Sept. 3, 1940. U. K. JOHANNSEN 2,213,803

FOLDING TABLE LINK LOCK

Filed April 11, 1938

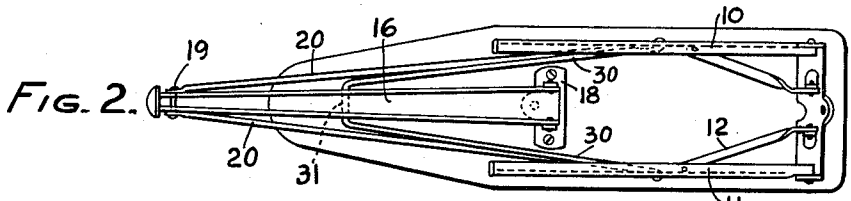


FIG. 2.

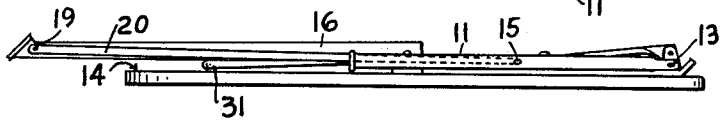


FIG. 3.

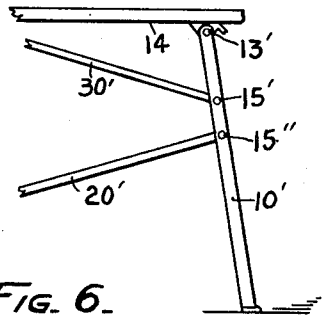


FIG. 6.

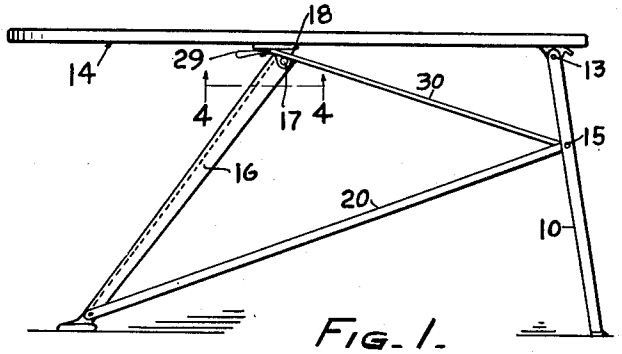


FIG. 1.

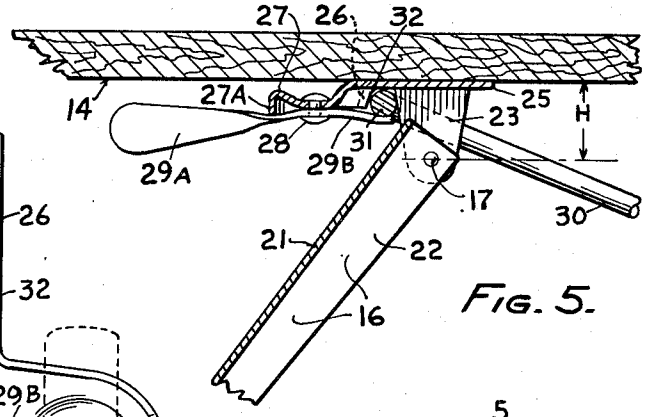


FIG. 5.

FIG. 4.

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Patented Sept. 3, 1940

2,213,803

UNITED STATES PATENT OFFICE

2,213,803

FOLDING TABLE LINK LOCK

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Application April 11, 1938, Serial No. 201,241

2 Claims. (Cl. 38—117)

My invention broadly relates to a portable folding table and is more particularly concerned with improved locking devices as applied to a collapsible ironing board stand preferably comprising an all-metal, three legged understructure in which the erected legs are adapted to fold flatwise beneath the bottom face of such board and to be easily locked in erected leg position for use.

A pair of so-called rear legs respectively have one end thereof alignedly pivoted to said bottom face and a centralized inclined front leg may be similarly pivoted between upstanding bracket lugs in substantial parallelism with the axes of the rear leg pivots. The medial regions of both rear legs are linked to the front leg for coordinated movement by complementary connecting rods. A unitary bail-shaped brace link or the like may straddle the erected front leg and has its respective terminals pivoted to the rear leg structure. When the ironing board is set up for use, my lockable bail nose is made to releasably thrust against a front leg bracket lug to rigidly sustain the understructure against collapse. A manipulative lever serves to positively lock such bail nose in place.

The object of the present invention is primarily concerned with devising a simple link lock of the indicated character in which the understructure components require comparatively few essential pivot points and the front leg bracket assembly is especially suited for rapid production on an extensive scale at low fabrication cost.

Embodied herein are also other structural features designed to carry out the end in view. Reference is had to the accompanying one sheet of drawings which are illustrative of a preferred exemplification and in which drawing:

Fig. 1 is an elevational side view of an erected ironing board equipped with my devices.

Figs. 2 and 3 respectively show a bottom and a side view of my chassis when fully collapsed.

Fig. 4 represents an enlarged detail of my improved link latch as seen along the line 4—4 of Fig. 1, and Fig. 5 is a cross-sectional view taken along line 5—5 of Fig. 4.

Fig. 6 fragmentally depicts an alternative hook-up for the Fig. 1 linkage arrangement.

Referring more specifically to the drawing, the numerals 10 and 11 respectively designate a pair of laterally spaced rear legs that may be fabricated of angle iron. These are preferably disposed to constitute a rear leg structure of a type more specifically disclosed in my prior Patent #2,091,946 of August 31, 1937, in which the floor contacting ends are spread apart by the use of brace straps 12 when the chassis is unfolded. In collapsed position, the rear legs fall within board width confines in the Fig. 2 manner. The upper end of each rear leg is pivoted at 13 beneath the bottom board face 14. An intermediate pivot 15 is located between the respective ends of each rear leg.

A single rigid front leg 16 has its upper end pivoted at 17 to said board face by a novel sheet metal bracket 18 that is placed transversely of the board length. The floor contacting region of this front leg may be provided with a foot pivot 19. Mated connecting rods such as 20 may interconnect said foot pivot with the respective intermediate pivots 15 for coordinated leg movement between collapsed and erected positions. Each such rod is rigid lengthwise and free from jointed links. As will be understood, all chassis pivotal points are intended to turn freely without binding effects.

My front leg is preferably stamped up from sheet metal to comprise a cross-sectionally channeled shape of which a longitudinally tapered web 21 is provided with integral flanges such as 22 (see Figs. 4 and 5). The flanges of the relatively wide or divergent upper front leg end are respectively pivoted to a pair of upstanding laterally spaced ear lugs 23 and 24 that may be pierced from the stamped bracket 18, as shown. Such bracket may further include an elongated base plate 25 that is firmly bolted crosswise of the board in substantial parallelism with the rear leg pivots and whose longitudinal edge is equipped with an upturned stop lip component 26 spaced forwardly beyond said ear lugs to provide for an interposed abutment gap 32 extending parallel to the respective rear leg pivots. The medial region of said base plate and lip may be extended in semi-circular contour to constitute a cup-shaped projecting prop region 27 that carries a fulcrum pin 28 whose axis stands upright to the broad face. A manipulative locking lever 29 as made from twisted strip stock may be pivotally mounted on such fulcrum intermediate the lever ends to provide for a shiftable finger piece 29A and a bail engaging lock agency 29B. The upturned edge of said lip contour may be inclined in cam formation 27A to afford a wedging thrust directed axially lengthwise of the fulcrum pin to frictionally retain the lever when reaching one of its extreme shift positions.

A one-piece bail-shaped brace link 30 may have

its respective terminals pivoted coincident with the intermediate rear leg pivots 15 as shown, or if desired separate equivalent pivots 15' and 15'' may be resorted to in the Fig. 6 alternative fashion. Such bifurcated brace link preferably comprises an interconnecting rectilinear nose component 31 which in erected table position, may be lockingly gripped by the lever end 29B in the Fig. 4 manner. The length of said nose component is such as to cause the adjacent spaced ear lugs 23 and 24 to be snugly fitted between the sharply bent rod bifurcations and thereby eliminate pronounced longitudinal end play on part of the bail nose.

The use of a tapered front leg imparts a neatly trimmed and stable appearance to my erected ironing table. Because of its relatively long span, the nose 31 serves to counteract excessive distortional weave should the board face be eccentrically loaded in use. The erected table also possesses additional stability by virtue of the low disposition of the foot pivot 19. It will also be observed that the locked bail nose is purposely interposed between the front leg pivot 17 and the base plate 25, also that the pivot height H of Fig. 5 is sufficient to allow for clearance with respect to the lever 29 in its released dotted position when the collapsed front leg overlies such lever fixture. As a further distinctive structural feature, my bracket ear lugs and stop lip are spacedly formed in integral fashion to constitute gapped abutment means therebetween to receive the bail nose portion and wherein to positively lock the erected legs against collapse.

The overhanging front leg tip of the folded understructure may be conveniently suspended upon a suitable nail-like support extending interiorly between the front leg flanges for hooked engagement with the through rivet 19. When collapsed, the bail nose 31 is slidably interposed between the board face and the front leg as indicated in Figs. 2 and 3.

As regards the intended mode of operation of the described linkage, this may be traced as follows:

To open said chassis, the rear board end may be rested upon a floor to allow the rear legs to fall by gravity toward their erected position. The lever 29 then lies crosswise of the board in its dotted Fig. 4 position and the bail nose will freely glide lengthwise of the web 21 toward the front leg pivot 17. By a deft handling, said nose may be carried contiguous to the bracket ear lugs and made ready to be manually depressed toward the base plate 25 and behind the stop lip 26 into the bracket gap 32. A turning of the lever 29 into its full-lined position, serves to positively lock the bail nose in place and provide for an erected understructure capable of rigidly supporting an ironing board thereon for heavy duty use.

In order to collapse said understructure, my shiftable lever is first released into its dotted Fig. 4 position, whereupon the freed brace rod 30 may be gripped to simultaneously draw the front and rear leg structure into their relatively folded Fig. 3 position. In practice, the described sequence of events are readily comprehended by uninitiated housewives and the like users.

Other advantages inherent in my improved locking devices are believed apparent to those skilled in this art, it being understood that the same underlying structural principle may be associated with other than ironing board stands and that modifications in design may be resorted to, all without departing from the spirit and scope of my invention heretofore described and more particularly pointed out in the appended claims.

I claim:

1. A collapsible table or the like adapted to unfold into erected position and which table is provided with a top board, a pair of rear legs alignedly pivoted to the bottom face of said board, a unitary bracket comprising a base plate secured to said face forwardly away from the rear leg pivots and provided with a pair of substantially parallel ear lugs and with stop lip means spaced forwardly from corresponding lug edges to leave an abutment gap therebetween extending in parallelism with the respective rear leg pivots, said plate further having an integral prop projecting forwardly of said gap, a front leg, of which one end is pivoted to said ear lugs, mated rod means pivotally connecting the rear legs to the front leg for coordinated movement, a pair of brace links of which corresponding end regions are respectively pivoted to a different rear leg and the other link end regions are rigidly bridged by a nose portion enterable into the aforesaid gap when the several legs assume erected position, said nose portion when withdrawn from said gap being freely shiftable forwardly and lengthwise of the board face to bring the several legs into folded position, and locking means operatively supported upon the aforesaid plate prop and serving to releasably retain the entered nose portion within said gap.

2. A collapsible table or the like adapted to unfold into erected position and which table is provided with a top board, a pair of rear legs alignedly pivoted to the bottom face of said board, an elongated unitary bracket comprising a base plate secured crosswise to a forward portion of said face and provided with a pair of substantially parallel ear lugs and with a depending marginal stop lip spaced forwardly from corresponding lug edges to leave an abutment gap therebetween in parallelism with the respective rear leg pivots and of which lip a medial contour region projects forwardly of said gap to provide for an exposed arcuate cam edge, said plate further including an integral prop component extending into said medial lip contour, a radially centralized fulcrum pin erected upon said prop, a front leg, of which one end is pivoted to said ear lugs, mated rod means pivotally connecting the rear legs to the front leg for coordinated movement, a pair of brace links of which corresponding end regions are respectively pivoted to a different rear leg and the other link end regions are rigidly bridged by a nose portion enterable into the aforesaid gap when the several legs assume erected position, said nose portion when withdrawn from said gap being freely shiftable forwardly and lengthwise of the board face to bring the several legs into folded position, and a manipulative locking lever mounted to oscillate upon the fulcrum pin and in one extreme of travel arranged to engage said cam edge and positively retain the entered nose portion within said gap.

UDO K. JOHANNSEN.