Oct. 15, 1957 A. W. DIACK 2,809,875

VERTICALLY ADJUSTABLE TABLE

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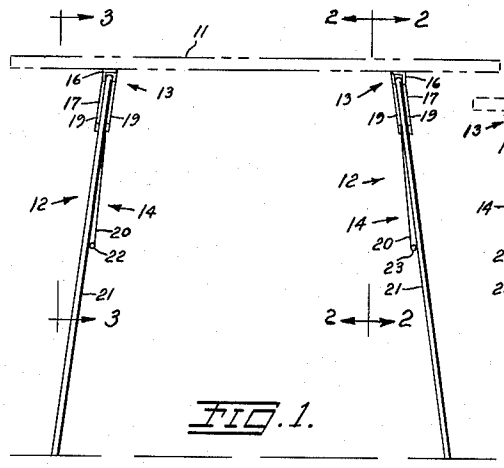


FIG. 1.

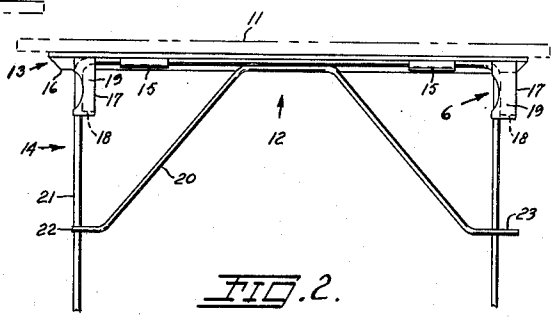


FIG. 2.

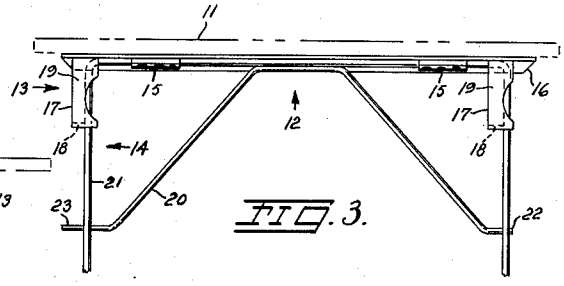


FIG. 3.

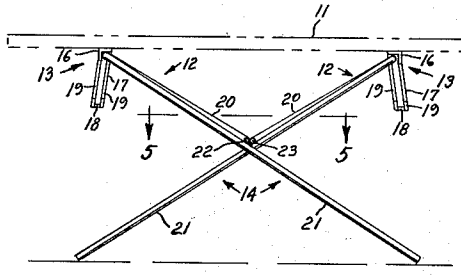


FIG. 4.

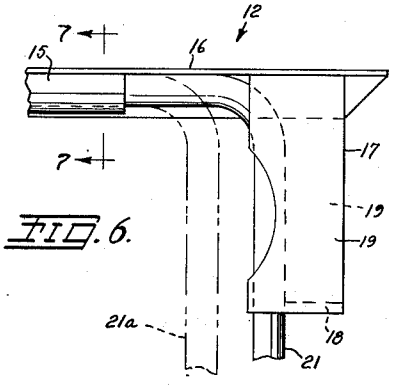


FIG. 6.

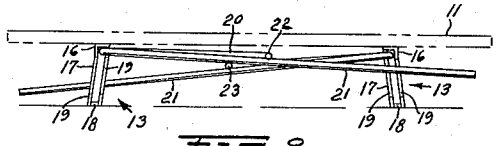


FIG. 8.

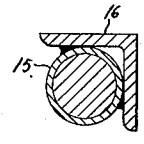


FIG. 7.

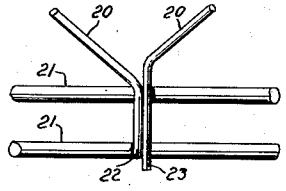


FIG. 5.

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VERTICALLY ADJUSTABLE TABLE

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10 Claims. (Cl. 311—39)

This invention relates generally to tables of the type having legs which will fold towards the under side of the top for storage, such tables commonly being used for playing at cards and having a top height in use of approximately twenty-nine inches.

More particularly this invention relates to tables of this general type having leg structures which will fold to a plurality of positions to provide a plurality of heights at which the table top will be useful.

In the preferred form in which my invention is here shown to be practiced a folding table is disclosed which has a minimum height of about five inches for use informally when the users are sitting on the floor before a fireplace, an intermediate height of about seventeen inches for snack bar or cocktail hour use before a davenport and a maximum height of about twenty-nine inches for luncheon or card playing use. The table is rugged and equally useful indoors or outdoors.

It is a principal object object of this invention to provide a simple foldable unitary leg structure which can be used in pairs with any table top frame or unitary table top to make a table usable as desired at any of a plurality of table top heights.

It is a second object to provide such a unitary leg structure comprising a stationary part adapted to be rigidly secured to a table top structure to provide two minimum length legs for the support thereof.

It is a third object to provide such a unitary leg structure comprising an additional leg part hingedly secured to said stationary part to provide two maximum length legs for the support of said table top.

It is a fourth object to provide said stationary part of said unitary leg structure with hinging means for said additional leg part adapted to allow said additional leg part to be moved parallel to the hinging axis thereof to engage said stationary part to secure said additional leg part in its position of maximum height of said table top.

It is a fifth object to provide a folding table comprising a top structure and two of said unitary leg structures, each of said unitary leg structures having a stationary part hingedly supporting a leg part axially movable along its hinging axis, and said leg part including two axially spaced legs and said two unitary leg structures being secured to said top structure with their hinging axes parallel and laterally spaced.

It is a sixth object to provide such a folding table having the leg parts of the unitary leg structures slidable oppositely along their respective stationary parts to a plurality of positions each of which is required to determine one of a plurality of useful heights for the table.

It is a seventh object to provide such a folding table having the leg parts of the unitary leg structures formed with similar oppositely extending parts adapted at similar intermediate angularly fixed hinged positions of the leg parts to be engaged to maintain said table top at an intermediate height position.

How these and other objects are attained is explained

in the following description referring to the attached drawing in which

Fig. 1 is a view in side elevation of a table made in accordance with the teaching of this invention, the longer leg parts being shown in position to give to the table top its highest elevation and the table top being shown in broken lines to indicate that the form of table top used is not a particular feature of the invention.

Fig. 2 is a fragmental view in either direction along the line 2—2 of Fig. 1.

Fig. 3 is a fragmental view along the line 3—3 of Fig. 1.

Fig. 4 is a view in side elevation of the table of Fig. 1 with the longer leg parts axially and angularly adjusted to latch one with the other to give to the table top an intermediate elevation.

Fig. 5 is a fragmental view along the line 5—5 of Fig. 4.

Fig. 6 is an enlarged view of a fragment of Fig. 2 indicated at 6 in Fig. 2 and additionally indicating in broken lines the axial position of the longer leg part which it would have at the lower table height shown in Fig. 8.

Fig. 7 is a fragmental view in vertical section along the line 7—7 of Fig. 6.

Fig. 8 is a view in side elevation of the table of Fig. 1 with the longer leg parts shifted axially as shown as shown in Fig. 6 and hinged angularly to an out of the way position to allow the table to sit on its shorter leg parts.

Like numerals of reference refer to like parts in the several figures of the drawing.

Referring now to the drawing, indicated by the reference numeral 11 and shown in broken lines to indicate that its details of construction are not here important, is a table top structure. Secured to the top 11 in any desired way are shown a pair of like unitary leg structures 12. Each of the unitary leg structures comprises a stationary part 13 rigidly secured to the top 11 in any desired manner and an additional longer leg part 14 hingedly secured to stationary part 13 by cylindrical bearings 15 and axially slidable therealong.

In the form here shown for practicing my invention, stationary part 13 of unitary leg structure 12 is seen to comprise a metal base member of angular section 16 adapted to be secured in any desired way to table top structure 11 and complete with bearings 15 and short leg brackets 17. Brackets 17 in the form shown as welded to base angle 16 is seen to be formed with a pair of spaced parallel side members 19 secured together at their ends away from base 16 by short end members 18.

Additional longer leg part 14, in the form here shown, comprises a U-shaped rod or tube 21 strengthened by having secured to it by welding or other desired method a brace structure shown here as a single length of rod or tube 20 of smaller sectional diameter than the leg form 21. It should be particularly noted that brace structure 20 has one end 22 stopping at leg member 21 but its other end 23 extends beyond leg member 21 as shown.

Remembering that long leg 14 has leg form 21 journalled in bearings 15 to be axially slidable therealong as shown in Figs. 6 and 7, it is seen that with respect to brackets 17 leg form 21 will have three critical positions axially of bearings 15.

When leg parts 14 are rotated on these parts 21 in bearings 15 to their positions shown in Figs. 1, 2 and 3, parts 21 as shown in Fig. 6, are axially shiftable to the engaged position of parts 21 between side members 19 and against end members 18 of brackets 17 thus fixing the table with the table top in its highest position of use.

If it is desired to store the table or use it with the table top at its minimum height then the leg members **14** are shifted axially of bearings **15** until leg parts **21** are withdrawn from brackets **17** and spaced away therefrom to a position such as **21***a* in Fig. 6. In this position leg parts **14** will fold towards each other and towards the under side of table top **11** without interference one with the other to the minimum height position shown in Fig. 8 where brackets **17** are seen to become substantial minimum length legs for the table.

Now referring again to Fig. 6, if leg part **21** is withdrawn from bracket **17** only sufficiently to clear bracket **17** and be rotatable in bearings **15**, it will have a position intermediate the positions shown at **21** and **21***a*. In this position as leg parts **14** fold towards each other from their positions shown in Fig. 1 it is seen that, as shown in Fig. 5, the end **22** of the brace structure **20** of one of the leg parts **14** will interfere with the end **23** of the brace structure **20** of the other of the leg parts **14** to interlock the two leg structures **14** to hold the table at an intermediate height as shown in Fig. 4.

It is thus seen that with a pair of like unitary leg structures **12** spacedly secured to a table top as shown, a uniquely useful and desirable table having three useful top heights is provided and that a uniquely useful and desirable element of the leg structure is the bracket **17** serving not only as a latching receptacle for the rotatable leg part **14** in the high position of the table top but also serving as an integral leg in its own right in the low position of the table top.

The form of end structures **22**, **23**, of leg brace structures **20** in combination with the ability axially to position parts **14** in bearings **15** to determine an intermediate table top height is another uniquely useful feature combination of this invention.

Having given some of the objects of this invention, illustrated and described a simple form in which the invention may be practiced and explained its operation, I claim:

1. A table comprising a table top structure, a plurality of shorter leg elements rigidly secured to said top structure to support said top structure at a lower elevation together with a plurality of longer leg elements hingedly secured to said top structure to rotate between a clearance position allowing said shorter leg elements to support said top structure at said lower elevation and a plurality of additional positions of support of said top structure at a plurality of higher elevations.

2. A table comprising a table top structure, a plurality of shorter leg elements rigidly secured to said top structure to support said top structure at a lower elevation together with a plurality of longer leg elements hingedly secured to said top structure to rotate between a clearance position allowing said shorter leg elements to support said top structure at said lower elevation and a plurality of positions adapting said longer leg elements to support said top structure at a plurality of different elevations greater than said lower elevation, together with means for selectively securing said longer leg elements in a selected one of said plurality of positions.

3. A folding table comprising a table top structure together with a pair of like leg structures secured to said top structure in spaced apart parallel face to face relation, each of said leg structures comprising a stationary base element with a leg element rotatably secured thereto slidably axially of its rotational axis, said stationary base element including a first stop means for securing its respective leg element in one position of height of said top structure at one relative axial and angular position of said leg element and said leg elements of said pair of leg structures including cooperative second stop means for securing said leg elements in another position of height of said top structure at another axial and angular position of said leg elements relative to said top structure.

4. The folding table of claim 3 in which said first stop means comprises another set of leg elements rigidly secured to said base elements to determine a low limit of height of said top structure.

5. The folding table of claim 3 in which said leg elements each comprise a U-shaped member forming a pair of leg parts connected by a journal part together with a brace part secured at its mid-length to said journal part and at its ends to the approximate mid-points of said respective leg parts, said end parts being aligned one with the other in parallel relation to said journal part and one of said end parts extending beyond its one of said leg parts farther than the other of said end parts extends beyond its respective one of said leg parts.

6. For use with a table top structure to form a table adjustable positionable to a plurality of table top elevations, a pair of unitary leg structures adapted to be secured in parallel spaced apart face to face relation beneath said top structure, each of said pair comprising a base member formed with a journal bearing longitudinally thereon, a longitudinally spaced pair of latch brackets secured rigidly thereto and a longitudinally spaced pair of long leg elements connected at their top ends by a journal element rotatably secured in said journal bearing and axially movable therealong between positions of engagement and disengagement of said long leg elements with said brackets.

7. The pair of unitary leg structures of claim 6 in which each of said latch brackets comprise a minimum length leg for said table and said long leg element structures can be rotated on their journal elements towards the under side of said top structure to a position nearer to said top structure than the length of said latch brackets.

8. A unitary leg structure for a folding table comprising a stationary base member adapted to be secured beneath a table top structure and a leg member, said base member being formed with a bearing bore longitudinally thereof and a latch bracket formed with a latch slot radially of said bore, said leg member comprising a journal part rotatably secured in said bearing for axial movement therealong and a leg part extending radially of said journal part to engage said latch slot when said leg part is aligned with said latch slot and said leg member is moved axially of said bearing in the direction of said bracket.

9. A unitary leg structure for a folding table comprising a stationary base member adapted to be secured beneath a table top structure and a leg member, said base member being formed with a bearing bore longitudinally thereof and a pair of longitudinally spaced latch brackets each formed with a latch slot radially of said bore, said leg member comprising a journal part rotatably secured in said bearing for axial movement therealong and a pair of longitudinally spaced leg parts extending radially of said journal part respectively to engage said latch slots when said leg parts are aligned with said latch slots and said leg member is moved axially of said bearing in the engaging direction of said slots.

10. The unitary leg structure of claim 9 including a pair of stop elements secured one to each of said leg parts between the ends thereof, said stop elements being in alignment one with the other and parallel to said journal element, each of said stop elements extending approximately a fixed distance in the same direction from their respective leg parts and one of said stop elements extending approximately said fixed distance in the other direction from its respective leg part.

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