

[54] **BOOK SUPPORT RACK**

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[51] Int. Cl. .... **A47b 23/00**

[58] Field of Search ..... 248/445, 448, 449, 451, 248/452, 453, 454

[56] **References Cited**

**UNITED STATES PATENTS**

|           |         |              |           |
|-----------|---------|--------------|-----------|
| 747,188   | 12/1903 | Klee.....    | 248/451   |
| 1,822,175 | 9/1931  | Snyder.....  | 248/451   |
| 3,114,215 | 12/1963 | Turkin.....  | 248/449   |
| 3,140,558 | 7/1964  | Cassidy..... | 248/452 X |

**FOREIGN PATENTS OR APPLICATIONS**

|         |        |               |         |
|---------|--------|---------------|---------|
| 498,835 | 5/1930 | Germany ..... | 248/445 |
|---------|--------|---------------|---------|

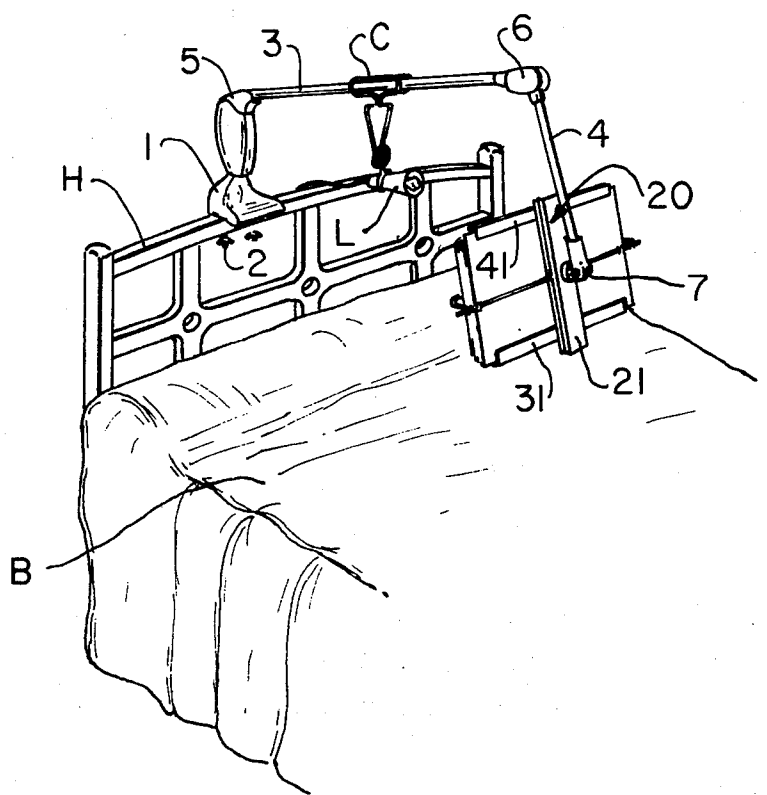
538,098 12/1946 United Kingdom..... 248/445

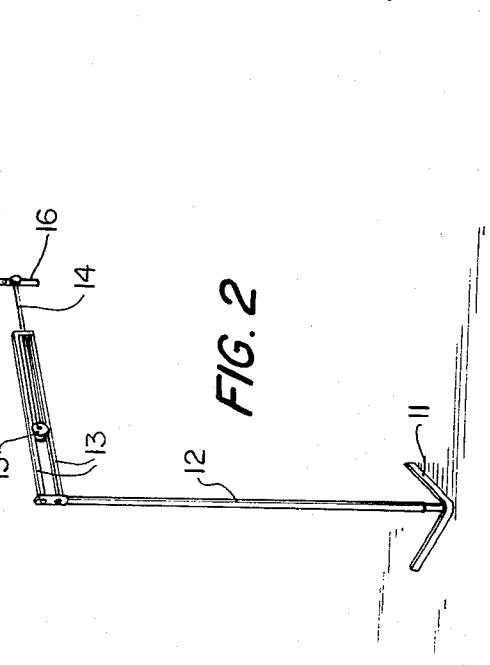
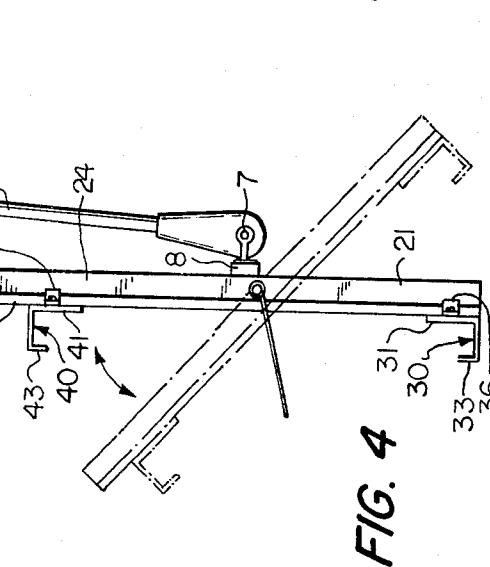
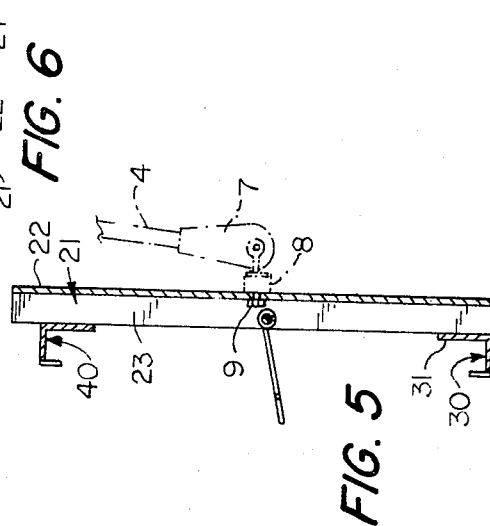
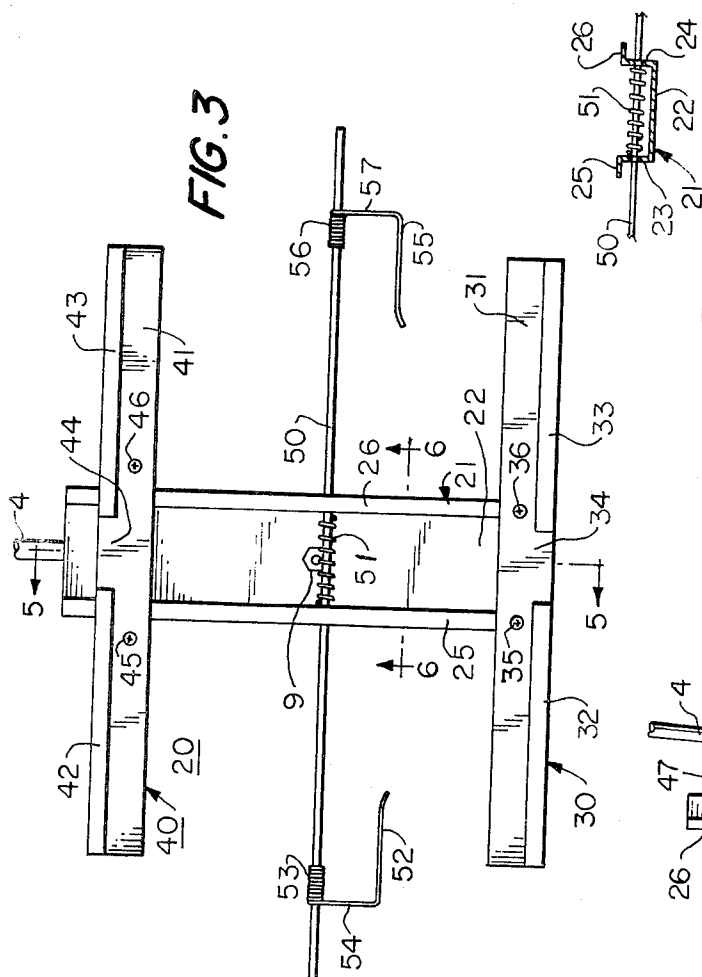
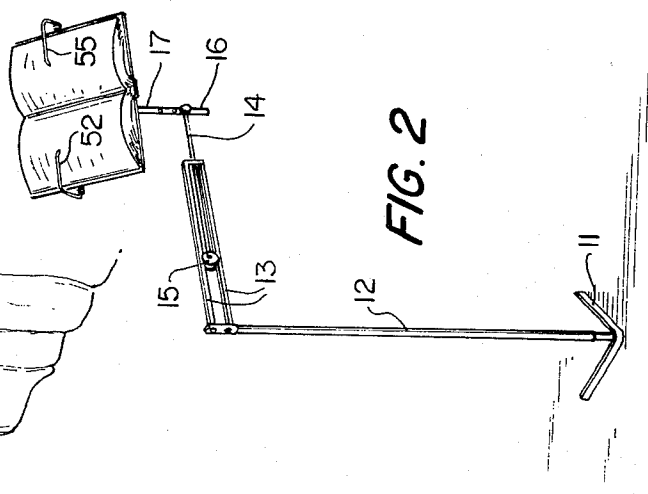
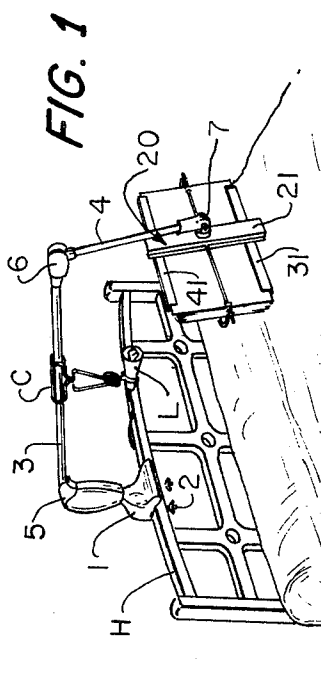
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[57] **ABSTRACT**

A book support of the type used while reading in bed including a suitable floor base or bed-clamping base, an adjustable rack for holding a book, and articulated arm members joining the rack to the base and adjustable to any desired reading position, the book rack itself being made of two horizontal opposed book-cover gripping channels joined together by an upright channel member in such a way as to make the cover gripping channels adjustable to accommodate books of different size, and the upright channel member supporting a page retainer including a rod extending through the upright channel and having spring fingers near its ends to overlie the pages and retain them against the book.

**5 Claims, 6 Drawing Figures**





## BOOK SUPPORT RACK

## FIELD OF INVENTION

This invention relates to improvements in bed-reading book racks or stands, and more particularly to improvements in the book supporting rack itself.

## BACKGROUND AND PRIOR ART

There are a great many patents teaching various constructions of book supporting racks, some showing bases sitting on the floor, as in Pat. Nos. 3,215,482 and 3,606,235, and others showing bases clamping to a part of the bed structure, as in U.S. Pat. Nos. 3,351,312 and 3,514,066. The patents generally show some sort of fingers for retaining the pages flat, for instance including light spring-metal fingers as in U.S. Pat. Nos. 3,215,482; 2,774,177; 3,076,285; 3,104,491, but these are often supported on heavy adjustable telescoping bars such as in U.S. Pat. Nos. 3,104,491 and 3,076,285. Most of the racks have features of adjustability as additionally shown in U.S. Pat. Nos. 1,590,726 and 1,037,140. Other patents of interest include U.S. Pat. Nos. 1,392,200 and 1,699,176, the latter showing a lamp clamped onto a supporting arm. These patented racks all serve a similar purpose, but for the most part they are too heavy and too complex and costly to manufacture on a large commercial scale.

## THE INVENTION

It is an important object of this invention to provide a bed-reading book support including a novel and improved book rack, which can be carried by any type of base whether floor supported or clamped to the bed structure, wherein the rack itself is of simple rigid construction made preferably of light-weight metal extrusions adjustably assembled to accommodate books of different sizes, and wherein a very simple and inexpensive page retainer is provided having advantages as set forth below.

It is a more specific object of this invention to provide a book supporting rack including an upright channel member supported intermediate its ends on a universal joint attached to the articulated arms extending from the supporting base of the stand, and the upright channel member having an upwardly opening channel across its lower end extending substantially horizontally and permanently fixed to the upright channel member, and the upright channel member having spaced flanges thereon which support a downwardly opening horizontal channel in such a way that the engagement of the latter channel with the upright channel member is frictional so that the upper channel can be moved up and down to accommodate different sizes of books.

Still another object of the invention is to provide a highly effective page retainer comprising a horizontal traverse bar extending through horizontally spaced holes in the upright channel member between the two horizontal channels, and this bar being frictionally retained in position with respect to the upright channel member, and having at its outer ends spring fingers which extend around the ends of the book and engage the pages to hold them tightly against the book, the respective spring fingers comprising extensions of helical springs which have a relaxed inside diameter less than the rod diameter on which they are carried so that the helical springs grip the rod in a manner tight enough to

hold the spring fingers in place, but still yieldable so that they can be moved in and out on the rod to accommodate different size books.

Yet another object of the invention is to provide leaf retaining means of the type described above in which the bar is free to rotate with respect to the upright channel member in which it is supported so that the spring fingers will tend to droop downwardly by rotating the bar downwardly, whereby the pages will always be snugged against the book regardless of the thickness of the stack of pages against which the spring fingers are engaged, and the individual helix springs carrying the two fingers at opposite ends of the rod being rotatable on the rod so that they can be angled in different planes to accommodate situations in which the stack of pages on one side of the book is much thicker than the stack of pages on the other side as the reader reads progressively through the book. These degrees of rotational freedom of the individual fingers with respect to the rod, and of the rod with respect to the upright channel member in which it is supported, permit the pages of the book always to be held down snugly without requiring that the user bend the spring fingers or the supporting springs in order to achieve the desired positions thereof.

Still another object of the invention is to provide a page retainer including the horizontal traverse rod, which rod is held in position with respect to its own axis by a helical spring contained within the upright channel member and surrounding the rod in frictional clamping engagement therewith, whereby the rod can be axially slid back and forth through the upright channel member so as to lengthen it on one side or the other, thereby accommodating the situation in which the book is lopsided because it is not open in its center, as when the user is reading the beginning of a thick book or the end thereof.

Other objects and advantages of the invention will become apparent during the following discussion of the drawings, wherein:

## THE DRAWINGS

FIG. 1 is a perspective view of a bed with a stand clamped to it and supporting the novel book rack according to the present invention on articulated arms;

FIG. 2 is a view of the front of the book rack according to the present invention supporting a book, the rack being maintained in a vertically and horizontally adjustable stand of the floor stand variety;

FIG. 3 is a plan view of the rack according to the present invention showing it on a somewhat larger scale;

FIG. 4 is a side view of the rack shown in FIG. 3;

FIG. 5 is a section view taken along line 5—5 of FIG. 3; and

FIG. 6 is a section view of the upright channel member and the center portion of the rod taken along line 6—6 of FIG. 3.

Referring now to the drawings, FIG. 1 shows a bed B having a head H supporting the base 1 of a bed-clamping stand, the base 1 having a screw clamp 2 located beneath it in a manner well known per se in connection with drafting table lamp supports. The base 1 has two arms 3 and 4 extending from it and articulated at the joints 5 and 6. At the outer end of the arm 4 there is a universal joint 7 which is secured to the rack by an attaching boss 8 and a nut 9 which can be seen best in

FIGS. 3 and 5. FIG. 2 shows an entirely different type of stand adapted to sit on the floor, and including a base 11 supporting an upright shaft 12 which has a horizontal telescoping arm including the members 13 which are secured to the upright shaft 12 and an arm 14 which is slidable back and forth between the arm 13, including a clamp joint 15. The arm 14 is connected at 16 to a vertical arm 17 carrying at its top end a joint similar to the joint 7 (not shown in FIG. 2). The particular type of stand, whether it be a stand clamped to the bed as shown in FIG. 1 or a floor stand as shown in FIG. 2, forms no part of the present invention and is included merely to illustrate the breadth of the present concept.

The inventive features are believed to lie in the book supporting rack itself which is best seen in FIGS. 3 through 6 inclusive.

The book supporting rack 20 includes an upright channel member 21 having a web surface 22 adjoining two side surfaces 23 and 24, FIG. 6, and the upright channel member 21 further including two flange portions 25 and 26 which are attached to the side portions 23 and 24 respectively, and from a part of the overall channel extrusion 21 which serves as the backbone of the book supporting rack.

The rack further includes a lower channel 30 opening upwardly as best seen in FIG. 4 and FIG. 5, the channel 30 having a rear upright portion 31 which is secured to the flanges 25 and 26 by bolts 35 and 36. The cover of the book sits in the trough in the channel 30, and the cover is prevented from leaving the front of the channel by the two vertical portions 32 and 33 which are cut away in the vicinity of the reference character 34 in order to provide a gap for receiving the binding portion of the book. There is also an upper book supporting channel 40 having a downwardly extending back portion 41 carrying two bolts 45 and 46 which support lugs such as the lug 47 shown in FIG. 4, which lugs extend around the flanges 25 and 26 of the upright channel member 20 and frictionally retain the upper channel 40 in adjusted position thereon. The upper channel 40 also has front portions 42 and 44 serving to retain the top of the cover of the book and prevent it from pulling forwardly out of the bracket, the gap in the vicinity of the reference character 44 serving to pass the upper end of the book binding. Thus, the book can be supported both at its upper cover edge and at the lower edge of its cover so that it is firmly held, but so that the pages are free to turn.

The leaf retainer comprises a rod 50 which extends through two spaced holes in the side portions 23 and 24 of the upright channel member so that the rod is rotatably and reciprocally held in the channel member 21. The rod is retained in selected axial position by the coil spring 51 whose relaxed inside opening is slightly smaller than the diameter of the rod 50 so that the spring 51 resists reciprocation of the rod 50 in the upright channel member 21, but permits adjustment thereof by pushing the rod back and forth. Near the outer ends of the rod 50 are located the page retaining fingers 52 and 55 which are respectively an integral part of the helical springs 53 and 56 which, like the spring 51, are wound with a normal relaxed internal diameter slightly smaller than the outside diameter of the rod 50 so that they also grip the rod, but with a grip which is yieldable so that the springs can be moved back and forth thereon or rotated thereabout in order

to change their mutual orientation. Thus, it will be apparent that the fingers 52 and 55 will tend to droop downwardly by gravity, thereby rotating the rod 50 in the holes through which it passes in the upright channel member 21. Since the plane occupied by the spring portions 52-54 need not be the same plane which is occupied by the spring portions 55-57, it should be apparent that the springs 53 and 56 can be rotated relative to each other on the rod so that for any stacking of the pages on one side of the book as compared to the pages as stacked on the other side of the book, it is possible to have the fingers 52 and 55 hold the pages down by gravity so that the pages lie flat against the book. This is an important feature of the present invention since it overcomes the tendency of the pages on the thick side of the book to govern the position of the fingers on both sides of the book.

In addition, it is contemplated that a suitable lamp such as the lamp L can be connected either to the base of the stand or to one of the arms thereof, for instance by the clamp C as shown in FIG. 1 to provide convenient illumination for the reader.

The stand can be tipped about the joint 7 as shown in FIG. 4, or it can be rotated out of horizontal position around the nut 9 and boss 8 so as to place the whole stand in any desired position, whereby the joints 7, 8, and 9 can be truly said to provide universal mounting of the rack upon the rest of the stand.

The present invention is not to be limited to the exact form shown in the drawings provided for illustrative purposes, for obviously changes may be made therein within the scope of the following claims.

I claim:

1. A book support comprising:

- a. a base member;
- b. a book supporting rack;
- c. articulated arm members connected between the base member and the rack and adjustable to position the supporting rack in a desired reading position, and
- d. said book supporting rack comprising an upright channel member having an intermediate point on one face connected to one of said arm members by universal joint means and opening on its other face toward the plane in which the book is to be supported; a transverse lower channel opening upwardly to support a book and the channel being fixed to said upright channel member and disposed at right angles across its other face; an upper transverse channel opening downwardly to support a book and disposed at right angles across said other face of the upright channel member and clamped thereto by slidable means so that the upper channel can be vertically positioned thereon to accommodate different-height books; and page retaining means comprising a rod passed through horizontally aligned holes in said upright channel member and extending outwardly on each side thereof to lie between said upper and lower channels, and a helical spring having a relaxed inside diameter less than the rod diameter applied onto the rod near each of its opposed ends, and a page retaining finger extending from each of the springs and bent around to yieldably overlie and retain the pages against the book.

2. The book support as claimed in claim 1, wherein said upright channel member has a web portion com-

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prising said one face connected to one arm member, and two flange portions comprising said other face of the channel member and joined to the web portions by two side portions of the channel, the lower book supporting channel being fixed to said flange portions and the upper transverse channel lying against the face of said flange portions and carrying bracket means extending behind the flange portions and comprising said slidable means frictionally engaging the latter.

3. The book support as claimed in claim 1, wherein said upright channel member has a web portion comprising said one face connected to one arm member, and the web portion being connected to two side portions of the upright channel member, said rod passing through holes in the opposed side portions and being retained therein by a helical spring retainer of inside

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diameter less than the rod diameter, the spring retainer surrounding the rod within the channel member between its two side portions and frictionally gripping the rod to retain it positioned with respect to the channel member.

4. The book support as claimed in claim 1, wherein the central portion of both of the transverse channels in the vicinity of the upright channel member is cut away to pass the binding of a book so that the transverse channels grip the book only at the upper and lower edge of its cover.

5. The book support as claimed in claim 1, wherein each page retaining finger is an integral part of the helical spring applied to the end of the rod and comprising spring metal wire.

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