April 20, 1954 W. F. COURTNEY 2,676,015

EXERCISING TABLE WITH HANDGRIP

Filed May 23, 1951 2 Sheets-Sheet 1

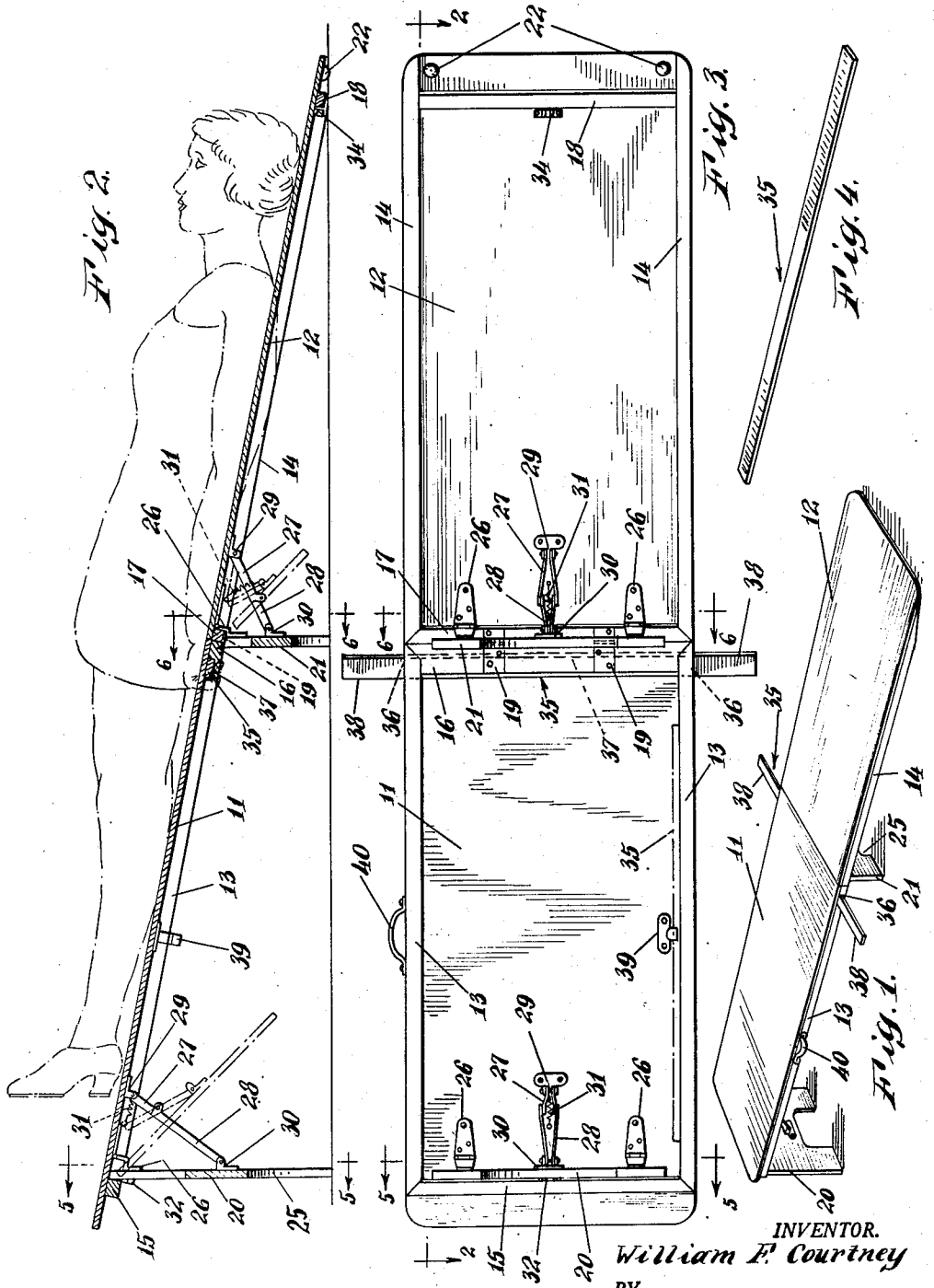


Fig. 2.

Fig. 3.

Fig. 4.

Fig. 1.

INVENTOR.
William F. Courtney
BY
Robert Henderson
ATTORNEY.

April 20, 1954 W. F. COURTNEY 2,676,015

EXERCISING TABLE WITH HANDGRIP

Filed May 23, 1951 2 Sheets-Sheet 2

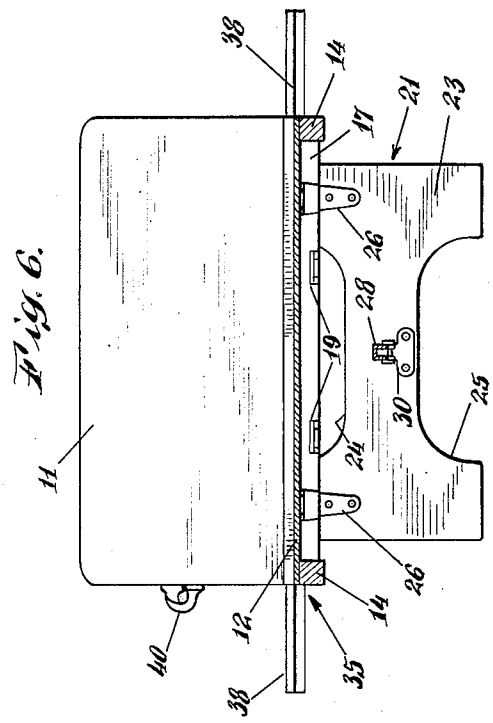


Fig. 6.

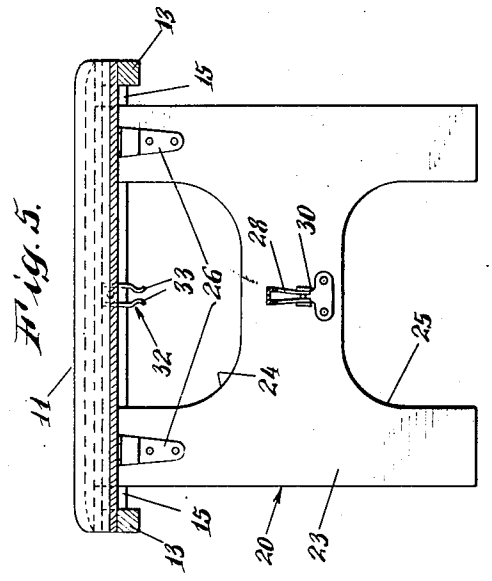


Fig. 5.

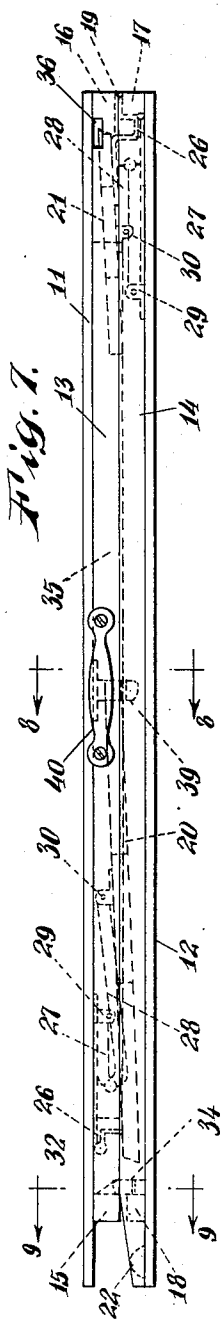


Fig. 7.

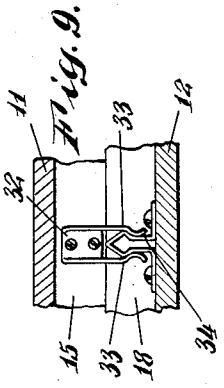


Fig. 9.

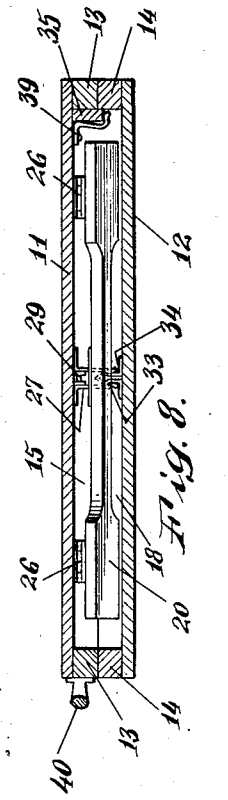


Fig. 8.

INVENTOR.
William F. Courtney
BY
Robert Henderson
ATTORNEY.

Patented Apr. 20, 1954

2,676,015

UNITED STATES PATENT OFFICE

2,676,015

EXERCISING TABLE WITH HANDGRIP

William F. Courtney, New York, N. Y.

Application May 23, 1951, Serial No. 227,921

6 Claims. (Cl. 272—58)

1

The present invention is an improvement upon the invention disclosed in my copending application Serial No. 194,525, filed November 7, 1950, now Patent No. 2,658,754, and relates particularly to a foldable exercising and resting table having improved hand grip means enabling one using the table to hold herself in a proper position on such a table when conditions of use tend to shift her from said proper position (the person being referred to herein for convenience in the feminine gender).

An important object of this invention is the provision of such a table with hand grip means which are of ample strength for their stated purpose, and are adapted for association with other parts of the table in the latter's open condition in such manner that said grip means protrude and function effectively as hand grip means and also are adapted for association with other parts of the table in the latter's closed or folded condition in such manner that they are contained entirely within the folded table.

Another important object of this invention is the provision of improved hand grip means in such a table which enable a user to pursue exercises which would not be feasible in the absence of such hand grip means.

The foregoing and other objects are accomplished according to the present invention by a 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, with the improved hand grip means disposed for gripping by the user to hold herself in proper position on the table.

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

Fig. 3 is an elevational view of the underside of said table.

Fig. 4 is a perspective view of a hand grip element constituting a part of a table according to the present invention.

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

Fig. 6 is an enlarged transverse sectional view substantially on the lines 6—6 of Figs. 2 and 3.

Fig. 7 is an enlarged side elevational view of said table in its completely folded condition.

Fig. 8 is a transverse sectional view, substantially on the lines 8—8 of Fig. 7, of said table in its folded condition; and

2

Fig. 9 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 line 9—9 of Fig. 7.

A considerable weight of expert opinion leans to the view that, either for mere resting purposes or for exercising purposes, there is an advantage in reclining upon one's back in an inclined position with the upper part of the 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.

However, when a person, seeking such beneficial effects, lies upon a sloping board or table, she tends strongly to slide downwardly thereon, and this is particularly true if she attempts any exercises while on the board or table. The present invention aims to provide a foldable table or board arrangement which can be used for the stated purposes while avoiding such undesirable sliding.

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 move-

ment of approximately 180°, so that the completely folded table top portions would come together in substantially face-to-face relationship as shown in Fig. 7.

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 underside 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 underside 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 undersurfaces 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. 7, 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. 7. 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 underside 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. 7 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. 9, 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 underside of the lower table top element 12.

The hand grip means are simple but very strong and easily shifted between an active position and a stowed position. They comprise a grip bar 35 which is considerably longer than the width of the table, and preferably is of rectangular shape in cross section. When in active or usable position the bar 35 extends through opposite rectangular apertures 36 in the two side rails 13, with its intermediate portion lying within a rabbet 37 formed in the upper face and along the uppermost edge of reinforcing cross-piece 16 of the upper table top element. The cross piece 16 may advantageously be somewhat wider than the cross pieces 15, 17 and 18 to form a substantial guide or supporting piece for the grip bar 35, and the apertures 36 and the rabbet 37 preferably are proportioned to receive the grip bar 35 therewithin in a snug but nevertheless free sliding fit.

When in its active position, as shown very clearly in Figs. 1, 3 and 6, the ends of the grip bar 35 extend outwardly from each side of the table sufficiently to afford grip portions 38 which may be grasped by a user as she reclines upon the table. These grip portions, as may best be understood from Fig. 2, immediately underlie the hands of the user as she lies upon the table with her arms at her sides. Hence, the grip portions are easily and very naturally grasped by the user. By grasping the said grip portions 38, the user can easily hold herself against sliding or any shifting of the body from its desired position on the table; and this is true even when relatively energetic exercises are undertaken by the user of the table.

It will readily be understood that as the grip bar 35, when in active position, is positioned with its larger cross-sectional dimension extending substantially in line with the pulling force imposed thereon by the user as she holds herself against shifting on the table, the said bar, without being inordinately large, may nevertheless possess ample strength to withstand any such pulling force to which it may be subjected. Furthermore, the grip portions 38, preferably, protrude only enough for the user to grasp them;

hence, the said pull occurs so close to the side rails 13 that there is only a negligible and ineffective tendency of the grip bar 35 to bend and break from such pulling force.

When the user desires to fold up the table and put it away until it is again to be used, she merely pulls the grip bar 35 out from one side of the table and stows the said bar within the interior of the table as the latter is folded. A more secure means for stowing the grip bar within the folded table may be provided in the form of a clip for holding the said grip bar in any suitable place into which it will fit within the folded table. Thus, the grip bar may be held in face-to-face association with one of the rails 13 as indicated in broken lines in Fig. 3; a suitable spring clip 39 of resilient material being provided for that purpose.

It may be seen that, when it is desired to store the device away or to move it from place to 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 underside 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. 7. 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 40 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 suitcases 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 40 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.

What I claim:

1. A foldable, sloping, exercising and resting table comprising two hingedly connected, substantially flat table top sections, means for supporting said table, in open condition, upon a horizontal surface with the top surfaces of said two sections in a common inclined plane, said table being formed with an opening extending transversely, completely therethrough below its top surface, and a single hand-grip bar, of greater length than the width of said table at said opening, endwisely slidable within said opening to permit endwise removal of said bar therefrom and having hand-grip end portions extending beyond opposite sides of said table.

2. An exercising and resting table according to claim 1, the said opening being in one of said table top sections.

3. An exercising and resting table according to claim 1, the said opening and said hand-grip bar having coacting portions which are complementally non-circular in cross-sectional shape to prevent rotation of said bar in said opening.

4. An exercising and resting table according to claim 1, the said opening being in one of said table top sections, and the table further including a reinforcing cross-piece fixed to the underside of said one section and constituting a reinforcement for the latter, the said cross-piece being formed with a groove in its upper face extending transversely of the table and constituting at least a part of said opening; the said cross-piece thereby constituting also a reinforcement for said bar.

5. An exercising and resting table according to claim 1, further including opposite side rails fixed to the underside of said table, the said rails having apertures therein, in transverse alignment, constituting at least parts of said transverse opening.

6. An exercising and resting table according to claim 5, further including a cross piece, fixed to the underside of the said table between said side rails and formed with a groove therein extending transversely of said table and forming a substantial part of said transverse opening.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
695,538	De Clairmont	Mar. 18, 1902
1,616,065	Rosenquist	Feb. 1, 1927
1,721,709	Odell	July 23, 1929
1,911,750	Collignon	May 30, 1933
2,129,262	Cole	Sept. 6, 1938
2,240,228	Schall	Apr. 29, 1941
2,533,273	MacGregor	Dec. 12, 1950

FOREIGN PATENTS

Number	Country	Date
607,460	Great Britain	1948