

July 31, 1951

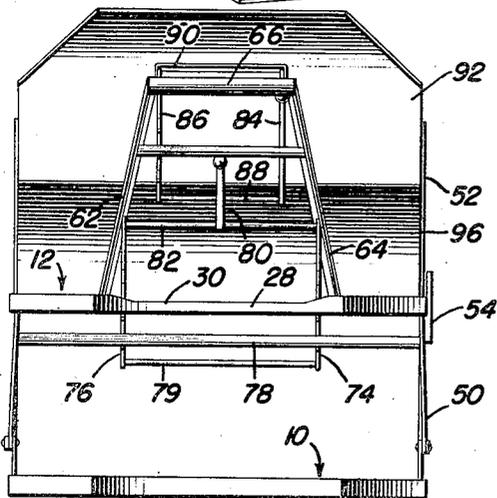
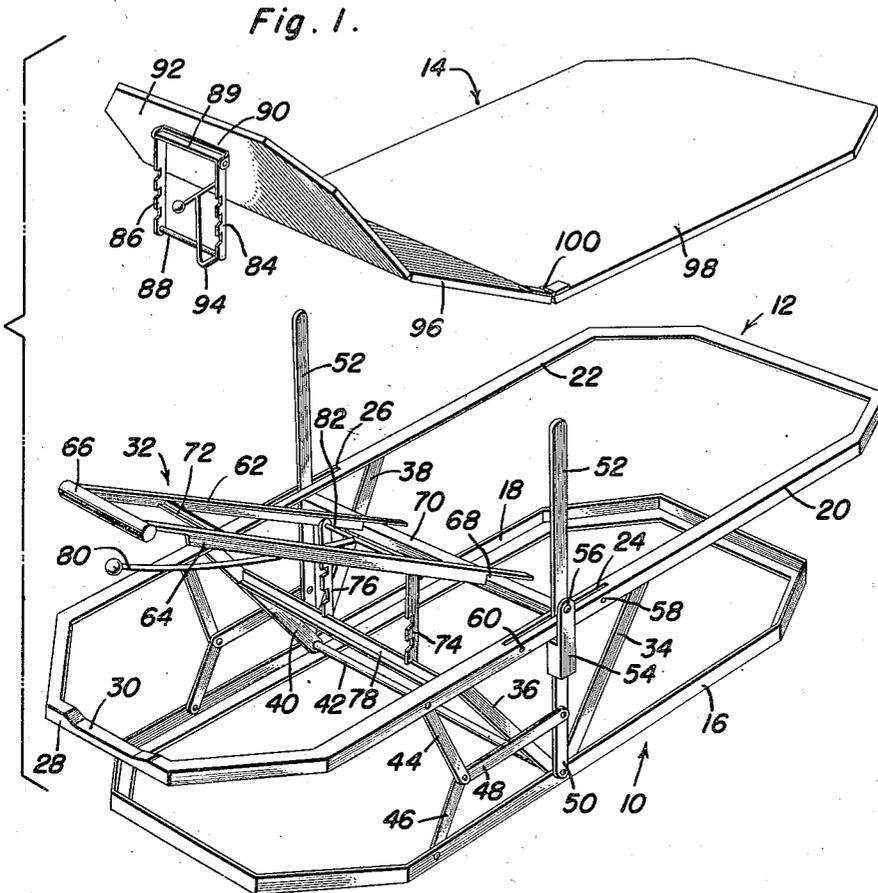
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2,562,339

COMBINATION BED, CHAIR, AND ROCKING EXERCISER

Filed March 31, 1949

3 Sheets-Sheet 1



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3 Sheets-Sheet 2

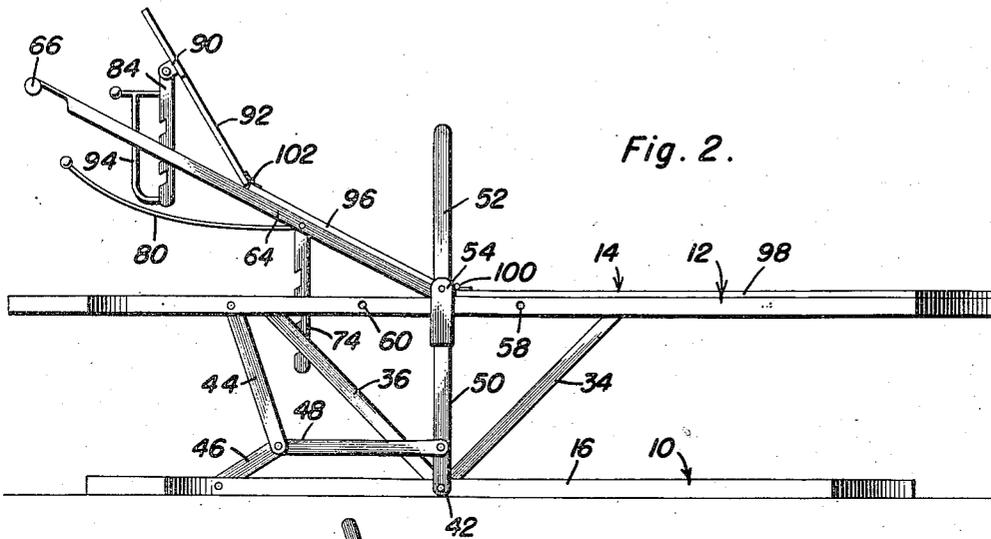


Fig. 2.

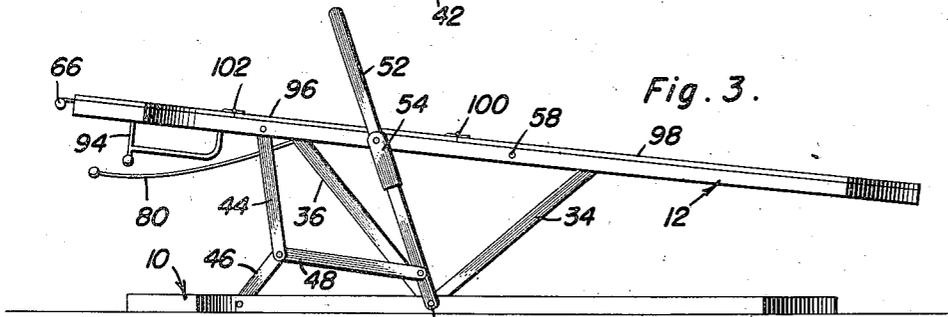


Fig. 3.

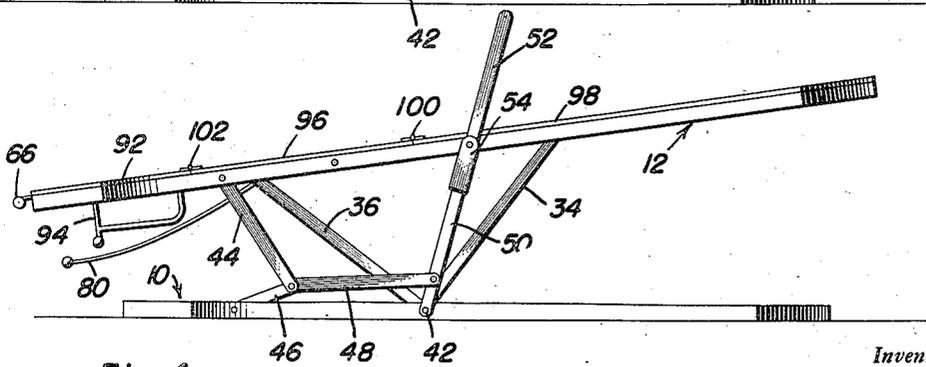


Fig. 4.

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3 Sheets-Sheet 3

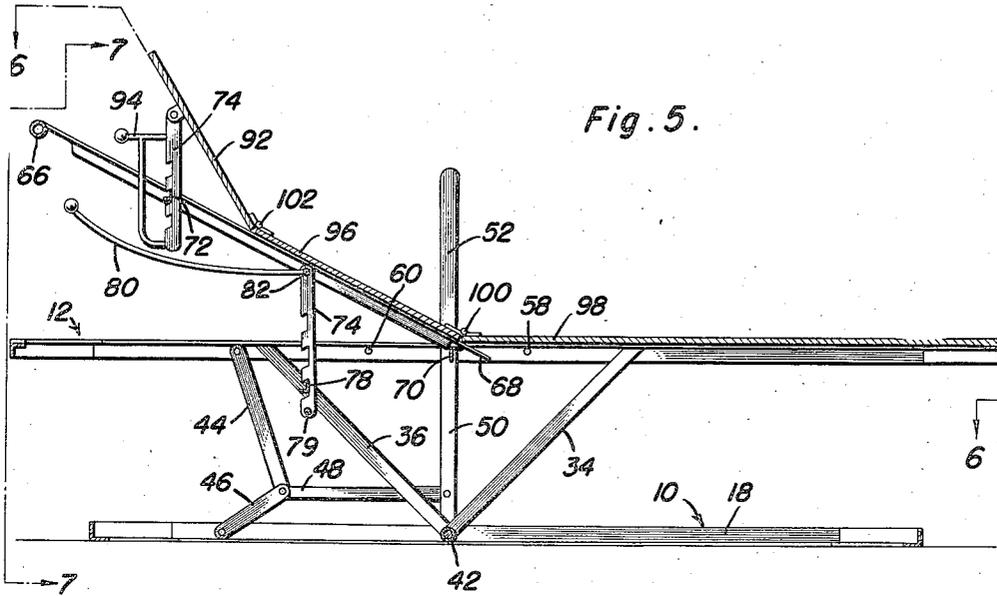


Fig. 5.

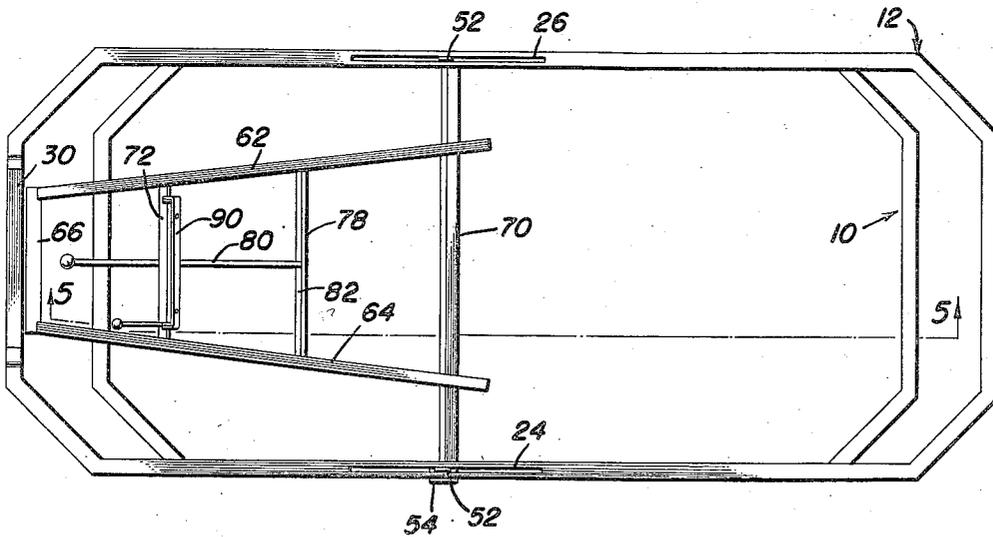


Fig. 6.

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UNITED STATES PATENT OFFICE

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COMBINATION BED, CHAIR, AND ROCKING EXERCISER

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4 Claims. (Cl. 5-63)

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This invention relates to novel and useful improvements in devices for supporting persons and more specifically to a combination bed, chair and exercising device.

An object of this invention is to selectively exercise or rest a person on a pad, cover or the like which is supported for displacement, preferably pivotal movement, on a base and which is adapted to operate by manipulation of the person on the cover by simple operation of one or two handles, the handles being connected with the said cover through the intermediate structure of a frame, the frame supporting the actual cover which is composed of three or more hingedly connected together sections, one carried by the frame, another carried by a back rest or leg rest structure mounted for displacement or movement with respect to the said frame and the other section forming a head or foot rest.

Another object of this invention is to raise and lower the back rest section to selective positions and retain it in accordance with the prerogative of the user of the device; and to hingedly operate the head rest section of the cover to selected positions also in accordance with the prerogative of the user of the device.

Ancillary objects and features of novelty will become apparent to those skilled in the art, in following the description of the preferred form of the invention, illustrated in the accompanying drawings, wherein:

Figure 1 is an exploded perspective view of the elements forming the preferred form of the invention;

Figure 2 is an elevational side view of the assembled device showing one position of operation;

Figure 3 is an elevational side view similar to that of Figure 2, except that the device is in another selected operational position;

Figure 4 is an elevational side view of the assembled device showing a further operational position;

Figure 5 is a longitudinal sectional view taken substantially on the line 5-5 of Figure 6 and in the direction of the arrows;

Figure 6 is a sectional view taken substantially on the line 6-6 of Figure 5 immediately below the cover, illustrating in the main the structural framing of the invention in elevation, and;

Figure 7 is a rear view of the device shown in Figure 5 and taken substantially on the line 7-7 thereof and in the direction of the arrows.

The present invention is adapted for use either as a device conducive of relaxation or for

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exercising. It has medical value in that it may be used for therapeutic treatment and may be used to rest certain portions of the anatomy of an individual.

The field of utility of the present invention is very great and familiarity with the structure of the preferred form of the invention leads to immediate obvious practical uses to which the structure may be placed.

Certain terms are used herein for reference to various parts such as "a head rest section" of the cover. It is to be clearly understood that the word "head" although connoting that this portion of the device is to be used for resting the head of an individual, is not necessarily limited thereto. By simply using the head portion of the device as a foot portion, the said head rest section then becomes a foot rest.

Referring first primarily to Figure 1, the preferred form of the invention consists broadly of a base generally indicated at 10, a frame generally indicated at 12 and a cover generally indicated at 14. These elements are connected together by various linkages and means to carry out the aforementioned objects.

The frame 10 may be of any suitable description and is illustrated as consisting of an octagonal base composed of certain sides including those seen at 16 and 18 respectively and all of which are made of angle iron. Of course, tubing may be used and other suitable equivalents.

The said frame 12 is similar in shape and may be somewhat larger in dimension. The sides 20 and 22 have slots 24 and 26 respectively therein for a purpose to be described subsequently. The end member 28 has a recessed portion 30 therein to form a seat for a back rest structure generally indicated at 32 when it is in the full depressed position.

The frame 12 is displaceably connected with respect to the base 10 and more specifically is pivotally carried thereby. Pairs of bracing members 34, 36 and 38, 40 are divergent at their upper ends and convergent at their lower ends. The upper ends are fixed to the frame 12 while the lower ends are pivoted about a suitable shaft 42 which is carried by the base 10.

Means for displacing the frame 12 with respect to the base 10 is provided. This means consists of two substantially identical structures. Each of these identical structures includes a pair of pitman rods 44 and 46 respectively attached to the frame 12 and to the base 10 and to each other. At the junction of the two pitman rods there is an operating link 48 extending there-

from which is pivoted to a handle 50. This handle has a removable upper portion 52 disposed in a socket 54 which is carried by the said handle 50. An aperture 56 is provided in the socket 54 for reception of a pin or the like whereby operation of the handle 50 and handle extension 52 is obviated in order to lock the operating mechanism in one position. It is apparent from inspection of Figure 1 that the function of the slot 24 is to have the extension 52 passed therethrough and a similar function is attributed to the slot 26 in connection with the other identical structure. Apertures 58 and 60 respectively are provided in the sides 20 of the frame 12 in order to accommodate the locking pin to hold the frame 12 in other positions. Obviously, more than two openings or apertures 58 and 60 may be provided as desired in order to lock the operating mechanism in other positions which is reflected in various operative positions of the frame 12.

To illustrate the positions referred to, attention is invited to Figures 2, 3 and 4 respectively which show various operational positions of the structure.

The back rest structure is made of angle iron, tubing or other suitable equivalent members and consists of two rails 62 and 64 respectively connected by a head piece 66 at one end. The other ends of the rails 62 and 64 are notched as shown in Figure 1, the notches 68 fitting on a cross member 70 of the frame 12. A cross member 72 extends transversely across the rails 62 and 64 intermediate their ends and is supplied for strengthening purposes and also for the purpose of acting as a recipient of a means for locking the head rest portion or section in selected adjusted positions.

Means for retaining the back rest structure in selected elevated positions is provided. Many means may be used in this connection. However, it has been found that utility of the described means serves the purpose efficaciously and is economical and smoothly operative. This means consists of a pair of racks 74 and 76 having the teeth thereof selectively disposed on a cross member 78 extending between the bracing members 36 and 40 respectively, being rigid therewith. This member 78 serves as a stop and has selected teeth in the rack disposed thereon. A cross member 79 for the rack is fixed thereto at the lower end thereof and a second cross member 82 is attached to the racks 74 and 76 respectively at their upper ends. This last named cross member serves also in the capacity of a pivot pin, being pivotally carried by the rails 62 and 64. An operating handle 80 is fixed to the cross member or pivot pin 82 whereby upon movement thereof, rotation is imparted to both racks simultaneously in order to engage and disengage them with respect to the cross member 78.

An identical member insofar as function is concerned is carried by the cover 14. The pair of racks 84 and 86 respectively are connected at their lower ends by means of a cross member 88 and at their upper ends by means of a cross member 89 which may be formed integral with both racks or as a separate piece. A substantially U-shaped bracket 90 is used as a hanger for the racks and is attached to a section 92 of the said cover 14. The handle 94 for operation of the racks 84 and 86 is slightly different from the handle 80, being made of two pieces connected together and joined at spaced points on one of the racks.

The said cover 14 is composed of three sections, 92, 96 and 98 respectively. The three sec-

tions are connected together by means of hinges 100 and 102 respectively.

The cover section 98 is disposed on a part of the frame 12, while the cover section 96 is disposed on the back rest frame 32 for movement therewith and the cover section 92 serves in the capacity of a head rest, being retained in selected position when the teeth of the racks 84 and 86 are disposed selectively on the cross member 72 of the head rest structure 32.

The head piece 66 of the back rest structure is rolled or formed of a round piece for convenience and serves in the capacity of a handle. It may be used particularly when the device is utilized in connection with therapeutic treatment by a nurse, doctor or anyone else. Since the rails 62 and 64 are converging at their outer ends as shown in Figure 6, the outer ends thereof fit in nested relationship with the frame 12 and specifically in the recess 30, when the back rest structure is in the full down position regardless of whether the head rest section 92 is raised or lowered.

In utility of the invention various modifications may be resorted to such as the utility of a pad over the cover 14 or, a mattress in lieu of the cover or in addition to the cover. Also, handle grips may be provided on the handle extensions for ease in holding.

It is apparent that other variations may be made without departing from the spirit of the invention. Accordingly, limitation is sought only in accordance with the scope of the following claims.

Having described the invention, what is claimed as new is:

1. A support device for persons comprising a base, a frame having openings therein, a pair of handles each pivoted at one end to said base and passed through said openings to thereby locate the upper parts of said handles above said frame, pairs of pitman rods connecting said base and said frame, and an operating link extending from the junction of the rods of each pair of pitman rods and connected with one of said handles whereby said frame is displaced when said handles are operated, and a cover carried by said frame.

2. A support device for persons comprising a base, a frame, a pair of handles each pivoted at one end to said base, pairs of pitman rods connecting said base and said frame, and an operating link extending from the junction of the rods of each pair of pitman rods and connected with one of said handles whereby said frame is displaced when said handles are operated, a cover movably carried by said frame and composed of at least two hingedly connected sections, and a back rest structure carried by said frame and having one of said sections disposed thereon the other of said sections being disposed on said frame.

3. A support device for persons comprising a base, a frame, a pair of handles each pivoted at one end to said base, pairs of pitman rods connecting said base and said frame, and an operating link extending from the junction of the rods of each pair of pitman rods and connected with one of said handles whereby said frame is displaced when said handles are operated, and a cover carried by said frame and composed of three hingedly connected sections, a back rest structure mounted for movement on said frame and having one of said sections disposed thereon, and means carried by said back rest structure and another of said sections for locking the latter in elevated position to form a head rest.

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4. A support device for persons comprising a base, a frame, a pair of handles each pivoted at one end to said base, pairs of pitman rods connecting said base and said frame, and an operating link extending from the junction of the rods of each pair of pitman rods and connected with one of said handles whereby said frame is displaced when said handles are operated, a cover carried by said frame and composed of three hingedly connected sections, a back rest structure mounted for movement on said frame and having one of said sections disposed thereon, means carried by said back rest structure and another of said sections for locking the latter in elevated position to form a head rest, means pivoted to said back rest structure for retaining said back rest structure in selected positions, and bracing mem-

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bers attached to said frame and pivoted to said base.

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