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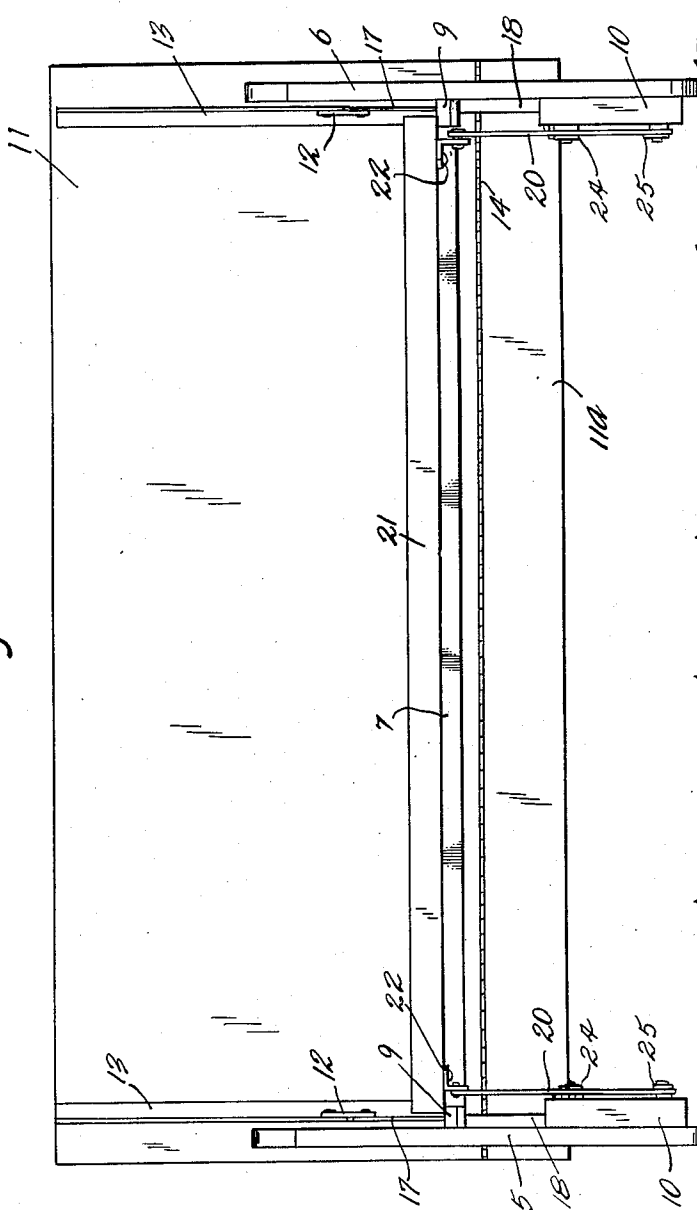
2,618,314

COMBINATION SEAT, TABLE, AND BENCHES

Filed Aug. 12, 1950

2 SHEETS—SHEET 1

Fig. 1



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2 SHEETS—SHEET 2

Fig. 2

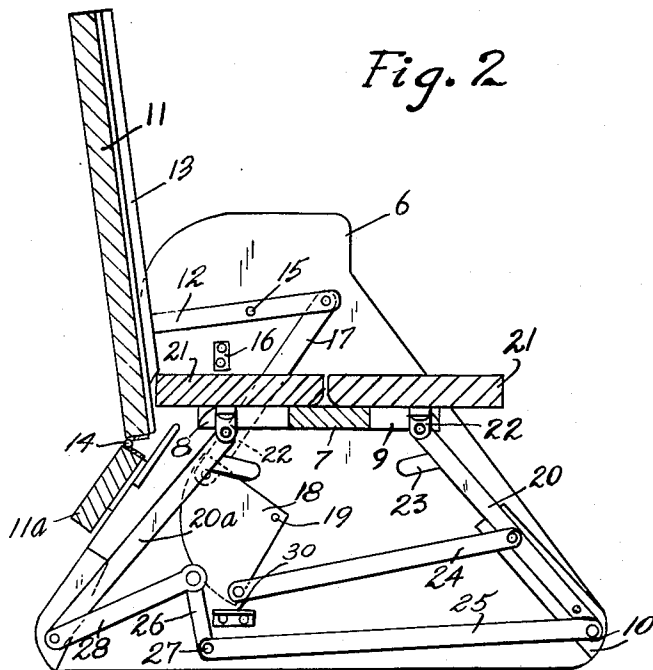
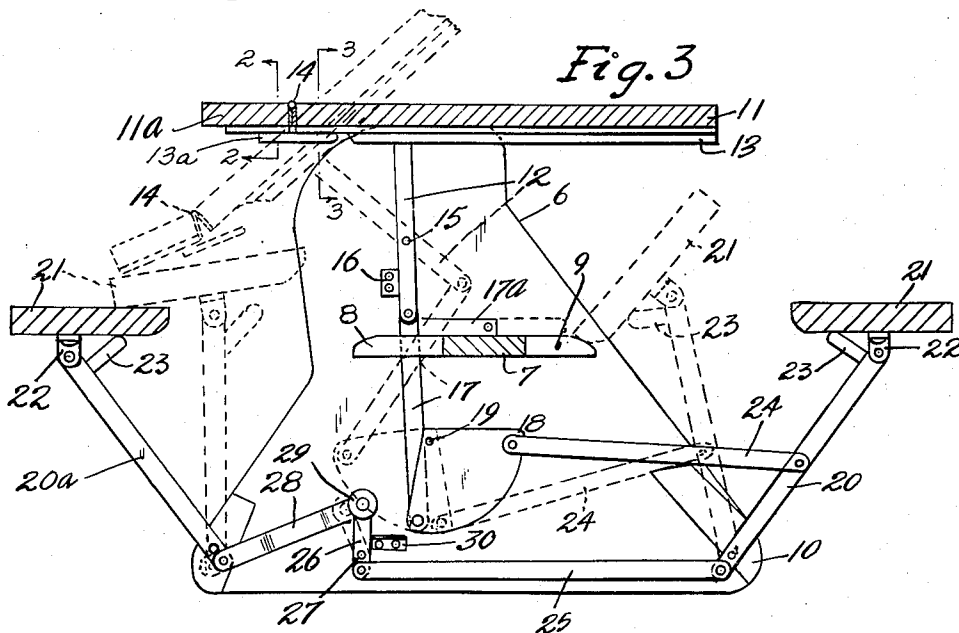


Fig. 3



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COMBINATION SEAT, TABLE, AND BENCHES

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This invention relates to an article of furniture. More particularly it relates to a self-contained composite device which may be conveniently converted into several different articles of furniture by causing a re-arrangement of the parts thereof through the movement of a single portion thereof to a changed position.

It is an object of my invention to provide an article of furniture of novel and improved construction capable of simple, easy and convenient conversion into structures adapted for entirely different uses.

A more specific object of my invention is to provide an article of furniture constructed so as to be readily convertible from a seat or park bench into a table with benches automatically moved into proper position and vice-versa.

Another object is to provide a combined unit consisting of, seat, table and benches which when arranged to form the seat is equally as comfortable as the usual seat designed for that single purpose.

Another object is to provide a combined seat, table and benches which may be readily and easily converted from one to the other by simply moving a single portion thereof from one of its extreme positions to its other extreme position.

A further object is to provide a combined seat, table and benches which is simple, durable and inexpensive in construction as well as practical, serviceable and efficient in its use.

These and other objects and advantages of my invention will more fully appear from the following description made in connection with the accompanying drawings, wherein like reference characters refer to similar parts throughout the several views, and, in which:

Fig. 1 is a front elevational view of one embodiment of my invention;

Fig. 2 is a vertical sectional view of one embodiment of my invention moved into position to form a comfortable seat;

Fig. 3 is a vertical sectional view of one embodiment of my invention in position to form a table and a pair of benches with intermediate positions of the various parts thereof during the movement of the table top toward vertical position being shown in broken lines.

One embodiment of my invention as shown in Figs. 1 thru 3 includes a pair of spaced uprights 5 and 6. These uprights 5 and 6 are connected by a substantially horizontal reach member 7 to form a support means for the panel and other members as hereinafter described. On each side of the reach member 7 secured to the upright member 6 is a pair of support blocks 8 and 9. The upright member 5 has a similar pair of support blocks secured thereto in similar position. Each support block 8 has a channel formed in its inner edge to receive in free sliding relation linkage which is to be hereinafter described. This edge, of course, is the edge adjacent the upright 5 or 6. Secured to each of the lower corners of the uprights 5 and 6 is a mounting block 10.

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A panel 11 is secured at each of its end portions to one of the respective uprights 5 and 6 by a pivot bar 12 which is welded or similarly secured to a transversely extending piece of angle iron 13 which in turn is secured to the underside of the panel 11. The panel 11 has a side portion 11a which is hinged to the main portion by a hinge 14 which is mitred in as shown in Figs. 2 and 3. The side portion 11a carries an underlying strip 13a which abuts against the underside of the horizontal flange of the angle iron 13 on panel 11 when the latter is horizontal, as shown in Fig. 3.

The pivot bar 12 is pivoted by its medial portion by a pivot pin 15 which is mounted in the respective uprights 5 and 6 and an abutment member 16 is secured to each of the uprights in position for the lower end portion of the pivot bar 12 to abut against when in substantially vertical position. The lower end of the pivot bar 12 is pivotally connected to a pivot link 17 which extends downwardly through the channel existing between the upright 6 and the support block 8. The lower end of the pivot link 17 is pivotally connected to one of the circumferential corners of a bell crank block 18 as shown in Figs. 2 and 3. This bell crank block 18 may be of quarter circle shape and is preferably pivoted by its center corner upon the upright 6 on a pivot rod 19. This pivot rod 19 extends through the bell crank block 18 and also serves as an abutment for the pivot link 17 when in the position shown in Fig. 3 in solid lines. A pivoted lock member 17a is secured to the upright to lock the pivot link 17 and the pivot bar 12 in vertical position when desired. The bell crank block 18 may be mounted so as to leave a small space between it and the upright 6 or a small portion thereof may be mitred to permit the pivot link 17 to move to the solid line position shown in Fig. 3.

Pivotally mounted by its lower end portion upon each of the mounting blocks 10 is a support leg 20. Each of the support legs 20 has secured to its upper end portion a seat member 21 by means of a depending bracket 22. The seat member 21 is an elongated member of the nature of a plank and, of course, is secured to the two support legs 20 on the respective sides of the uprights 5 and 6. The bracket 22 is pivotally connected to the upper end of the support legs 20 to permit the seat member 21 to pivot with respect thereto. Fixedly secured to the upper end of the support legs 20 at an angle thereto is a brace or rest 23 which extends inwardly and supports the seat member 21 in horizontal position when the structure has been moved to extended position as shown in Fig. 3 in solid lines.

Each of the support legs 20 on one side of the uprights 5 and 6, at its medial portion, is pivotally connected to the remaining circumferential corner of the bell crank block 18 by a connector arm 24. This connector arm 24 is capable of pivotal movement with respect to both

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the bell crank block 18 and the support legs 20. The support legs 20 on the opposite side of the uprights 5 and 6, which I have designated as 20a for the purpose of clarity, are not connected to the bell crank block 18 by a connector arm 24 except indirectly as hereinafter described.

Pivotally secured to the lower end portions of the support legs 20 at a point below their point of pivotal connection to the mounting block 10 is a thrust link 25 which extends transversely with respect to the reach 7 and is pivotally connected by its other end to a pivot link 26. The pivot link 26 is pivotally mounted by its lower medial portion on the upright 5 or 6 by a pivot bolt 27. The upper end of the pivot link 26 is pivotally connected with a connecting link 28 which extends between the lower end of the support legs 20a and the upper end of the pivot link 26. Mounted on the pivotal connection between the upper ends of the pivot link 26 and the connecting link 28 is a roller 29. Secured to the uprights 5 and 6 is an abutment member 30 which is in position to stop the pivot link 26 from going beyond vertical position.

The linkage mechanism described above which includes the pivot bar 12, the pivot link 17, the bell crank block 18, the support legs 20 and 20a, connector arm 24, the thrust link 25, the pivot link 26 and the connecting link 28 are understood to be constructed of rigid material preferably of metal or wood. This linkage mechanism as shown is provided for each of the uprights 5 and 6.

Operation

In operation my invention provides a comfortable seat or park bench when moved to collapsed position shown in Figs. 1 and 2. When in such position the side portion 11a of the panel 11 which bears against uprights 5 and 6 extends diagonally with respect to the main portion of the panel 11 as best shown in Fig. 2. This permits the panel 11 to assume a position extending backwardly slightly with respect to vertical position. Thus the seat provided has a seat back which is equally as comfortable as that provided by a seat designed for a single purpose. The two seat members 21 nest together to form a unitary seat as shown in Figs. 1 and 2. It should be noted that whereby hereinafter I have referred to a unitary seat I am referring to the unitary seat member formed by the two seat members 21 in cooperation with the seat back provided by the panel 11. The length of the panel 11 is sufficient to provide ample room for a plurality of persons to rest within the unitary seat formed.

When in the collapsed position shown in Fig. 2 the two seat members 21 nest together and their end portions rest upon the support blocks 8 and 9 and their inner edges rest upon the reach 7 as shown in Fig. 2.

To convert the unitary seat into a table with benches which automatically move to their proper positions, a user of my invention needs only to grasp the upper edge of the upright panel 11 and draw the panel forwardly to horizontal position as shown in Fig. 3. As this is done the pivot bar 12 pivots on the pivot pin 15 and moves to substantially vertical position at which the lower portion thereof abuts against the abutment member 16. As the pivot bar 12 approaches vertical position the pivot link 17 is thrust downwardly thereby causing the bell crank block 18 to pivot on its pivot rod 19. This movement causes the connector arm 24 to thrust outwardly

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on the support legs 20 and causes that member to pivot outwardly to a diagonal position shown in Fig. 3. As this is done the thrust link 25 is thrust in an opposite direction of that taken by the connector arm 24 to cause the upper portion of the pivot link 26 and the connecting link 28 to pull inwardly on the lower end portion of the opposite support legs 20a. As the pivot bar 12 reaches vertical position the support legs 20 and 20a will have become extended in the diagonal positions shown in Fig. 3. Since the seat members 21 are secured to the support legs 20 and 20a at a point slightly outwardly from their longitudinal center, the greater weight of the inner portions of these seat members 21 will cause them to rest upon the respective braces or rests 23.

Thus it can be seen that by simply drawing the panel 11 to a substantially horizontal position that member will readily serve as a table top since the hinge 14 will prevent the side portion 11a from dropping downwardly beyond horizontal position. It can also be readily seen that the linkage mechanism will automatically and simultaneously with the movement of the panel 11 to horizontal position move the seat members 21 outwardly to provide benches in conjunction with the table. It should be noted that these benches are supported in a manner such that a minimum of inconvenience is induced in moving one's legs to a position beneath the table top or panel 11. The support legs 20a are secured to the uprights at the lowest possible position as are the support legs 20. The connector arm 24 is positioned at a point sufficiently low to offer no serious obstacle in the use of the benches. It should be noted that the assumption of their proper positions by the seat members 21 is entirely automatic with the drawing of the panel 11 forward to a horizontal position. Automatic movement is caused, of course, by the linkage mechanism which extends between the panel 11 and the seat members 21.

When it is desired to collapse the table and benches into a unitary seat the same is accomplished by merely lifting upwardly on the upper edge of the panel 11. This will cause the pivot bar 12 to pivot to an intermediate position such as is shown in dotted lines in Fig. 3. The tilting of the pivot bar 12 to the diagonal position shown will cause the pivot link 17 to be drawn upwardly and the bell crank block 18 to pivot toward the left when referring to Fig. 3. This pivoting at the bell crank block 18 will draw the connector arm 24 inwardly and with it its attached support legs 20. At the same time the left hand corner of the bell crank block 18 will strike the roller 29 and commence its movement outwardly. This will aid the movement of the thrust link 25 to the right and cause the connecting link 28 to thrust outwardly on the lower end portion of the support legs 20a.

When the linkage mechanism and the seat members 21 have reached the position shown in dotted lines in Fig. 3 the inner edge of the seat member 21 which is connected to the support legs 20 will strike the support block 9. The beveled edge of this member will cause the seat member 21 to tilt and slide up over the support block 9 to rest thereupon as shown in Fig. 2. By the time the side portion 11a of the panel 11 has reached a position so as to come in contact with the seat member 21 which is supported by the support legs 20a that seat member will be extending inwardly sufficiently so that the side portion 11a will slide outwardly on the upper surface thereof as shown in dotted lines in Fig. 3.

As the panel 11 is moved to the slightly reclining position, shown in Fig. 2, the support legs 20a and their seat members 21 will move inwardly to the position shown in Fig. 2, and after that the entire structure is available for use as a seat or park bench. It is readily convertible of course, into a table with cooperating benches whenever desired.

It will, of course, be understood that various changes may be made in the form, details, arrangement and proportions of the various parts without departing from the scope of my invention.

What I claim is:

1. An article of furniture comprising support means, a panel, means mounting said panel on said support means for swinging movement from an upright position to a substantially horizontal position to form a table, a movable seat member adjacent said support means, and connector means interposed between said seat member and the swingable mounting of said panel, said connector means being adapted to automatically move said seat member laterally away from said support means when said panel is swung to horizontal position to thereby provide a bench for the table formed by said panel.

2. The structure defined in claim 1, said panel also being swingable from a horizontal position to an upright position and said connector means being adapted to simultaneously move said seat member laterally toward said panel into position to cooperate with said panel to form a seat, said panel constituting the back rest of the seat and said seat member constituting at least a part of the seat portion of said seat.

3. An article of furniture comprising support means, a panel, means mounting said panel for swinging movement on said support means from substantially vertical position to substantially horizontal position to form a table, separate seat members swingably mounted on said support means adjacent said panel, and linkage mechanism connecting said seat members with said panel for automatically causing said seat members to form a unitary seat member when said panel is in substantially vertical position and for causing said seat members to automatically separate to provide benches for the table when said panel is swung to horizontal position.

4. An article of furniture comprising support means, a panel, means mounting said panel for swinging movement on said support means from a substantially vertical position to a substantially horizontal position, means for maintaining said panel in said horizontal position to thereby form a table, a movable seat member, and linkage mechanism connecting said movable seat member directly to the swingable mounting of said panel for automatically moving said seat member laterally and outwardly when said panel is moved to horizontal position, to thereby provide a bench for the table formed.

5. An article of furniture comprising support means, a panel, means mounting said panel for swinging movement on said support means from an upright position to a substantially horizontal position to form a table, a movable seat member, and connector mechanism interposed between said seat member and the swingable mounting of said panel, said connector mechanism being adapted to automatically move said seat member into cooperative position with respect to said panel to form a seat therewith when said panel is swung to upright position and being adapted

to automatically move said seat member outwardly to provide a bench for the table formed when said panel is swung to horizontal position.

6. The structure defined in claim 5, said connector mechanism including a plurality of link members pivotally connected for angular action therebetween.

7. A collapsible table and benches comprising support means, a panel, means mounting said panel for swinging movement on said support means from an upright position to a substantially horizontal position to form a table, separate seat members, and connector means connecting said seat members to said panel mounting means, said connector means including mechanism for automatically moving said seat members inwardly toward each other to form a unitary seat when said panel is moved to upright position, and for automatically moving said seat members outwardly away from each other when said panel is moved to horizontal position to thereby provide benches for the table formed.

8. The structure defined in claim 7, said mechanism including linkage adapted to cause said movements of said seat members simultaneously with the respective movements of said panel.

9. A combined seat, table and benches including support means, a panel, means mounting said panel for swing movement on said support means from an upright position to a substantially horizontal position to form a table, separate seat members capable of lateral movement with respect to said panel and with respect to each other and linkage mechanism connecting said panel mounting means with said seat members, said mechanism being adapted to automatically move said members toward each other to form a unitary seat in cooperation with said panel when said panel is moved to upright position and being adapted to automatically move said members away from each other to provide benches for the table formed when said panel is moved to horizontal position.

10. A combined seat, table, and benches including support means, a panel, means mounting said panel for swinging movement on said support means from an upright position to a substantially horizontal position to form a table, separate seat members, means pivotally mounting said seat members on said support means to permit said members to move laterally toward and away from each other, and linkage mechanism connecting said panel mounting means with said seat member mounting means, said mechanism being adapted to automatically move said members toward each other into position to form in cooperation with said panel a unitary seat structure when said panel is moved to upright position and being adapted to automatically move said seat members away from each other when said panel is moved to horizontal position and thereby provide benches for the table formed by said panel while in such position.

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REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
789,364	Gauvin	May 9, 1905
2,481,935	Larson	Sept. 13, 1944
2,512,416	Cockrell	June 20, 1950