Oct. 28, 1941. T. C. SELF 2,260,695

BOOKSTAND

Filed July 19, 1938 2 Sheets-Sheet 1

Fig. 1.

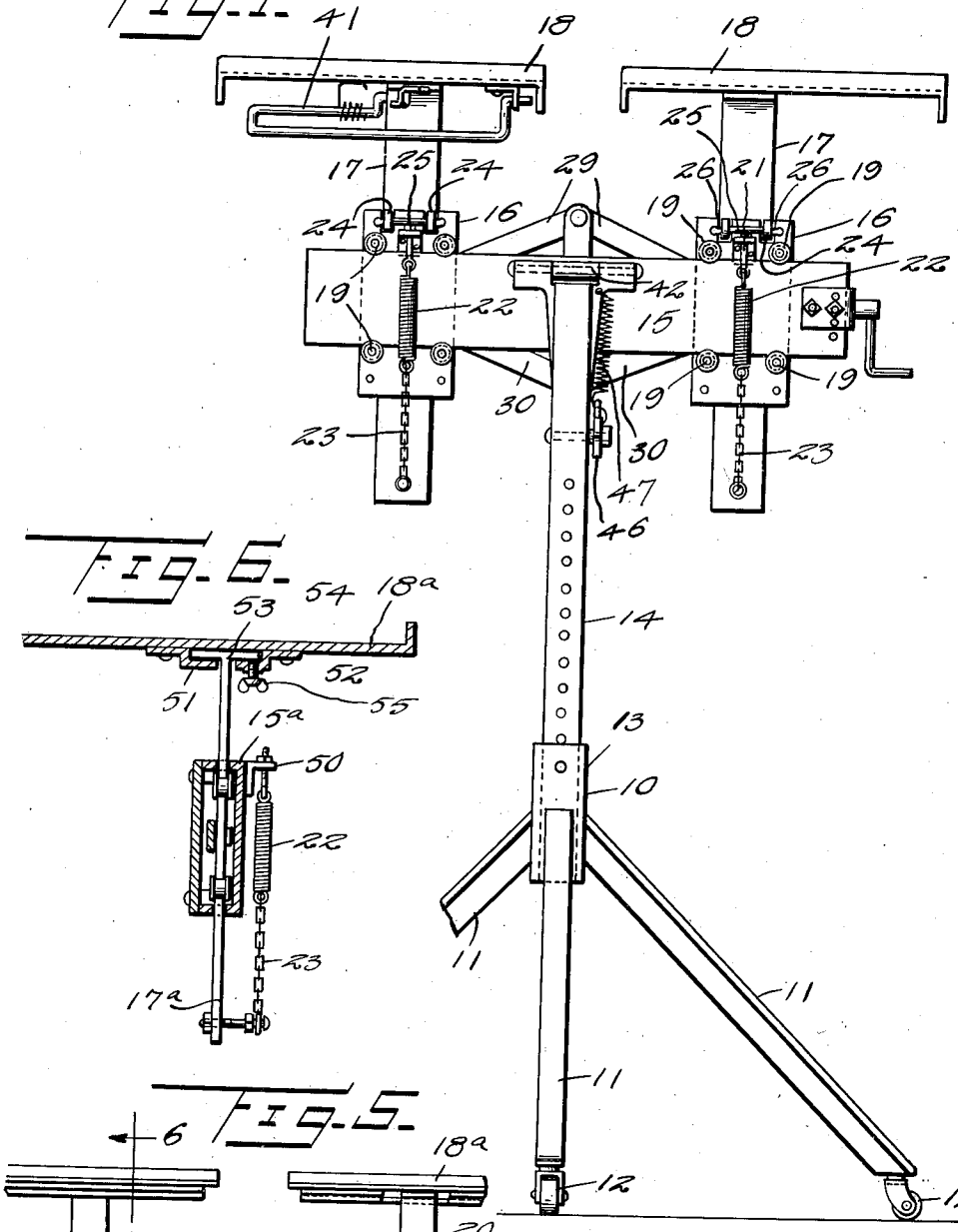
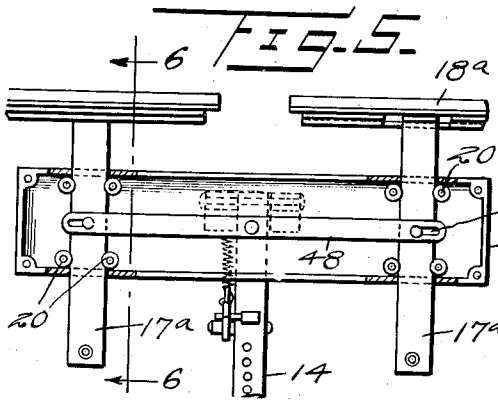


Fig. 6.

Fig. 5.



Inventor

Thomas C. Self

By Lucius O. Peckham

His Attorney

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BOOKSTAND

Filed July 19, 1938 2 Sheets-Sheet 2

Fig. 2.

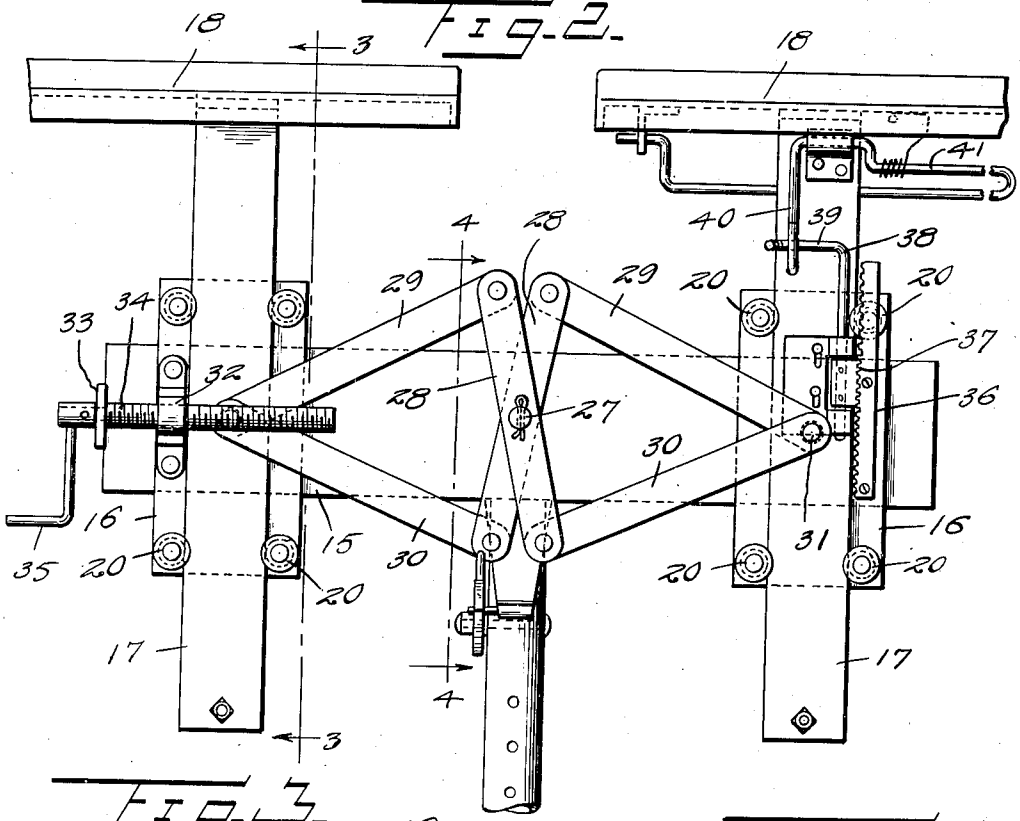


Fig. 3.

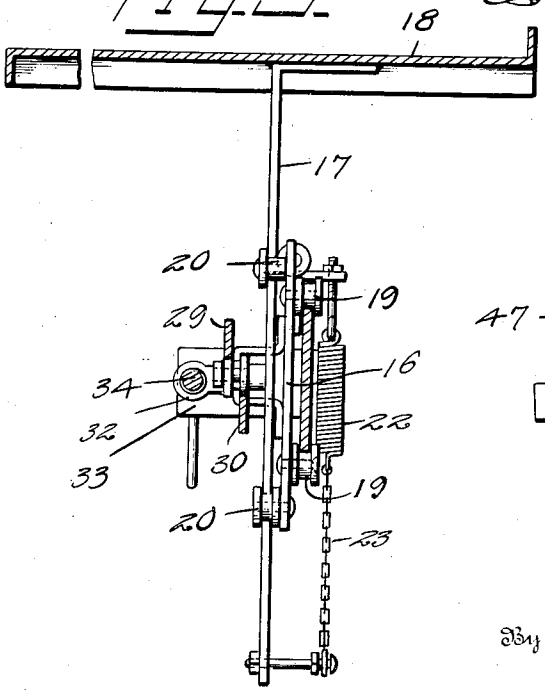
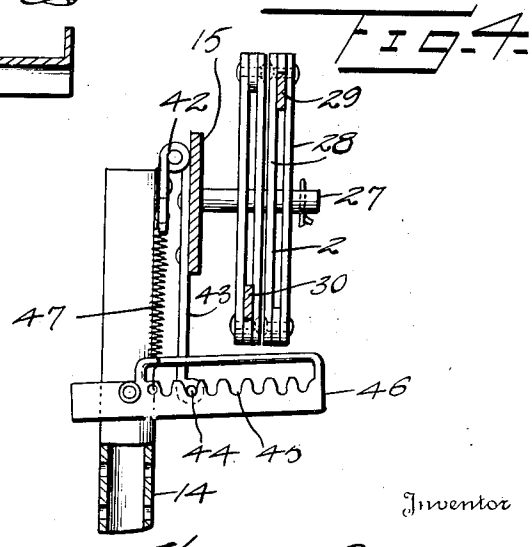


Fig. 4.



Inventor

Thomas C Self

By Irving J. Peabody

his Attorney

Patented Oct. 28, 1941 2,260,695

UNITED STATES PATENT OFFICE

2,260,695

BOOKSTAND

Thomas Clyde Self, Martinsville, Va.

Application July 19, 1938, Serial No. 220,057

9 Claims. (Cl. 45—86)

The invention relates to book stands and has for its principal object, generally stated, to provide an adjustable book stand primarily designed for supporting large, heavy and cumbersome books such as dictionaries, financial manuals, atlases, ledgers, tax and land record books, and the like in a manner which will greatly facilitate their use.

Another object of my invention is to provide a book stand having a plurality of tables, each of which is adapted to support a portion of a book, the tables being adjustable laterally to accommodate books of different widths and thicknesses, the tables being so connected and arranged as to provide a foundation so that any portion of the book to be consulted will be so supported as to lie in a substantially horizontal plane.

A still further object of the invention is to provide an adjustable book stand which may be conveniently mounted upon a roller tripod and supported thereon at any one of a plurality of vertical heights, the stand being capable of adjustment so as to tilt, one of the plurality of stands being provided with locking means adapted to maintain the same in any given or desired position.

A still further object of the invention is to provide a stand of the character described comprising a plurality of separate tables, each of which is carried by a single member, the single member being capable of angular adjustment so that the stand may be positioned at any angle to facilitate the inspection of the book or record supported by the tables.

A still further object of the invention is to provide means in connection with a stand of the character described whereby the weight of a portion or all of the volume upon one table will cause the adjacent table to rise in proportion to the movement of the first table.

A still further object of the invention is to provide simplified means for horizontally adjusting the position of a book table in a horizontal plane.

This application is an improvement on my copending application Ser. No. 171,300, filed October 27, 1937.

In the accompanying drawings in which I have illustrated a preferred and modified form of my invention,

Figure 1 is a side elevation of the improved book stand.

Figure 2 is a detail elevational view looking in the opposite direction from the view represented in Figure 1.

Figure 3 is a cross sectional view taken on the line 3—3 of Figure 2.

Figure 4 is a detail fragmentary view, partially in elevation and partially in section, illustrating the means for tilting the tables.

Figure 5 is a view partially in section and partially in elevation, of a slightly modified form.

Figure 6 is a cross sectional view taken on the line 6—6 of Figure 5.

The numeral 10 designates a tripod base member having a plurality of legs 11 supported on casters 12 and at the juncture of the legs I provide a socket member 13 adapted to receive the standard 14 to which, adjacent its upper end, is pivotally connected a plate 15 upon which are slidably mounted, by means of carriages 16, the standards 17 of the book supporting tables 18. Each of the carriages 16 is provided with a plurality of grooved rollers 19, one pair of which engages the upper edge of the plate 15 and the other pair engaging the lower edge of the same plate. By this means the carriages 16 are adapted to move laterally along the plate 15 with minimum effort.

On their opposite faces the carriages 16 are provided with two pairs of rollers 20, which are also grooved, by means of which the standards 17 of the book tables 18 may be moved vertically with reference to the carriages 16 also with the minimum amount of friction. Connected to the opposite side of the carriages 16 from the side carrying the rollers 20 I provide an angle member 21 to which is connected one end of a spring 22, the opposite end of the spring being conveniently connected to the standard 17 by means of a chain 23. At the upper end also of each carriage I provide a pair of rolls 24 supported on a horizontal bearing 25, the rolls operating in grooves 26 of the carriages 16 and engaging the standards 17 in order to space the same from the adjacent faces of the carriages 16.

Preferably in vertical alinement with the standard 14 I provide a pivoted member 27 upon which is hinged a pair of links 28. The opposite ends of the links 28 are connected respectively to links 29 and 30 and each pair of links 29 and 30 is connected by a common pivot 31 to one of the carriages 16. I provide one of the carriages 16 with a screw-threaded socket member 32 and pivotally mounted on a bracket 33 carried by the plate 15 is a threaded bolt 34 by means of which, through the instrumentality of the handle 35, the adjacent carriage can be

moved horizontally along the plate 15. It is obvious that a movement of one carriage by means of the links 27, 28, 29 and 30 will cause a corresponding movement, but in the opposite direction, of the other carriage. It is thus evident that upon the rotation of the screw 34 in a clockwise direction each of the carriages 16 will be moved outwardly from the central pivot point 27 and likewise a counter-clockwise movement of the screw 34 will move the carriages inwardly toward the pivot 27. In this manner it is possible to adjust the tables 18 to accommodate books of varying sizes and varying thicknesses so that each book will be supported entirely by the top and bottom covers, leaving the back of the book unsupported. It is also obvious that by means of the springs 22 and the pivotal connection heretofore described by which the tables are connected, that downward movement of one table with respect to its carriage will cause a corresponding upward movement of the other table with respect to the latter's carriage.

Since it is often convenient to maintain the tables in a fixed position while a certain page of the book is being examined, I preferably provide locking means which permits the tables to be maintained in fixed position at such a time. This locking means preferably comprises a fixed ratchet bar 36 carried by one of the carriages 16, the teeth of which are adapted to engage a pivoted ratchet member 37 supported upon the standard 17. The pivot 38 of the ratchet member 37 preferably extends upwardly and is provided with an arm 39 which is adapted to engage the downwardly extending arm 40 provided on a pivoted U member 41 carried by the adjacent table 18. This U member is preferably maintained out of contact with the arm 39 so that normally the parts of the ratchets 37 and 36 are in engagement. When it is desired to permit the tables to assume a correct height the U member is operated, causing the arm 40 thereof to engage the arm 39 and to thus rotate the pivoted ratchet member 37 out of engagement with the ratchet bar 36, at which time the tables 18 may adjust their position in accordance with the weight of the respective portions of the volume. After such adjustment has been made the U member 41 is released and the ratchets 36 and 37 then come into engagement and maintain the parts in a desired position.

In order to permit the tilting of the table 18 the bar 15 is hingedly connected to the standard 14 by the hinge member 42 and depending from the plate 15 is a rod 43 carrying a finger 44 adapted to be selectively engaged in one of the recesses 45 of a pivoted keeper member 46, the latter being pivoted to the standard 14 and maintained in operative position by means of a spring 47 which is attached to the keeper and to the hinge member 42. It is obvious that the position of the tables 18 from a horizontal plane may be adjusted by pressing the keeper 46 and moving the finger 44 in the desired notch in the said keeper, after which the keeper is released and the parts will be maintained in the desired position so long as no movement is imparted to the keeper 46.

Referring now to the modification shown in Figures 5 and 6, I provide in place of the plate 15 a rectangular box member 15a and at opposite ends of the box member 15a I provide rollers 20a by means of which the standard 17a of the tables 18a are adapted to move vertically with reference to the housing or box 15a. The standards 17a are preferably connected by means of a bar 48 which has a pin and slot connection 49 with each of the standards 17a. The lower ends of the standards 17a are connected by means of the chain 23 to the spring 22, the upper end of which is connected by the angle bracket 50 to the box 15a. It is thus obvious that movement of one of the tables 18a vertically will cause a corresponding opposite movement of the other table within the limits provided by the pin and slot connection. The box 15a is preferably pivotally connected to the standard 14 in the same manner as in the preferred form.

To provide for the horizontal adjustment of the tables 18a I provide the same with spaced angle members 51 and 52 between which is slidably received the T-head end 53 of the standard 17a and preferably provide the angle member 52 with a screw-threaded recess 54 into which is received the thumb screw 55 by means of which screw, provided on each of the tables 18a, their position with respect of the standard 17 may be adjusted as desired.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. A book stand comprising a pair of laterally spaced tables for supporting a book, a main standard positioned intermediate said tables, a member secured to said standard and positioned beneath said tables, a pair of standards each connected to one of said tables, supporting means connecting each of said last named standards to said member, said supporting means being mounted on and longitudinally movable relative to said member, means for connecting said standards to each other for counter movement in unison, and resilient means connected to said last named standards for normally maintaining the tables in the same plane.

2. A book stand comprising a pair of spaced tables for supporting a book, a main standard positioned intermediate said tables for supporting the same, a member carried by said main standard and positioned beneath said tables, a standard connected to each of said tables, a pair of carriages slidably mounted on said member, means carried by each of said carriages for slidably receiving one of said last named standards, resilient means interposed between each carriage and its cooperating standard, means for adjustably positioning said carriages on said member, and means for operatively connecting said standards for counter-movement in unison.

3. A book stand comprising a pair of spaced tables for supporting a book, a main standard positioned intermediate said tables for supporting the same, said supporting mechanism including a member carried by said standard and extending transversely thereof, means for operatively connecting said tables to said member for vertical movement with reference to said member, means for varying the spacing of said tables, a pivot carried by said member adjacent its center, means extending in opposite directions from said pivot for connecting said tables, and means for yieldably resisting pivotal movement of said last named means.

4. A book stand comprising a pair of spaced tables for supporting a book, a main standard positioned intermediate said tables, a member secured to said standard and positioned beneath said tables, means connected to said member for supporting said tables, means for moving one of

said tables longitudinally relative to said member, and means for transmitting the converse of said movement to the other of said tables.

5. A book stand comprising a pair of spaced tables for supporting a book, a main standard positioned intermediate said tables, a member carried by said standard and positioned beneath said tables, a pair of carriages slidable on said member, a standard depending from each of said tables and slidably received in one of said carriages, resilient means extending between and connecting each of said carriages and its cooperating standard, and toggle means for operatively connecting said standards for simultaneous movement.

6. A book stand comprising a pair of spaced tables for supporting a book, a main standard positioned intermediate said tables, a member carried by said standard and positioned beneath said tables, supporting means connected to said member, a standard depending from each of said tables and slidably engaging said supporting means, said tables being vertically movable relative to said supporting means, toggle means securing together said depending standards for simultaneous movement, and means for locking said last-named standards against movement.

7. A book stand comprising a pair of spaced tables for supporting a book, a main standard for supporting said tables, a member carried by said standard and positioned beneath said tables, a pair of carriages connected to said member, each of said tables being supported by and vertically movable relative to one of said carriages, and means operatively connecting said tables for simultaneous vertical movement thereof.

8. A book stand comprising a pair of normally spaced tables, a standard for supporting said tables, a member secured to and extending transversely of said standard beneath said tables, supporting means carried by said member, standards depending from said tables and slidably engaging said supporting means, means operatively connecting said tables for vertical movement in unison relative to said supporting means, and means interposed between said standards and said supporting means for yieldably resisting said movement.

9. A book stand comprising a pair of normally spaced tables, a standard for supporting said tables, a member secured to and extending transversely of said standard beneath said tables, supporting means carried by said member for connecting said tables to said member, standards depending from said tables and slidably engaging said supporting means, one of said tables being longitudinally movable relative to said member, means operatively connecting said tables for vertical movement in unison relative to said supporting means, and means interposed between said standards and supporting means for yieldably resisting said movement.

THOMAS CLYDE SELF.