, first has its back stops 47 engaged under the beaks or within the recesses of the hooks 25, 26 and then the front portion of the seat frame 36 is pressed against the inclined nose 33 of keeper 27, whereby the keeper is pressed back out of the way, and when the folded chair is in position the nose 33 will automatically latch the folded chair in position. In this position the folded chair will rest upon the lifting toe 34 of the keeper, and when it is desired to release a chair from its locked position, the keeper is retracted through the medium of the finger abutment 32, thereby causing the lifting toe 34 to raise the folded chair a suitable distance by swinging it upwardly upon the connection provided between the hook 25 and the back-stops 47, and then the latter may be released from the hook 25 and the folded chair removed, so that the table may then be erected for use and likewise the folded chair or chairs which have been removed from the table. It is only necessary to employ one keeper 27 for each folded chair, but it is preferred to employ two back stops on the chair to cooperate with two hooks 25 or 26, as the case may be, and thereby the keeper may be located on a line between the hooks of each pair. When properly secured in its folded condition upon the bottom of the table top each chair is positively held in its secured position for ready removal, and the chair can neither shift in one direction or the other cross-wise thereof. This is because of the back stops 47 being not only engaged in the recesses of the hooks 25, but the inner faces of the members 45 will be almost if not in actual engagement with the outermost edges of the pair of hooks.

Obviously the invention is susceptible to modification without departing from the scope of the appended claims.

What I claim as new is,—

1. The combination with a table having a rectangular top and a downward edge flange extending around the top, and legs pivotally mounted within the four corners of the flange to fold in at right angles to each other, each pivotal connection located close up within a corner, to leave a maximum area at the underside of the top corresponding in size with the entire space between the thus pivoted legs when they are folded in, and which area is free from obstruction by any movable parts of the legs, of a set of securing means entirely independent of the legs and upon the underside of the top, in one quarter of such maximum area, for detachably engaging opposite edges of a removable folded chair and supporting it in such quarter, such set including a depending securing device located closely in lateral juxtaposition to an adjacent infolded leg and also a depending securing device separate and remote therefrom, and such securing means being repeated in corresponding sets in the four quarters of such area, of which repeated securing means the remote securing devices are arranged in slightly spaced relation from each other at opposite sides of and in juxtaposition to a diameter of the rectangular top to provide such a set in each of the four quarters of the top defined by such diameter and the intersecting diameter of the top, for separately removably supporting such a chair between such securing devices in each quarter of such area, whereby each quarter of such area, except for the slight spaces occupied by the securing devices therein, is adapted to be fully occupied by a folded chair and four chairs may be separately supported independently in such maximum area of the top, and may be supported free from and independent of the legs in closely assembled edgewise relation in all such four quarters.

2. The combination with a table having a rectangular top and a downward edge flange extending around the top, and legs pivotally mounted within the four corners of the flange to fold in at right angles to each other, each pivotal connection residing solely in a single pivot located close up within a corner, to leave a maximum area at the underside of the top corresponding in size with the entire space between the thus pivoted legs when they are folded in, and which area is free from obstruction by any movable parts of the legs, of a set of securing means entirely independent of the legs and upon the underside of the top, in one quarter of such maximum area, for detachably engaging different edges of a removable folded chair and supporting it in such quarter, such set including a depending securing device located closely in lateral juxtaposition to an adjacent infolded leg and also a depending securing device separate and remote therefrom, and located off to another side of such quarter than that side at which such laterally disposed securing device is located, and such securing means being repeated in corresponding sets in the four quarters of such area, of which repeated securing devices the remote securing devices are arranged in spaced relation from each other at opposite sides of a diameter of the rectangular top to provide such a set in each of the four quarters of the top defined by such diameter and the intersecting diameter of the top, for separately removably supporting such a chair between such securing devices in each quarter of such area, whereby each quarter of such area, except for the slight spaces occupied by the securing devices therein, is adapted to be fully occupied by a folded chair and four chairs may be separately supported independently in such maximum area of the top, and may be supported free from and independent of the legs in closely assembled edgewise relation in all such four quarters.

3. In a table, a top provided with foldable legs, separate supporting means mounted on the underside of the top for engaging for removal a folded chair or similar article at a number of points thereof between the legs of the table, one of the supporting means being a movable keeper to engage with the chair to hold it in supporting engagement with the other supporting means, the keeper having a lifting toe to engage under a part of the chair, and such other supporting means being in the form of stationary hooks arranged in opposition to the keeper, and the beaks of which hooks are directed toward the table top and presented toward the keeper to provide recesses within which members of the chair may be engaged and retained, whereby a positive retraction of the keeper may cause such a chair to be tilted upon the beaks to then permit such members of the chair to be readily disengaged from the beaks and the chair to be removed.

4. The combination with a table, of a securing member mounted on the underside of the top of the table for engagement with a part of a folded chair or similar article, and a spring actuated keeper pivotally mounted at its inner end on the same side of the top for engaging another part of the chair, whereby to removably hold the chair to the top in a depending position, under the influence of the spring, the keeper provided at its outer end with a projecting finger abutment for overcoming the spring action and with a lifting toe at its inner end for automatically moving the chair away from such side when the keeper is positively operated by the finger abutment to release it from the chair.

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