March 14, 1961 T. RIBAUDO 2,974,431

IRONING BOARD

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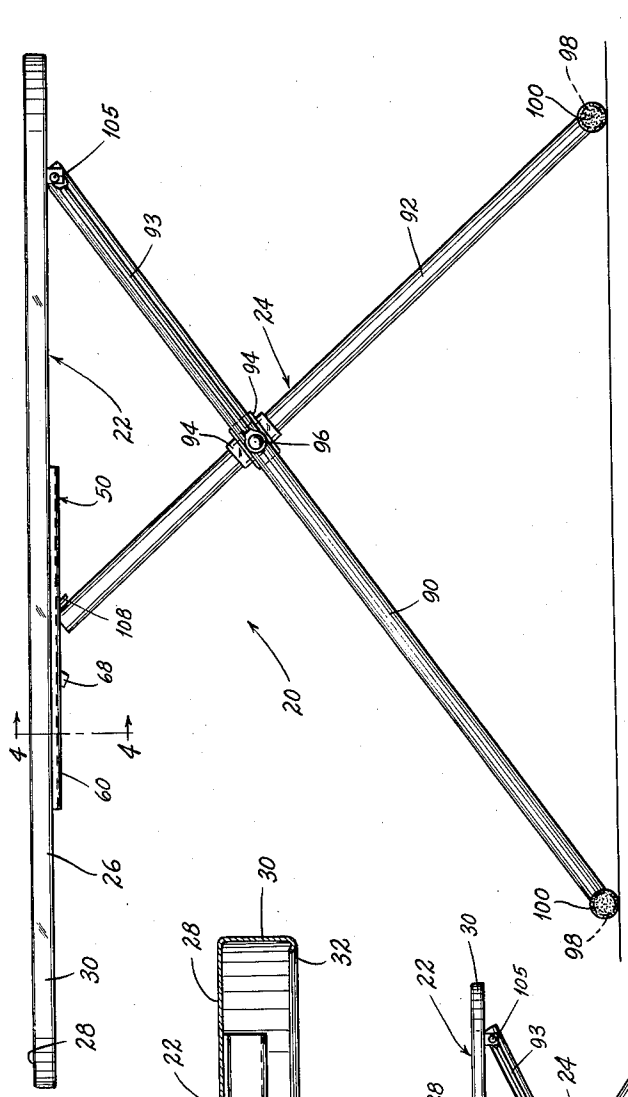


Fig. 1.

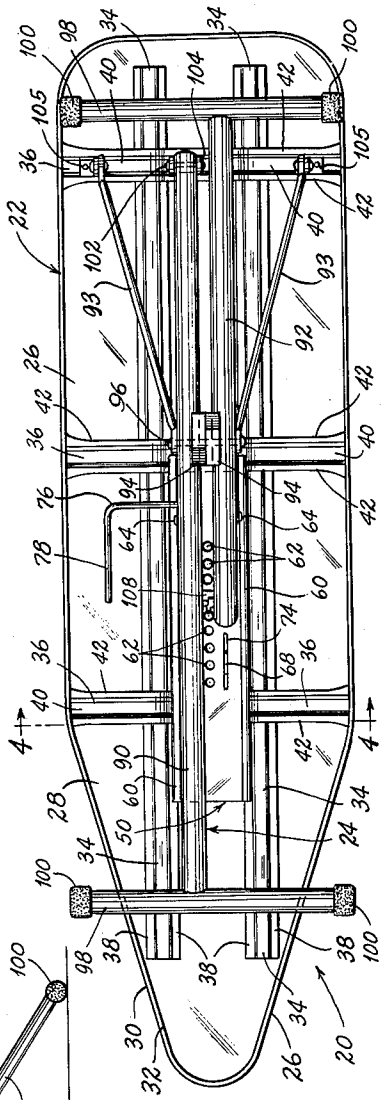


Fig. 2.

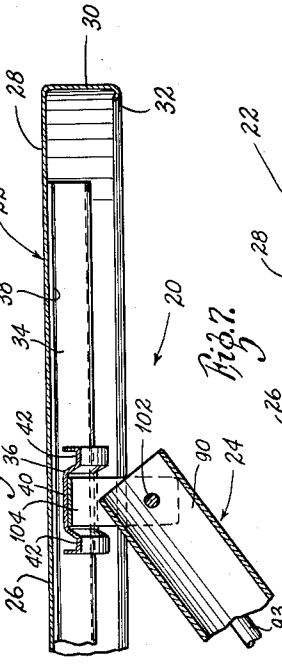


Fig. 5.

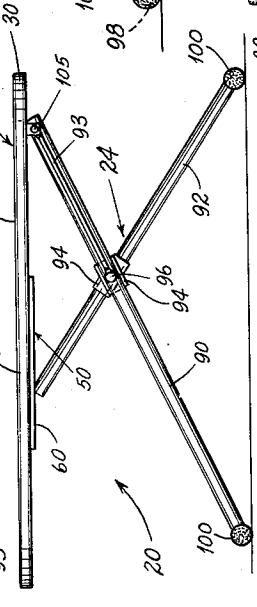


Fig. 3.

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IRONING BOARD

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Fig. 3.

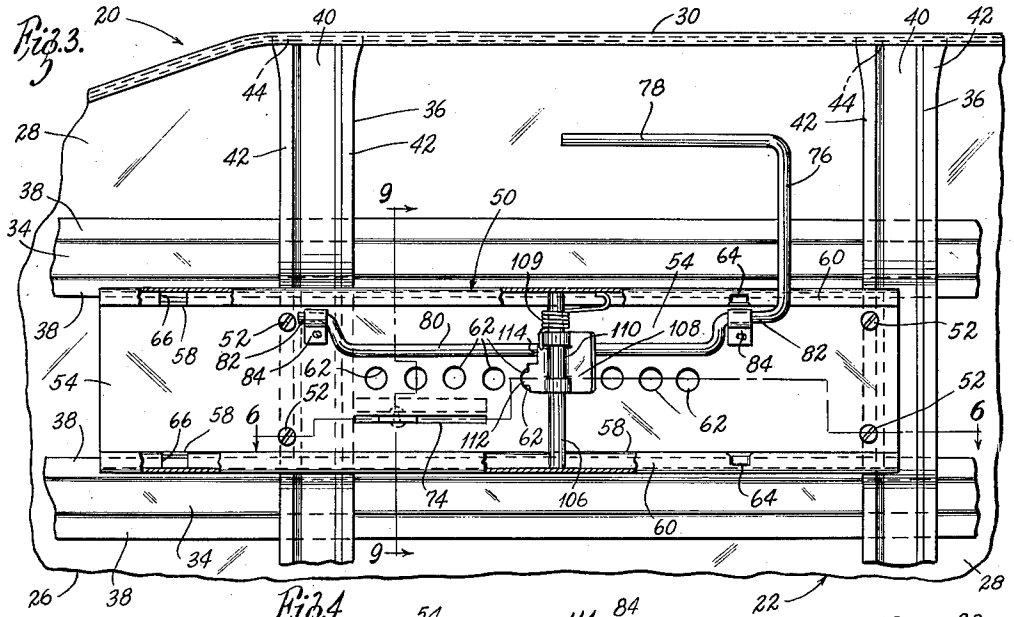


Fig. 4.

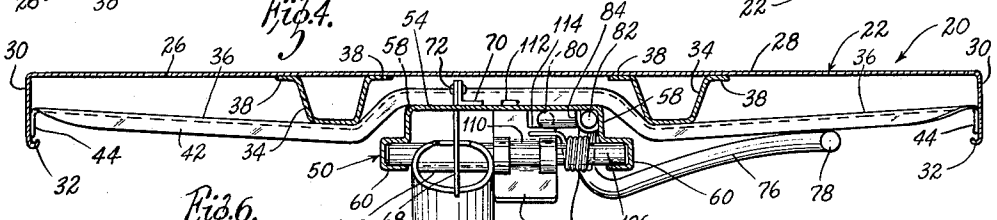


Fig. 6.

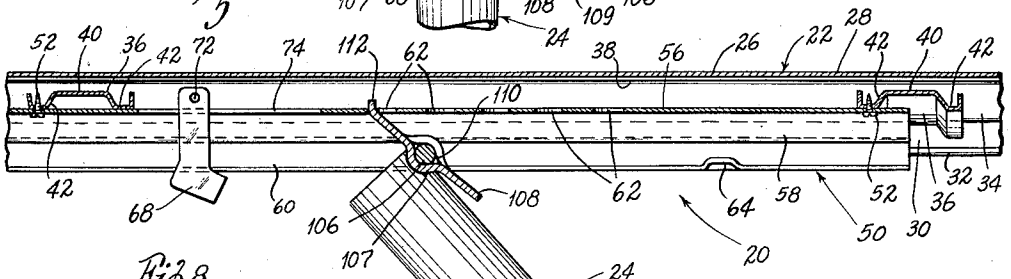


Fig. 8.

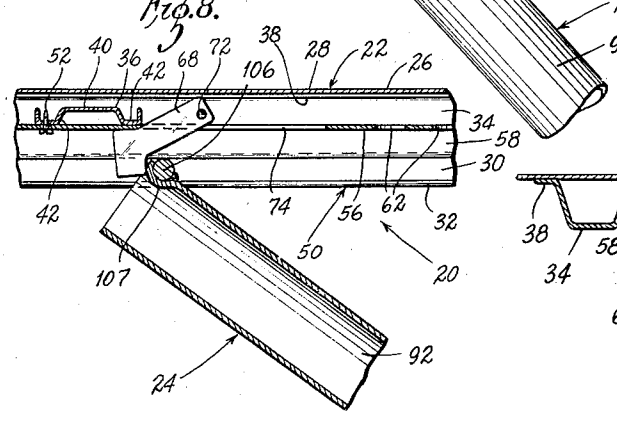
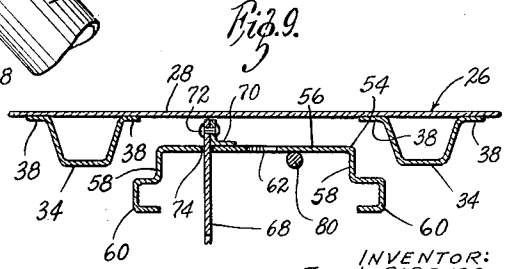


Fig. 9.



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IRONING BOARD

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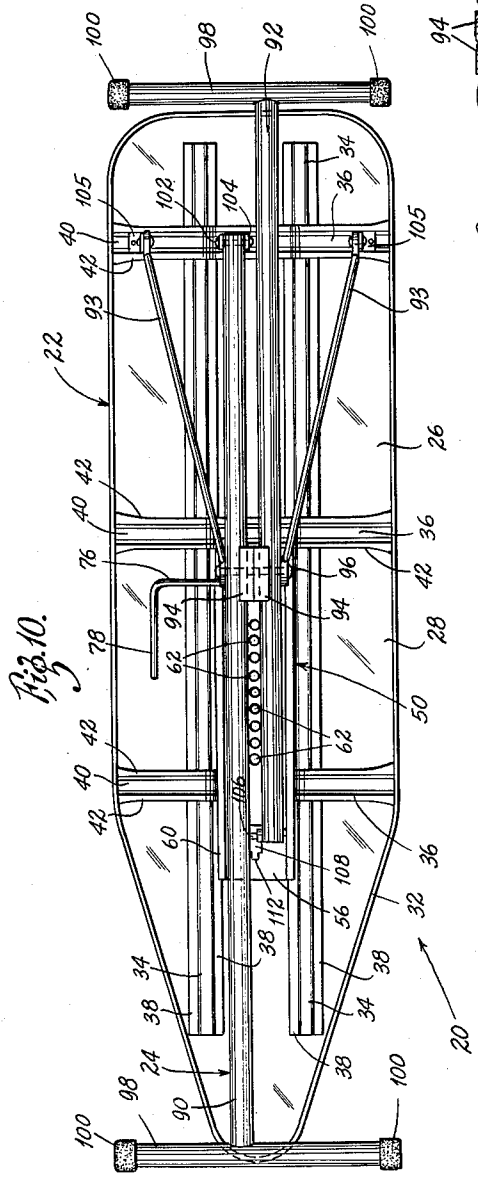


Fig. 10.

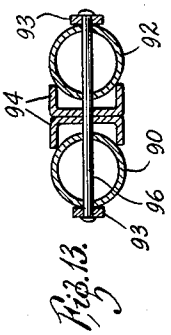


Fig. 13.

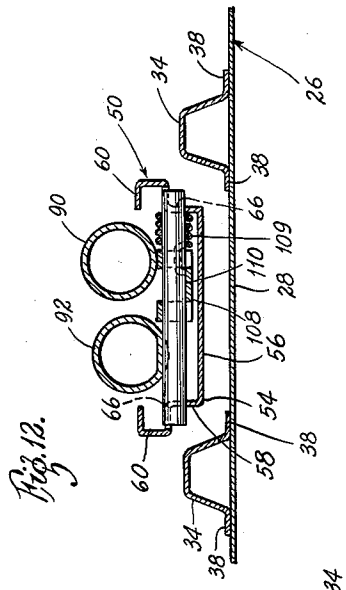


Fig. 12.

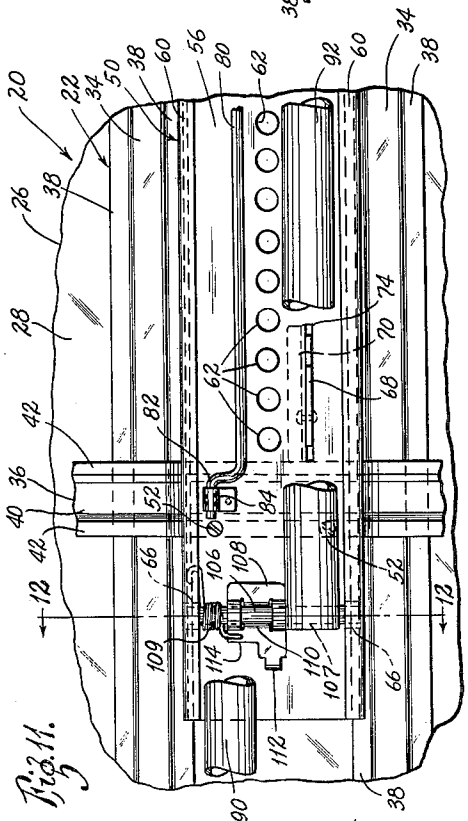


Fig. 11.

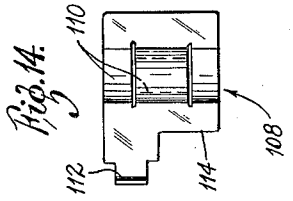


Fig. 14.

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IRONING BOARD

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3 Claims. (Cl. 38—121)

The present invention relates generally to ironing boards, and more particularly to a novel collapsible ironing board construction which provides exceptional rigidity and stability of the work supporting surface, along with adjustability in the height thereof.

Briefly, the invention contemplates an ironing board construction which combines a light, but rigid, ironing platform with fully collapsible supporting structure incorporating means for simple and "fool proof" height adjustment between relatively wide limits. A unique safety lock is provided to prevent inadvertent collapse below a position of predetermined minimum erected height.

It is an object of the invention to provide a novel collapsible ironing board construction which utilizes efficient structural bracing to provide a rigid work supporting platform having relatively light weight.

It is another object of the invention to provide a novel ironing board construction which is collapsible to a compact form for efficient packing and storage.

It is another object of the invention to provide a novel collapsible ironing board which incorporates automatically operable means for locking the same at selected heights.

It is another object of the invention to provide a novel collapsible ironing board which incorporates a safety lock for preventing inadvertent collapse of the supporting legs during the process of normal height adjustment.

The foregoing, along with additional objects and advantages, will be apparent from the following description of a specific embodiment of the invention as illustrated in the accompanying drawings, in which:

Figure 1 is a side elevation of an ironing board conforming to the present invention, the ironing board being shown erected to a medium height;

Figure 2 is a bottom plan view thereof;

Figure 3 is an enlarged fragmentary bottom plan view showing, with added detail, the central portion of the ironing board as illustrated in Figure 2, but with the legs omitted;

Figure 4 is a further enlarged vertical section taken generally on the lines 4—4 of Figures 1 and 2;

Figure 5 is a fragmentary vertical section taken through a fixed leg attachment at one end of the ironing board;

Figure 6 is a fragmentary vertical section taken generally along the line 6—6 of Figure 3;

Figure 7 is a side elevation similar to Figure 1, but drawn to a reduced scale and showing the ironing board erected to a minimum height;

Figure 8 is a fragmentary vertical section similar to Figure 6, but with certain parts in moved positions corresponding to the erected height illustrated in Figure 7; and with the retaining finger removed in order to show a safety locking feature;

Figure 9 is a fragmentary vertical section taken generally along the line 9—9 of Figure 3;

Figure 10 is a bottom plan view similar to Figure 2, but with the ironing board in collapsed condition;

Figure 11 is an enlarged fragmentary bottom plan view showing, with added detail, the central portion of the ironing board as illustrated in Figure 10, the legs being broken away in part for increased clarity of illustration;

Figure 12 is a further enlarged fragmentary vertical section taken generally along the line 12—12 of Figure 11;

Figure 13 is a vertical section showing a pivotal connection between the legs of the ironing board; and

Figure 14 is a top plan view of a removed detent dog.

Referring more particularly to the details of the drawings through mention of the reference characters thereon, an ironing board 20 comprises a platform assembly 22 and a support assembly 24. Each of these major assemblies includes elements which cooperate to retain the ironing board 20 at selected heights to which it may be adjusted. The ironing board 20 has a generally conventional appearance as is evident from the elevational views of Figures 1 and 7 and the plan views of Figures 2 and 10.

Directing attention first to the platform assembly 22, a platform member 26 is formed with a main planar section 28 and a peripheral depending flange 30. The free edge of the flange 30 is preferably returned as indicated at 32 in Figures 4 and 5 so as to provide increased rigidity, as well as a smooth lower edge. Although the platform 26 is preferably formed from a single piece of sheet metal, it may under certain circumstances be fabricated from standard sheet and structural sections. It may, of course, taken any convenient elongated form and is here illustrated as having a general outline which has long been recognized as standard for ironing board constructions.

The platform member 26 is efficiently braced on its underneath side by means of stringers 34 and cross struts 36, arranged as illustrated in Figures 2 and 10. The stringers 34 have U-shaped cross sections with laterally extended longitudinal flanges 38, the latter being disposed flush against the underneath side of the planar section 28 and secured thereto by spot welding or equivalent process. The cross struts 36 are disposed normal to the parallel stringers 34. Figures 5, 6 and 8 show cross sectional view of the struts 36 from which it is evident that a preferred form of these members includes a central web portion 40 flanked by U-shaped channels 42. As best indicated in Figure 4, the U-shaped channels 42 are tapered off near the ends of the struts 36 and the central web section 40 is turned downwardly so as to provide a tab 44 for securement, as by spot welding, to the peripheral bange 30. In addition, Figure 4 shows clearly a preferred lengthwise contour for the cross struts 36 which provides, in addition to an efficient bracing arrangement, a central depression for accommodation of adjustable supporting mechanism to be described.

As has been indicated, the platform assembly 22 is preferably of spot welded fabrication. Thus, the stringers 34 and the struts 36 are first secured together, the web portions 40 of the struts 36 being spot welded to the central webs of the stringers 34. This sub-assembly is disposed in appropriate position relative to the platform member 26, and the stringers 34 are secured by spot welding their flanges 38 to the underneath side of the planar section 28. The downturned flanges 44 are then spot welded to the peripheral flange 30. It will be noted that ready access is had to each of the points to be joined.

An elongated track assembly 50 is disposed longitudinally of the platform assembly 22 and secured to two of the cross struts 36 by means of screws 52, as illustrated

in Figures 3 and 6. The assembly 50 includes a main track member 54 having a cross section, best illustrated in Figure 9, which includes a central web portion 56 and side flange portions 58. The portions 58 terminate in opposed channels 60. A series of apertures 62 are provided on the center line of the web portion 56 as shown in Figure 3. At a point slightly to the rear, or to the right of this series of apertures 62 as illustrated, the lower flanges of the opposed channels 60 are deformed so as to provide deformations 64 in these channels. A side view of a deformation 64 is shown in Figure 6 of the drawing. Near the opposite or forward end of the track member 54, the side flanges 58 have apertures 66 formed therein as illustrated in Figures 3, 11 and 12, the latter figure illustarting the manner in which these apertures 66 are formed partially in the opposed channels 60.

A safety stop 68 of metal plate having an outline form as clearly illustrated in Figures 6 and 8 is pivotally mounted by means of an angle bracket 70 and a rivet 72 (Figures 4 and 9) so as to extend downwardly through an elongated slot 74 formed in the web 56 of the track member 54. It will be noted, incidentally, that the slot 74 terminates adjacent one of the cross struts 36 and that the member 68 is so located relative to this particular strut 36 that it receives support from the latter under a circumstance where it is pivoted to one limit of its movement as illustrated in Figure 8. The slot 74 extends sufficiently far in the opposite direction fully to receive the member 68.

A release member 76 formed from metal rod is formed as illustrated in Figures 3 and 4 to have a handle portion 78 and a release portion 80, the latter being offset between coaxial pivot portions 82. The pivot portions 82 are disposed in strap hinges 84 secured, as by welding, to the web portion 56 of the track 54. As is evident from the illustration, the release portion 80 occupies a normal rest position flush against the web portion 56, but may be lowered therefrom by raising the handle portion 78 toward the planar section 28 of the platform member 26.

The support assembly 24 includes two main struts 90 and 92 pivotally joined to each other centrally of their respective lengths and supported against lateral sway by rod-like braces 93. The pivoted arrangement, illustrated in Figure 13, comprises a pair of comparatively short channels 94 interposed between the members 90 and 92. The channels 94 are disposed with their web sections in slidable abutment, and each cradles one of the members 90 and 92. The braces 93 are disposed outside the members 90 and 92, and a pivot pin 96 extends completely through the thus assembled parts.

Each of the pivoted members 90 and 92 has at its lower end a transversely extending foot member 98. Preferably these members 98 have a length substantially equal to the maximum width of the platform assembly 22. In view of the side by side relationship of the leg members 90 and 92, it will be noted that the welded attachment of these members to the foot members 98 is slightly off center with respect to the latter so as to avoid the projection of the members 98 beyond the maximum width of the platform 26. Preferably, the ends of the foot members 98 are provided with caps 100 of resilient cushioning material, such as rubber.

The upper end of the leg member 90 has a fixed pivot in the form of a pin 102 which extends through the member 90 and through a U-bracket 104 secured, as by welding, to the webbed portion 40 of the rearmost cross strut 36. This pivoted connection is clearly illustrated in Figure 5. The upper ends of the sway braces 93 are pivotally joined to respective angle brackets 105 spaced on opposite sides of the bracket 104.

The upper end of the leg member 92 is provided with a cross rod 106 accommodated in a slight deformation 107 adjacent the end of the member 92 and welded

therein as shown in Figure 8. The rod 106 is dimensioned both as to diameter and as to length to occupy the opposed channels 60 of the track member 54 in a free sliding fit. This relationship is clearly illustrated in Figures 3 and 4. The latter figure also shows that the cross rod 106 is offset with respect to the leg 92 in order to accommodate the off center position of the latter in its pivoted relation to the leg 90. This offset relation between the rod 106 and the member 92 enables a detent dog 108 to be disposed centrally of the rod member 106 for cooperation with the aforementioned apertures 62 formed on the center line of the track member 54.

The detent dog 108 is preferably formed from sheet metal and is provided with a transverse aperture 110 formed by pressing out a central portion of the member 108 as illustrated in Figures 6 and 14. The member 108 has pivotal movement on the cross rod 106 and its upper end terminates in a nib 112 which may be received in any of the aforementioned apertures 62. A torsion spring 109 biases the dog 108 in a direction tending to move the nib 112 upwardly. The dog 108 has an edge portion 114 adjacent the nib extension 112. This portion 114 accommodates and is engageable by the release portion 80 of the release lever 76 to pivot the dog 108 in a direction to withdraw the nib 112 from an aperture 62.

Operation

The ironing board 20, erected for use, will ordinarily be disposed at an intermediate height as illustrated in Figure 1. This height, or others above and below it, may be selected for greatest comfort and convenience of a particular operator by causing the nib 112 of the detent dog 108 to be inserted in an appropriate aperture 62 formed in the track member 54.

In erecting the ironing board 20, it is only necessary for the operator to grasp the platform 26 and hold it in an approximately horizontal position so that the support assembly 24 will drop by gravity to dispose the feet 93 upon the floor. With the platform assembly 22 held in a horizontal position, the detent dog 108 will be biased by the spring 109 in a direction tending to insert the nib 112 into an appropriately positioned aperture 62. Obviously, the first available aperture 62 corresponds to a relatively low position of the platform assembly 22. It is only necessary, however, for the operator to raise the platform 26 bodily in order to cause the rod member 106 to slide in the opposed channels 60 so that the nib 112 will be inserted successively into each of the apertures 62. When, finally, the operator has raised the platform 26 to a suitable height, the nib 112 will remain in the particular aperture 62 which will retain the platform 26 at the desired height. The deformation 64 acts as a stop for the cross rod 106 when the platform 26 is at maximum height.

When it is desired to lower the platform 26, it is only necessary to extend one's fingers beneath the platform 26 to engage the handle portion 78 of the release lever 76. The lifting of the handle portion 78 causes the release portion 80 to be lowered against the edge 114 of the detent dog 108, thereby to disengage the nib 112 from a particular aperture 62. The platform 26 may then be lowered to a point at or below which it is desired to dispose it and the release lever 76 allowed to return to normal rest position, whereupon the nib 112 will be automatically inserted into an appropriate aperture 62. If the platform 26 is not then at the proper height, it may be lifted as previously described.

From Figure 6, it will be observed that the safety latch 68 hangs straight down through the slot 74 when the platform assembly 22 is in the normal horizontal position of use. It is clear then that lowering of the platform 26 cannot actually be inadvertently carried to the point where the platform assembly 22 could be dropped so as to collapse the ironing board 20 completely. This is due to the fact that when the nib 112

of the detent dog **108** has moved past the aperture **62** which corresponds to the lowermost position of the platform **26**, further movement of the cross rod **106** engages the safety latch **68** which is, itself, stopped upon abutment with the end of the slot **74**, as clearly illustrated in Figure 8. This then is a limit position below which the ironing board **20** cannot remain erected. As a matter of fact, a particular procedure is necessary to collapse the ironing board **20** below this lower limit position.

When it is desired fully to collapse the ironing board **20** for purpose of storage or the like, it is only necessary to raise the platform **26** to a substantially vertical position, whereupon the safety latch **68** will swing by gravity toward the lower end of the platform **26** and, being then received in the slot **74**, will permit the cross rod **106** to slide forwardly therepast. With the legs **90** and **92** folded up against the underneath of the platform **26**, the cross rod **106** is in position to enter the aforementioned notches or apertures **66** formed in the flanges **60** of the track member **54**. This condition is illustrated in Figure 12 and enables the legs **90** and **92** to be folded most compactly against the platform assembly **22**.

In its fully collapsed position, it will be noted, from Figure 10, that the foot members **98** are disposed just beyond the ends of the platform assembly **22** so that the ironing board **20** may be rested upon the floor without the platform **26** or its normal padding and covering coming in contact with the floor.

Clearly, there has been provided an ironing board construction which fulfills the objects and advantages sought therefor.

It is to be understood that the foregoing description and the accompanying drawings have been given only by way of illustration and example. It is further to be understood that changes in form of the elements, rearrangement of parts, and the substitution of equivalent elements, all of which will be obvious to those skilled in the art, are contemplated as being within the scope of the present invention, which is limited only by the claims which follow.

What is claimed is:

1. An ironing board construction comprising, in combination, an elongated horizontal platform and foldable means for supporting said platform, said latter means comprising a pair of elongated struts connected centrally of their respective lengths for pivotal movement relative to each other, means connecting one end of each of said struts to said platform, said latter means including a track member secured longitudinally of the platform and retaining a sliding element secured to the end of one of said struts for slidably connecting said one strut to said platform, said track member having a central web portion secured underneath said platform, said web portion being flanked by offsetting flanges terminating in a pair of opposed channel portions in downwardly offset relation to said central web portion, said sliding element having opposite rod-like ends extending transversely beyond its associated strut for sliding engagement with said opposed channels, and a pair of aligned apertures in the aforesaid offsetting flanges for accommodating said rod-like ends of the sliding element when the foldable supporting means is fully folded.

2. The ironing board construction of claim 1 wherein the platform comprises a table-like member having transverse cross bracing members secured therebeneath, said track member being secured to at least two of said cross bracing members, and stop means for preventing inadvertent collapse of the foldable supporting means, said stop means comprising a pivoted lever mounted on said track member adjacent one of said cross bracing members, said track member having a slot therein for accommodating pivotal movement of the lever out of the path of the sliding element when the ironing board is upended, said slot terminating at one end adjacent said one cross bracing member to enable direct support of the lever when the latter is engaged by the sliding element.

3. In an ironing board, a platform comprising an elongated table-like member having a planar upper panel and a depending peripheral flange, structural reinforcing means for said member including a pair of longitudinal transversely spaced stringers secured to the underneath side of said planar upper panel and a plurality of cross struts disposed normal to said stringers and being secured to an underneath surface of the latter so as to be in spaced relation to said panel, said cross struts having their central portions between the stringers offset toward said planar upper panel and having their ends secured to said peripheral flange, each of said cross struts comprising a central web portion flanked by U-shaped channels having bight portions in offset parallel relation to the central web portion, said web portions being disposed closer to the planar platform panel than the bight portions of the U-shaped channels, and collapsible support means secured to the offset central portions of at least two of said cross struts between said stringers, said collapsible support means including an elongated track member having a central web portion secured to the bight portions of said U-shaped channels.

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