April 17, 1956 E. AIBEL 2,741,869

READING STAND

Filed Aug. 31, 1953

FIG. 1.

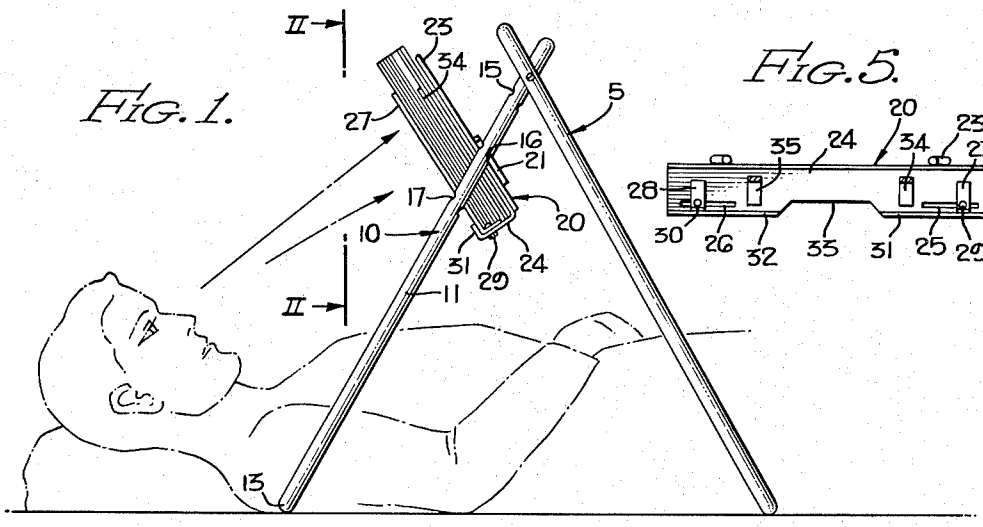


FIG. 5.

FIG. 2.

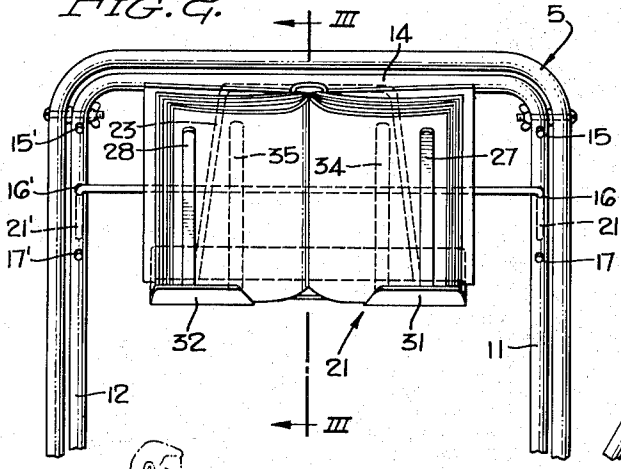
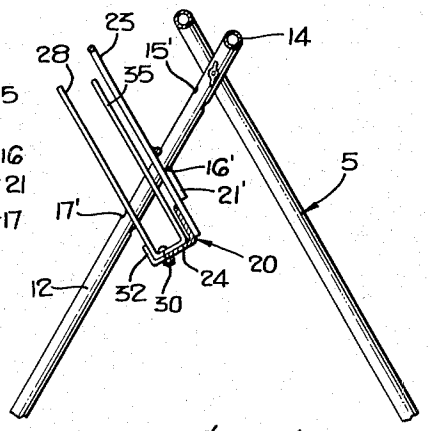


FIG. 3.



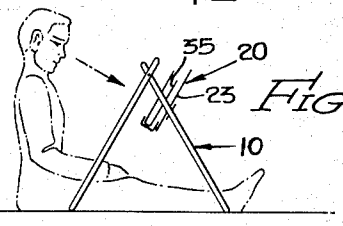
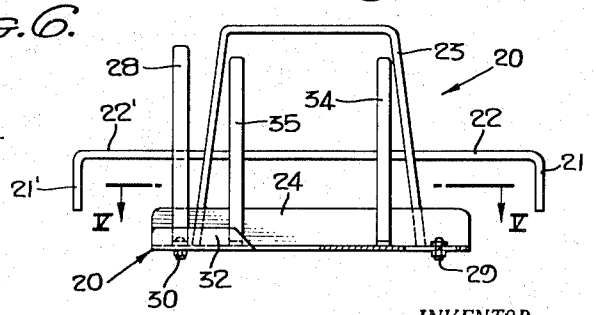


FIG. 6.

FIG. 4.



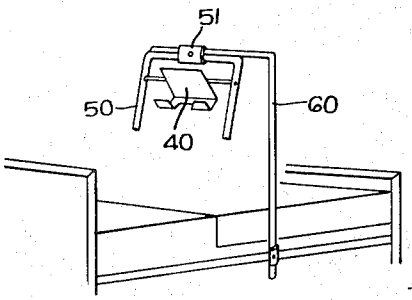


FIG. 7.

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READING STAND

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5 Claims. (Cl. 45—82)

This invention relates to stands for supporting textual instruments, and more particularly relates to a lightweight, portable, adjustable, multiposition book and magazine reading stand in which to support a textual instrument, such as a book, so that it will face downwardly at a proper angle for a reader lying in a supine position, or alternatively so that it will face upwardly at a proper angle for a reader sitting in an upright position.

It is well known to provide stands for holding textual instruments, such as books, magazines, sheet music, and so forth, to be read, played as music, photographed, or otherwise used so as to relieve the user to perform other tasks or simply to relax. Such stands are of great advantage when the textual material is heavy, such as for example in the case of a large book.

Included among the many types of such stands are book supports or rests to be used on tables and desks, music holders usually carried by fixed or movable upright supports, bedstead holders, and reading racks usually employed with and supported by beds, chairs and the like. Such stands are usually employed in conjunction with hospital beds and chairs for convalescents, in order to support textual material to be used by such persons who are in a weakened condition or who cannot conveniently assume an upright position. In the latter case, means are usually provided to support the textual material with its pages directed downwardly so as to be read while the user is supine.

The prior art indicates that most stands for supporting textual instruments are of specialized construction for a given purpose and installation, and are therefore rather limited in their application. Thus, in many instances, they are heavy and immovable and must be positioned and used in only one location. Once installed, they are of limited adjustability and awkward and inconvenient to adjust and reposition. They are usually not adjustable to be used alternately for reading when sitting upright or when lying supine. They are difficult to employ with textual materials having pages which must be turned. Furthermore, for the most part, they are contemplated only for limited use indoors. No reading stand of universal application which is lightweight and portable and capable of being carried about and used indoors or outdoors for leisure reading appears to be known.

It is accordingly an object of this invention to provide a lightweight, portable, adjustable, multiposition, reading stand for supporting textual instruments which is of universal application.

It is another object of the invention to provide such a reading stand which is readily adjustable to support a book or magazine in an open condition either with the pages of the book facing downwardly or upwardly.

It is another object of the invention to provide such a reading stand wherein a book holder is adjustable with respect to height, distance and angle to suit various positions of the reader's eyes, whether supine or sitting upright.

It is another object of the invention to provide such a reading stand having a book holder which is adjustable

to accommodate books or magazines of various dimensions.

It is a further object of the invention to provide such a reading stand having a book holder which includes means for preventing the pages of a book from turning over, which are independent of the means which prevent the book from falling out of the stand.

It is another object of the invention to provide a book holder which serves to support a book in an open condition so that the pages of the book may be easily and conveniently turned, without removing the book from the holder or making any mechanical adjustment.

It is another object of the invention to provide a reading stand which is easily adapted to be adjustably and detachably clamped to a bedstead, chair or the like.

It is still another object of this invention to provide a reading stand which is of simple construction, inexpensive to manufacture, easy to install and manipulate, and very efficient and durable in use.

These and other objects and advantages and particular features of the invention will become apparent from the following description and accompanying drawings showing the manner in which the invention may be conveniently embodied in practice.

In the drawings:

Fig. 1 is a side elevational view of the reading stand illustrating the use of the stand by a reader in a supine position.

Fig. 2 is a fragmentary elevational view of that portion of the stand indicated by the lines II—II of Fig. 1.

Fig. 3 is a view in cross section taken along the line III—III of Fig. 2.

Fig. 4 is a front elevational partially sectional view of the book-holding frame.

Fig. 5 is a view in cross section taken through the line V—V of Fig. 4.

Fig. 6 is a side elevational view of the reading stand set up to be employed by a reader sitting in an upright position.

Fig. 7 is a perspective view of another embodiment of the invention.

In general, the invention comprises a U-shaped rack, a book holding frame adapted to be carried by the rack, and a supporting member. The rack has downwardly directed legs provided with a multiplicity of longitudinally spaced correspondingly inclined ports in which to carry the holding frame so that an open book supported in the frame can be positioned alternately with its pages directed downwardly or upwardly and at various distances from the user. The book holding frame is provided with a holder portion to receive and retain the lower edge of an open book, back supporting means to support the back and upper portion of the book when the pages are directed upwardly, back holding means to engage the inside of the back of each cover of the book and retain the book in the frame when the pages are directed downwardly, adjustable leaf-spreading means for spreading and holding the pages open, and carrying means to fit into the inclined ports in the rack so that the frame can be carried. In the principal embodiment of the invention, the supporting member is also U-shaped with downwardly directed legs and is pivotally connected to the rack. The reading stand can thereby be positioned to rest on the four legs of the rack and supporting member, and the legs of the rack can be disposed toward the user when the pages of the book are directed downwardly, and away from the user when the pages of the book are directed upwardly. The supporting member may also be a fixed member from which the rack may be adjustably supported.

Referring to the accompanying drawings wherein like numerals indicate corresponding parts in all the figures,

5 designates a supporting member, 10 a rack element, and 20 a bookholding frame.

The rack 10 is preferably of light metal tubular stock bent into an inverted U-shape so as to provide it with two downwardly directed legs 11 and 12, with resting tips 13, and an upper horizontal portion 14.

Means are provided for adjustably positioning the bookholding frame 20 upon the rack 10, such means including a multiplicity of correspondingly longitudinally spaced inclined ports which include an upper port 15 in the leg 11 identically inclined and spaced to correspond to the upper port 15' in the leg 12; a middle port 16 in the leg 11 identically inclined and spaced to correspond to a middle port 16' in the leg 12 and a lower port 17 identically inclined and spaced to correspond to a lower port 17' in the leg 12. The ports are each inclined at an angle of between 30 and 60 degrees to the axis of the legs and each corresponding pair of ports is identically inclined, although all the ports which are provided need not be identically inclined. Thus, for example, the corresponding ports 15 and 15' may be inclined at one angle between 30° and 60° while the corresponding ports 16 and 16' may be inclined at another different angle between 30° and 60°.

The inclined ports are adapted to receive two downwardly directed pins 21 and 21' carried by the horizontally extending arms 22 and 22' of the bookholding frame 20. The horizontal arms 22 and 22' extend from a back rest portion 23 of the bookholding frame 20 to which they are welded or otherwise attached in the manner shown in Fig. 3.

The bookholding frame 20 has a channel-shaped bottom portion 24 into which the bottom edge of a book may fit and may rest conveniently in the manner illustrated in several figures of the drawing. As shown particularly in Fig. 5, the bottom 24 is provided with two laterally extending spaced slots 25 and 26 which enable two upstanding laterally spaced page retainer bars 27 and 28 to be clamped in position and adjustably supported by means of two screw clamps 29 and 30. On its front margin, the bottom 24 is cut away to form two spaced upstanding lips 31 and 32 which retain the book in open condition, and a lower open portion 33 between the lips 31 and 32, so that the pages of the book can be more easily turned.

In order to hold the book in the bookholding frame 20 with the pages of the book facing downwardly in the manner illustrated in Fig. 1, two fixedly attached longitudinally spaced vertical back holders 34 and 35 are positioned relatively to each other in the bottom 24, as shown in Figs. 2 and 4. In order to hold the book within the frame 24 when it is in an open condition with the pages of the book facing upwardly in the manner illustrated in Fig. 6, the back rest member 23 is provided and is welded or otherwise attached to the bottom portion 24 in the manner shown in Fig. 5.

When the reading stand is used to hold an open book with the pages facing upwardly, it is positioned as shown in Fig. 6. In this position, the lower edge of the book is retained in the channel-shaped bottom 24. The back of the cover of the book rests against the back rest 23, and the insides of the covers are in contact with the back holders 34 and 35. The page retainer bars 27 and 28 are laterally adjustted so as to position them just beyond the margin of the print on the pages. The rack is positioned in a plane inclined toward the user, and the frame 20 is positioned in the rack 10 with the pins 21 and 21' within an appropriate pair of corresponding slots in the legs 11 and 12, so that the frame 20 is held above the slots in which the pins are inserted.

In order to adjust the angle and distance of the book from the reader's eyes, the frame 20 may be lifted so as to disengage the pins 21 and 21' from the ports in which they are inserted, and to reposition them into another pair of ports which are nearer or farther away and at a

different inclination to the axis of the legs 11 and 12. Thus, for example, if the pins are in the ports 15 and 15', assumed to be inclined at 30°, the frame 20 could be moved closer and disposed at a different angle toward the reader's eyes by repositioning them in the ports 16 and 16', assumed to be inclined at 35°.

From the above described position the reading stand may be adjusted to be used with the pages of an open book directed downwardly by pivoting the rack 10 on the supporting member 5 so as to change the inclination of the rack 10 to that shown in Fig. 1, and by repositioning the frame 20 with the pins 21 and 21' within an appropriate pair of slots in the legs 11 and 12, so that the frame 20 is held below the slots in which the pins are inserted.

In this position, the book is held against falling out of the frame 20 through the cooperation of the channel-shaped bottom 24, in which the bottom edge of the book is retained, the back holders 34 and 35 which engage the insides of the covers of the book, and the page retainer bars 27 and 28 which hold the pages open, even though they are directed downwardly.

In either position, but particularly when the reader is reclining, the U-shape of the rack 10 and the supporting member 5 adapts the stand to be set up so that it may conveniently straddle the user's body, in the manner illustrated in Fig. 1. Also, in either position, the pages of the book though retained are free to be easily turned, by reason of the cutaway portion at the front margin of the bottom 21.

In the main embodiment, the rack 10 is pivotally supported by the similarly U-shaped support member 5 in the manner shown more particularly in Fig. 2. However, the rack 10 may be supported in any other appropriate manner, such as shown for example in another embodiment of the invention which is illustrated in Fig. 7. It is also contemplated that the legs of the rack may be sharpened so that they can be forced into the ground to provide the necessary support.

Although the invention as disclosed in the main embodiment is capable of being used on a bed or couch, another embodiment particularly suitable for such use is shown in Fig. 7. In this embodiment a book holding frame 40, similar to the frame 20, previously described, is carried by a short-legged rack 50, which in turn is adjustably and pivotally mounted upon a horizontal bar of an L-shaped supporting member 60 as by clamp 51. Support 60 may be attached by a clamp 61 or in any other suitable manner to the frame of a bed, chair or the like. As in the previous embodiment the rack is inclined toward the user for use in a supine position and away for use in an upright position. The rack 50 may be moved laterally along the horizontal arm of member 60 into most convenient position; the short legs of the rack permit the user to move freely and do not interfere with the bed clothes.

It is understood that various other changes and modifications may be made without departing from the inventive concepts here disclosed. The scope of the invention is to be limited only by the terms of the appended claims.

I claim:

1. An adjustable, portable, lightweight, multi-position book and magazine reading stand comprising: a rack element in the form of an inverted U with parallel, downwardly directed legs; a plurality of ports longitudinally spaced and extending through each of said legs, each of said ports having its axis inclined at an angle of between about 30° and 60° to the axis of the leg; a lightweight book-holding frame provided with a pair of oppositely and horizontally extending arms, each arm including a downwardly directed pin adapted to be removably inserted in a selected port of a rack leg to hold said frame in a plane inclined to the axis of the legs, said frame including a back, a bottom, a pair of spaced

upstanding lips at the front margin of the bottom upstanding, means adapted to hold the cover of a book in proximity to the back, and vertical, laterally spaced and laterally adjustable page-retaining means.

2. A reading stand of the character stated in claim 1, wherein the rack element is of tubular stock, and the arms of the book-holding frame lie in a plane above the center of gravity of such frame.

3. An adjustable, portable, lightweight multi-position book and magazine reading stand comprising: a rack element in the form of an inverted U with parallel, downwardly directed legs; a support means and an adjustable connection between said rack element and said support means; a plurality of ports longitudinally spaced and extending through each of said legs, each of said ports having its axis inclined at an angle of between about 30° and 60° to the axis of the leg; a lightweight book-holding frame provided with a pair of oppositely and horizontally extending arms, each arm including a downwardly directed pin adapted to be removably inserted in a selected port of a rack leg to hold said frame in a plane inclined to the axis of the legs, said frame including a back, a bottom, a pair of spaced upstanding lips at the front margin of the bottom upstanding, means adapted to hold the cover of a book in proximity to the back, and vertical, laterally spaced and laterally adjustable page-retaining means.

4. A reading stand of the character stated in claim 3, wherein the rack element is of tubular stock, and the arms of the book-holding frame lie in a plane above the center of gravity of such frame.

5. An adjustable, portable, lightweight, multi-position and magazine reading stand comprising: a rack element in the form of an inverted U with parallel, downwardly directed legs; a plurality of ports longitudinally spaced and extending through each of said legs, each of said ports having its axis inclined at an angle of between about 30° and 60° to the axis of the leg; a lightweight book-holding frame provided with a pair of oppositely and horizontally extending arms, each arm including a downwardly directed pin adapted to be removably inserted in a selected port of a rack leg to hold said frame in a plane inclined to the axis of the legs, said frame including a back, a bottom, a pair of spaced upstanding lips at the front margin of the bottom upstanding, means carried by the bottom adapted to hold the cover of a book in proximity to the back, and vertical, laterally spaced and adjustable page-retaining means; a support means in the form of an inverted U with parallel, downwardly directed legs spaced a distance differing from the spacing of legs of the rack element and a horizontal pivotal connection between legs of said support and rack element whereby said reading stand may be adjustably positioned to rest on the legs of the rack element and support means with the legs of the rack element in a plane inclined toward or away from the user.

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