My invention relates to an articulated furniture article, and has particular reference to such a structure that may be disposed as a table with an integral bench in one form, and may be disposed as a bench with a back rest in another form.

While furniture articles embodying my invention may be employed as an item of household furnishing, the invention will be described with reference to a furniture article designed primarily for outdoor use. Accordingly the table form may be used as a picnic or barbeque table, and the bench form may be utilized at times when actually eating or preparation thereof and not in progress. The conversion from one form to the other may be effected by a simple pivoting action, together with an actuation of hinged members.

It is an object of my invention to provide an articulated furniture article disposable selectively as a table with integral benches, or as a bench with a back rest.

Another object of my invention is to provide an articulated furniture article having a stationary frame and bench and having a movable member disposable as a back rest or as a table top for use by persons seated on the bench.

A further object of my invention is to provide an articulated furniture item disposable as a table with integral benches along each side thereof and disposable in another form as two oppositely facing benches with back rests.

Another object of my invention is to provide a single bench-like member having a movable element disposable as a table top for use with a bench or as a back rest for the single bench.

Other objects and advantages of my invention will be apparent in the following description and claims, considered together with the accompanying drawings, in which:

Referring to Figs. 1 through 3, the furniture article illustrated may be identified generally by the numeral 10, and may include parallel ground rails 11 upon which may be fastened bench supports 12 disposed one at each end of each rail 11. Disposed between the bench supports 12 of opposite rails on either end thereof may be bench seat members 13 so as to provide the furniture article 10 with two seating positions.

Each ground rail 11 may be provided with two uprights 14 projecting upwardly an amount approximately level with a suitable table height for use with the benches 13. A table (Figs. 1 and 3) may be formed from two flat or plane members 15 which are movable to the position shown in Fig. 2 to become back rests 15a for use with the benches 13.

The mechanism for effecting this transition from table to bench and vice versa is provided, particularly in accord with my invention, and in general includes a rigid pivoted arm secured to one edge of the plane members 15 and a hinged or articulated arm disposed at the other edge. Accordingly each ground rail 11 may have pivoted thereto a rigid arm 16 secured thereto by a pin 17, the outer end of which is connected by a pin 18 to the edges of the plane members 15 closest to the benches 13. Articulated arms 19 may have two separate portions 19a and 19b connected by elbows or hinges 21. One end of each arm 19 may be pivoted by a pin 22 adjacent the upper end of the uprights 14, and the other end of the articulated arms 19 may be pivoted to the other side of the plane members 15, preferably by means of hinges 23. Accordingly, therefore, the two plane members 15 will each have rigid lever arms 16, that is, one disposed on either end, and will each have two articulated arms 19, that is, one disposed on each end, but on the side opposite from the solid lever arms 16.

The disposition of my furniture article as a table is illustrated in Figs. 1 and 3. There it will be noted that the solid lever arms 16 are parallel to, and bear against, the associated uprights 14, and therefore rigidly support the edges of the plane members 15 adjacent the benches 13. The two-piece arms 19 are in their bent position, wherein the forearm portion 19b rests against stop blocks 24 so as to give a strut support to the outboard edge of each table member 15. Further, the inclined position of the arm members 19b causes the weight of the table to act against the stop blocks 24 to pull the rigid arms 16 tight against the uprights 14.
The table form of Figs. 1 and 3 may be converted into the bench form of Figs. 2 and 3 by merely lifting the weight of the outboard edges of the plane members 15, causing the arm portion 19b to lift off of the stop blocks 24. The plane members 15 may then be rotated about the upper pins 18 of the rigid arms 16 until they are secured in a generally vertical position, at which time the entire plane members 15 may be translated away from the upright posts 14 and the arms 19 may be simultaneously straightened. This action disposes the plane members 15 in the position illustrated in Fig. 2, wherein they form backrests for the seats 17. The transition back to the table form may be effected by breaking the articulated arms 19 and swinging the plane members 15a, together with the associated rigid arms 16, to a generally vertical position, at which point the plane members 15 may jackknife to a horizontal position, as illustrated in Fig. 1.

The joint between the two portions 19a and 19b of the articulated arms 19 is preferably so arranged as to form a rigid member when the arm is straightened. Accordingly the hinge 21 may be disposed upon the lower surface of the arms 18, and the adjoining ends may be cut square so as to abut. Any manual weight or resting upon the arms will then be resisted by the arm itself, and without changing the position of the back rest 15a.

In the actual construction of my furniture article it will, of course, be desirable to use various reinforcements, and accordingly, if desired, the plane members 15 may be provided with end strips 25. These end strips 25 may project beyond the edge of the plane members 15 adjacent the benches so as to act as a striking bar for contact with the benches 13, as illustrated in Fig. 2. If, however, the plane members 15 are made of rigid materials such as fairly thick plywood, such reinforcing members may be dispensed with. Likewise the joint of the benches 13 with their supports 12 may be reinforced by angle blocks 25, if desired.

Any desired shape of the various parts may be utilized, and I prefer to form the outer ends of the ground rails 41 and their associated seat supports 12 in curved form so as to give a graceful effect.

Any desired material of construction may be employed, and while at present I prefer to use redwood lumber, it is obvious that any type of lumber material could be utilized, as well as steel, plastic, aluminum, and other structural materials.

Illustrated in Fig. 4 is a modified form of my invention wherein only a single seat and a single plane member are utilized. Accordingly two spaced ground rails 36 may have seat supports 31 secured thereto, as well as uprights 32 which may be rigidly secured to both members by any suitable means, as by bolts 33. A bench 34 may extend between two associated ground rails and bench supports, and a rigid lever arm 35 may be pivoted to each ground rail 30.

A transposable plane member 36 may be supported on one edge by the two opposite rigid arms 35, and on the outboard edge by an articulated arm 37. This articulated arm 37 may have a forearm portion 37a abutting against a stop block 38 at the hinge joint thereof so as to provide an inclined strut support for the plane member 36. The size of the plane member 36 may be extended by utilizing a hinged outer strip 36a connected to the main portion 36 as by a hinge 39.

The furniture article of Fig. 4 may be transposed to a bench with a back rest by merely lifting on the outer edge of the plane member 36, lifting the lever arm portion 37a off of the stop block 38 until the plane member reaches a generally vertical position. Thereafter it may be translated to the position shown in broken outline, at which point the articulated arm 37 will become straight and rigid. Inasmuch as the full width of the plane members 36 and 36a is not required for a back rest, the hinged portion 36a may be allowed to fold back of the main part 36.

The modification of Fig. 4 is useful in the same fashion as the larger embodiment of Figs. 1 through 3, except that it will accommodate fewer people. It is desirable in constructing this single element furniture article to extend the ground rail 30 so as to provide ample support against tipping, either forwardly or backwardly.

Although I have described my invention with respect to specific embodiments thereof, I do not limit myself to these embodiments, nor otherwise, since it is obvious that various modifications could be made therein without departing from the true spirit and scope of my invention. Accordingly I include within the limits of my invention all such modifications having similar functional results.

I claim:

1. An articulated furniture article comprising a bench including a seat and a support therefor at either end thereof, an upright post rigidly secured to each bench support adjacent the forward edge thereof, a rigid lever arm pivoted to each of the bench supports and movable into abutment with one of the vertical posts, a plane member fastened at one edge to the upper end of the rigid lever arms, articulated lever arms pivotally secured respectively between the tops of the posts and the other end of the plane member, and a stop block positioned on each of the bench supports at the forward edge thereof approximately at the seat level thereof to engage the lever arm at the point of articulation, whereby the articlated arms may be broken to support the plane member as a table top by acting as struts extending from the stop blocks, and whereby the articulated members may support the plane member as a back rest when in an extended position.

2. An articulated furniture article comprising two parallel benches joined by common ground rails, each of said benches including a seat and bench support at either end of the seat, vertical posts secured to each bench support adjacent the forward edges thereof, rigid lever arms pivoted to each bench support outwardly from the posts and adapted to be moved into abutment therewith by a member for each bench pivotally secured at one edge to the upper end of the associated pair of rigid lever arms, an articulated arm pivoted to each upright post adjacent the top thereof and pivotally connected to the other edge of the associated plane member, and stop blocks disposed on each bench support to engage the lever arm at the point of articulation, whereby the articulated arms may be broken to support the plane members as adjacent table top elements by acting as struts extending from the stop blocks, and whereby the articulated arms may be extended to cooperate with the seats to support the plane members as back rests for the benches.

3. An articulated furniture article comprising
two parallel benches joined by common ground rails, each of the benches including a seat and a support therefor at either end thereof, vertical posts rigidly secured to each bench support adjacent forward edges thereof, rigid lever arms pivoted to each bench support outwardly from the posts and adapted to be moved into abutment therewith, a plane member for each bench pivotally secured to the upper end of the associated pair of rigid lever arms, an articulated arm pivoted to each upright post adjacent the top thereof and pivotally connected to the other edge of the associated plane member, and stop blocks disposed on each bench support to engage the arm at the point of articulation, whereby the articulated arms may be broken to support the plane members as adjacent table top elements by acting as struts extending from the stop blocks, and whereby the articulated arms may be extended to cooperate with the seats to support the plane members as back rests for the benches, said articulated arms having a hinge joint disposed at the bottom edge when in an extended position and also having square ends that abut when the arm is extended, so that a rigid arm is formed in the extended position.

4. An articulated furniture article comprising a bench including a seat and a support therefor at either end thereof, upright posts rigidly secured to each bench support adjacent the forward end thereof, a rigid lever arm pivotally secured to each bench support and rotatable into abutment with the posts on the side toward the seat, a plane member pivotally secured at one edge to the rigid lever arms and of a width sufficient to act as a back rest for the bench, an articulated arm pivoted to the top of each upright post and extending to the other edge of the plane member, a stop block on each bench support to engage said arms at the point of articulation, and an extension hinged to said other edge of the plane member to increase the table top area thereof, whereby an extended table top area may be formed supported by the rigid arm and a portion of the articulated arms acting as struts, and whereby a back rest may be formed by transposing the plane member to the back of the bench, whereas the hinged extension may be allowed to drop back of the plane member.

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