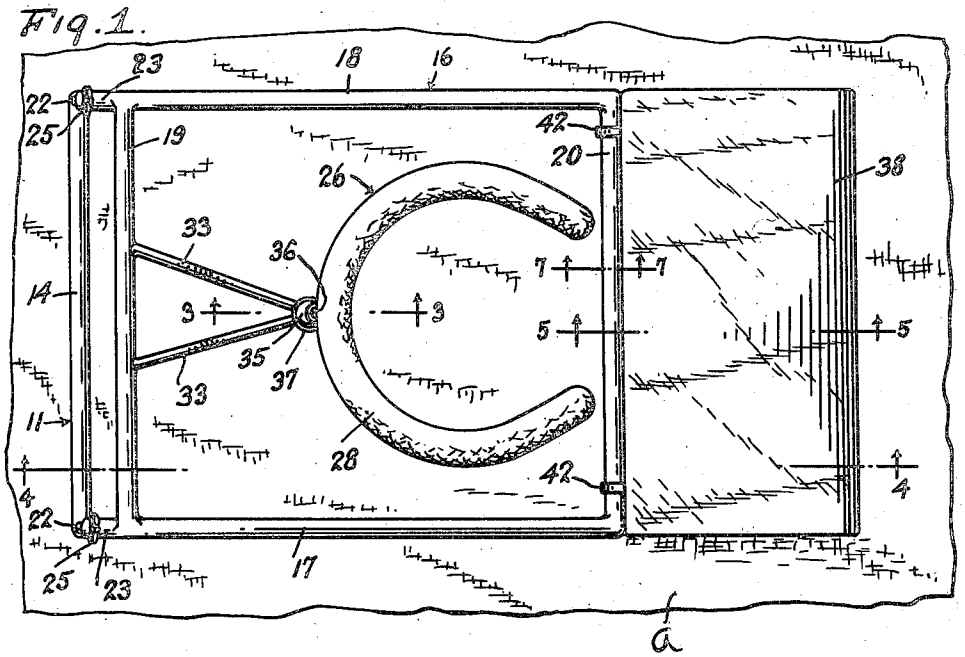
Feb. 8, 1949. E. MOYERS 2,461,434

FOLDING MECHANICAL PILLOW

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Fig. 1.



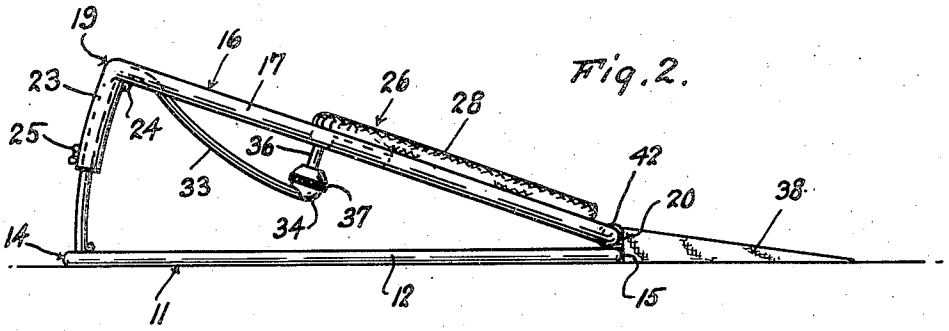


Fig. 2.

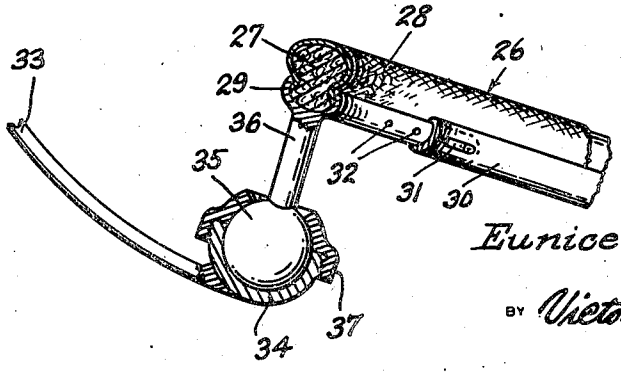


Fig. 3.

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FOLDING MECHANICAL PILLOW

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Fig. 4.

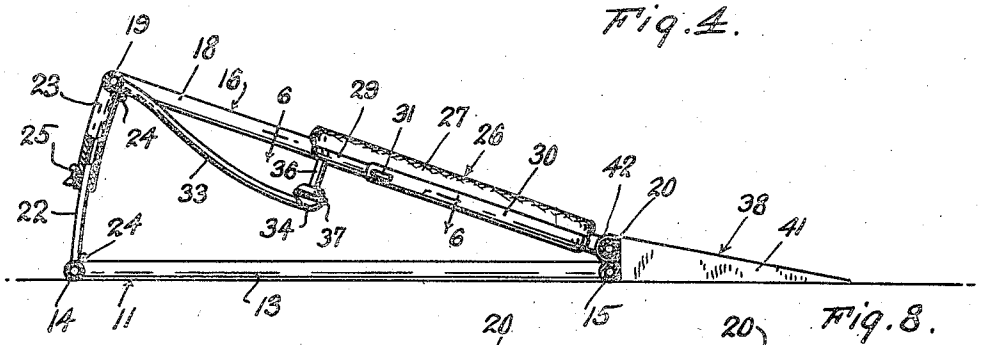


Fig. 7.

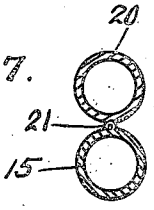


Fig. 8.

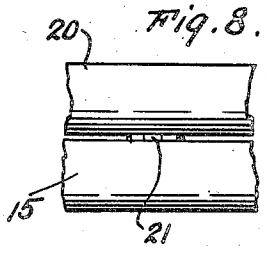
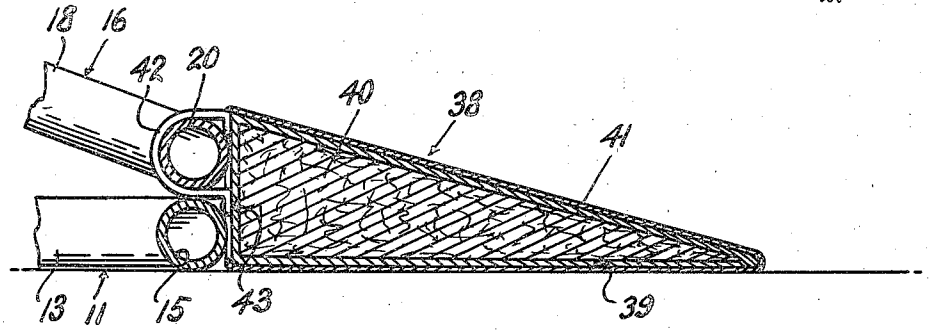


Fig. 5.



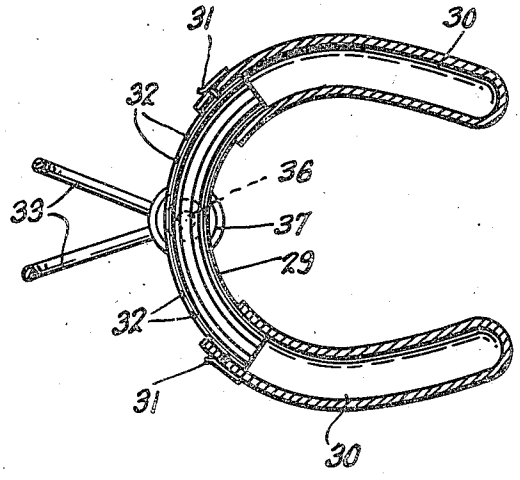


Fig. 6.

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Patented Feb. 8, 1949 2,461,434

UNITED STATES PATENT OFFICE

2,461,434

FOLDING MECHANICAL PILLOW

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Application May 24, 1944, Serial No. 537,118

3 Claims. (Cl. 5—71)

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This invention appertains to mechanical aids for persons afflicted with certain deformities of the body, natural or acquired, particularly of the back or spine, which necessitates relaxation or sleep in a prone position with the face downward, in order to gain comfort and ease, with proper breathing.

An object of the invention is to provide an angularly adjustable pillow of novel design and construction to give comforting support to the head above the bed level in a manner that prevents any obstruction to proper breathing and, at the same time, holds the head, in relation to the upper trunk, in a natural axial alignment therewith, so that the neck is in no way subjected to cramping or strain.

Another object of the invention has to do with the provision of an angular support for the upper trunk which acts in conjunction with the pillow to further the ease and comfortable support of the upper portion of the body of a person who is compelled to seek refreshing sleep in face down prone position.

Still another object of the invention lies in the provision of a combined pillow and chest support, with the pillow adapted for angular adjustment relatively to the bed level and to the chest support for change of position of the head axially in relation to the body.

A further object of the invention is to provide a combined head rest and upper trunk support as herebefore characterized, wherein the parts are adapted to be collapsed and folded one upon the other for compactness and convenience in transport, packing in travel, or storage when not in use.

Yet another object of the invention has to do with the provision of a pillow of the kind mentioned, which is adjustable to size for the comfortable support of various head formations.

With these and other objects and advantages in view, the invention resides in the certain new and useful combination, construction, and arrangement of parts, as will be hereinafter more fully described, set forth in the appended claims, and illustrated in the accompanying drawings, in which:

Figure 1 is a top plan view of the device, in accordance with the invention, when extended for use;

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Figure 2 is a side elevation thereof;

Figure 3 is a fragmentary vertical section taken through the line 3—3 of Figure 1;

Figure 4 is a vertical longitudinal section taken through the line 4—4 of Figure 1;

Figure 5 is a fragmentary vertical longitudinal section taken through the line 5—5 of Figure 1;

Figure 6 is a horizontal sectional detail taken through the line 6—6 of Figure 4;

Figure 7 is a vertical sectional detail taken through the line 7—7 of Figure 1; and

Figure 8 is a fragmentary detail, in side elevation, of the hinge connection between certain of the pillow supporting frame.

Referring to the drawings, wherein like characters of reference denote corresponding parts in the several views, the embodiment of the invention, as it is exemplified therein, is generally comprised of a flat base to be positioned at one end of a bed level; a like frame mounted for angular adjustment on and relatively to the base; a face rest or pillow mounted for angular adjustment within the frame; and an angular, substantially wedge-shaped, chest support or pillow in hinged connection with the frame.

The base 11 is substantially rectangular in form and is preferably made up of longitudinal and transverse lengths of metal tubing, either continuous or connected at their adjacent ends by L couplings (not shown), the longitudinal side members being designated 12, 13, and the transverse end members 14, 15, respectively.

Mounted on the base 11, for vertical angular adjustment relatively thereto, is a frame 16 that is also substantially rectangular in form and it is likewise made up of longitudinal and transverse lengths of tubular metal stock, either continuous or connected at their adjacent ends by L couplings (not shown), the longitudinal side members being designated 17, 18, and the transverse end members 19, 20, respectively. The transverse end member 20, of the frame 16, is hinged, as at 21, to the top side of the underlying transverse end member 15, of the base 11.

The frame 16 is normally disposed in an upwardly and rearwardly inclined position, relatively to the base 11 which is to be laid lengthwise on the bed level, and its gradient is to be varied, as required, in an upward direction from such normally inclined position of support, to which

end, upstanding, slightly arcuate, rods 22 are provided at the rear corners of the base 11 and these are engaged in the bores of tubular members 23, dependingly supported by hinge connections 24 from the complemental corners of the frame 16. A winged set screw 25 is threaded sidewise in each of the tubular members 23 adjacent its lower end. When the frame 16 is normally disposed, the rods 22 are fully engaged in the bores of the tubular members 23, the lower ends of which then resting on the top side of the underlying portions of the base 11. Thus, by loosening and tightening up the set screws 25, the frame 16 can be readily adjusted to any angle of inclination permitted by the respective lengths of the rods 22 and the tubular members 23.

Supported in the plane of the top side of the frame 16, and centered with respect to the longitudinal side members 17, 18, is a headrest or pillow 26, which is preferably of horse-shoe configuration in plan and has its open end directed toward the lower end of the frame 16. The headrest or pillow 26 is comprised in a length of cylindrical resilient material 27, such as sponge rubber, preferably enclosed within a fabric cover 28, and is secured, as by clinching, in the channel of a metal frame that is made up of a central section 29 and adjustable end sections 30. The end sections 30 are telescopically engaged on the ends of the central section 29 and each of the same is provided with a spring detent 31 for selective engagement with a series of apertures 32, formed in the engaged ends of the central section for the retention of the end sections in desired positions of adjustment.

The headrest or pillow 26 is supported from the rear transverse member 19, of the frame 16, by a substantially V-shaped bracket 33 which has the rear ends of its arms welded to the frame member 19, and which curves downwardly and forwardly from the points of connections of its arms with the frame member 19 and has its free end, or apex, disposed in the plane of the longitudinal center of the frame 16, which end is provided with a semi-spherical, upwardly opening, socket 34. Engaged in the socket 34 is a spherical body or ball 35 that is carried by the lower end of an arm 36, depending from the under side of the frame section 29 at its center. Loosely mounted on the arm 36 is a dished nut 37 having threaded connection with the socket 34 to clamp the spherical body or ball 35 in any position of adjustment of the headrest or pillow 26.

To secure greater ease and comfort in the use of the headrest or pillow 26, and to prevent cramping or twisting of the neck, it is desirable that a gradient support be provided for the upper or chest portion of the body. To such end, a substantially wedge-shaped cushion 38 is employed and has its thicker end portion abutted against the front ends of the base 11 and the frame 16, so that its angle of slope is substantially in continuation with that of the frame 16 and the headrest or pillow 26. The cushion 38 is made up of a casing 39, of a fabric or other flexible material, stuffed with a suitable filler 40, such as cotton or the like, and is preferably enclosed within a slip cover 41, which, together with the cover 28, of the cushion element 27 of the headrest 26, can be removed for laundering, as required. A pair of strap members 42 have their upper ends permanently secured in any suitable or well known manner to the cushion 38. The strap members 42 are bent around the transverse member 20 at the front end of the frame 16, and have

their lower ends detachably connected to the cushion 38 by separable fasteners of any well known construction, whereby to form a hinge connection so that the cushion may be pivoted on the frame member 20 to rest on the frame 16 when not in active use. By this arrangement, the weight of the body resting on the cushion tends to prevent displacement of the device, as a whole, from its initially emplaced position on the bed.

In use, and with the structure positioned lengthwise on the bed level or mattress *a* (Figure 1), the user will take a prone position on the bed, with the stomach resting on the bed level or mattress, the chest resting on the cushion 38, and the opposite sides of the face and the forehead on the cushion element 27 of the headrest or pillow 26. By effecting a proper adjustment of the frame 16 relatively to the base 11, and the headrest or pillow 26 relatively to the frame and the base, the head can be supported in comfortable positions for refreshing relaxation and sleep, without interference with proper breathing by reason of the face being positioned within the headrest or pillow opening.

Having thus fully described my invention, it is to be understood that any changes in design and minor details of construction and arrangement of parts, or in the materials employed, to which the disclosed device may be susceptible, may be resorted to, without departing from the spirit of the invention or its scope as claimed.

What I claim is:

1. An adjustable supporting device for use in beds, comprising a base, a frame hinged at its forward end to the forward end of the base to be inclined angularly with respect thereto, means for adjustably supporting the frame on the base, a head rest having an open center and an open end toward the hinge connection between the frame and base, a forwardly and downwardly curved V-shaped bracket connected with the back end of the frame and extending forwardly toward the hinge connection between the frame and base, a ball-and-socket pivotal connection between the forward end of the bracket and the back of the head rest, the socket member of said connection being carried by the bracket, and an upstanding arm fixed to the ball member of said connection and to the head rest, and means adapted to hold the ball against accidental turning movement with relation to the socket.

2. In a device of the character set forth, a main base, an auxiliary supporting frame, means securing the same on the main base whereby the degree of inclination between said base and frame may be adjustably altered, a ball and socket joint, means supporting the joint from the frame, the socket member of the joint being fixed rigidly to said means, a head rest fixed rigidly at its rear end to the ball member of said joint, the said joint adjustably supporting the head rest for selective adjustment laterally in a plurality of directions to raise or lower its front end, and means on the socket member for locking the ball member against accidental movement relative to the socket member so as to hold the head rest in selected adjusted positions.

3. In a device such as claimed in claim 2, wherein the head rest is of substantially horse-shoe configuration and comprises a central section and end sections, the central section being fixed to the ball member of the ball and socket joint and the end sections being slidably associated with the central section to enable the effective size of the

head rest to be varied, and means for securing the end sections in selected adjusted positions on and relative to the central section.

EUNICE MOYERS.

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