March 20, 1951 G. COUGIAS 2,545,844

AUTOMATICALLY ADJUSTABLE BOOKRACK

Filed Dec. 22, 1947

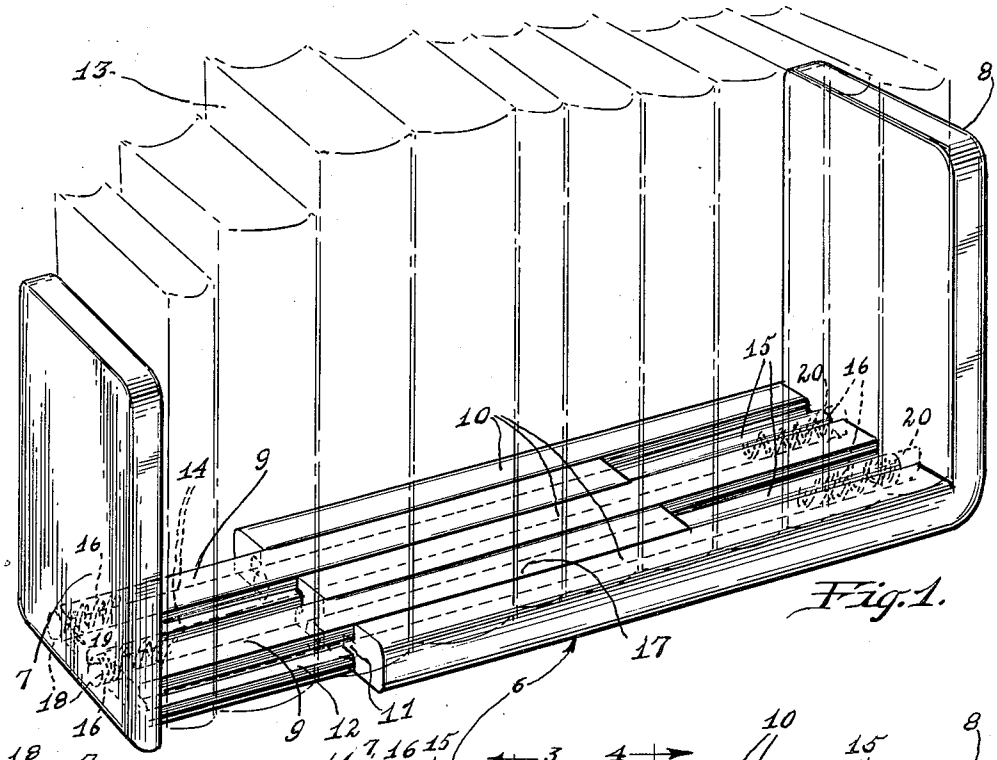


Fig. 1.

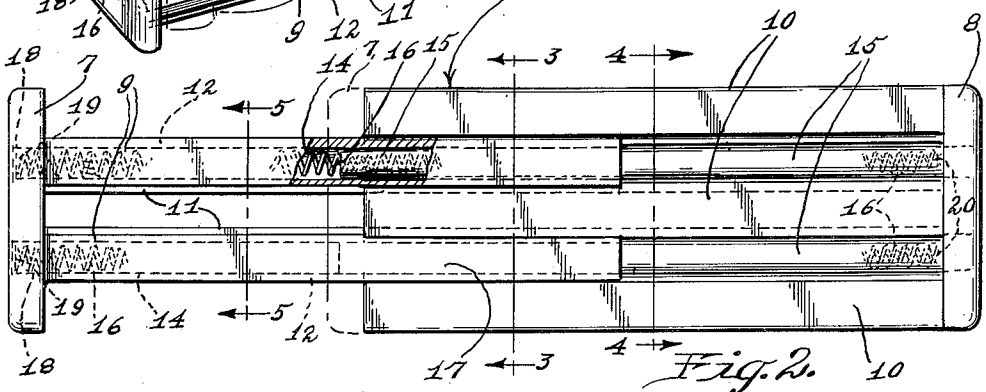
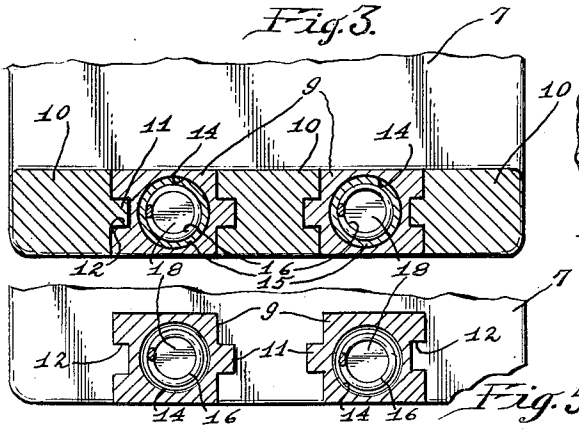


Fig. 2.

Fig. 3.



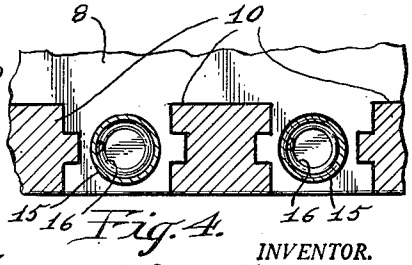


Fig. 4.

Fig. 5.

INVENTOR.
Gus Cougias
BY
David Mowry Heller
Attorney

Patented Mar. 20, 1951 2,545,844

UNITED STATES PATENT OFFICE

2,545,844

AUTOMATICALLY ADJUSTABLE BOOKRACK

Gus Cougias, Gary, Ind.

Application December 22, 1947, Serial No. 793,194

1 Claim. (Cl. 211—43)

1

My invention relates to automatically adjustable book racks.

An object of my invention is to provide a self-adjusting book rack, having book supporting ends slidably interconnected by mating tongue and groove extensions formed on the lower inside edges thereof to provide an extensible and retractable base upon which a number of books, or like objects, may be placed upright and held in that position by the said supporting book ends.

A further object of my invention is to provide a spring means between the two end supports to make my book rack automatically adjustable to the number of books, or other objects, placed therebetween.

A further object of my invention is to provide encasing means which, besides enclosing the said spring means, also provides added rigidity to the base of the adjustable book rack and prevents the elements thereof from becoming disengaged.

A further object of my invention is to provide a self-adjusting book rack that is simply designed and constructed of plastic or wood so that it may be economically produced in large quantities.

Other objects and advantages embraced in my invention will be further disclosed in the following description and the accompanying illustrations, in which like parts are designated by like numerals, and in which

Figure 1 is a perspective view of my invention showing a number of books, in phantom lines, contained therein.

Fig. 2 is a top view of my invention shown in a semi-extended position with parts broken away to show its spring adjusting means.

Fig. 3 is a cross-sectional view of a portion of my invention taken substantially on line 3—3 on Fig. 2.

Fig. 4 is a cross-sectional view of a portion of my invention taken substantially on line 4—4 on Fig. 2.

Fig. 5 is a cross-sectional view of a portion of my invention taken substantially on line 5—5 on Fig. 2.

Referring to the illustrations, my invention is generally designated 6, and consists of two end supports 7 and 8 which may be of a modern, stream-lined design as shown, or which may be of any desired shape, and which may preferably be made of plastic or wood material.

Formed at right angles on the lower inside edge of end support 7, in evenly spaced alignment, are a number of extensions 9, preferably an even number, and formed at right angles on the

2

lower inside edge of end support 8, in evenly spaced alignment, are a number of extensions 10, preferably an odd number. The said even and odd extensions 9 and 10 are slidably interconnected by tongue and groove means 11 and 12 formed in the sides thereof, so that the said extensions 9 and 10 together form an adjustable connecting means between the book ends 7 and 8, and also form a base 17 upon which a number of books 13, or like objects, may be supported between the said book ends 7 and 8.

Central openings 14 are formed in the extensions 9 and telescoped therein are a number of tubes 15 attached to the end support 8 between the spaced extensions 10. A number of tension springs 16 are contained in the central bores 14 and the tubes 15, and their ends 19 and 20 are attached to the end supports 7 and 8. The said tension springs 16 serve to pull the end supports 7 and 8 together, and to maintain the said supports 7 and 8 in the closest possible adjustment to the books 13 which are supported upon the base 17, so that the said spring-held end supports 7 and 8 will serve to maintain the books 13 therebetween in a compact upright grouping, as shown in Fig. 1.

The said tubes 15 are of somewhat greater length than the extensions 10 and the central bores 14 are extended, at 18, into end support 7 as shown in Fig. 2. This arrangement of tubes 15 and bores 14 provides a safety feature to prevent the elements of the said self-adjusting book rack from accidentally being pulled apart and buckling.

To assemble the component elements of my invention, the following method is deemed to be suitable. One of the ends of the springs 16 is first attached within the bores 14 in end support 7. The end supports 7 and 8 are then slid into assembly by virtue of their inter-engaging extensions 9 and 10. The ends 7 and 8 are compacted to their smallest assembled dimension, and the other ends of the springs 16 are extended, pulled through the bores in spring encasing tube 15 of element 8 and fastened near the end of the said bores in any suitable manner.

Should one or more books 13 be removed from the self-adjusting book rack, the book end supports 7 and 8, urged by springs 16, will automatically adjust themselves to accommodate the changed span of books held therebetween, and in like manner books may be added thereto. The book rack will automatically adjust itself to the number of books held between the end supports 7 and 8 to the extent of its expansibility, only

limited by the combined lengths of extensions 9 and 10.

My self-adjusting book rack is especially suitable for office and library desks where space is limited, or in places where separate and detached book ends are in danger of being knocked over.

Although my invention has been described, the terms used are to be deemed terms of description rather than terms of limitation, my intention being to retain the right to all mechanical equivalents of the structural elements depicted, provided they fall within the purview of the appended claim.

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

An automatically adjustable book rack comprising, a pair of end supports, multiple extension means secured to one of said end supports, extension means secured to the other of the said end supports and provided with longitudinal bores therethrough, said bores extending partly into the other of the said end supports, tension spring means confined in the said longitudinal bores and having their ends anchored to both of the said end supports, tongue and groove means on the said multiple extension means and the said extension means for slidably interconnecting the same, and spring encasing means secured to the first of said end supports slidably fitted within the said longitudinal bores, the said

spring encasing means being of greater length than the said multiple extension means to prevent accidental disengagement of the said tongue and groove means while still permitting the said end supports to be retracted to minimum adjustment when the said end supports contact the free ends of the said multiple extension means and the said extension means whereby the added length of the said spring encasing means is received in that portion of the said longitudinal bores extending into the other of the said end supports.

GUS COUGIAS.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,237,101	Ryan	Aug. 14, 1917
1,317,550	Cass	Sept. 30, 1919
2,110,299	Hinkle	Mar. 8, 1938
2,134,606	Hackworth et al.	Oct. 25, 1938
2,294,595	Dice	Sept. 1, 1942

FOREIGN PATENTS

Number	Country	Date
116,584	Great Britain	June 16, 1918
359,275	France	Jan. 16, 1906
453,516	France	Apr. 5, 1913