

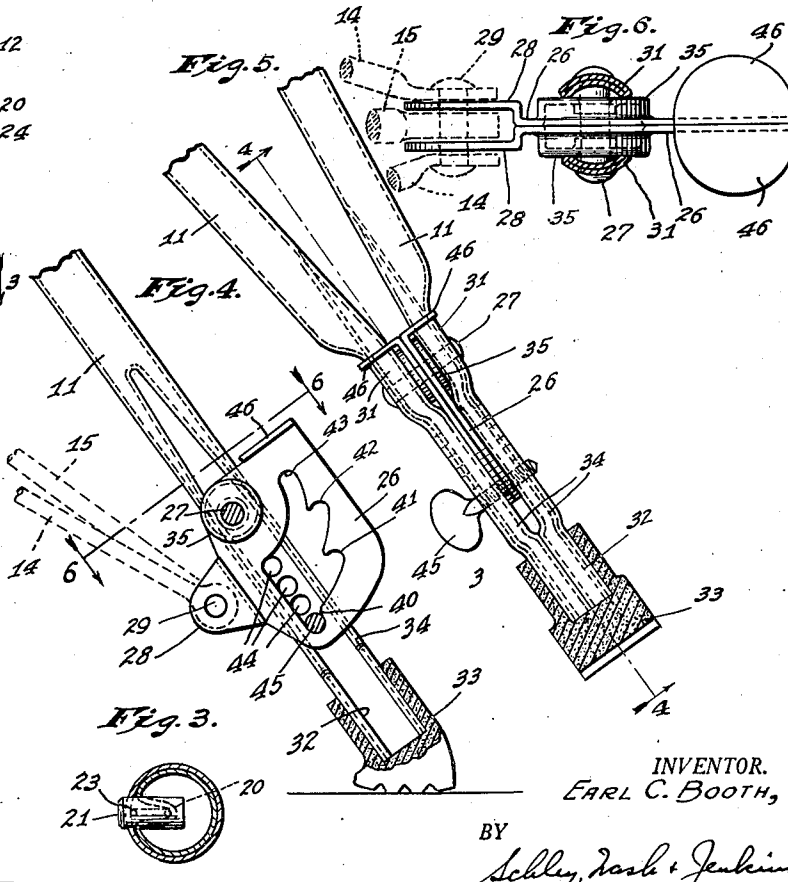
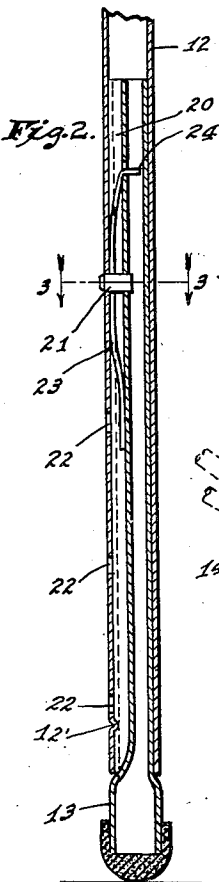
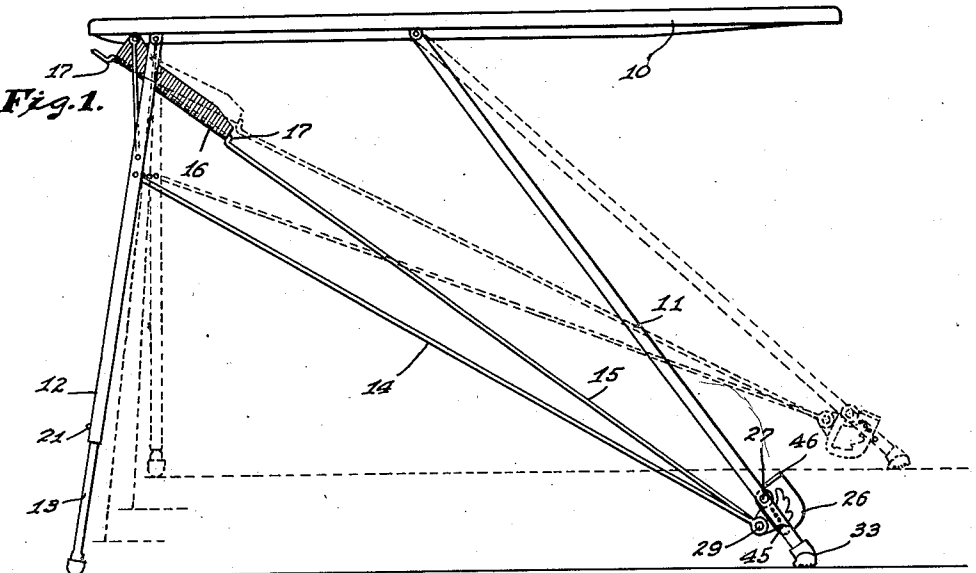
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IRONING BOARD WITH ADJUSTABLE SUPPORTING LEGS

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IRONING BOARD WITH ADJUSTABLE
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This invention relates to collapsible ironing boards, and more particularly to that type of ironing board in which front and rear legs pivoted at spaced points to the ironing-board top are link-connected and held in extended position by means of a brace extending obliquely from the lower end of one leg, usually the front leg, to a point adjacent the ironing-board top. It is the object of my invention to construct an ironing board of this type which can be adjusted to vary the height of the top when the legs are extended. A further object of the invention is to produce a height-varying means which can be simply and economically manufactured and which will not interfere with or decrease the rigidity of the ironing board when the legs are in extended condition.

In carrying out the invention in its preferred form, I provide for the ironing-board top a support comprising a pair of rear legs and a single front leg, the rear legs being pivoted to the top near the rear end and the front leg being pivoted to the top near the longitudinal middle thereof. Links extending from a point near the lower end of the front leg to intermediate points on the rear legs interconnect the legs adjacent the top and extended positions in which the rear legs lie approximately vertical and the front leg extends obliquely forwardly and downwardly. A brace pivotally connected to the front leg near the lower end thereof extends upwardly and rearwardly to a point adjacent the rear end of the top, where a latch mechanism is provided for locking the brace in a position which will result in holding the legs in extended condition. For the purpose of adjusting the height of the top, the rear legs are made extensible, being conveniently formed of telescoping sections; and the brace is connected to the front leg through an adjustable compensating member which can be adjusted to vary the inclination of the front leg when the brace-latch is engaged. Conveniently, this compensating member is in the form of a pivoted plate and has associated with it means for holding it definitely in any of a plurality of positions of adjustment.

The accompanying drawing illustrates the invention: Fig. 1 is a side elevation of the board with the legs in extended condition; Fig. 2 is a fragmental section through a telescoping rear leg; Fig. 3 is a transverse section on the line 3—3 of Fig. 2; Fig. 4 is a fragmental vertical section on the line 4—4 through the lower end of the front leg; Fig. 5 is a plan view of the lower end of the front leg; and Fig. 6 is a transverse section on the line 6—6 of Fig. 4.

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The ironing board shown in the drawing comprises a top 10 to which front and rear legs are pivoted. The front leg is desirably, in effect, a single leg comprised of two tubular members 11 rigidly interconnected and pivoted to the top 10 on a horizontal transverse axis near the longitudinal middle of the top. Each rear leg is composed of outer and inner telescoping sections 12 and 13, the former of which is pivoted to the top 10 near a rear corner thereof. Links 14 interconnect the lower end of the front leg 11 with intermediate points on the upper sections 12 of the rear legs. A brace 15 extends from the lower end of the front leg 11 to a point adjacent the rear end of the top 10 where it is slidably received in a pivoted latch member 16. The brace 15 has spaced shoulders 17 which, by engagement with the ends of the latch member 16, lock the front leg 11 in extended position. Except for the telescoping character of the rear legs and for some details of the front leg to be hereinafter set forth, the ironing board as so far described is substantially identical with that set forth in my prior application Serial No. 646,367, filed February 8, 1946, now Patent No. 2,471,059, dated May 24, 1949.

The two telescoping sections 12 and 13 of each rear leg are conveniently formed of two pieces of metal tubing of the same diameter, the inner or lower section 13 being deformed to provide an inwardly projecting, longitudinally extending rib 20, the presence of which permits the balance of the tube to be reduced in diameter so that it may slide freely within the outer tube 12. At an intermediate point the rib 20 is provided with a transverse hole which slidably receives a lock pin 21 adapted to be received in any of a plurality of holes 22 in the outer leg-section 12. A transverse hole in the lock pin 21 receives a wire spring 23 which urges the lock pin outwardly so that it will automatically enter any of the holes 22 with which it comes into alignment. The wire spring 23 may be held in position longitudinally of the leg by providing it at one end with a bent portion 24 received in an appropriately located opening in the bottom of the rib 20. The outer end of the pin 21 is desirably beveled so as to facilitate both its entry into and its displacement from any of the holes 22. It will be obvious that by forcing the lock pin 21 inwardly and applying a longitudinal effort to the lower leg section 13 such lower leg section can be moved longitudinally of the upper section 12 to bring the pin 21 into alignment with any of the holes 22 and thus adjust the rear leg to any of a plurality of different lengths. An in-

ward projection 12' provided after assembly on the leg-section 12 to engage the pin 21 may be employed to prevent complete separation of the two leg-sections.

To hold the front leg 11 in any of a plurality of different extended positions, the link 15 is not directly connected to its lower end but instead is connected to an adjustable compensator 26 which is adjustably connected to the lower end of the front leg 11 and has associated with it means by which it can be located in any of a plurality of different positions. Such compensator is conveniently in the form of a pair of opposed sheet-metal stampings which are pivoted to the front leg 11 by a pivot pin or rivet 27 and which are provided respectively with ears 28 between which the lower end of the link 15 is received. A pivot pin or a rivet 29 extending through the ears 28 and through a transverse hole in the lower end of the link 15 serves to interconnect such link with the compensator 26.

The front leg members 11 are desirably formed of metal tubing and have their lower ends collapsed and bent into a generally arcuate cross-section, as indicated at 31 in Fig. 6. At their extremities 32, the collapsed portions 31 are complementary to each other and are welded together to form in effect a continuous tube of double wall-thickness received in a cylindrical recess in a foot 33 of rubber or equivalent material. Above the extremities 32, the collapsed tube-portions are separated from each other, as indicated at 34, to provide for the reception between them of the two stampings 26. Above the portions 34, the collapsed tube-portions 31 are further separated to receive between them opposed circular bosses 35 on the compensator 26. As will be clear from Fig. 6, the bosses 35 have a diameter materially greater than the width of the tube-portions 31 so as to provide a satisfactory bearing as the compensator 26 swings about the pin 27.

The compensator 26 is formed with a central opening so shaped as to provide a plurality of shoulders 40, 41, 42, and 43 angularly spaced from each other about the axis of the pivot pin 27 and located at different distances from the axis of such pin. The leg portions 34 are provided with a series of aligned holes 44 which are located at distances from the axis of the pivot pin 27 corresponding to the respective distances at which the shoulders 40, 41, 42, and 43 are spaced from the pin-axis. A thumb screw 45 may be inserted in any pair of aligned holes 44 to provide an abutment against which one or another of the shoulders can engage to limit swinging movement of the compensator 26 about the axis of the pin 27 in a clockwise direction (Fig. 4). To prevent complete collapse of the board should it be erected without the screw 45 in place, the compensator may be provided with ears 46 adapted by engagement with the front leg to limit clockwise swinging of the compensator.

It will be obvious from the construction as so far described that the position of the compensator 26 will determine the inclination of the front leg 11 when the shoulders 17 on the brace 15 engage the latch member 16. With the ironing board extended, the upward reaction of the floor on the foot 33 tends to cause the compensator 26 to swing in a clockwise direction about the axis of the pivot pin 27, such swinging movement being limited by engagement of the thumb screw 45 with one or another of the shoulders 40 to 43 inclusive. If the screw 45 is in the lowermost pair of holes 44, it engages the shoulder 40, and thus limits

swinging movement of the compensator 26 to the position illustrated in Fig. 4 and in full lines in Fig. 1. This condition of the compensator 26 corresponds to maximum elevation of the ironing-board top. If it is desired to lower the top a slight distance, the thumb screw 45 is placed in the second pair of openings 44, where it permits the compensator 26 to swing in a clockwise direction about the pin 47 until the shoulder 41 engages the screw. Still lower positions of the top 10 can be obtained by moving the screw 45 progressively upwardly in the leg 11. When the screw 45 is in the uppermost pair of holes 44, the compensator 26 can swing until the shoulder 43 engages the screw, which condition is illustrated in dotted lines in Fig. 1.

It will be obvious that because of the connection provided by the links 14 between the front and rear legs a change in the position of the front leg would ordinarily involve a change in the position of the rear legs. To prevent this change in rear-leg position from becoming objectionably great, the structure may be so arranged that the effective length of the links 14 will increase as the front leg 11 moves upwardly toward the top 10. This result is readily effected by connecting the links 14 to the compensator 26, conveniently by the same pivot pin 29 which is employed in interconnecting the compensator and the brace 15. In the particular arrangement shown in the drawing, the compensation provided by swinging movement of the compensator 26 is inadequate to completely compensate for changes in the position of the leg 11; but it will be obvious from Fig. 1 that the compensation provided is great enough to prevent the rear legs from assuming too great an inclination when the front leg is adjusted to lower the top 10.

When the front leg is moved to collapsed position, the position of the rear legs will depend upon the effective length of the links 14. With the compensator in the position illustrated in Fig. 4 and in full lines in Fig. 1, the length of the actual links 14 is such as to bring the rear legs closely adjacent the lower surface of the top 10 when the front leg 11 is swung against such top. The clockwise edge of the large central opening in the compensator 26 is so disposed as to permit the compensator to assume the position shown in Fig. 4 irrespective of the position of the thumb screw 45. As a result, the rear legs can be moved with the front leg against the bottom of the top 10 irrespective of the position of the thumb screw 45. The lost motion which results from this arrangement is immaterial; because, as previously noted, the upward reaction of the floor on the foot 33 tends to swing the compensator 26 in a clockwise direction about the axis of the pin 27, with the result that when the ironing board is erected one or another of the shoulders 40, 41, 42, or 43 will be seated firmly against the thumb screw 45.

It will be understood, of course, that the angular dispositions of the shoulders 40, 41, 42, and 43 of the compensator 26 will be co-ordinated with the spacing of the holes 22 in the upper sections 12 of the rear legs so that the top 10 can always be brought to a horizontal position in any condition of leg-adjustment.

When the ironing board is collapsed, the upper end of the brace 15 lies within the latch member 16 and the front and rear legs are disposed against the lower surface of the ironing-board top 10. To extend the legs, they are swung away from the top, thus causing the upper end of the brace 15 to slide rearwardly in the latch member 16 until

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the shoulders 17 come into alignment with the ends of the latch member, whereupon the brace 15 drops downwardly permitting the shoulders 17 to engage and thus lock the legs in extended condition. To collapse the board the upper end of the brace 15 is swung upwardly until the shoulders 17 clear the latch member 16, whereupon the legs can be swung against the top 10. To change the elevation of the top, it is necessary only to insert the thumb screw 45 into the proper hole 44 and to adjust the lower rear-leg sections 13 to the proper length.

I claim as my invention:

1. In a collapsible ironing board, a top, rear legs pivoted to said top near the rear end thereof and swingable between a collapsed position close to the top and an extended position generally perpendicular to the top, a front leg pivoted to the top at an intermediate point and swingable between a collapsed position adjacent the top and an extended position in which it is inclined forwardly and downwardly, each of said rear legs comprising two members relatively adjustable to vary the length of the leg, a compensator pivoted to said front leg near the free end thereof, links connecting said compensator to the rear legs, a brace connected to said compensator and extending therefrom to a point adjacent the rear end of the top, releasable latch means co-operating with said brace to hold the front leg in extended position, and adjustable means acting between said front leg and compensator to limit movement of the compensator about its axis of pivotal mounting on the front leg.

2. In a collapsible ironing board, a top, rear legs pivoted to said top near the rear end thereof and swingable between a collapsed position close to the top and an extended position generally perpendicular to the top, a front leg pivoted to the top at an intermediate point and swingable between a collapsed position adjacent the top and an extended position in which it is inclined forwardly and downwardly, links connecting the front and rear legs for joint swinging movement, each of said rear legs comprising two members relatively adjustable to vary the length of the leg, a compensator pivoted to said front leg near the free end thereof, a brace connected to said compensator and extending therefrom to a point adjacent the rear end of the top, releasable latch means co-operating with said brace to hold the front leg in extended position, and adjustable means acting between said front leg and compensator to limit movement of the compensator about its axis of pivotal mounting on the front leg.

3. In a collapsible ironing board, a top, rear

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legs pivoted to said top near the rear end thereof and swingable between a collapsed position close to the top and an extended position generally perpendicular to the top, a front leg pivoted to the top at an intermediate point and swingable between a collapsed position adjacent the top and an extended position in which it is inclined forwardly and downwardly, each of said rear legs comprising two members relatively adjustable to vary the length of the leg, links interconnecting the front and rear legs for joint swinging movement, a brace connected to said front leg and extending therefrom to a point adjacent the rear end of said top, releasable latch means co-operating with said brace to hold the front leg in extended position, and common means for varying the effective lengths of said brace and links.

4. In a collapsible ironing board, a top, rear legs pivoted to said top near the rear end thereof and swingable between a collapsed position close to the top and an extended position generally perpendicular to the top, a front leg pivoted to the top at an intermediate point and swingable between a collapsed position adjacent the top and an extended position in which it is inclined forwardly and downwardly, each of said rear legs comprising two members relatively adjustable to vary the length of the leg, links interconnecting the front and rear legs for joint swinging movement, a brace connected to said front leg and extending therefrom to a point adjacent the rear end of said top, releasable latch means co-operating with said brace to hold the front leg in extended position, and means for varying the effective length of said brace.

5. The invention set forth in claim 2 with the addition that said compensator is provided with a plurality of shoulders spaced from each other both angularly and radially with reference to the axis of pivotal mounting of the compensator, and a shoulder-engaging abutment selectively positionable on the front leg in any of a plurality of different positions at distances from such axis respectively corresponding to the radial disposition of said shoulders.

EARL C. BOOTH.

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