Nov. 26, 1940. H. HOWE 2,223,068

FOLDING TABLE

Filed Oct. 4, 1937 2 Sheets-Sheet 1

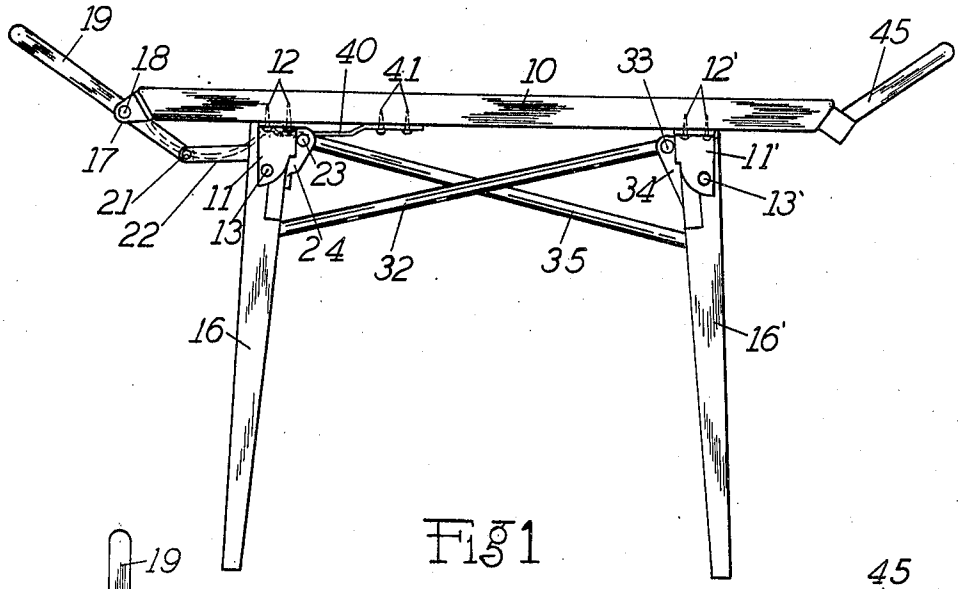


Fig 1

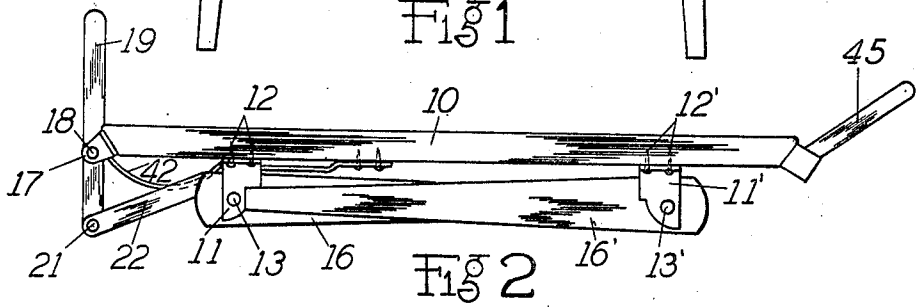


Fig 2

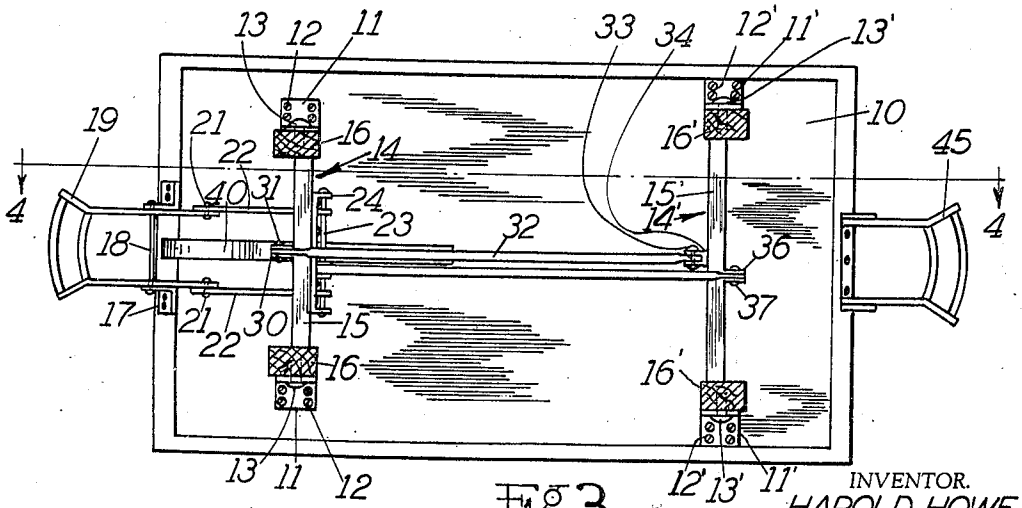


Fig 3

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FOLDING TABLE

Filed Oct. 4, 1937 2 Sheets-Sheet 2

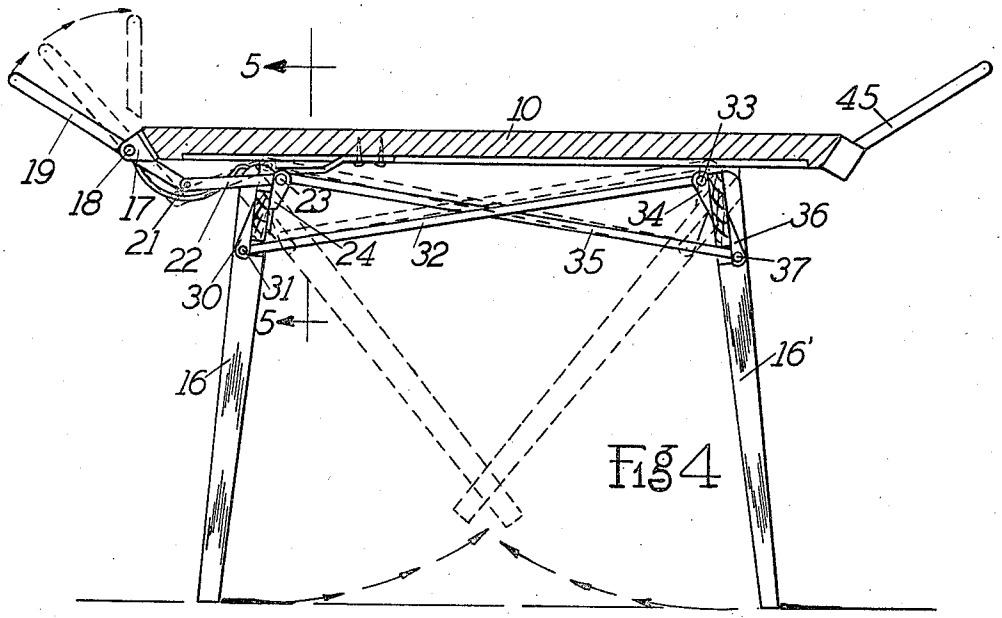


Fig 4

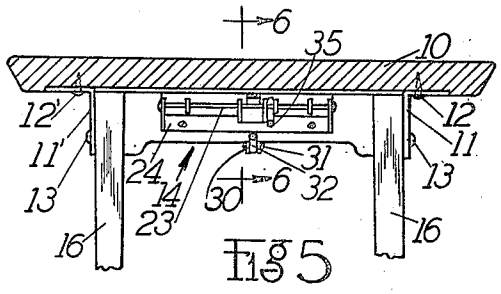


Fig 5

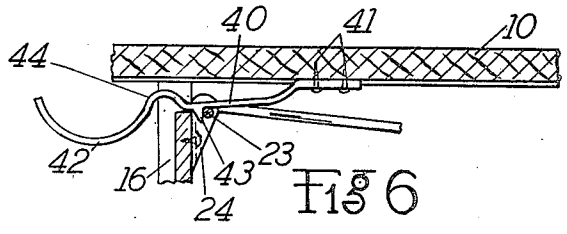


Fig 6

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UNITED STATES PATENT OFFICE

2,223,068

FOLDING TABLE

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Application October 4, 1937, Serial No. 167,098

2 Claims. (Cl. 311—3)

This invention relates to tables and more particularly to that type of table adapted to be folded in order to permit storage thereof in a relatively small space or for other desired purposes.

A primary object of this invention is the provision of such a folding table wherein the folding and unfolding of the legs may be accomplished with a minimum amount of effort without the necessity for displacing the horizontal relationship of the table top with its supporting surface as a floor.

An additional object is the provision of a table adapted to serve as a tray provided with handle means wherein the folding and unfolding of the legs of the table may be accomplished solely by manipulation of the handle means whereby in the event that the table is being utilized as a tray and carried by its handles the legs thereof may be readily folded or unfolded as the case may be without the necessity of removing the hands from the handles.

A further object is the provision of such a table wherein all the legs may be folded and/or unfolded simultaneously and such action may be accomplished by the movement of only one hand thus using the other to steady the table in order that the horizontal relationship of the top need not be displaced.

An additional and more specific object is the provision of a table having folding legs whereby the legs may be quickly and simply unfolded, all the legs being operated simultaneously, in order that the tray may be used as a stand or table when the same is carried into a room in a folded position, thus eliminating the necessity of finding a separate stand therefor.

An additional specific object is the provision of a table of the type to be hereinafter described having handles wherein when the same is in folded position one of the handles serves as a stand therefor, whereby the tray may be stood in an edgewise position on the handle and serve as a screen or ornamental piece of furniture.

As conducive to a clearer understanding of this invention it may be pointed out that there are in common use various tables adapted to be utilized as trays whereby the same may be folded for carriage and placed on a separate stand if desirable. However, such folding tables have had the uniform disadvantage that a separate action has hitherto been required to fold and/or unfold each separate pair of legs. Correspondingly when folding the table it has hitherto been necessary to operate one pair of legs with one hand and the other pair with the other hand. In the instant invention both pairs of legs may be folded or unfolded simultaneously by the movement of one hand only, the other hand serving to maintain the horizontal relationship of the table and steady the same during such operation. Further in such previous constructions it has been necessary to move the entire hand as for the purpose of moving the handles a substantial distance. In the instant invention the movement of the single operating handle is accomplished by a simple rotative movement occasioned merely by flexing of the wrist.

It is therefore an object of this invention to obviate all the above mentioned difficulties and others not heretofor eliminated.

Other objects will in part be obvious and in part be pointed out hereinafter.

The invention, therefore, consists in the combinations of elements, arrangements of parts and features of construction, all as will be more fully pointed out hereinafter and disclosed in the accompanying drawings wherein:

Figure 1 is a side elevational view of one form of structure embodying the inventive concept disclosing the legs of the table in unfolded position,

Figure 2 is a side elevational view of the structure shown in Figure 1 in a different position of adjustment,

Figure 3 is a bottom plan view of the structure disclosed in Figures 1 and 2,

Figure 4 is a sectional view taken along the line 4—4 of Figure 3 as viewed from the top,

Figure 5 is a sectional view taken along the line 5—5 of Figure 4, and

Figure 6 is a sectional view taken along the line 6—6 of Figure 5.

Similar reference characters refer to similar parts throughout the several views of the drawings.

Having reference now specifically to the drawings, 10 indicates a table top of any desired configuration. Suitable aligned pairs of supporting hinge brackets 11 and 11' are secured to the table top in any desired manner as by screws 12 and 12' respectively, as shown in Figure 3, each pair having pivoted thereto as by pivots 13 and 13' a framework, generally, indicated at 14 and 14' (see Figure 5).

Framework 14 is comprised of a transverse member 15 having secured thereto, in any desired manner, a pair of legs designated by the reference character 16. Similarly, framework 14' is comprised of a transverse member 15' and a pair of legs each designated as 16'.

Thus it will be seen that each framework 14 and 14' move as an integral unit and permits the pivoting of each pair of legs 16 and 16' simultaneously about pivots 13 and 13', respectively, in a manner to be hereinafter described.

A supporting bracket 17 is secured to one end of top 10 in any suitable manner and has pivoted thereto as by a pivot 18, a handle member 19. Handle member 19 has pivoted to its lower extremities, as by pivots 21, a pair of link members 22, as best shown in Figure 3. The opposite ends of link members 22 extend through suitable apertures in the adjacent transverse member 15, as best shown in Figure 4, and engage a pivot pin 23 secured to a bracket 24 which latter is in turn secured to a member 15. Thus it will be seen that as handle 19 is moved in a clockwise direction to the position shown in dotted lines in Figure 4, through the link and pivot arrangement legs 16 are caused to rotate about pivots 13 in a counterclockwise direction. A bracket 30 positioned on the side of member 15 opposite bracket 24 and adjacent the lower extremity thereof (see Figure 1) has pivoted thereto as by a pivot 31, one end of a rod 32. The other end of rod 32 is pivoted as by a pivot 33 to a bracket 34 carried by transverse member 15' adjacent its upper portion, or that portion adjacent the table top 10. Pivot 23 also has pivoted thereto one end of a rod 35 (see Figure 5) the other end of which is pivoted to a bracket 36 carried at the lower portion of member 15' and on the side thereof away from handle 19 or opposite bracket 34, as by a pivot pin 37.

Thus it will be seen that as framework 14 including its associated legs 16 is moved from the position shown in Figure 1 to the position shown in Figure 2 by clockwise movement of handle 14, rod 35 serves to rotate the lower portion of transverse member 15' in a clockwise direction and rod 32 similarly serves to rotate the upper portion of transverse member 15' in a similar direction causing legs 16' to be moved upwardly towards table top 10 to the position shown in Figure 2.

A latch member comprised of a resilient arm 40 is secured to table top 10 by screws 41 (see Figure 6) adjacent frame member 14. Latch member 40 includes a handle or release portion 42 which extends to a point adjacent handle 19 whereby it may be readily moved by the fingers without relinquishing the grip on handle 19.

The latching is effected by a projection 43 adapted to engage pivot 23. Resilient arm 40 is likewise provided with an upwardly extending resilient portion 44 adapted, when the table is in folded position, to exert pressure on an adjacent portion of top 10 in such a manner that the resulting friction holds framework 14 in folded position. Through the rigid engagement of rods 35 and 32, framework 14' is also held in folded position.

A suitable fixed handle 45 which may be similar in design to handle 19 is secured to the end of top 10 opposite handle 19.

From the foregoing the operation of the device should now be readily understandable. Assuming the table to be in the position shown in Figure 1 anyone desiring to move the same merely grasps handles 19 and 45. If, for any reason, it is now desired to fold the legs of the table the fingers are pressed against release 42 of latch 40 forcing the same upwardly to release projection 43 from its engagement with pivot 23. The wrist is flexed to rotate handle 19 inwardly, with respect to the table, whereupon links 22 move downwardly and exert a torque upon pivot pin 23 and hence frame member 14 causing frame member 14 to rotate in a counterclockwise direction and move legs 16 upwardly with respect to table top 10. Through the operation of rods 32 and 35 previously described frame 14' and hence legs 16' are rotated in a clockwise direction. At this point it may be noted that the alignment of the legs and/or the taper thereof is such as to permit ready passage of legs 16 and 16' when the same are folded. If it is then desired to unfold the legs of the table it will be readily understood that a reverse movement of the wrist results in a counterclockwise rotation of handle 19 about pivot 18 and causes the legs to reverse the operation previously described, with respect to table top 10, whereupon projection 43 will ride over pivot 42, thus automatically latching and precluding the possibility of the folding of the table until such time as latch member 40 is released.

It should also be noted that, as best shown in Figure 2, when the table is folded handle 19 is in substantial right angled relationship with respect to top 10 and may if desired serve as a support or stand for the table. Thus if it is desired to stand the table on the floor or elsewhere in folded position in order that it may occupy little space, it is merely folded in the manner previously described and handle 19 utilized as a stand therefor.

While the particular application of the invention disclosed herein is a table of the type known as a coffee table or a tray table, it will be readily understood that the inventive concept may be applied to any other type of folding table, as a card table, or a bed table or similar article of furniture.

It will thus be seen that it is herein provided a structure which achieves all the objects of this invention and many others, including advantages of great practical utility, particularly in the simplicity of operation and construction.

As many embodiments may be made of this invention and as many modifications may be made in the embodiment just described, it is to be understood that all matter hereinbefore set forth or shown in the accompanying drawings is to be interpreted as illustrative and not in a limiting sense.

I claim as my invention:

1. In a device of the character described, in combination, a top, legs pivoted thereto, a handle pivoted to said top, said handle being movable to a position substantially at right angles to said top, means operable by movement of said handle to rotate said legs about said pivots, said handle being in said right angled position when said legs are adjacent said top, whereby said table may be stood edgewise in a small space, said handle serving as a stand therefor.

2. In a device of the character described, in combination, a top, legs pivoted thereto, a handle pivoted to said top, means associated with said handle and operable through change in position thereof to fold and unfold said legs with respect to said top about their associated pivots, a portion of said handle extending in substantially right angled relationship to said top when in one position of adjustment whereby said handle serves as a stand to support said top in vertical position with respect to a supporting surface for said device when said legs are folded.

HAROLD HOWE.