

May 26, 1970

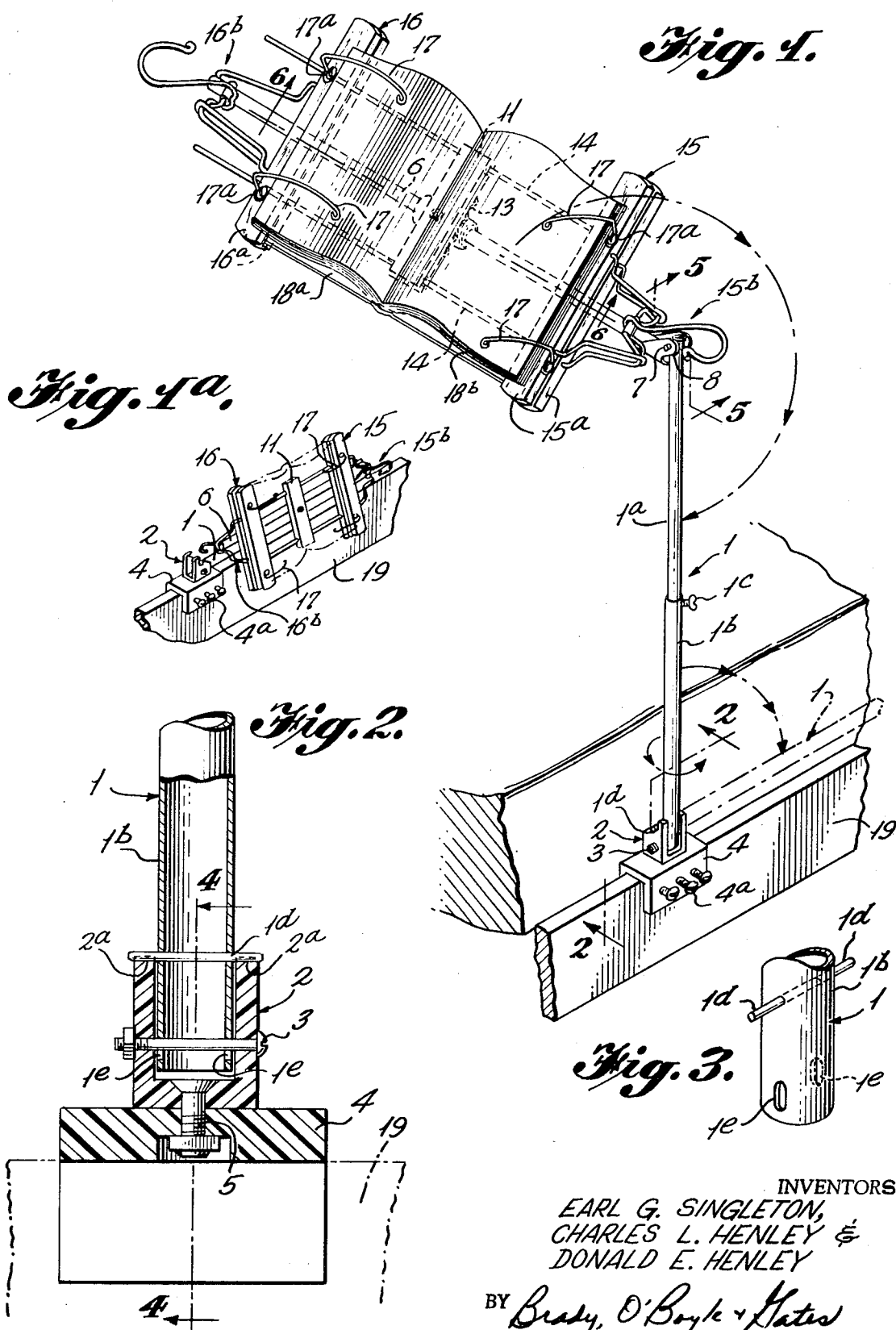
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3,514,066

BOOK HOLDER FOR BEDREADER

Filed April 8, 1968

2 Sheets-Sheet 1



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Fig. 4.

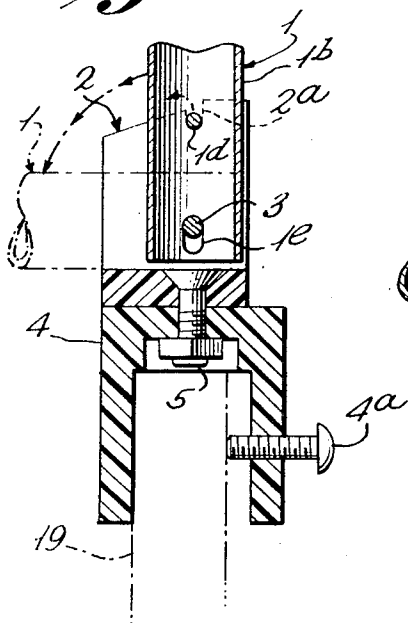


Fig. 5.

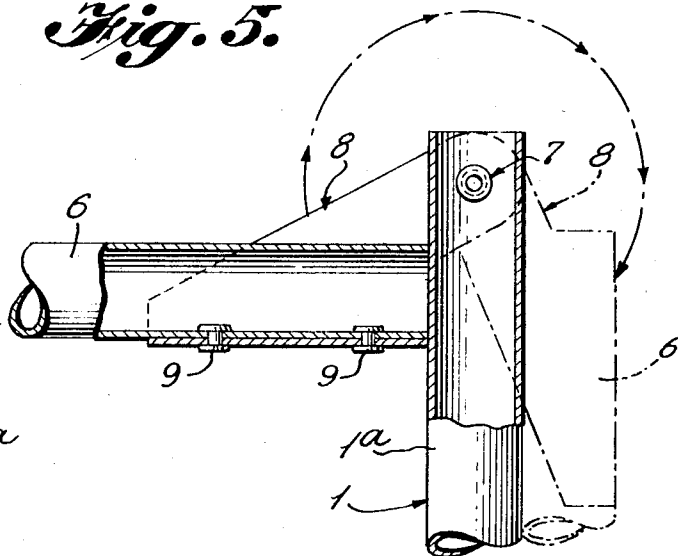


Fig. 6.

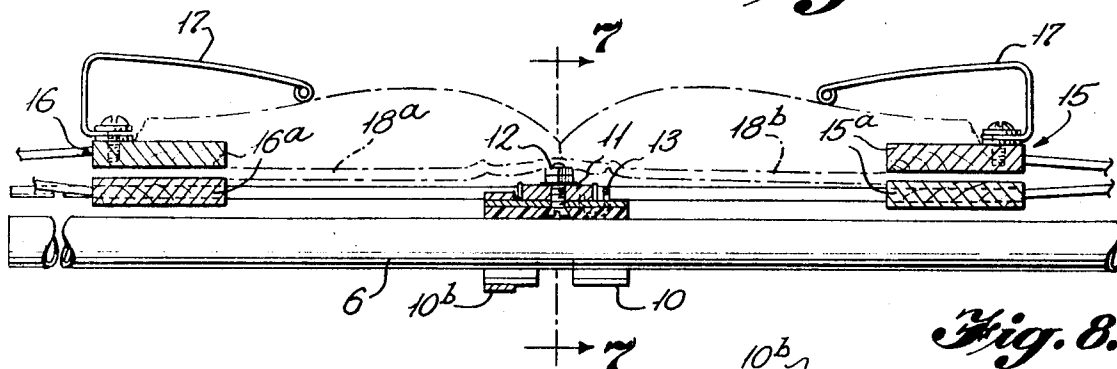


Fig. 7.

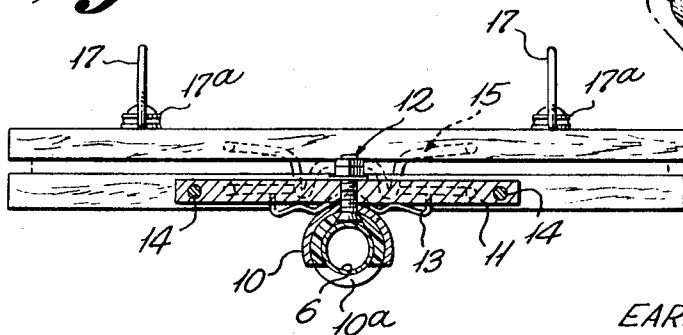
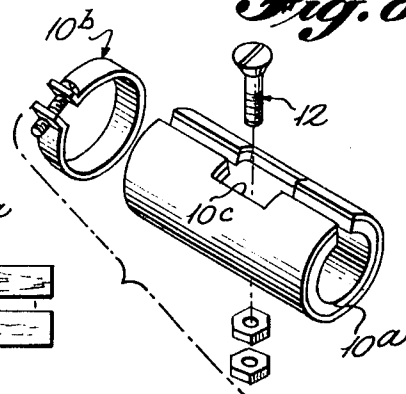


Fig. 8.



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BOOK HOLDER FOR BEDREADER

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9 Claims

ABSTRACT OF THE DISCLOSURE

A book holder including a vertical rod having its lower end pivotally connected to a bracket which is pivotally connected to a clamp adapted to be secured to the side frame of a bed. A horizontal bar is pivotally connected to the upper end of the vertical rod, and a book clamping assembly is adjustably mounted on the horizontal bar. The book clamping assembly is adapted for universal movement to accommodate various reclining positions assumed by the user while reading in bed, and when not in use, the vertical rod carrying the horizontal bar and associated book clamping assembly may be folded to an inoperative position along the side of the bed.

BACKGROUND OF THE INVENTION

Heretofore, various types of devices have been proposed for holding books in reading positions to enhance the comfort of the user while in a reclining position; such as, a patient in a hospital bed. While these devices have been satisfactory for their intended purpose, they have been subject to certain disadvantages, notably, their cumbersome design, their inability to adequately clamp various sizes of books, and their lack of versatility for adjusting the position of the book to accommodate the various reclining positions assumed by the user. Furthermore, when these book holding devices were not being used, it was necessary to either remove the entire assembly from the bed, or, in some instances, it was necessary to leave the book holding device on the bed in an upright, inoperative position.

SUMMARY

After considerable research and experimentation, the book holder of the present invention has been devised to overcome the disadvantages experienced in hitherto employed book holding devices, and comprises, essentially, a vertical rod having its lower end pivotally connected to a bracket which in turn is pivotally connected to a clamp adapted to be secured to the side frame of a bed. The upper end of the vertical rod has a horizontal bar pivotally connected thereto and a book clamping assembly, including page holders, is adjustably mounted on the horizontal bar. By this construction and arrangement, the book clamping assembly is adapted for universal movement to accommodate various reclining positions assumed by the user while reading in bed, and when not in use, the vertical rod carrying the horizontal bar and associated clamping assembly can be folded to an inoperative position along the side of the bed.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a perspective view of the book holder of the present invention mounted in operative position on a bed;

FIG. 1a is a perspective view of the book holder folded to inoperative position on the side of the bed;

FIG. 2 is a view taken along line 2—2 of FIG. 1;

FIG. 3 is a perspective view of the lower end portion of the vertical rod employed in the book holder of the present invention;

FIG. 4 is a view taken along line 4—4 of FIG. 2;

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FIG. 5 is a view taken along line 5—5 of FIG. 1;

FIG. 6 is a view taken along line 6—6 of FIG. 1;

FIG. 7 is a view taken along line 7—7 of FIG. 6; and

FIG. 8 is a perspective view of the sleeve for mounting the book clamping assembly on the horizontal bar employed in the book holder of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the drawings and more particularly to FIGS. 1 to 4, the book holder of the present invention comprises a vertical, tubular rod 1 having an upper section 1a telescopically received within a lower tubular section 1b whereby the height of the rod may be adjusted, the rod sections being held in adjusted position by a suitable set screw 1c. The lower end of section 1b is pivotally connected to a bracket 2 by means of a horizontally disposed bolt 3 extending therethrough, the bracket 2 being pivotally connected to a clamp assembly 4 by means of a vertically disposed bolt 5. The bracket 2 is formed as a bifurcation wherein the upper edge portion of each arm is formed as a bifurcation wherein the upper edge portion of each arm is formed with a notch 2a adapted to receive a pin 1d extending transversely through the lower end portion of rod 1, thereby forming a latch whereby the rod may be held in an upright, vertical position. The lower end portion of the rod is also provided with a pair of diametrically opposed slots 1e through which bolt 3 extends. By this construction and arrangement, when rod 1 is disposed in the vertical position, it, together with bracket 2, may be pivoted about a vertical axis as shown by the arrow in FIG. 1. To pivot rod 1 downwardly into a horizontal plane, the pin and slot connection afforded by slots 1e and bolt 3 allow the rod to be pulled upwardly to release pin 1d from notches 2a, thereby allowing rod 1 to be pivoted downwardly in the direction of the arrow as shown in FIG. 1.

As will be seen in FIG. 5, the upper end portion of rod section 1a has a horizontal tubular bar 6 pivotally connected thereto as at 7, the horizontal bar being supported in the horizontal position by a bifurcated bracket 8, the base of which is secured to the bar as at 9, and the arms of the bracket being secured to the pivotal connection 7. By the construction and arrangement of this pivotal connection between the horizontal bar and vertical rod, the horizontal bar is adapted to be pivoted into a substantially vertical plane, as shown in dotted lines in FIG. 5, when folding the book holder into a collapsed, inoperative position to be described more fully hereinafter.

Referring to FIGS. 1, 6, 7 and 8, the book clamping assembly which is carried by the horizontal bar comprises, a cylindrical collar 10 having an internal bearing surface 10a formed from a suitable plastic such as nylon or Teflon, whereby the collar may be slid longitudinally of the horizontal bar and rotated about the longitudinal axis of the bar, whereby the position of the collar relative to the bar may be adjusted. The cylindrical collar is suitably tensioned on the bar by means of a clamping assembly 10b to thereby allow for the adjustment of the collar relative to the bar and to maintain the collar in the adjusted position when a relatively heavy book is mounted in the book clamping assembly to be described hereinafter.

A plate member 11 is pivotally connected to the collar 10 by means of a bolt assembly 12 extending through the wall of the collar and the medial portion of the plate member. As will be seen in FIG. 8, the wall of the collar diametrically opposite the portion of the wall through which the pivot bolt extends is provided with a cut-out portion 10c to accommodate the insertion of a suitable

tool for securing the plate member to the collar. Due to the pivotal connection between the plate member and the collar, the plate member is adapted to be rotated about an axis normal to the longitudinal axis of the horizontal bar whereby the position of the plate member relative to the horizontal bar may be adjusted, the rotation of the plate member being limited by a wire tension spring 13 secured to the plate member and biased against the outer wall of the collar, the tension spring also forming a detent to hold the plate member in a selected adjusted position.

The outer end portions of plate member 11 have a pair of parallel rods 14 extending therethrough, the ends of the rods carry book gripping assemblies 15 and 16, gripping assembly 15 being fixedly secured to the rods but gripping assembly 16 being slidably mounted on the rods to accommodate books of various sizes, to be described more fully hereinafter. Each of the gripping assemblies consist of a conventional "trouser-type hanger" wherein the freely pivoted gripping jaws 15a, 16a are moved to gripping position by manipulation of the toggle linkage 15b, 16b. One of the jaws of each gripping assembly is also provided with a pair of outwardly extending flexible wire springs 17 for lightly holding the pages of the book being read, the springs being pivotally connected to the jaws as at 17a whereby they may be pivoted inwardly of the jaws to facilitate the insertion of a book into the holder.

To use the book holder of the present invention, the jaws of the gripping assemblies are released, and the gripping assembly 16 is slid along rods 14 relative to stationary gripping assembly 15 to accommodate the width of an open book 18. The book front and back covers 18a and 18b, respectively, are placed between the jaws of the gripping assemblies and the toggle linkage are then manipulated to cause the jaws to grip the respective covers of the book. Assuming that the book holder is clamped to the side frame 19 of a bed by means of suitable set screws 4a, extending through clamp 4, the height of the vertical rod can be adjusted through est screw 1c to thereby adjust the height of the book clamping assembly above the bed. By the construction and arrangement of the collar 10 mounted on the horizontal bar 6, the book clamping assembly can be slid along the bar and/or rotated about the longitudinal axis of the bar so that the position of the book carried by the clamping assembly can be varied to accommodate the user reclining in the bed. Further adjustment of the book position is afforded by the pivotal connection 12 between the plate 11 and collar 10 whereby the clamping assembly and associated book can be pivoted about an axis normal to the longitudinal axis of the horizontal bar. Still further adjustment of the assembly is afforded by the pivotal connection 5 between the bracket 2 and clamp 4, whereby the assembly may be pivoted about the longitudinal axis of the vertical rod. It will thus be readily seen that the pivotal movement of the assembly about the longitudinal axis of the vertical rod, and the pivotal movement of the clamping assembly about axis parallel and normal to the longitudinal axis of the horizontal bar imparts universal movement to the book holder whereby various positions assumed by the reader may be accommodated.

When use of the book holder is no longer desired, the horizontal bar 6 carrying the book clamping assembly is rotated about pivot 7 into a substantially vertical plane, and the rod 1 and associated bracket 2 are pivoted to a position where pivot bolt 3 is perpendicular to the side frame of the bed. The vertical bar is then lifted to release the pin 1c from the bracket notches 2a to thereby allow the vertical rod to pivot downwardly into a horizontal plane along the side of the bed, as shown in FIG. 1a.

While the assembly of the present invention has been described for use as a book holder to be mounted on the side of a bed, it will be readily apparent to those skilled

in the art that the various adjustable features incorporated in the assembly enhances its versatility for other uses, such as, a copy holder for typists, a portable lectern, a music stand and the like.

What is claimed is:

1. A book holder of the character described, comprising a rod, one end of said rod being operatively connected to a bracket, clamp means, first pivot means connecting said bracket to the clamp means, the axis of rotation of said first pivot means being parallel to the longitudinal axis of the rod, a bar operatively connected to the opposite end of the rod and extending substantially perpendicular therefrom, second pivot means mounted on said bar, a book clamping assembly secured to said second pivot means, said second pivot means having axes of rotation parallel and normal to the longitudinal axis of said bar, whereby universal movement can be imparted to the book clamping assembly through the first and second pivot means, and a third pivot means operatively connecting said one end of the rod to the bracket, the axis of rotation of said third pivot means being normal to the axis of rotation of said first pivot means, said third pivot means comprising a pair of diametrically opposed slots formed in the rod, and a bolt extending through said slots and secured to said bracket, thereby forming a pin and slot connection between said rod and said bracket.

2. A book holder according to claim 1, wherein latch means are operatively connected between the rod and the bracket to hold the rod in a stationary position relative to said bracket, said latch means comprising a notch formed in said bracket, and a pin secured to said rod adapted to be inserted within said notch, the pin and slot connection between said rod and said bracket allowing the rod to be released from latched position whereby the rod may be pivoted about said third pivot means.

3. A book holder according to claim 2, wherein the clamp means is adapted to be secured to the side frame of a bed for holding the rod in a vertical, latched position, said bar being pivotally connected to said opposite end of the rod and adapted to be pivoted from an operative position perpendicular to said rod to an inoperative position substantially parallel to said rod, whereby the book holder may be folded to a collapsed inoperative position in a horizontal position along the side frame of a bed by pivoting the bar into the inoperative position, releasing the rod from latched position and pivoting the rod downwardly about said third pivot means.

4. A book holder according to claim 1 wherein the second pivot means comprises, a collar slidably mounted on said bar, said collar being movable in a direction parallel to the longitudinal axis of the bar and rotatable about the longitudinal axis of the bar, and a plate member pivotally connected to said collar, the axis of rotation of the pivotal connection between the collar and the plate being normal to the longitudinal axis of the bar.

5. A book holder according to claim 4, wherein the book clamping assembly comprises a pair of rods extending through said plate member, and a pair of gripping assemblies secured to the end portions of said rods, at least one of the gripping assemblies being slidably mounted on the rods, whereby it may be moved relative to the other gripping assembly to accommodate books of various sizes.

6. A book holder according to claim 5, wherein page holding means are secured to the gripping assemblies for lightly holding the pages of a book in place while the book is being held by the gripping assemblies.

7. A book holder according to claim 5 wherein each of the gripping assemblies comprises a "trouser-type hanger" having a pair of freely pivoted jaws interconnected by a toggle linkage for actuation of the jaws, one of the jaws of each gripping assembly being secured to the pair of rods, whereby a book is held by the clamp-

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ing assembly by inserting the front and back covers of the book between the jaws of a respective assembly and actuating the jaws to gripping position.

8. A book holder according to claim 7, wherein page holding means is secured to the other jaw of each gripping assembly for lightly holding the pages of a book in place while the front and back covers of the book are clamped between the jaws of the gripping assemblies.

9. A book holder according to claim 8, wherein the page holding means comprises, at least one flexible wire spring secured to said other jaw and extending outwardly therefrom, the wire spring being pivotally connected to the jaw whereby the spring may be pivoted inwardly of the jaw to accommodate the insertion of a book into the gripping assembly.

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U.S. Cl. X.R.

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