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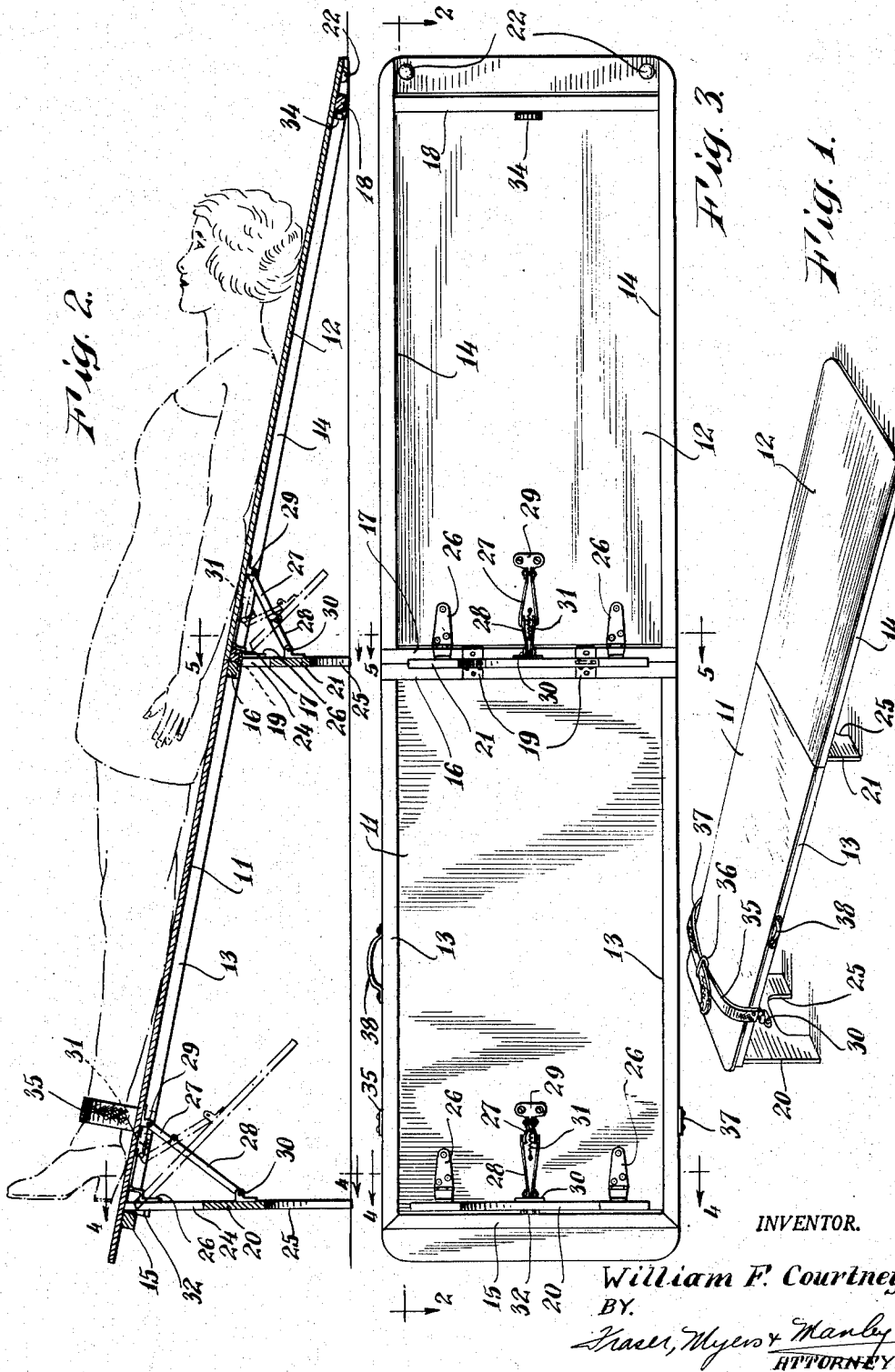
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FOLDABLE EXERCISING AND RESTING TABLE

Filed Nov. 7, 1950

2 Sheets-Sheet 1



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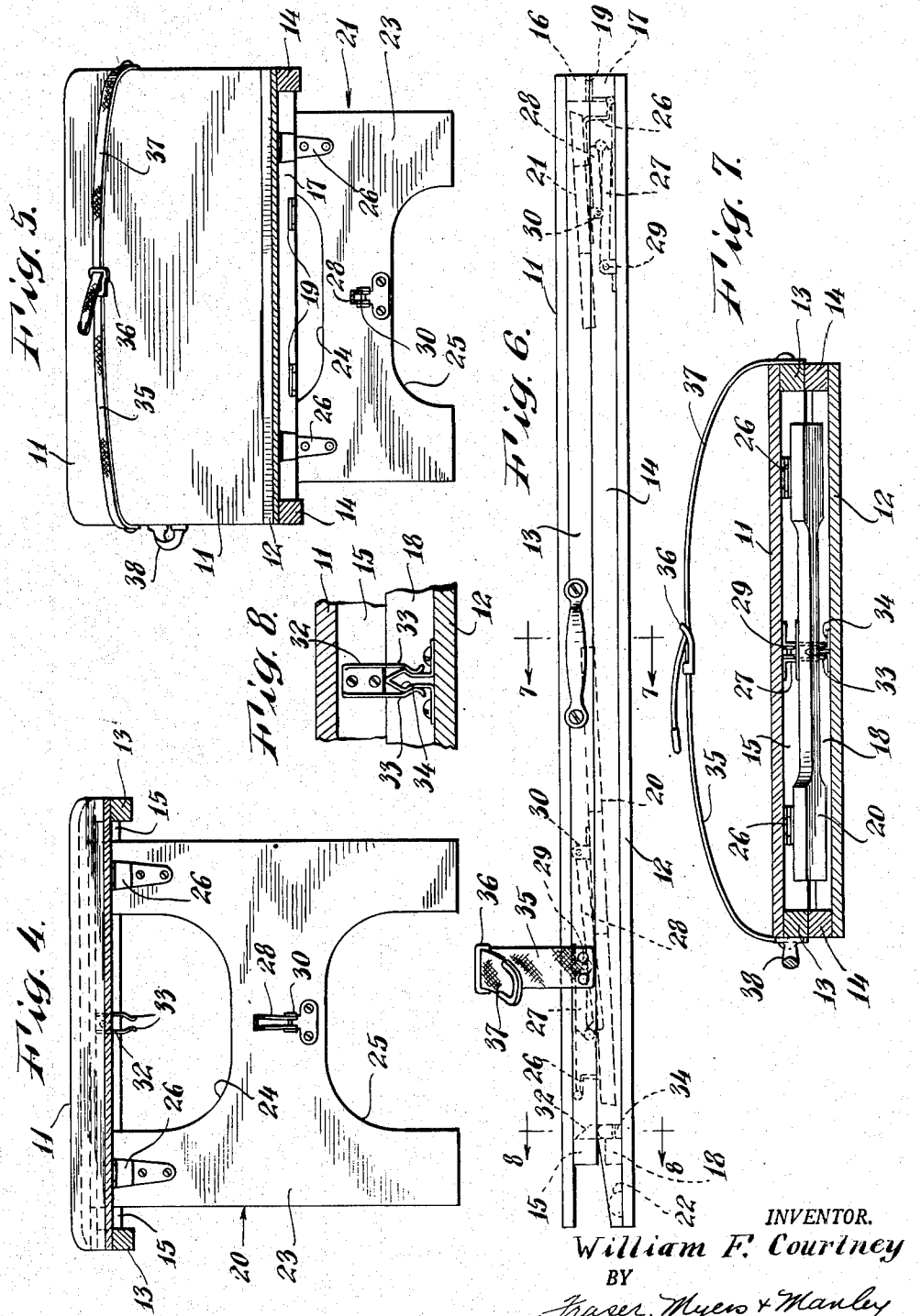
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UNITED STATES PATENT OFFICE

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FOLDABLE EXERCISING AND RESTING
TABLE

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2 Claims. (Cl. 272—58)

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The present invention relates to a foldable table upon which a person may recline either for resting or for exercising and is more particularly directed to such a table which may easily be folded into a compact package for the purpose of being stored away as in a closet or to enable it to be carried easily from place to place.

An important object of this invention is the provision of such a table which, when folded, is of such narrow dimension that it will take up very little storage space.

Another important object of this invention is the provision of such a table which, when folded, is of such narrow dimension in that it may easily be carried by a person from place to place without being awkward to handle either under one's arm or if carried, much like a suit case, by means of a suitable handle.

Another important object of this invention is the provision of such a table in which two foldable sections are hingedly inter-connected and in which a portion of a supporting leg underlies both said foldable sections at their points of hinged interconnection whereby to support both said sections in that vicinity and permit the use of a relatively small hinge or hinges.

Another important object of this invention is the provision of such a table having foldable sections with side rails which, when the table is folded, define an interior space within which the legs of the table are enclosed.

Another important object of this invention is the provision of such a table which, when opened, is inclined so that the user may lie upon the table with the upper part of her body tilting downwardly.

The foregoing and other objects are accomplished according to the present invention by a foldable table structure which, for purposes of illustration and without limiting the invention thereto, is shown in a single embodiment in the accompanying drawings in which:

Figure 1 is a perspective view of a table according to the present invention shown in its open or unfolded condition and resting upon a floor or like supporting surface in condition for use.

Fig. 2 is a longitudinal vertical sectional view of said table, the section being substantially on the lines 2—2 of Fig. 3.

Fig. 3 is an elevational view of the under side of said table.

Fig. 4 is an enlarged transverse sectional view substantially on the lines 4—4 of Figs. 2 and 3.

Fig. 5 is an enlarged transverse sectional view substantially on the lines 5—5 of Figs. 2 and 3.

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Fig. 6 is an enlarged side elevational view of said table in its completely folded condition.

Fig. 7 is a transverse sectional view, substantially on the lines 7—7 of Fig. 6 of said table in its folded condition; and

Fig. 8 is a fragmentary transverse sectional view of a catch assembly for holding the table's hinged sections together in their folded condition, this section being substantially on the lines 8—8 of Fig. 6.

There is a considerable weight of opinion among experts in the physiology of the human body to the effect that weakness of a person's back can be aided by the person lying on his or her back upon a relatively unyielding flat surface. For convenience, the person hereinafter will be referred to in the feminine gender because of the fact that, in Fig. 2 of the drawing, a female person is shown in a reclining position upon a foldable table according to this invention.

A considerable weight of expert opinion also holds to the view that a person may be benefited by lying on her back in an inclined position with the upper part of her body sloping downwardly; this position apparently having the effect of relieving certain abdominal muscles and organs from strains to which they are subjected when the person is in an upright position. Of course, a person lying horizontally, as is normally the case when she is in repose, gains some advantage in having such muscles and organs relieved of strain to some extent. However, if the body in repose is definitely tilted with the upper portions tilted downwardly, the mentioned muscles and organs are not merely relaxed but they are actually shifted to some extent toward an uppermost position in contrast to the strained lowermost position in which they are disposed when the body is erect. Hence, it is believed that, by having the body thus tilted when in repose, a greater benefit may be derived than if the body is merely horizontally disposed.

A considerable weight of expert opinion also leans to the view that, if a person pursues certain exercises of the body, head and limbs while the body is in such a generally inclined position, considerable beneficial results may follow.

The present invention aims to provide an improved, compactly foldable table upon which a person may lie in an inclined position to derive such beneficial results either when resting or when exercising.

The embodiment of this invention which is illustrated in the accompanying drawings comprises an upper table top element 11 hingedly

connected at its lower end to the upper end of a lower table top element 12. These elements each may be constituted chiefly of a relatively thin flat board having reinforcing side rails 13, 14 respectively, fixed underneath said boards along opposite side marginal portions thereof, and reinforcing cross pieces 15, 16 fixed upon the underside of the element 11 respectively toward the latter's upper and lower ends and somewhat similar reinforcing cross pieces 17, 18 fixed to the underside of the element 12, respectively, toward the upper and lower ends of said element.

The cross pieces 16 and 17 of the table top elements 11 and 12 are fixed thereon, flush with the adjacent ends of said elements, and hinges 19, screwed to or otherwise fixed to the adjacent bottom surfaces of the cross pieces 16 and 17 serve to hingedly interconnect said elements in such a manner that said elements abut each other, above the hinges, to a very substantial thickness.

It will be seen that, under this arrangement, the two table top elements may only pivot freely downwardly relatively to each other about the axis of the mentioned hinges and that the table top structure as thus far described could thus pivot to the extent of a combined angular movement of approximately 180°, so that the completely folded table top portions would come together in substantially face to face relationship as shown in Fig. 6.

The table, with its top elements 11 and 12 in their open positions as shown in Fig. 2, is supported in a sloping position by a long leg 20 toward the upper end of the upper table top element 11, and a short leg 21 at the abutting upper and lower ends respectively of the table top elements 11 and 12; and the lower end of the lower table top element 12 may rest upon the floor or equivalent flat supporting surface. A pair of rubber cushions 22 may be fixed to the lower end of the table top element 12 to engage the floor for the purpose of frictionally opposing the shifting of the table upon the floor when the table is in use.

The legs 20, 21 may be substantially similar except with respect to size and each may conveniently be formed of a flat wooden piece 23. These legs may be cut out at their top and bottom ends as at 24 and 25 to minimize weight, and, in some arrangements the cutout 24 may at least partially receive therewithin certain portions of toggle braces hereinafter described.

The legs 20, 21 may be similarly hinged at their upper ends to the under side of the table top elements 11 and 12 by means of hinges 26, the two hinged portions of which are screwed to or otherwise fixed respectively to the under side of the adjacent table top element 11 or 12 and to one side of the leg 20 or 21, near the upper end thereof.

It may be observed that, when the long leg 20 is in its open or unfolded position as shown in Fig. 2, its upper end rests against the underside of the table top element 11 just inside the cross piece 15. In the case of the short leg 21, however, the hinge arrangement is such that, when it is in its open or unfolded position, the upper flat end surface of the leg abuts adjacent marginal under-surfaces of the cross pieces 16, 17 so that the line of abutment of the latter preferably is coincident with a center line of the top end surface of the leg extending transversely of the table. In other words, the leg 21 underlies both cross pieces 16 and 17 to a substantially equal extent so that when the user's body is upon

the table with the weight concentrated near the center thereof, the leg 21 directly supports both table top elements 11 and 12. Thus, the hinges 19 need not be exceptionally large or sturdy as they have little or no part in supporting such weight.

As may be understood from Fig. 2 and by comparison of that figure with Fig. 6, the legs 20, 21 are similarly foldable in the sense that they may be pivoted upwardly from their open or unfolded positions shown in full lines in Fig. 2 to their completely folded positions as shown in broken lines in Fig. 6. It is highly desirable, of course, to provide means by which said legs may be held firmly in upright, open or unfolded positions so that they may not unintendedly pivot in either direction about their hinges when a person is upon the table. Such means, as illustrated, are substantially similar with respect to each leg and comprise hingedly interconnected toggle members 27, 28 arranged with the upper end of member 27 hingedly connected as at 29 to the under side of the adjacent table top element and the lower end of the member 28 hingedly connected as at 30 to the near side of the adjacent leg.

These toggle arrangements are quite conventional in character. Each includes a tension coil spring 31, the ends of which are anchored to the toggle members 27, 28 in such manner that when the latter are in their open positions shown in full lines in Fig. 2, the spring is under tension which is exerted in a line toward one side of the hinge axis of the hinge interconnection between the two toggle members 27 and 28. As the toggle members are limited to only one direction of hinge action from their open positions and as the spring tension tends to oppose such hinge action, the toggle arrangements are effectively held open, with the legs 20 and 21 in upright positions, against any unintended folding of the legs.

It may be seen from Fig. 6 that, when the table is folded, side rails 13 and 14 are in intimate association, thus forming a narrow interior space within which folded legs 20, 21 are accommodated. In order to hold the table in its folded condition, a catch arrangement is provided which, as best seen in Fig. 8, comprises a spring arm member 32 which may be fixed to one side of cross piece 15 of the upper table top element 11 and includes two spring arms 33 adapted to grasp therebetween a headed nose piece 34 which may be fixed in an opposed position upon the under side of the lower table top element 12.

A foot strap arrangement may be employed consisting of a first strap member 35 riveted or otherwise fixed at one end to the outer side of one rail 13 toward the upper end of the table top element 11 and having at its other end a buckle 36 to receive the free end of a second strap member 37 which is similarly fixed in any suitable manner to the opposite rail 13. As best seen in Fig. 2, the user of the device may buckle the strap arrangement across her legs at or just above the ankles so that she may exercise by raising herself to a sitting posture while the strap arrangement holds her legs down upon the table top. On the other hand, she may leave her legs free of the strap arrangement so that she may exercise by raising one or both legs upwardly and toward her head to any desired possible extent while she rests upon her back on the table top. Of course, she is free to exercise her arms as she sees fit.

It may be seen that, when it is desired to store the device away or to move it from place to

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place, it is necessary only to turn the table on its side and press the toggle members 27, 28 upwardly so that they hinge relatively to each other and fold themselves underneath the table top elements while the legs 20, 21 are folded upwardly into positions closely paralleling the under side of the table top elements. Thereafter, the table top elements 11 and 12 may be pivoted about the axis of the hinges 19 in a direction which will bring the rails 13 and 14 together as shown in Fig. 6. In this condition, the legs 20, 21 are completely accommodated within the space defined by the table top elements 11 and 12 and by the rails 13 and 14 of said elements. The table, of course, is held in its closed condition by the catch arrangement already described.

The folded table is of such narrow dimensions that it may quite easily be held under one's arm to carry it from place to place. However, it may more conveniently be carried by means of a handle 38 screwed to or otherwise suitably fixed upon one of the rails 13 or 14, said handle as illustrated being shown upon rail 13. One who has carried suit cases or other luggage which is relatively thick has experienced the annoying situation in which the luggage bangs or presses against one's legs as it is carried. However, a folding table according to the present invention, is of such limited thickness that it may be carried by the handle 38 without any annoying interference with one's legs.

It will be understood that the concept of the present improvement may be embodied in structures other than those illustrated and described herein without, however, departing from the invention as set forth in the accompanying claims:

I claim:

1. A foldable exercising and resting table comprising a substantially flat, upper, table top section, a substantially flat lower table top section, hinge means restrictively interconnecting said sections directly to each other in abutting, endwise, open relationship, in which they are in a common plane, to adapt them for folding and

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larly relatively to each other toward only one side of said plane to closed relationship in which bottom sides of said sections are in face to face relationship, a relatively long leg pivotally connected to the bottom of the upper table top section toward the latter's upper end, a relatively short leg having a substantially flat upper end and being pivotally connected to the bottom of one of the table top sections independently of said hinge means in position thereon to pivot to an upright, table-supporting position with the short leg's flat upper end underlying and directly in supporting contact with adjacent bottom marginal portions of both said table top sections extending along the line of abutment of the latter; the lower ends of said legs and the lower end of the lower table top section being substantially in a common plane when the table is open and the legs in upright, table-supporting positions and the legs, when in such table-supporting positions, being perpendicular to said common plane, whereby to provide vertical support for the table with the latter's top surface in a plane which is inclined relatively to a substantially flat floor-like surface; and a foldable toggle linkage connected at its opposite ends to points on said short leg and on said one of the table top sections, which points are remote from the pivotal connection of said short leg to said one table top section, whereby to hold said short leg positively in table-supporting position.

2. A foldable exercising and resting table according to claim 1, the said short leg being pivotally connected to the lower table top section toward the latter's upper end.

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