Nov. 24, 1953 H. L. VOIGT ET AL 2,659,990

SUPPORT FOR IRONING TABLES

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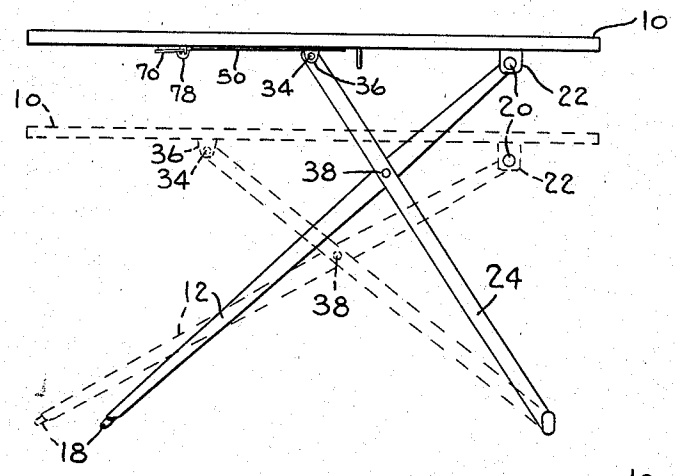


FIG. 1

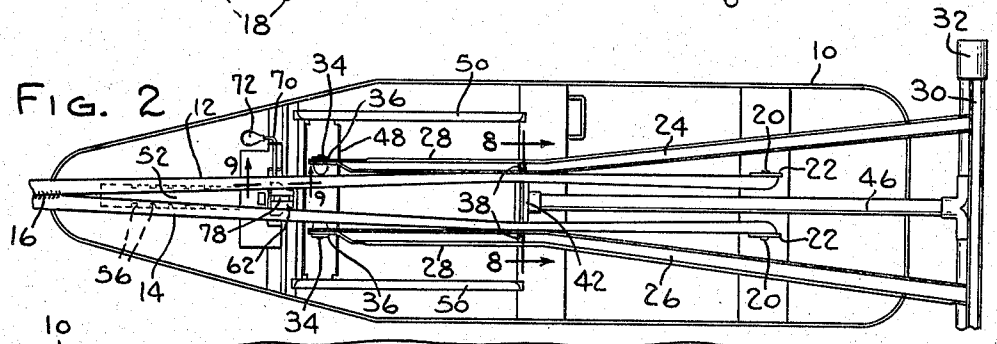


FIG. 2

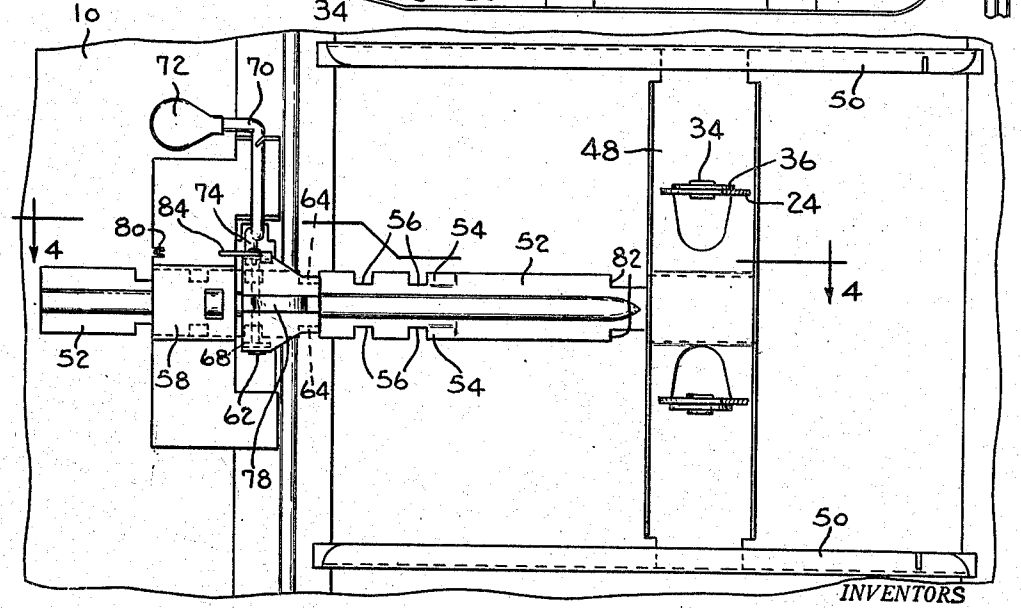


FIG. 3

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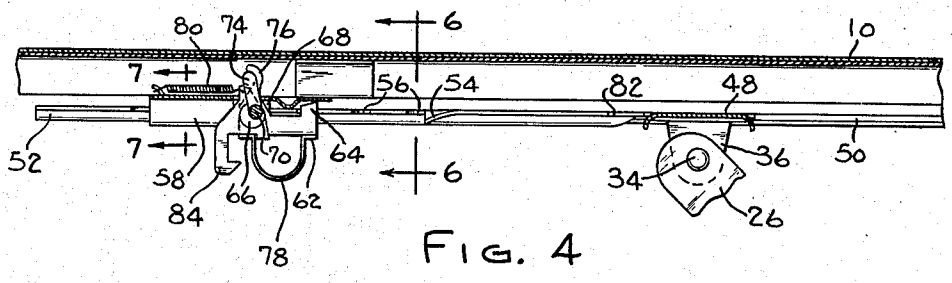


FIG. 4

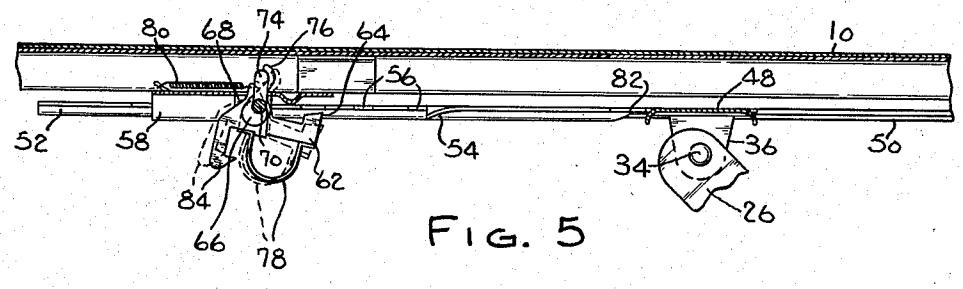


FIG. 5

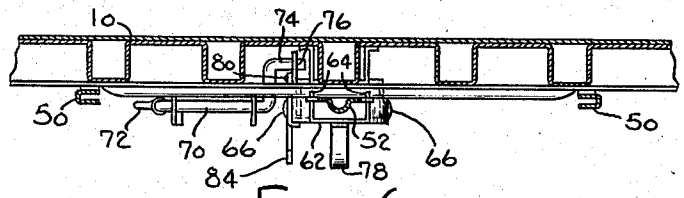


FIG. 6

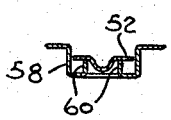


FIG. 7

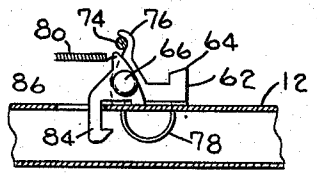


FIG. 9

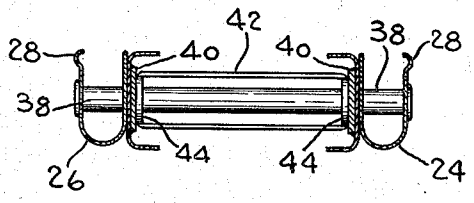


FIG. 8

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SUPPORT FOR IRONING TABLES

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Application September 2, 1950, Serial No. 182,903

8 Claims. (Cl. 38—123)

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This invention relates to ironing tables having crossed hinged supports with one hinge slidably adjustable along the table to regulate the height thereof and in particular to improvements in the crossed supports and the lock for holding the supports in selected position.

Supports for tables of this type have been of heavy construction because they are subjected to bending stresses. The locks for such tables must also prevent sudden collapse of the table below minimum usable height to prevent injury to the user.

It is an object of this invention, therefore, to provide a manually operated lock for the adjusting mechanism which permits convenient adjustment but which prevents accidental collapse of the board in such a manner as to cause injury to the user.

Another object of this invention is to provide crossed supports which are light in weight and of pleasing appearance and yet strong enough to withstand bending stresses.

These objects are realized by utilizing in the height adjustment lock a tongue with spaced notches and projections engageable by fingers on a spring-biased hinged latch as the tongue slides by such latch to lock the tongue in selected position. A lever operable from a position beneath and near one edge of the top lifts the latch sufficiently to disengage the fingers from the notches to allow longitudinal movement of the tongue. However, the operation of the latch by the lever is insufficient to withdraw the fingers from the projections on the tongue and thus the sliding of the tongue will be arrested at the minimum low ironing position. In order to completely fold or collapse the crossed supports a separate handle on the latch must be manually engaged and this can only be conveniently done when the table is placed in a vertical position with the front legs and separate handle each manually grasped. Thus possible injury from a surprise collapse is avoided.

In order to obtain strength and keep the crossed support members light in weight both the front and rear supports include spaced legs made of sheet material formed into channel-shaped sections having a back and sides. The legs of the front support have their sides extending inwardly toward each leg and joined at the lower end or foot thereof to form a tubular section. The backs may be tapered so that they are wider at the pivotal area, both to increase the strength and give a streamline appearance from the side

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of the table. The legs of the rear support have their sides projecting downwardly and the edge of the outer side of each leg has a bead-like flange which strengthens the leg, protects the user from contact with the raw edge of the metal, and also enhances the appearance of the legs.

It has been found desirable to make the supports more rigid when in supporting position by using a torque member which is rigidly attached to the transverse foot on the rear supports and to which the pivot pin of the crossed supports extends. This prevents the legs of the rear support from flexing with respect to each other when centrally offset pressure is put on the table.

The novel features, which are considered characteristic of the invention, are set forth with particularity in the appended claims. The invention itself, however, both as to its organization and its method of operation, together with additional objects and advantages thereof, will best be understood from the following description of a specific embodiment when read in connection with the accompanying drawings, in which:

Fig. 1 is a view in side elevation of an ironing table embodying the invention;

Fig. 2 is a bottom plan view showing the supports completely folded, portions of the front support being broken away;

Fig. 3 is an enlarged fragmentary bottom plan view of adjusting mechanism and lock;

Fig. 4 is a cross sectional view taken on line 4—4 of Fig. 3 with the latch in locked position;

Fig. 5 is a cross sectional view taken on line 4—4 of Fig. 3 with the latch in the unlocked position accomplished by the lever;

Fig. 6 is a cross sectional view taken on line 6—6 of Fig. 4;

Fig. 7 is a cross sectional view taken on line 7—7 of Fig. 4;

Fig. 8 is a fragmentary cross sectional view taken on line 8—8 of Fig. 2; and

Fig. 9 is a fragmentary cross sectional view taken on line 9—9 of Fig. 2.

Referring to the drawings by reference numerals the ironing table comprises a top 10 of usual construction supported on crossed supports pivoted intermediate their ends. As viewed in Figs. 1 and 2 the leftwardly extending or front support consists of two spaced legs 12 and 14 constructed of sheet metal formed into channel-shaped cross section (see Fig. 8). The sides of each leg extend toward each other and are joined at the foot as indicated at 16 in Fig. 2 to form

a tubular portion into the end of which is secured a rubber foot 18. As shown in Fig. 1 the web or back of the legs 12 and 14 may be tapered so that it is wider at the pivotal connection. This increases the strength of the front support while enhancing the appearance. The upper end of each leg 12 is pivoted at 20 to spaced brackets 22 secured to the top 10 so the front support may swing from collapsed to supporting position.

The rightwardly extending or rear support consists of two spaced legs 24 and 26 also constructed of sheet metal formed into a channel-shaped cross section. The sides of these legs project downwardly so that the rounded web or back faces upwardly to give strength and rounded appearance. The edge of the outer side of each such leg is provided with bead-like formation 28 which hides the raw edge of the metal to protect against injury to the leg of the user, strengthen the legs 24 and 26 against bending stresses, and generally better the appearance. The outer ends of the legs 24 and 26 are spread outwardly from each other and are secured to a transverse foot 30. This foot is longer than the width of the top 10 and its outer ends are supplied with rubber pads 32 (only one shown). The inner or upper end of the legs 24 and 26 are flattened and pivoted at 34 to brackets 36 on the adjustable slide.

The front and rear supports are connected by a tubular pivot 38 which extends through both sides of legs 24 and 26 and the webs or backs of legs 12 and 14 (see Fig. 8). It is preferable to make the pivot rigid in the legs 24 and 26 and to provide bearing pads 40 secured to the inside of legs 12 and 14. It is necessary to keep the legs 12 and 14 properly spaced at the pivotal connection. This is accomplished by a spacer or yoke 42 having spaced flanges 44 at each end through which the pivot 38 passes.

It is desirable to keep the longitudinal axis of the pivot 38 substantially parallel with such axis of the transverse foot 30. This prevents the legs 24 and 26 from springing out of their proper planes as an uncentralized load is placed on the top 10 during use and keeps the top from tilting. To accomplish this a torque rod 46 is rigidly secured to the yoke 42 and to the transverse foot 30. This rod, preferably a tube, prevents the yoke from twisting about on its transverse axis relative to the foot 30 and thus by holding the pivot 38 against like twisting prevents the legs 24 and 26 from springing out of proper alinement.

The supports are moved from closed or collapsed position to open position and adjusted to selected open positions by moving a slide 48 to which the rear support is pivoted in a pair of guides 50 secured to the underside of the top 10. As the slide 48 moves to the left the supports are moved toward folded position and the top lowered from its maximum height, shown in the full lines of Fig. 1, toward its minimum low work position, shown in the broken lines of Fig. 1. To regulate the various selectible positions of the slide between such maximum and minimum work positions, and to prevent the slide from moving to the left beyond such minimum position except by special control, there is provided a special locking mechanism. This mechanism consists of a tongue 52 fixed to the slide 48 and having downward projections 54 and longitudinally spaced notches 56. To insure rigidity of the locking mechanism and of the supports, the tongue 52 is guided by a strap 58 which cooperates with the top 10 to prevent lateral movement of the tongue while permitting longitudinal movement thereof. The strap 58 may have lugs 60 (see Fig. 7) to engage the tongue and help prevent any loose lateral motion thereof. The tongue may have a longitudinally extending ridge to help strengthen it as is shown but not numbered.

A latch 62 having fingers 64 which fit in the notches 56 is mounted by pivots 66 to brackets 68 on the top 10. This latch may be swung downwardly to withdraw the fingers 64 from the notches 56 and thus unlock the tongue 52. It is desirable but not necessary to bias the ends of the latch fingers so that in the unlocked position of the latch such ends are substantially parallel with the tongue to minimize possible catching of the notches. The movement of the latch 62 is partly controlled by a lever 70, pivotally mounted on the underside of the top 10. The lever 70 has a handle 72 near the edge of the top 10 so that it may be easily manually manipulated while the table is in upright position. An offset crank 74 on the lever 70 is engageable with an arm 76 on the latch 62. Upward swinging of the handle 72 causes the crank 74 to swing the latch 62 down and free the fingers 64 from the notches 56. However, the movement of the lever 70 is limited so that it can only shift the latch 62 to the position shown in the full lines of Fig. 5. In this position the fingers 64 will not clear the projections 54 and the slide 48 will not permit the top 10 to be lowered beyond the position shown in the broken lines of Fig. 1. The table is thus prevented from collapsing on the knees or feet of a user who is in the process of making an adjustment of its height.

In order to move the latch 62 so that the fingers 64 will clear the projections 54 there is provided an additional handle 78 by which the latch 72 may be manually operated and swung to the dotted position shown in Fig. 5 to clear the projections 54. The handle 78 is relatively inaccessible and can only be easily reached with the table in the position hereafter described. The latch 62 is always biased to the locked position shown in Fig. 4 by a tension spring 80.

When it is desired to adjust the height between the minimum and maximum positions shown in Fig. 1, the user grasps the edge of the top 10 with both hands. The fingers of one hand engage the handle 72 and press it towards the top. This swings the fingers 64 out from the notches 56. With the latch so held the top 10 may be raised or lowered to the desired position within the limits set forth. When the desired height is reached the handle 72 is released. If the fingers 64 are then in alinement with notches 56 they will spring to the position shown in Fig. 4 and lock the supports. However, if, at such time of such release, the fingers 64 are not in alinement with notches 56 the fingers 64 will rest upon the tongue 52 and the top 10 will drop slightly until the fingers 64 aline with the next adjacent notches 56, at which time the fingers 64 will automatically drop into the notches 56 and lock the supports.

In order to completely collapse the supports the table is placed in a vertical position with its toe end up. The front support is grasped in one hand and the handle 78 is grasped in the other hand. By moving the hands together the latch 62 will be swung to the completely released position to clear the projections 54 and the front support will be moved close to the board. After the projections 54 have passed the fingers 64 the handle 78 may be released and the hand which formerly grasped such handle may then grasp the top 10

and completely move the supports closely against the bottom of the top.

In order to keep the supports in relative collapsed position special notches 82 are placed in the tongue 52 at its right-hand end. In the substantially collapsed position of the supports, the fingers 64 will engage in the notches 82 and keep the supports in such position. However, it is mechanically difficult to so position the notches 82 that they will hold the supports tightly against the top 10. It is therefore desirable to provide a hook 84 as shown in detail in Fig. 9. This hook is either made a part of the latch 62 or may be a separate element mounted on the pivot 66. In either event the hook 84 is in alinement with a slot 86 formed in the side of the leg 12. When the front support is forced against the underside of the top 10 the sloping edge of the hook 84 will ride against one edge of the slot 85 and the hook will be sprung back until the tooth thereof passes through the slot 86 and assumes the hooked position shown in Fig. 9. To release the supports from such tightly collapsed position the hook 84 is moved to unlocked position by operating the handle 72 in the same way as such handle is operated in the adjustment of the height of the top.

Although only one embodiment of the invention is shown and described herein, it will be understood that this application is intended to cover such changes or modifications as come within the spirit of the invention or scope of the following claims.

We claim:

1. In an ironing table having crossed supports pivotally interconnected, a top, a front support comprising spaced legs hingedly connected at their upper ends to said top and connected with each other at the lower ends thereof, a slide on said top, a rear support comprising spaced legs hingedly connected at their upper ends to said slide, said last mentioned legs straddling said front support, a transverse foot secured to the lower ends of said last mentioned legs, a tubular pivot interconnecting all of said legs, and a torque rod connected at its lower end to said transverse foot and at its upper end to said pivot.

2. An ironing table as claimed in claim 1 in which there is a yoke on said pivot to which said rod is secured, said yoke acting as a spacer for the legs of said rear support.

3. In an ironing table having crossed adjustable supports, the upper end of one being slidable along the table to adjust the height thereof, a locking mechanism comprising a swingable latch having a finger, a tongue slidable with said upper end relatively to said latch, said tongue having a notch and a projection movable in a path in alinement with said finger and adapted to be engaged by said finger, said projection extending beyond said notch in the direction of said finger, a resilient member biasing said finger into engaging position with both said notch and said projection, lever means carried by said table and having limited movement, a portion of said lever being engageable with said latch for swinging said finger out of engaging position only with said notch, said finger remaining in engaging position with said projection, and separate means to disengage said finger from said projection.

4. An ironing table as claimed in claim 3 in which said latch carries a hook and one of said supports has a slot engageable by said hook to lock said supports in collapsed position whereby said lever means also operates said hook and is operated to unlock said supports.

5. An ironing table as claimed in claim 3 in which said projection has a sloping side engageable with said finger to swing said finger clear of said projection when said tongue is being moved toward open position of said supports to permit continuation of such motion.

6. In an ironing table a rear support having its upper end slidably secured to said table and comprising spaced legs made of sheet material formed into channel-shaped section having their sides projecting downwardly, a transverse foot secured to the lower ends of said legs, a front support having its upper end pivoted to said table remote from the upper end of said rear support and comprising spaced legs made of sheet material formed into channel-shaped section and positioned with the sides of each leg extending toward each other and joined at the foot to form a tubular section, said rear support and said front support being crossed, a pivot interconnecting said rear and front support at said crossed part, and a torque rod between said transverse foot and said pivotal interconnection.

7. In an ironing table having crossed supports, one of which is hinged to a slide, comprising a tongue rigidly fixed to said slide, means for guiding said tongue relative to the table, spaced notches in said tongue, a latch having a finger located in alinement with and selectibly engageable with said notches, a lever pivoted to said table and swingable about an axis transversely of said table, said lever having a portion in alinement with said latch and engageable with said latch when said lever is swung in one direction to move said latch toward unlocked position, and spring means to bias said latch toward locking position.

8. An ironing table as claimed in claim 7 in which there is a projection on said tongue extending beyond said notches in the direction of said finger, abutment means between said table and said lever for limiting the motion of said lever so that said finger cannot be caused to clear said projection by motion of said lever, and a separate handle is carried by said latch to move said finger clear of said projection.

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