Oct. 4, 1932. W. UTRECHT 1,880,602

BOOKSTAND

Filed Oct. 23, 1930

Fig. 1.

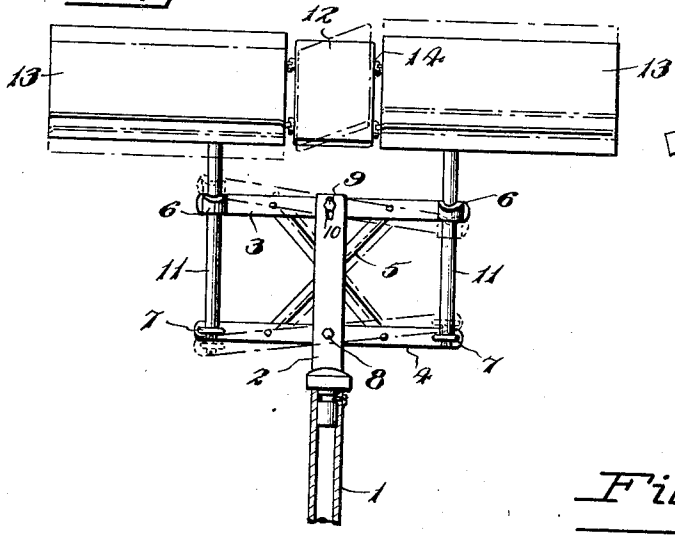


Fig. 2.

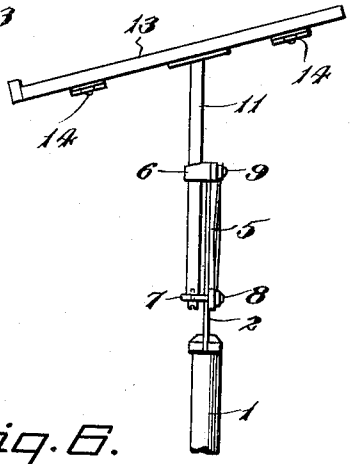


Fig. 6.

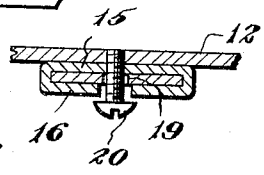


Fig. 3.

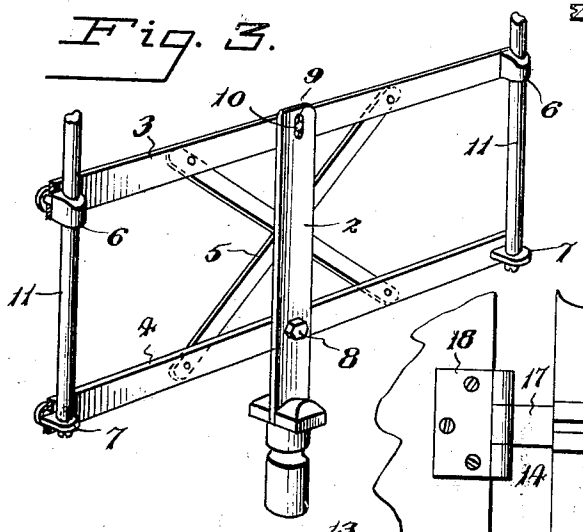


Fig. 4.

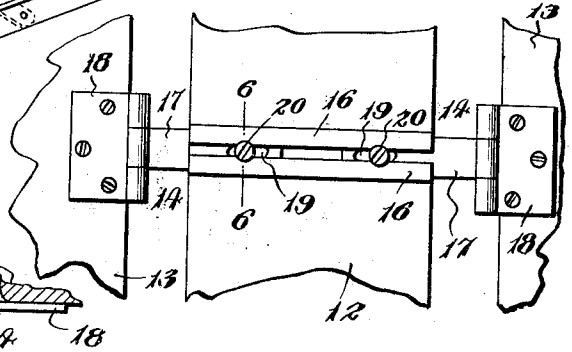
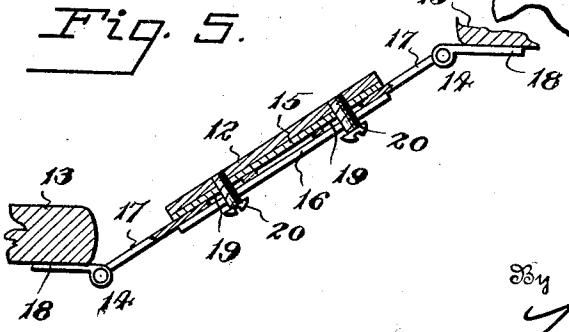


Fig. 5.



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UNITED STATES PATENT OFFICE

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BOOKSTAND

Application filed October 23, 1930. Serial No. 490,709.

This invention relates to supporting means for books of large size, such as dictionaries, directories, and financial reports, the purpose being the provision of a stand which admits of the faces of the book when opened occupying the same plane without straining the binding and, at the same time, greatly facilitating access to the exposed surfaces by reason of their level arrangement.

In accordance with the invention, the support includes a middle and side leaves or plates, corresponding to the back and sides of a book to be sustained thereon. Novel linkage connects the leaves to maintain them in predetermined position in the various adjustments assumed by the opening of the book at different points to maintain the exposed faces in the same plane. Sliding hinge connections unite the side leaves to the middle leaf to compensate for the differences in distance between the inner edges of the side leaves when occupying varying elevations incident to leveling the exposed faces of the book when opened at different points.

While the drawing illustrates a preferred embodiment of the invention, it is to be understood that in adapting the means to meet specific needs and requirements, the design may be varied and changes in the minor details of construction may be resorted to within the scope of the invention as claimed without departing from the spirit thereof.

For a full understanding of the invention and the merits thereof, reference is to be had to the following description and the drawing hereto attached, in which:—

Figure 1 is a front view of a book stand illustrative of an embodiment of the invention, the standard being in section and broken away and the dotted lines indicating an adjusted position of the moving parts,

Fig. 2 is a side view of the stand,

Fig. 3 is an enlarged perspective view of the upright, stems, levers and connecting links,

Fig. 4 is a fragmentary view of the leaves and adjustable hinge connection as seen from below,

Fig. 5 is an enlarged fragmentary sectional view of the parts illustrated in Fig. 4, and

Fig. 6 is an enlarged detail sectional view on the line 6—6 of Fig. 4.

Corresponding and like parts are referred to in the following description and designated in the several views of the drawing by like reference characters.

The book stand may be mounted in any manner, depending upon its particular use. The numeral 1 designates a standard which may be of any length and provided at its lower end with a supporting base of any kind, depending upon whether the device is to be placed upon a desk or table, or supported upon the floor. The numeral 2 designates an upright which has a swivel connection with the standard 1 whereby the book stand may be revolved to any desired point for convenience of the user. Bars 3 and 4 are pivotally connected intermediate their ends to the upright 2 and are connected by means of links 5 which are pivoted at their ends thereto. The links 5 cross intermediate their ends and are pivoted to the bars 3 and 4 equidistant from the upright 2. Lugs 6 and 7 are pivotally connected to the extremities of the respective bars 3 and 4. The pivot 8 connecting the bar 4 with the upright 2 is fixed, whereas the pivot 9 connecting the bar 3 with the upper end of the upright 2 has a limited vertical movement, provision being had for such movement by forming a vertical slot 10 in the upright 2 through which the pivot 9 passes. Stems 11 are mounted in the lugs 6 and 7. These stems have a sliding movement in the lugs 6 but are fixedly connected at their lower ends to the lugs 7 and in consequence the stems 11 move with the bar 4 and have a sliding movement with reference to the bar 3. Leaves, plates or supporting sections 12 and 13 constitute the book rest. The leaves or sections 13 are fixedly connected in any desired way to the upper ends of the stems 11 and are adjustable vertically and maintain a position parallel to a given plane at all stages of adjustment. The leaf or section 12 is narrow and is hingedly connected to the side leaves or sections 13. The middle leaf 12 corresponds to the back of the book

to be supported and the side leaves 13 correspond to the covers of the book.

The numeral 14 designates generally the adjustable hinge connections between the middle leaf 12 and the side leaves 13. These hinge connections include a middle member 15 and end members having sliding connection therewith. The middle member 15 consists of a plate having edge portions recurved, as indicated at 16, to provide guides for reception of the shanks 17 of the end members. The shanks 17 are pivotally connected to plates 18 which are secured to the side leaves 13 adjacent their inner edges. The shanks 17 slidably engage the member 15 and are formed with longitudinal slots 19 through which screws 20 pass and are threaded into the member 15 and leaf 12, as indicated most clearly in Figs. 5 and 6 of the drawing. The slots 19 determine the relative movement of the side leaves 13 to the middle leaf 12.

A large book, such as a dictionary, directory, or financial report, is placed upon the leaves of the holder or stand, with the back resting upon the middle section 12 and the covers resting upon the side leaves 13. When the book is opened at a middle point, its surfaces are level and the leaves 12 and 13 lie in the same plane. Upon turning the leaves of the book so that a greater number occupy one side, the leaf corresponding to the side supporting the greater weight lowers so that the exposed surfaces of the book lie in the same plane to facilitate access either for reading or making entries, according to the nature of the book placed upon the stand. When one leaf 13 of the book rest descends, the opposite leaf correspondingly rises, thereby maintaining the exposed surfaces of the book in the same plane. While one of the side leaves lowers and the opposite side leaf rises, the middle section 12 correspondingly inclines and supports the back of the book, which is thereby relieved of all strain. As the side leaves 13 move to different levels to correspond with the uneven opening of the book, the distance between their inner edges varies, hence the necessity for providing the adjustable hinge connections. Since the stems 11 are fixedly connected at their lower ends to the lugs 7 and the latter in turn are pivotally connected to the bar 4, a lowering of one of the leaves 13 effects a corresponding elevation of the other side leaf. During this movement, the stems 11 slide in the lugs 6. Referring to Fig. 1 of the drawing, it will be observed that the dotted lines indicate the leaf 13 at the left in lowered position and the leaf 13 at the right elevated. As the leaf 13 at the left lowers, the links 5 move to effect a downward movement of the right hand end of the bar 3 and in consequence the bars 3 and 4 assume an opposite inclination, as indicated by the dotted lines. There is a limited vertical play between the bar 3 and upright 2 and provision is had for such play by means of the vertical slot 10, thereby preventing any binding of the bar 3 with the upright 2 when the book rest adapts itself to the opening of the book so as to maintain its exposed surfaces in a level position, as herein indicated.

Having thus described the invention, I claim:

1. A book stand comprising an upright, upper and lower bars pivotally connected intermediate their ends to the upright, crossed links pivotally connected to the upper and lower bars, a book rest comprising side leaves, stems depending from the side leaves, and connecting means between the stems and upper and lower bars, said stems having pivotal and sliding connection with the upper bar and pivotal connection with the lower bar.

2. A book stand comprising a book rest including side leaves, stems depending therefrom, an upright, upper and lower bars pivotally connected intermediate their ends to said upright, crossed links connecting the bars, and lugs having pivotal connection with the ends of the respective bars, the upper lugs slidably receiving said stems and the lower lugs having the stems fixedly connected thereto.

3. A book stand comprising a rest including side leaves, stems depending therefrom, an upright, and upper bar having pivotal and slidable connection intermediate its ends with said upright, a lower bar pivotally connected intermediate its ends to said upright, crossed links connecting the bars, and lugs pivotally connected to said bars, the upper lugs slidably receiving the stems and the lower lugs having said stems fixedly connected thereto.

4. In a book stand, a book rest comprising a middle section, side sections, and hinge connections between the middle section and the side sections, the hinge connections consisting of a middle member secured to the middle section of the rest and having guides along its edges, and end members each comprising a part secured to a side section of the book rest and a part pivotally connected to said secured part and slidably engaged in the guides on the middle member and provided with a longitudinal slot, and stops extending from the middle member of the book rest through the slots in the end members of the hinge connections whereby to limit the sliding movement of said members.

In testimony whereof I affix my signature.

WILLIAM UTRECHT. [L. S.]