

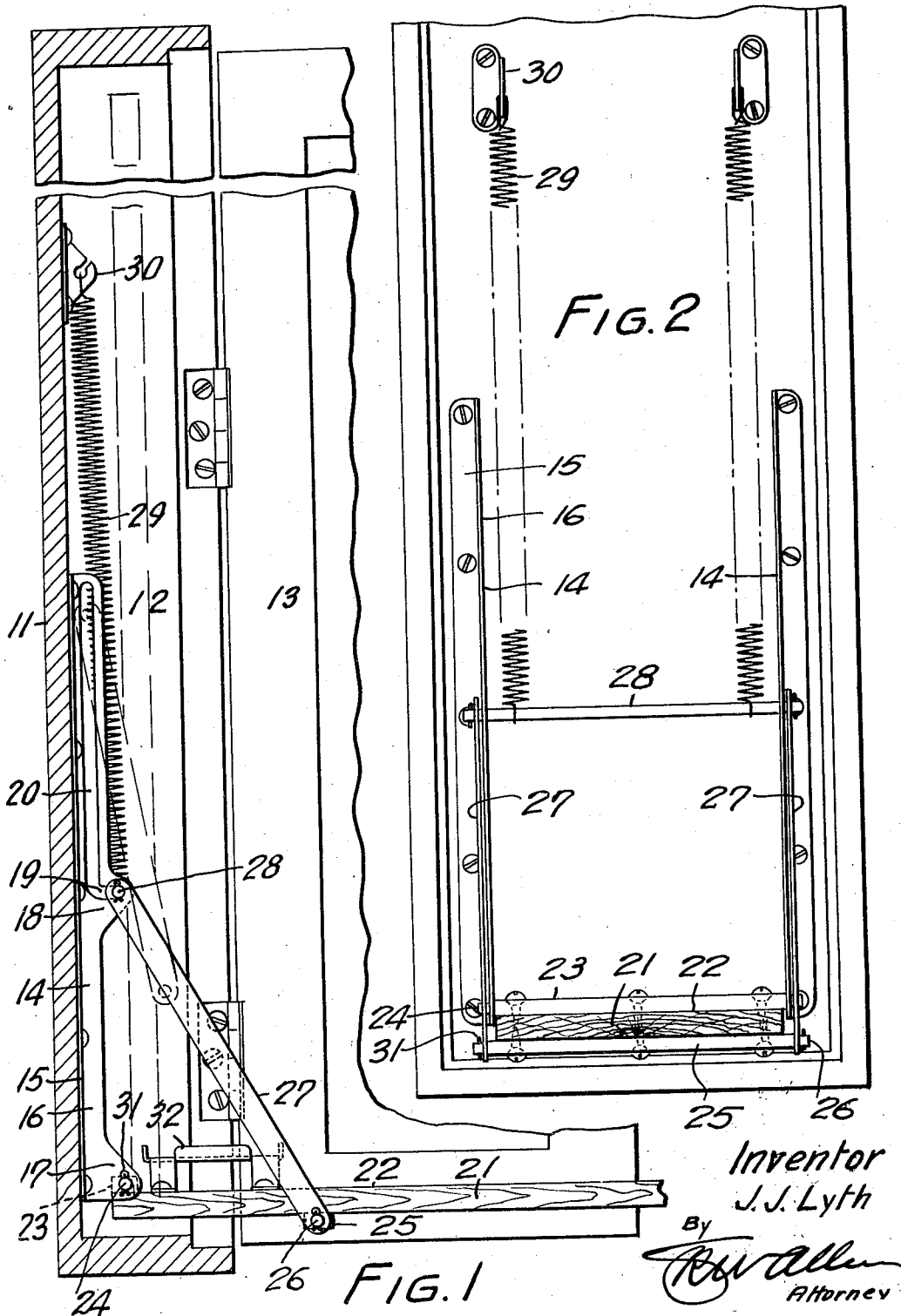
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J. J. LYTH

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FOLDING IRONING BOARD, TABLE, SEAT, AND THE LIKE

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JOHN J. LYTH, OF VALLEYFIELD, QUEBEC, CANADA

FOLDING IRONING BOARD, TABLE, SEAT, AND THE LIKE

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This invention relates to improvements in ironing boards, shelves, tables, seats, bunks and other articles which are normally used in horizontal position and the primary object of the invention is to provide means for swingingly supporting such articles (hereinafter all included in the generic term "swinging member") without the use of legs extending to the floor and in such manner that they may be moved to and releasably retained in an inoperative vertical position preferably within a cabinet. Subsidiary objects are the provision of:—springs to largely or wholly support the weight of the swinging members during movement to and from operative position and to hold the swinging members in inoperative position; means to releasably lock the swinging members in operative position against the action of the springs; and supporting means arranged to directly support the swinging members without reliance upon fastening means. Various other objects and the advantages of the invention may be ascertained from the following description, which discloses the invention as applied to or embodied in a cabinet ironing board.

Briefly, the invention resides in providing an ironing board or other swinging member as aforesaid hinged at one end to the lower part of the back of a cabinet or other suitable vertically disposed base and pivotally connected adjacent the hinged end to the lower ends of links, the upper ends of which are connected by a yoke running in guides secured to the cabinet back and connected to one or more springs arranged to assist in lifting the board or other swinging member into the cabinet.

In the accompanying drawings which illustrate the embodiment of the invention in an ironing board but to which embodiment or to the details of which the invention is not confined:—

Fig. 1 is a side elevation of the ironing board in operative position, one side of the cabinet being cut away to expose the board supporting means and the cabinet door being open.

Fig. 2 is a front elevation of the cabinet

with the door removed and the ironing board in operative position.

Referring more particularly to the drawings, 11 designates a suitably proportioned base, which may be a simple board but is preferably the back of a shallow cabinet 12 having a door 13. The base is designed to be rigidly secured flatwise and in upright position to a wall either as a removable attachment or as a built-in portion of the wall.

A pair of guides 14, exactly similar except that they are right and left hand, are disposed in substantial parallelism and firmly secured to the base near the vertical edges thereof. The guides are preferably each formed with two flanges 15 and 16 arranged at right angles, the flanges 15 being secured to the base and the flanges 16 being provided at their lower ends and at intermediate points with apertured projections 17 and 18 respectively. The apertures of the lower projections are circular as shown, while the apertures of the upper projections are slots 19 arranged substantially horizontally. The upper part of each guide flange 16 is provided with a longitudinal slot 20 which, at its lower end, opens into the slot 19.

An ironing board 21 of suitable shape and of a width to pass easily between the guides 14 is provided on its upper surface 22 at one end with a transversely disposed cross piece or batten 23 attached thereto and terminating in trunnion portions 24 journaled in the apertures of the guide projections 17. A short distance from the batten 23 the board is provided on its lower surface with a similar batten 25 terminating in trunnions 26.

A pair of links 27 are provided, one on each side of the board, preferably outside the guide flanges 16, and are pivotally mounted at their lower ends on the trunnions 26 of the batten 25. The upper ends of the links are pivotally mounted on the ends of a rod 28 which passes through the slots of both guides and is freely slidable therein, from the upper ends to the outer ends of the slots 19 and vice versa. This member 28, or any equivalent thereof, serves to transmit to the supports load imposed in the links by the

weight of the board and any downward pressure thereon. One or more helical springs 29 of suitable length are connected in tension between the links 27 and anchorages 30, preferably through the medium of the rod 28. The anchorages are of any suitable form and are attached to the base a suitable distance above the guides. These anchorages are preferably in the nature of hooks with flanges of appreciable area for abutment against the base 11, as shown.

The ends of the trunnions and rod 28 may be provided with any suitable fastening means, such as cotter pins 31, to maintain them in operative relation with the other elements of the structure.

When not in use, the ironing board lies close to the base as shown in broken lines, Figure 1, and is held in this position by the springs operating through the rod 28, links 27 and batten 25. It will be noted that in this position the board supporting trunnions 24 and the spring anchorages 30 lie in a plane between the board and base, while the trunnions 26, to which the springs are connected, lie on opposite or outer sides of the board, so that the board tends to lean at its upper end against the base and in position to be retained upright by the action of gravity. Very little spring tension is required to hold the board against accidental displacement.

An iron stand 32 of suitable form may be secured to the upper surface of the board between the battens 23 and 25. The clothing of the board will extend from the free end approximately to the batten 25.

When the board is to be used, it is moved manually from the upright position to the horizontal position illustrated in full lines. Downward movement of the board is communicated through the links to the rod 28, thereby elongating and tensioning the springs. In the final part of the downward movement, the links draw the rod 28 outwardly through the slots 19, which act to lock the rod, links and board against being drawn upwardly by the springs.

To return the board to vertical position, upward movement is manually initiated so that the links drive the rod back through the slots 19 into the slots 20, whereupon the springs lift or assist in lifting the board.

Preferably the springs are of such length that they are almost relaxed when the board is folded up, thereby rendering initiation of the downward movement very easy and of such strength that the tension increase due to elongation is equal to or slightly greater than the load increase due to the outward swing of the board. Under these conditions the board will not fall and equally will not slam up when the upward movement has been initiated. Any departure, within reason, from the preferred conditions entails

only effort to move or restrain movement of the board.

When in use the board is supported entirely from one end, leaving the opposite end free for passage thereover of tubular articles. When the board is loaded beyond the batten 25, it presses down on the batten 25 which is beneath it and upwardly on the batten 23 which is above it, so that the load is received and sustained directly by the battens and is not transmitted through screws or the like securing the battens to the board. Also the links 27 are in tension. This arrangement ensures the maximum of strength, rigidity and durability with a cabinet of minimum size and supporting means of light and inexpensive construction which does not interfere with the working surface of the board nor with the space beneath and which is inconspicuous and not unsightly when seen.

While the preferred construction of one embodiment has been disclosed, it will be understood that the invention is not confined thereto and that all such changes may be made in size, shape and construction as fall within the scope of the appended claims.

Having thus described my invention, what I claim is:—

1. A folding structure comprising a vertically disposed base, supports secured to the base having L-shaped slots therein including vertically disposed long portions and horizontally disposed short portions extending away from the base, a swinging member hingedly mounted at one end on the base below the slots of the supports and angularly movable relatively to the supports and base, links pivotally connected at their lower ends to the swinging member adjacent the pivoted end thereof, a rod slidable in the support slots and connected at its ends to the upper ends of the links, and a tensioned spring connected with the links and with the base at a point above the supports, to exert lifting effort on the swinging member, said rod serving when in the horizontal slot portions to hold the swinging member against the lifting effort of the spring.

2. In a folding structure, the combination with a swinging member of an upright cabinet to contain the same, within which cabinet the member is pivoted at one end for swinging movement, guides in the cabinet substantially paralleling the back thereof and including portions extending toward the cabinet front at the ends of the guides adjacent the pivotal axis of the swinging member, links each connected at the lower end to the swinging member and at the upper end slidably connected with a guide, and tensioned springs connected with the upper ends of the links and with points thereabove in the cabinet, said springs exerting lifting effort on the links and swinging member and

said forwardly extending guide portions, when engaged by the links, serving to hold the links and swinging member against the urge of the springs.

5 3. A folding structure comprising a base, L-shaped guides disposed lengthwise of the base, a swinging member hingedly connected at one end to the base, links each connected at one end to the swinging member intermediate the ends thereof and slidably connected at their opposite ends with said guides, respectively and springs connected with the links and with the base near the opposite end thereof from that at which the swinging member is hinged, said springs being constantly in tension and tending to swing the hinged member to a position substantially parallel with respect to said base.

15 4. A folding structure comprising a vertically disposed base, a swinging member hingedly mounted at one end, on the lower part of the base, links connected at their lower ends to the swinging member intermediate the ends thereof, supports mounted on the base presenting rearwardly and downwardly facing L-shaped guiding surfaces, projections from the upper ends of the links engaging said guiding surfaces, and springs connected at their lower ends with the upper ends of the links and connected at their upper ends with the base above the supports.

25 5. A folding structure comprising a vertically disposed base, supports secured to the base, a swinging member hingedly connected at one end with the lower end of the base, links connected at their lower ends with the swinging member, a bar slidably engaging the supports and connecting the upper ends of the links, a tensioned spring connected at one end with the bar and at the opposite end with the base at a point above the supports and means at the lower ends of said supports engageable by said bar supports to hold said swinging member in a predetermined angular position with respect to said base against movement by said spring.

35 6. A folding structure comprising a base, an element connected at one end with said base for swinging movement with respect thereto, a pair of members connected to said base and to said swinging element, respectively, one of said members having an L-shaped guiding surface one portion of which extends lengthwise of the same member and another portion of which extends laterally with respect to said first portion, a projection from the other of said members slidably engaging said guiding surface, and a tension spring connected with the base and with the member that is connected to the swinging element, said spring constantly tending to swing said swinging element to a position substantially parallel with said base, such movement of said swinging member being adapted to be prevented by engagement

of said projection with the lateral portion of said guide surface.

7. A folding structure comprising a vertically disposed base, a swinging member hingedly connected at one end to the lower part of the base, guide member rigidly connected to the base including guiding surfaces facing the base and extending substantially parallel therewith and notches at the lower ends of said surfaces extending away from the base, links each pivoted at the lower end to the swinging member intermediate the ends thereof, said links including at their upper ends projections engaging said guiding surfaces and engageable in said notches, and tensioned helical springs connected with the upper ends of the links and with the upper part of the base.

In witness whereof, I have hereunto set my hand.

JOHN J. LYTH.

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