Dec. 2, 1930. W. J. BAUER 1,783,556

COLLAPSIBLE TABLE

Filed Feb. 16, 1929

Fig. 1.

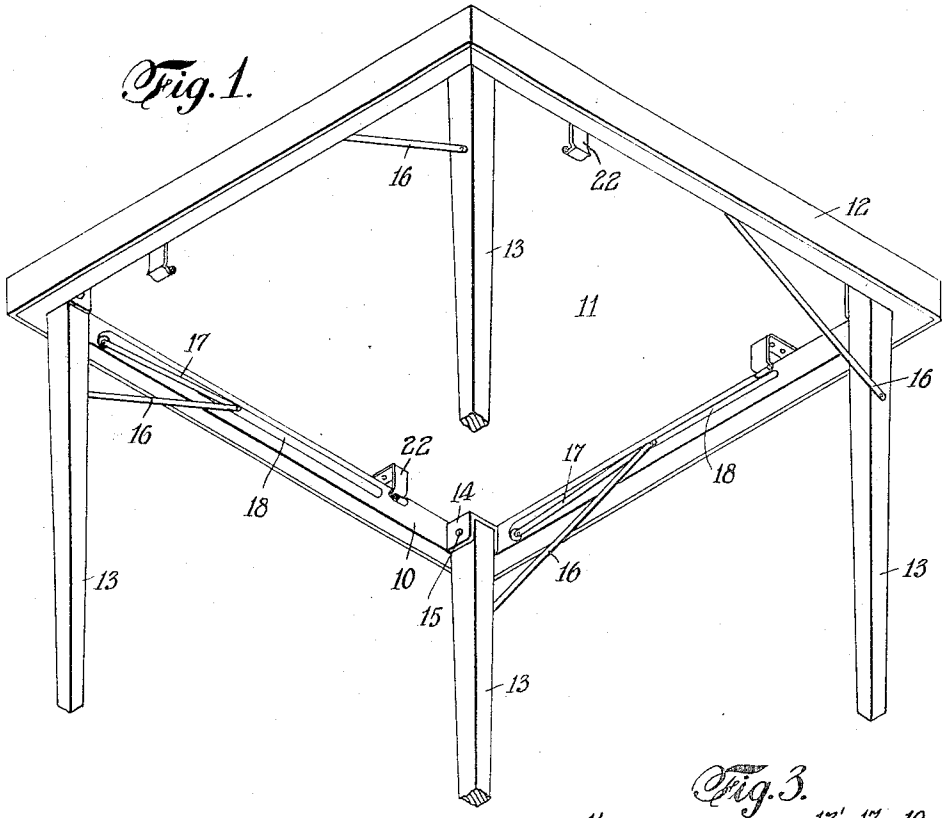


Fig. 2.

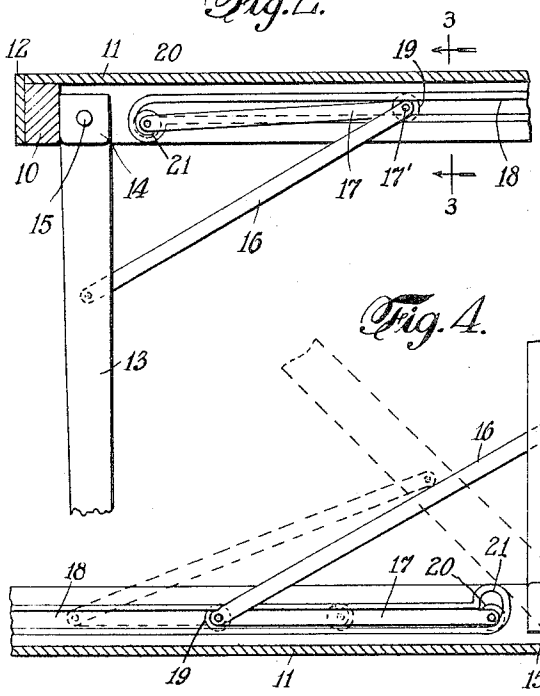


Fig. 3.

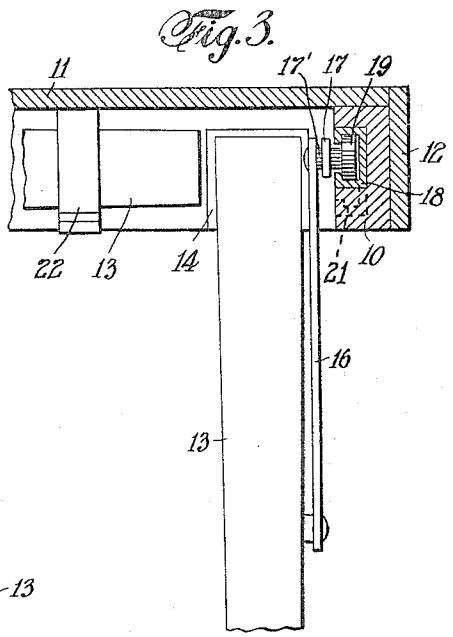


Fig. 4.

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COLLAPSIBLE TABLE

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The invention relates generally to furniture construction, and more especially to a supporting member of the collapsible type, for example, a table having supporting legs which are designed to fold underneath said table when the same is not in use and to be extended substantially at right angles to its top portion when it is desired to place said table in service.

It has for its object, in furniture structures of this character, to accomplish automatically not only the folding under of the supporting legs thereof but also their extension into position for supporting the top or platform portion; and, withal, to provide a simple, effective and inexpensive construction for securing the same.

To this end, the novel supporting member comprises legs or like supporting elements which are pivotally attached to the undersurface of the top or platform portion of the table and are further secured thereto through a flexible connection including two hinged members, one of which serves as a brace and is pivoted to the corresponding leg member while the other is constrained by a suitable trackway to movement substantially parallel to the platform. The last-named member, moreover, is arranged to lock automatically when a corresponding leg member has been extended to a position substantially at right angles to the top or platform portion of the table. When the table is inverted, however, this locking engagement is released automatically and the legs then collapse under the action of gravity, falling to a position against the undersurface of the top.

The nature of the invention, however, will best be understood when described in connection with the accompanying drawings, in which:

Fig. 1 is a perspective underneath view showing a table member, as one embodiment of my invention, in the erected position.

Fig. 2 is a fragmentary detail vertical section illustrating the manner of maintaining the table-supporting legs in position.

Fig. 3 is a fragmentary vertical section taken on the line 3—3, Fig. 2 of the drawings, and looking in the direction of the arrows.

Fig. 4 is a fragmentary detail vertical section of a corner of the table in inverted condition, and illustrates in the dotted line position the action of automatic collapse of the supporting leg members.

Referring to the drawings, 10 designates an enclosing member for affording a frame, for example of square or other desired shape, and adapted to receive the top or platform element 11. A finishing strip 12 may also be provided about the frame 10, which frame is made of sufficient depth to conceal or retain therein, when the table is collapsed, the supporting leg members 13 designed to support said top when the table is to be erected for use, as indicated in Figs. 1–3.

In this condition, the legs 13 extend substantially at right angles to said top 11 and are designed to swing freely downwardly therefrom or, rather, from the frame 10 to which they are pivotally attached. This attachment may be effected, for example, by means of a U-shape retaining bracket 14 rigidly secured in the respective corners of the frame and retaining a pivot pin or rivet 15 passing through the upper end of a leg fitted therein so that the same is free to swing downwardly from the undersurface of the top or platform portion 11 of the table.

In order to sustain the legs or supporting members in the extended, substantially vertical position, shown in Figs. 1–3, there is pivotally attached to each of said legs 13 one end of supporting brace members 16. The other end of these members is pivoted or hinged to an arm 17 disposed substantially parallel to the table top 11 and extending inwardly from its point of attachment or pintle 17′ toward the pivoting U-bracket 14 for the corresponding leg. A trackway 18, moreover, is provided along the side of the frame 10 and is located parallel to a said arm 17. In this trackway there is designed to ride a roller 19, rotatably mounted on the pintle 17′ or in the axis of attachment of the brace 16 and arm 17, as well as a roller 20 which is rotatably mounted at the inner end of said arm 17. The two hinged members constituted by the brace

16 and arm 17 may thus be collapsed or separated accordingly as the legs are brought inwardly or extended, the rollers 19 and 20 riding in the trackway 18 conformably to the movement—that is to say, when swinging outwardly the legs 13 to a position at right angles to the table top 11, said rollers will move inwardly toward the corresponding pivoting U-brackets 14; and when collapsing the legs, move in a direction away from the same, as indicated more particularly in Fig. 4 of the drawings, wherein the position shown in dotted lines illustrates the action in the case of the movement of said rollers away from the U-bracket end of a trackway.

Said trackways, moreover, are provided at their extreme inner end with a depressed or notched portion 21 in which an inner roller 20 is designed to drop when a corresponding leg 13 attains a position substantially at right angles to the table top 11, as when the table is in the normal erected position suitable for use. The depth of this notch is made sufficient to insure the dropping of the center of roller 20 below the lower edge of the trackway and thus secure a substantial lock against outward movement of the two hinged members, whereby the legs 13 are rigidly braced and maintained in the extended position.

However, when the table is inverted, as shown in Fig. 4 of the drawings, rollers 20 will drop under the action of gravity out of their said holding notches 21 through movement of the arms 17 about the pintles or points of attachment of same to the upper ends of the braces 16 so that both rollers 19 and 20 will be again free to move outwardly in their trackways 18 which follow as the legs fall inwardly under the action of gravity. To assist the locking and release actions, the rollers 20 are preferably of substantial weight. By slightly jarring the table, or, usually merely through the inverting of the same, legs 13 will become unbalanced and fall readily under the action of gravity downwardly against the undersurface of the top 11 and collapse the table as a whole so that it may be stored away conveniently and without occupying unnecessary space. In order to retain the legs in the collapsed condition, especially while carrying the table, it is preferred to provide spring clips 22 to engage the free ends of the legs and exert a yielding holding pressure thereon to normally retain said legs in place, but readily releasing the same upon slightly jarring the table.

It will be observed, therefore, that the table may be readily erected, merely by lifting the top sufficiently to allow the legs 13 to drop into position (or jarring the table slightly); and may as readily be collapsed merely by reversing the action, that is to say, inverting the said top. The table withal is rigidly supported when erected and held in substantial locked position, thus affording a very satisfactory article of the character described.

I claim:

1. A collapsible article of furniture, comprising a top or platform element, a plurality of supporting legs pivotally attached thereto, braces pivotally attached at their one end to the respective legs, arms pivoted to the other ends of said braces, a roller carried by each of said arms, and trackways mounted beneath the table top and in which the respective rollers are designed to ride.

2. A collapsible article of furniture, comprising a top or platform element, a plurality of supporting legs pivotally attached thereto, braces pivotally attached at their one end to the respective legs, arms pivoted to the other ends of said braces, a roller carried at the extreme inner end of each of the arms and a roller mounted at the point of connection of each of the said brace members and corresponding arms, and trackways mounted beneath the table top and in which the respective pairs of rollers are designed to ride.

3. A collapsible article of furniture, comprising a top or platform element, a plurality of supporting legs pivotally attached thereto, braces pivotally attached at their one end to the respective legs, arms pivoted to the other ends of said braces, a roller carried by each of said arms, and trackways mounted beneath the table top and in which the respective rollers are designed to ride, the respective tracks at their inner ends having depressed portions or notches into which a roller drops when a corresponding leg is fully extended.

4. A collapsible article of furniture, comprising a top or platform element, a plurality of supporting legs pivotally attached thereto, braces pivotally attached at their one end to the respective legs, arms pivoted to the other ends of said braces, a roller carried by each of said arms and trackways mounted beneath the table top and in which the respective rollers are designed to ride, the respective tracks at their inner ends having depressed portions or notches of a depth exceeding the radius of the roller and into which a roller drops when a corresponding leg is fully extended.

In testimony whereof I affix my signature.

WILLIAM J. BAUER.