

April 14, 1931.

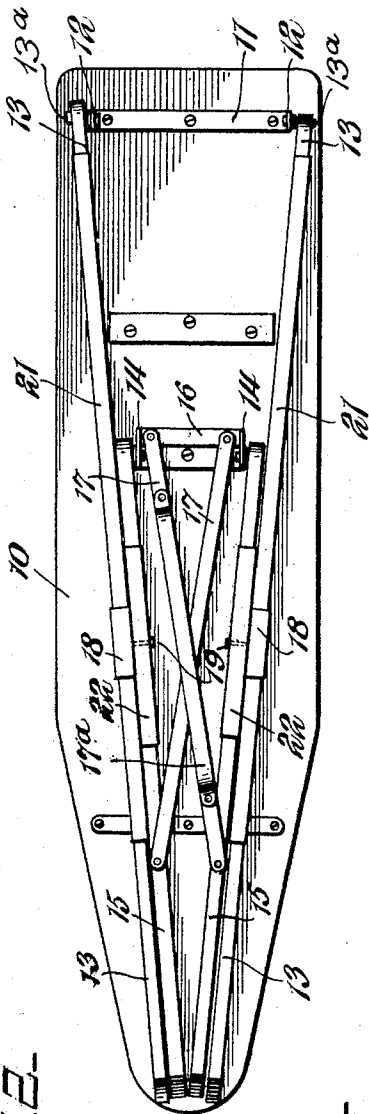
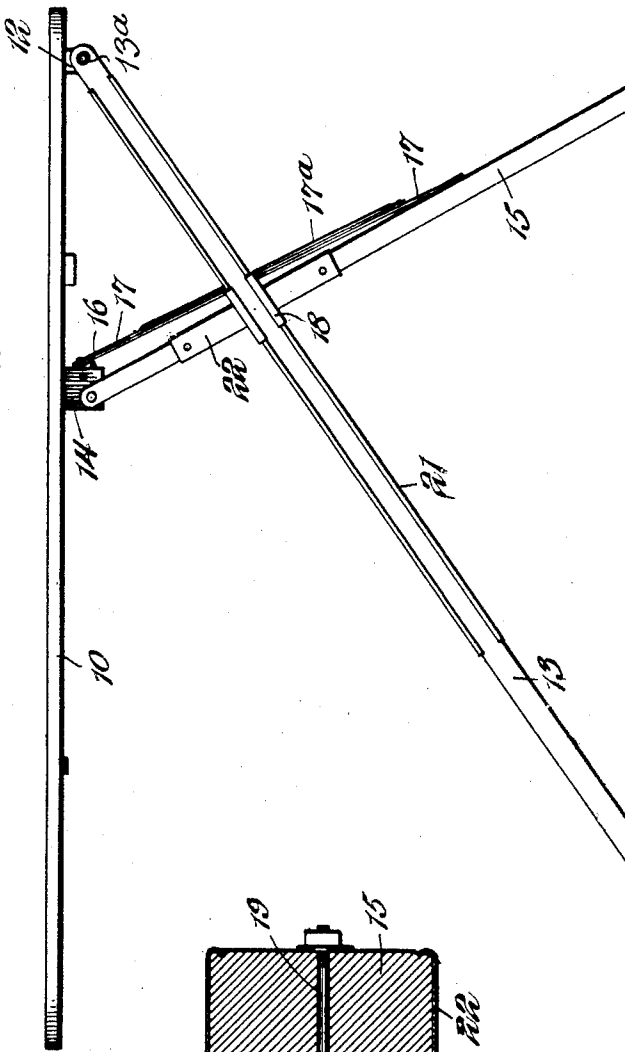
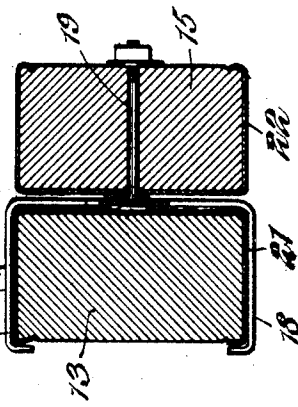
G. W. GOMBER

1,801,151

IRONING BOARD

Filed June 12, 1922

3 Sheets-Sheet 1



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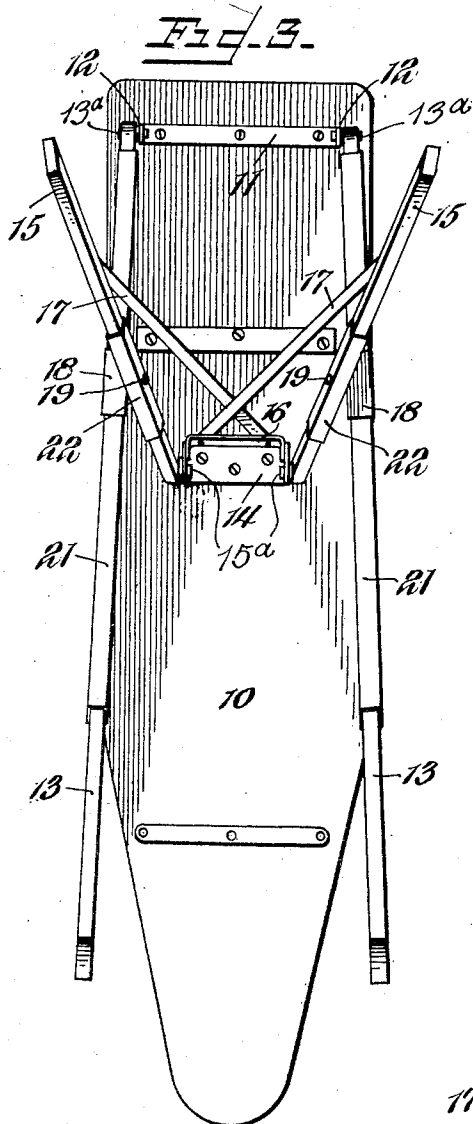
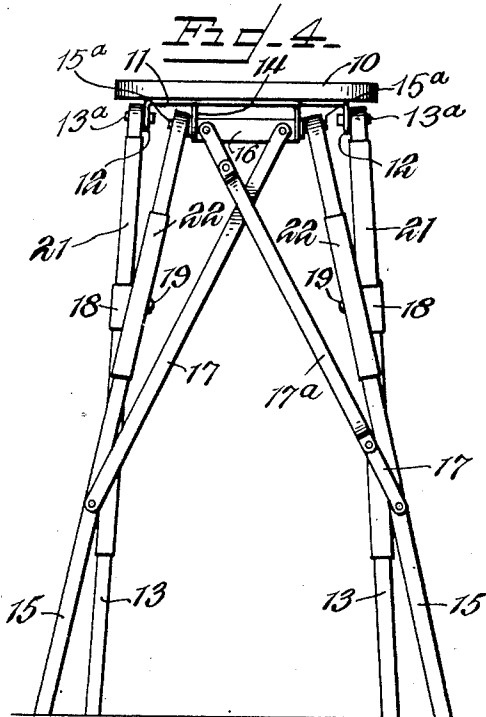
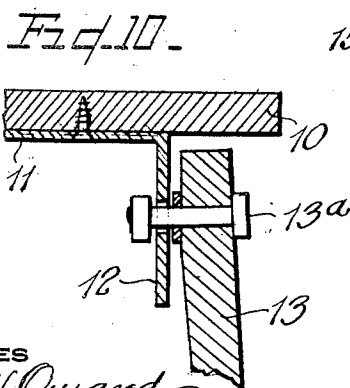
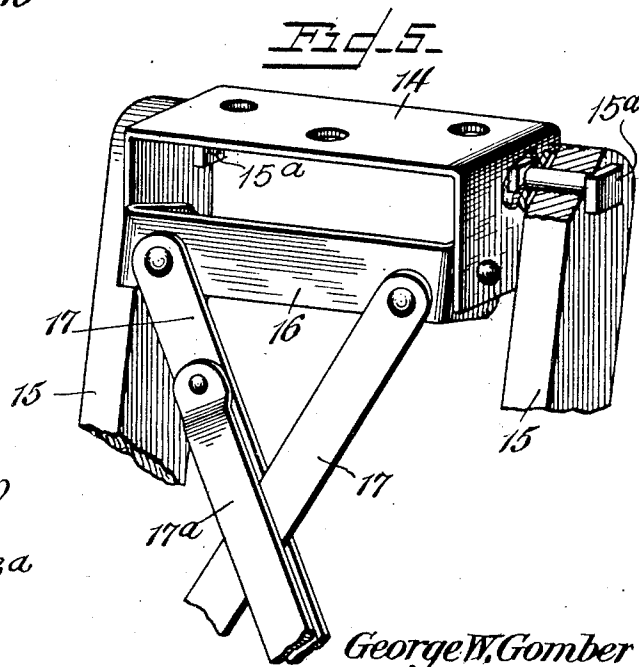
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IRONING BOARD

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3 Sheets-Sheet 2



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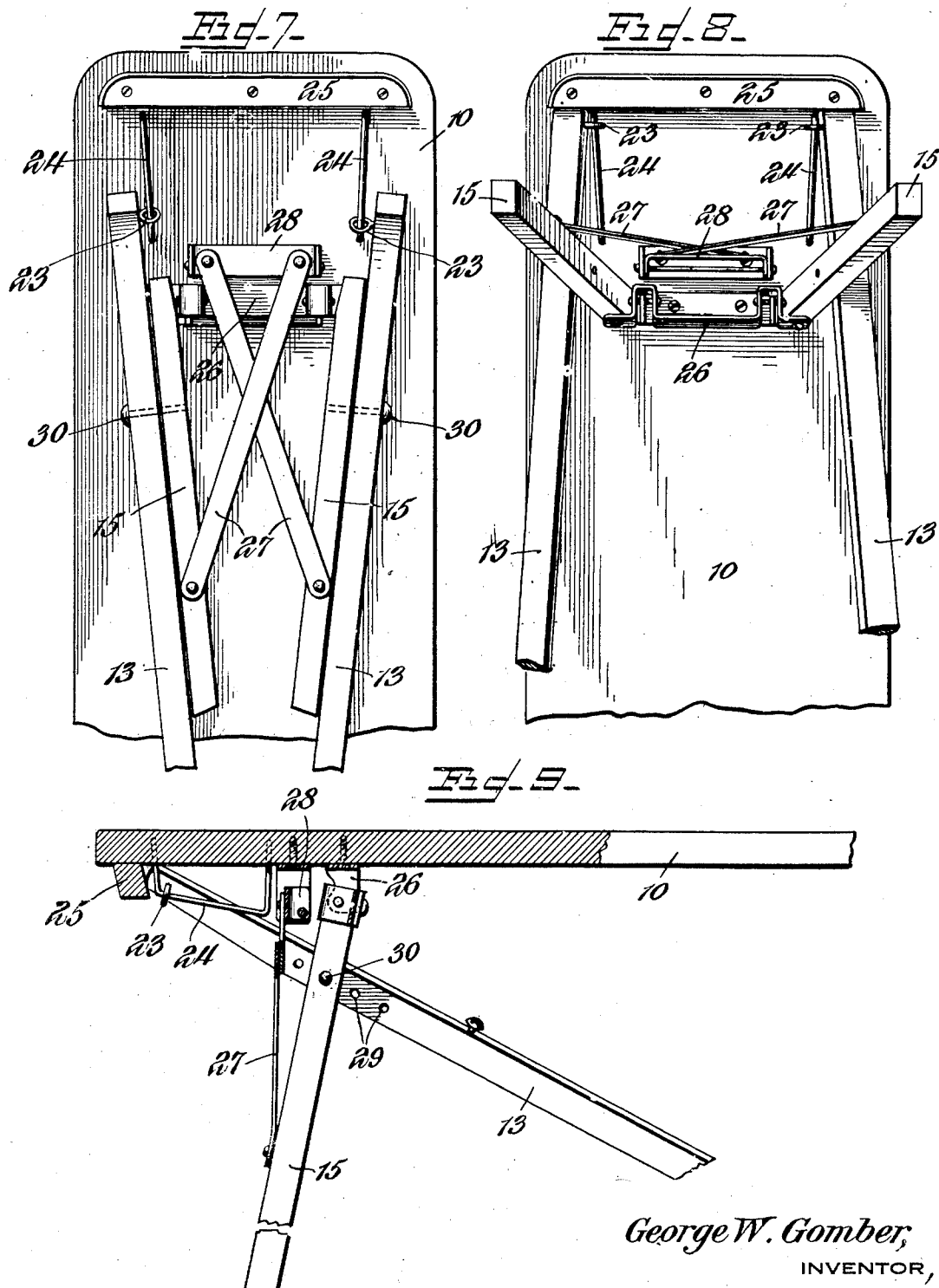
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IRONING BOARD

Filed June 12, 1922

3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE

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IRONING BOARD

Application filed June 12, 1922. Serial No. 567,688.

This invention relates to ironing boards, and one of its objects is to construct an ironing board whose legs will open and close automatically under the influence of gravity alone, when the board is held in the proper positions.

Another object is to provide an unusually stable supporting structure for an ironing board, whereby a laundress may bear down hard on an iron at either end of the board and yet not tip the board over or cause it to wobble.

A further object is to make the supporting legs of the ironing board foldable so as to occupy a minimum of space.

The invention has various other aims and advantages, many of which will be pointed out in the following description of certain illustrative embodiments of the invention.

In the accompanying drawings, wherein are shown for the purposes of illustration only, two of the preferred forms of the invention,

Figure 1 is a side elevation of an ironing board constructed in accordance with the principles of my invention;

Figure 2 is a plan view of the under side of the ironing board showing the legs folded;

Figure 3 is a view similar to Figure 2, showing the legs extended;

Figure 4 is a rear end elevation of the ironing board;

Figure 5 is an enlarged detail perspective view, showing the upper ends of two of the legs;

Figure 6 is a cross section through the sliding connection between two adjacent legs;

Figure 7 is a fragmentary plan view of a modified ironing board construction, with the legs folded;

Figure 8 is a similar view showing the legs extended;

Figure 9 is a fragmentary side elevation of the same ironing board, partly in section;

Figure 10 is an enlarged detail view showing the pivotal connection between the board and one of the outer pair of legs.

Referring more specifically to the drawing, there is shown an ironing board 10 of conventional shape and construction, to the un-

derside of which is secured, near the large end, a metal strap 11 with outturned ends 12 providing supports for a pair of legs 13. Instead of the strap 11, any other convenient form of leg attaching means may be used; but whatever the means employed, the legs 13 should be pivotally supported so as to swing freely in planes more or less longitudinal with respect to the board; and the points of attachment of the legs should be close to the end as well as to the side edges of the ironing board (as shown in Figure 2), so as to prevent the board from tipping when that end is pressed upon. In Figure 10 I have disclosed the particular construction of the pivotal connection between one of the legs 13 and the outturned end of the strap 11. A fixed pivot pin 13a is of a length to loosely connect the two elements to allow the legs to swing longitudinally as well as move to a limited degree transversely.

In the preferred embodiment of the invention, there are two pairs of legs used, and the four legs are so connected that they simultaneously open and close (or fold).

A bracket 14 or similar element firmly secured to the underside of board 10, pivotally supports the second pair of legs 15, as shown in Figures 1 and 5, the pivoted ends of these legs being much closer to each other than are the corresponding ends of legs 13, as seen in Figure 2. The legs 15 are preferably shorter than the legs 13. The bracket 14 may carry a swingably mounted bar or brace hinge 16 (Figure 5), said bar being movable about an axis transverse relatively to the board, but parallel thereto. One of the fixed pivot pins 15a loosely connecting the legs 15 to the ends of the bracket 14, is shown in Fig. 5. These pivot pins are mounted and constructed similarly to the pivot pins 13a of the other legs 13, and provide for the same movements. A pair of crossed links or braces 17 are pivoted at their inner ends on the brace hinge 16 and are also pivotally connected at their outer ends to legs 15. Preferably the length of each of the braces 17 is greater than half the length of legs 15 (Figure 2). One of the braces 17 may be provided with a strap 17a spaced slightly therefrom so as to guide and

hold the other brace thereto and prevent lateral separation of the braces.

The pivotal mounting of the two pairs of legs is loose so that the legs may rock upon the pivotal elements, or at least move at their free ends to a limited extent inwardly and outwardly in a direction transverse of the board. A comparison of Figures 2 and 3 will show the transverse movements of the legs when moved from the folded to the extended position. In the folded position legs 15 lie flat against the underside of the board with their free ends nearly touching (Figure 2), and preferably the length of legs 15 is chosen so that their ends do not extend beyond the end of the board. As the legs 15 are moved away from the board, the links 17 cause the free ends of said legs to spread, and ultimately the ends of legs 15 are farther apart than the ends of legs 13, as Figure 4 clearly shows.

The links 17 in connection with the hinge 16 constitute means connected to the legs for causing the legs to spread and contract when the legs are opened and closed. The pivotal connections of the legs 13 and 15 should be so constructed as to permit the legs to move laterally in order to provide for the spreading and contraction of the legs.

In order to move the four legs simultaneously, a sliding connection is provided joining each leg 13 to the adjacent leg 15. The preferred form of sliding connection is shown best in Figure 6, and consists of two slides 18 each embracing three sides of leg 13, and extending part way around the fourth side. A bolt 19 or the equivalent may be employed for the purpose of securing slide 18 to leg 15 at the proper point, which is shown in the drawings to be nearer the pivoted end of leg 15 than to the opposite end. The bolt 19 holds the slide 18 so that the leg 15 may swing about the bolt as an axis, and the slide move along the leg 13, when the legs are folded or opened. Projecting from the inner sides of legs 13 are stops 20 (Figure 6) which prevent movement of the slides upwardly on legs 13 beyond a certain point.

Because adjacent legs 13 and 15 are connected, and as each leg is movable inwardly and outwardly with respect to the ironing board as well as being swingable about a pivotal element, the folding of inner legs 15 will cause the folding of outer legs 13; and if the parts are proportioned as shown in the drawings, the four legs when folded will lie flat against the board with the lower ends nearly touching and adjacent legs nearly in contact throughout their lengths (Figure 2).

Expressed in other language, the four legs converge toward a common point. In this folded position, the entire lengths of the legs are comprehended within the limits of the ironing board, so that the folded board occupies a minimum of space. The links or

braces 17 are preferably flat so that they do not add to the thickness of the folded board. My invention thus provides an ironing board which will occupy a small space when not in use, a feature advantageous alike to ship-
pers and housewives.

In order to strengthen the legs and prevent wear, a sheathing 21 of metal may partially or wholly encase each leg 13, and a similar sheathing 22 may be provided for legs 15. The sheathings or reinforcements 21, 22 are not at all necessary however.

Figures 7, 8 and 9 illustrate an alternative form of ironing board, wherein the legs 13 are pivoted to the board 10 by a hinge which provides a slidable movement being joined thereto at their upper ends by eye-bolts 23 fast to the legs 13, and slidable on rods 24 secured to the board near one end thereof and extending longitudinally.

As seen in Figure 9, the parts of the rods 24 on which the heads of eye-bolts 23 slide have an inclination relative to the board so that the ends remote from the end of the board are farther from the board than are the other ends. A cross piece 25 may be used as an abutment for the ends of legs 13, as shown in Figures 8 and 9.

To hold the short legs 15 to the board and yet allow spreading and folding, a hinge 26 is provided, the construction of which will be obvious from the drawings. The legs 15 may swing longitudinally of the board and may spread and contract transversely thereof as previously described. Links or braces 27 are pivotally connected at each end to the legs 15 and to the brace hinge 28 mounted on board 10 independently of the leg hinge 26.

This modified construction permits the upper ends of legs 13 to slide relative to the board and hence a sliding connection between adjacent legs 13, 15 is not useful. Instead, the legs 13 have a series of perforations 29 through one of which a pin or bolt 30 passes to join each leg 13 to leg 15. Thus when legs 13 move inwardly, the legs 15 are constrained to follow them.

In both forms of the invention, there is a pivotal connection between the legs and a sliding connection or means for the legs.

The ironing board of Figures 7, 8 and 9 has the same attributes as the previously described board, but is obviously not quite so simple in construction.

The ironing boards as above described have several important advantages over others which have been marketed, one of which is that the legs open and fold automatically under the influence of gravity alone. When a laundress desires to use one of my ironing boards (which is presumably folded as in Figure 2), all that it is necessary to do to extend the legs is to hold the board horizontally with the legs underneath, whereupon

all four of the legs simultaneously descend and at the same time spread out, automatically assuming the position shown in Figures 1, 3 and 4. When the board is no longer needed, the laundress merely raises the board into a vertical position, with the large end uppermost, and the four legs simultaneously close and fold with the greatest rapidity. I believe it to be broadly new to provide a four-legged ironing board whose legs are extended and folded merely by changing the position of the board proper.

The great advantage of the four legs is the largely increased stability. Most ironing boards are supported on three legs, and tilt whenever the laundress bears down hard on an iron, which is a source of great annoyance. Even four-legged boards as ordinarily built will tilt easily. All four of the legs of my ironing board spread outwardly when extended, and the lower ends of all the legs are preferably disposed farther apart than the width of the ironing board. It is preferred that the shorter pair of legs have the greater spread, as seen in Figure 4.

An ironing board constructed as shown in the drawings is almost impossible to tip over; an average sized adult may sit on either end of such a board and it will not tip, nor will it sway when an iron is pressed down hard along the edges of the board.

My invention obviously is not restricted to the illustrative forms shown in the drawing, and I reserve the right to make all changes which come within the scope of the appended claims.

While the invention has been described as an improvement in ironing boards, and this is the special purpose for which the device was made, there are other foldable structures, such as tables, to which the invention may be applied with equal success, and I reserve the right to use the invention for purposes other than ironing boards.

Having described one embodiment of my invention, without limiting myself thereto, what I claim as my invention and desire to secure by Letters Patent is:

1. A board having four legs arranged in pairs, one pair of legs being shorter than the other pair, means for pivotally connecting all of the legs by loose pivots to one face of the board, means for pivotally connecting each of the shorter legs to one of the longer legs, and means separate from the pivots for connecting the shorter legs to the board, whereby to cause said legs to automatically spread outwardly when moving to their open position.

2. A board supported by two pairs of legs, said pairs being independently pivoted to one face of the board at spaced points thereon, means whereby the legs are caused to spread laterally with respect to the board when opened and to contact inwardly when

folded against the board, the legs of one pair being shorter than the legs of the other pair and folding within said other pair, the legs of both pairs having a spread exceeding the width of the board.

3. A board supported by two pairs of legs hinged to one face of the board at spaced points, the legs of one pair being shorter than the legs of the other pair, and the pivots of the shorter pair being closer together transversely of the board than the pivots of the other pair, and means whereby the legs of both pairs when extended have a spread exceeding the width of the board, the shorter legs having a greater spread.

4. A board supported by two pairs of swingably mounted legs, the points of connection of one pair of legs being near one end of the board, the other pair of legs being pivotally connected to the board at an intermediate point thereof and foldable within the first-mentioned pair, means connecting one leg of each pair to the adjacent leg of the other pair whereby the legs simultaneously open and fold, and means whereby the two pairs of legs are caused to spread laterally of the board when opened and contract when the board is closed.

5. A board supported by two pairs of swingably mounted legs, the two pairs being unequal in length, the longer pair being hinged near one end of the board, the shorter pair being hinged at an intermediate point of the board, and means whereby both pairs of legs are spread simultaneously when unfolded and the shorter legs spread farther apart than the longer legs.

6. A board having four legs pivotally mounted in pairs on one face thereof, links connecting the legs of one pair to the board whereby the legs are made to spread when moved away from the board and are caused to contract and are folded together when moved against the board, and means connecting adjacent legs of opposite pairs whereby all four legs move simultaneously.

7. A board having four legs pivotally mounted to swing in pairs, means secured to the legs of one pair and slidable on the legs of the other pair whereby adjacent legs of opposite pairs are movably connected together and are crossed when in open position, and crossed links pivotally connected at their ends to one pair of legs and hingedly mounted upon the board at their other ends whereby all the legs spread when opened or unfolded and are contracted when moved against the board.

8. A board having four legs pivotally mounted upon the same side thereof so as to swing freely in planes longitudinal with respect to the board and so that their free ends may move toward and away from each other when the legs are swung, links mounted to swing with one pair of legs and also connected

to said legs to cause spreading and contracting thereof, and means fast to the same pair of legs and slidable on the other pair whereby all four legs move simultaneously.

5 9. A board having four supporting legs which extend in pairs in opposite directions when opened and which close by swinging in the same direction, means swingable on an axis transverse to the board and parallel thereto, links pivotally connected at spaced
10 points upon said means, said links also being connected pivotally to a pair of the legs, and means connecting said pair of legs with the other pair so that they are in crossed relation
15 with in open position and whereby all the legs close and open together.

10. A board having four supporting legs which extend in pairs in opposite directions when opened and which close by swinging in
20 the same direction, means swingable on an axis transverse to the board and parallel thereto, links pivotally connected at spaced points upon said means, said links also being connected pivotally to a pair of the legs, and
25 means fast upon each of the legs to which the links are connected and slidable along the other legs whereby the adjacent legs of opposite pairs are connected to move simultaneously and are maintained in crossed relation
30 when in open position.

11. A board having four supporting legs, means for pivotally connecting one pair of the legs to one end of the board, means for pivotally connecting the other pair of legs to an
35 intermediate point of the board, means for pivotally and slidably connecting one leg of each pair to the adjacent leg of the other pair, and links each pivotally connected to the board at one end and to the second-mentioned
40 pair of legs at the other end below the connection of the last-mentioned means.

12. A board having four supporting legs, means for pivotally connecting one pair of the legs to one end of the board, means for
45 pivotally connecting the other pair of legs to an intermediate point of the board, means for pivotally and slidably connecting one leg of each pair to the adjacent leg of the other pair, the second-mentioned pair of legs being
50 shorter than the other pair and foldable within the same, and links each pivotally connected to the board at one end and to the second-mentioned pair of legs at the other end, whereby all four legs are foldable as a unit
55 and when opened are caused to assume a spreadout position, with the pair of shorter legs extended farther outward than the other pair.

In testimony, that I claim the foregoing
60 as my own, I have hereto affixed my signature.
GEORGE WINFIELD GOMBER.