E. J. SWEETLAND.

BOOK SUPPORT.

APPLICATION FILED MAR 7, 1918.

1,433,162.

Patented Oct. 24, 1922.

Fig. 1.

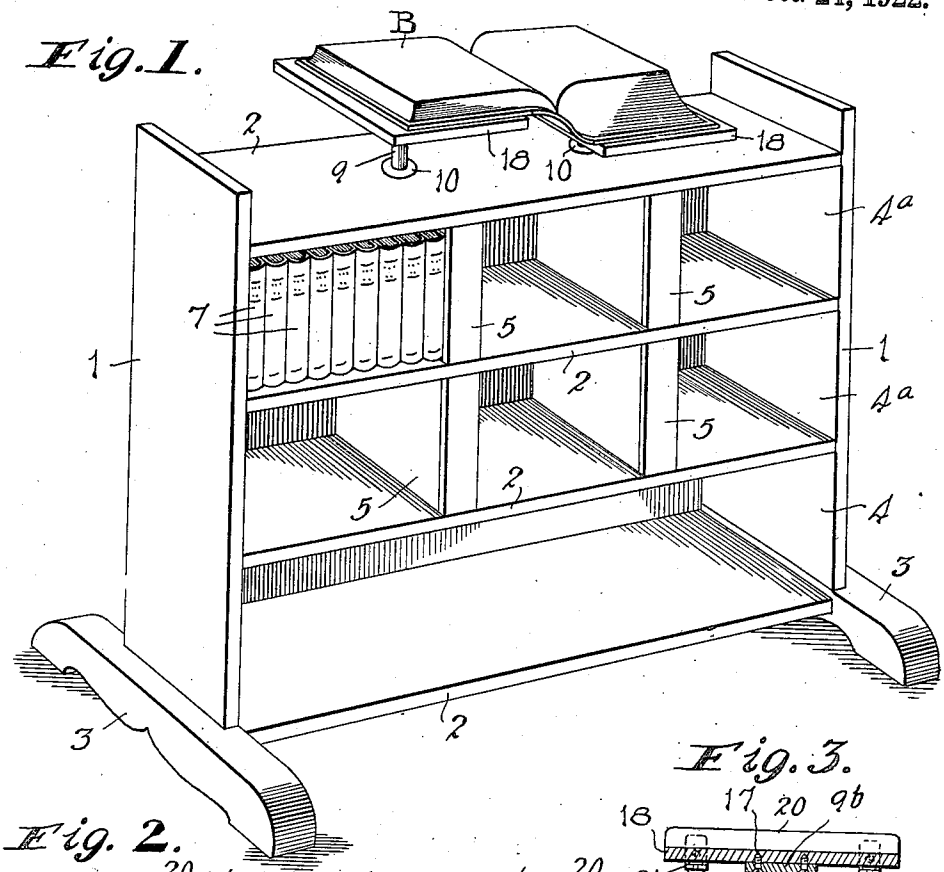


Fig. 2.

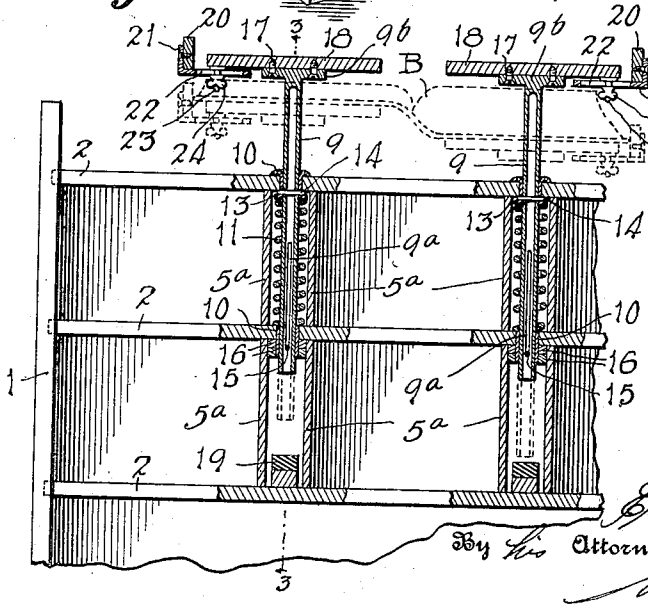
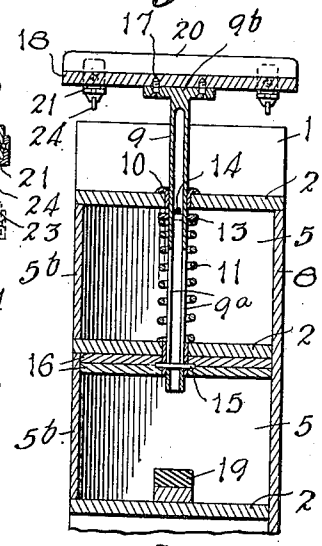


Fig. 3.



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UNITED STATES PATENT OFFICE.

ERNEST J. SWEETLAND, OF MONTCLAIR, NEW JERSEY, ASSIGNOR OF ONE-THIRD TO WILLIAM P. HAMMOND, OF PASSAIC, NEW JERSEY.

BOOK SUPPORT.

Application filed March 7, 1918. Serial No. 220,917.

To all whom it may concern:

Be it known that I, ERNEST J. SWEETLAND, residing in Montclair, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Book Supports, of which the following is a specification.

The present invention relates to certain new and useful improvements in book supports, one object of the invention being to provide a device of this character particularly adapted for supporting large and bulky books such as encyclopedias, dictionaries, ledgers, etc., and embodying novel features of construction whereby the exposed pages of an open book will be automatically maintained in the same plane irrespective of the place at which the book is opened, be it near the front, middle or back thereof.

Another object of the invention is to provide a book support of the character described which will automatically level the exposed pages of an open book into the same plane simultaneously with the turning of the pages and as the greater bulk of the book is moved from one cover to the other.

Further objects of the invention are to provide a book support which will preserve the binding of the book and prevent injury thereto, and which can be incorporated into a book case or table and used in connection therewith for the inspection.

For a full understanding of the invention reference is to be had to the following description and accompanying drawings in which;

Figure 1 is a perspective view of a book support, embodying one form of the present invention.

Figure 2 is a fragmentary sectional front elevation thereof.

Figure 3 is a transverse vertical sectional view on the line 3—3 of Figure 2.

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

For the purpose of illustration the invention is shown as incorporated into a book case, this construction providing a particularly handy arrangement of the book support so that it can be utilized for inspection of books housed in the book case without the necessity of carrying the book away from the case. This saves time and labor besides perserving the book from the wear and tear incident to transporation thereof. However, it is to be understood that the invention can as readily be constructed as a separate piece of furniture, or incorporated into a table, desk or the like.

Specifically describing the present embodiment of the invention the numerals 1 designate a pair of spaced vertically disposed end posts of a book case which are connected by a plurality of horizontally arranged shelves 2, and are supported by the feet or base numbers 3. The shelves 2 cooperate to form a plurality of book compartments 4, and in the present instance the two upper compartments 4 are subdivided by spaced and vertically disposed partitions 5, into a plurality of smaller compartments 4^a. These book compartments are open at the front, but are closed at the back by a wall 8 and are adapted to receive books 7 in the usual manner so that the books are supported by the shelves 2 and confined laterally by the end posts 1, partitions 5 and back wall 8.

With reference to Figures 2 and 3 it will be seen that each of the partitions 5 is of a hollow or box-like formation, being composed of spaced vertical side walls 5^a which are secured to the shelves 2 in any suitable manner. The front sides of the hollow partitions 5 are formed by panels or strips 5^b which are also secured to the shelves 2 and to the side walls 5^a, the rear wall 8 of the book case serving in common as the rear sides of all the partitions 5.

Each superposed pair of partitions 5 are in substantial vertical alinement, and serve as housings for a pair of spaced and vertically disposed plungers 9 slidably mounted in guide sleeves 10 secured in the two upper shelves 2 of the book case, the said plungers 9 being normally held with their upper ends projecting upwardly beyond the top shelf 2 by means of coil springs 11 which surround the plungers and are interposed between the second shelf 2 and washers 13 held against longitudinal movement on the plungers by transverse pins 14. These pins 14 and washers 13 also serve as stops to

prevent the plungers from being forced out of position. Each plunger 9 is longitudinally slotted at 9^a to loosely receive a second transverse pin 15 secured between two superposed strips 16 fastened to the underside of the second shelf 2. These pins 15 serve to prevent rotation of the plungers, and also serve as stops to cooperate with the ends of the slots 9^a to prevent the plungers from being displaced. The upper end of each of the plungers is provided with a head 9^b to which is secured by suitable fastening means such as the screws 17, a book supporting shelf 18. These shelves 18 are spaced apart as indicated by Figs. 1 and 2, and each one is adapted to support one cover of an open book B as clearly shown by Figs. 1 and 2, the binding or back of the book bridging the space between the shelves 18.

When the book is opened at the middle the two shelves 18 will be in the same plane and held there by the springs 11, the weight of the book being evenly distributed on the two shelves 18. However, when the greater bulk of the book is thrown upon one of the shelves, that shelf will be forced downwardly against the action of the spring 11 by the additional weight, while the other shelf will be forced correspondingly upward by the other spring owing to the reduced weight. The space between the shelves 18 allows the binding of the book to bend to accommodate the relative movement of the covers and pages. This action will always and automatically bring the exposed pages of the book into the same horizontal plane as clearly shown by Figure 1, and by dotted lines on Figure 2, irrespective of the direction in which the pages are turned. The extreme downward movement of the plungers 9 is stopped by rubber buffer blocks 19, the rubber serving as a resilient stop and also to deaden the noise of the impact between the buffer and the plunger.

It may in some instances be desirable to provide means for preventing the book from sliding laterally on the shelves 18, when a number of pages are turned at one time. For this purpose the outer side edges of each of the shelves 18 may be provided with a ledge or vertical strip 20 which extends upwardly beyond the top of the corresponding shelf, as shown by Figs. 2 and 3, the said ledges being carried by metal straps 21, slotted at 22 to receive the bolts 23 which are secured to the under side of the shelf, wing nuts 24 being threaded on the bolts 23 and being adapted to be screwed against the straps 21 to securely clamp the same to the shelf. The slots in the straps 21 and the wing nuts 24 allow for the adjustment of the ledges 20 to accommodate varying widths of book covers, as well as admitting of the complete detaching of the ledges from the shelves 18, when they are not desired. The edges of the book covers will abut against these ledges (Fig. 2) and thus prevent sliding of the book on the shelves.

It is to be noted that the book case serves as a base member for the book support, and that the springs and the plungers 9 are entirely housed within the hollow partitions 5, thus producing a very attractive and convenient arrangement of the parts of the device which may occupy a minimum amount of space. The construction is so simple and compact that there are no parts to break or get out of repair, and yet the device is absolutely reliable and automatic in its action.

Having thus described my invention I claim:

1. A device of the character described, including a pair of independent vertically movable plungers, guides for the plungers, independent book supporting shelves applied to the upper ends of the plungers and adapted to receive the covers of an open book, means for preventing the plungers from rotating, springs resiliently supporting the plungers and yielding automatically under the different weights imposed thereon as the book is opened at different places to hold the exposed upper pages of the book in substantially the same horizontal plane, and side strips adjustably carried by the shelves and extending above the same, said side strips serving to hold the book properly positioned.

2. A device of the character described, including a pair of independent vertically movable plungers, guides for the plungers, coil springs surrounding the plungers and resiliently supporting the same, means for locking the plungers against rotation, and independent book supporting shelves at the upper ends of the plungers, said shelves being adapted to receive the covers of an open book and support the open book with the exposed upper pages thereof in substantially the same horizontal plane.

3. A device of the character described, including a pair of slotted vertically movable plungers, guides for the plungers, coil springs surrounding the plungers and resiliently supporting the same, transverse pins extending loosely through the slotted portions of the plungers and holding the plungers against rotation, and independent book supporting shelves applied to the upper ends of the plungers and adapted to receive the covers of an open book to support the book with the exposed upper pages thereof in substantially the same horizontal plane.

4. A device of the character described including a pair of spaced and vertically disposed end posts, a plurality of horizontally disposed shelves connecting said end posts, a pair of spaced hollow partitions vertically

arranged between a pair of the said horizontal shelves and secured thereto, a pair of spaced and complemental book shelves arranged above the top one of the beforementioned horizontal shelves, and supporting means for each of said complemental book shelves arranged within each of said hollow partitions, said supporting means normally maintaining the said complemental book shelves in substantially horizontal alinement, and projecting upwardly through the top one of the beforementioned horizontal shelves.

ERNEST J. SWEETLAND.