

Feb. 15, 1966

R. SCHWARZ

3,235,092

BOOK SUPPORT

Filed Jan. 2, 1964

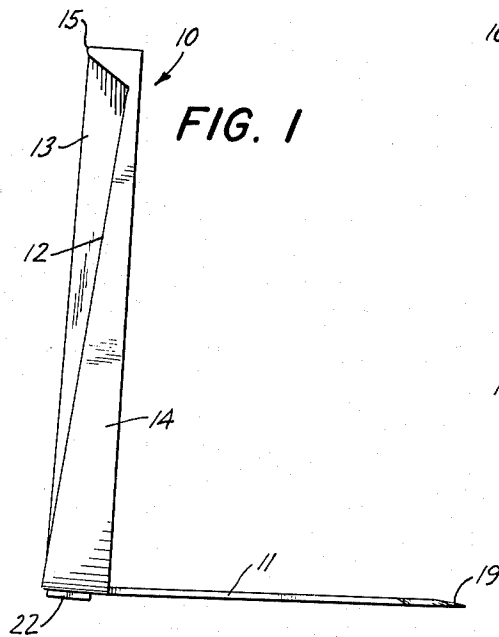


FIG. 1

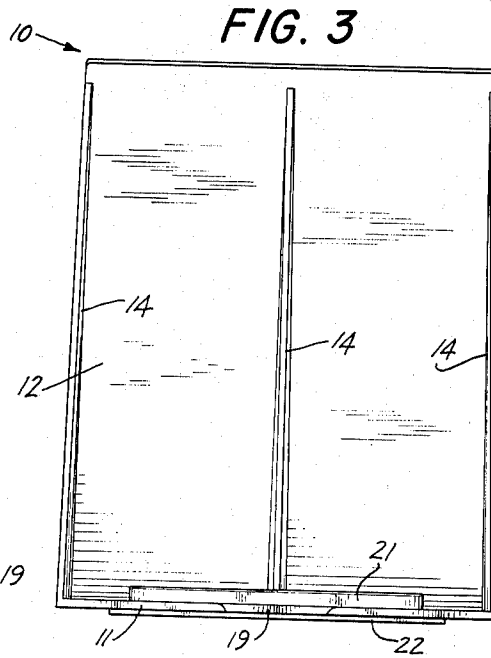


FIG. 3

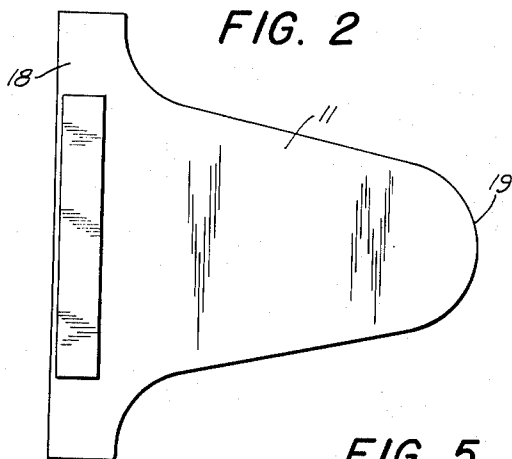


FIG. 2

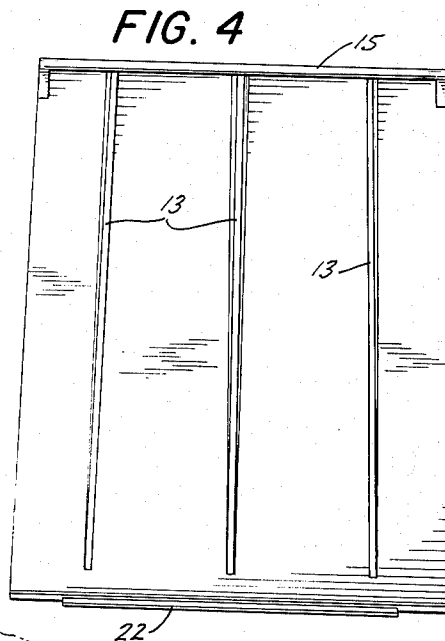


FIG. 4

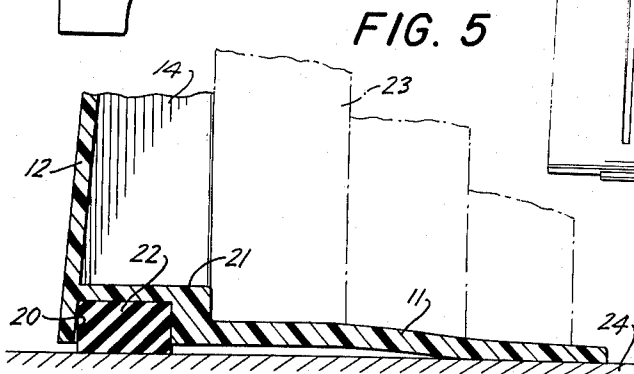


FIG. 5

INVENTOR:
RICHARD SCHWARZ

BY *Frederick Breitkopf*
ATTORNEY

1

3,235,092

BOOK SUPPORT

Richard Schwarz, Livingston, N.J., assignor to Bro-Dart Industries, Inc., Newark, N.J., a corporation of New York

Filed Jan. 2, 1964, Ser. No. 335,004

1 Claim. (Cl. 211-43)

This invention relates to a book support for maintaining one end of a row of books in upright condition, such supports sometimes being referred to as "book ends." More particularly, the invention relates to a book support of the character comprising generally an upright supporting wall and a flat tongue projecting horizontally from the lower end of the supporting wall and adapted to lie beneath the last several books in the row being supported.

Most book supports of this type have a flat bottom surface and are provided with a layer of cushioning material covering the entire area of this bottom surface. The covering is ordinarily a plastic or rubberized material, or it may be a fabric. The purpose of the covering is to prevent the book support from slipping along the shelf or other support surface under the outward pressure applied to it by the books. Obviously, if the book support slips very far, it will fail to perform its function of keeping the books neatly arranged in vertical condition.

The usual covering for the bottom surfaces of book supports presents certain disadvantages. In the first place, it is expensive since a relatively large piece of material is required to cover the entire bottom surface of a book support. Secondly, and more important, the covering material tends to slide with respect to the bottom surface of the book support due to the constant shearing force applied to it, i.e., the books tend to push the book support in one horizontal direction and the friction force between the covering material and the shelf is in the opposite direction. Furthermore, the adhesive material securing the covering to the book support tends to dry out in time thus aggravating the problem by reducing the bond between the covering and the book support.

It is an object of the present invention to overcome these problems by providing a book support which uses less cushioning material than conventional book supports, and which provides means for positively preventing the cushioning material from sliding with respect to the book support.

It is another object of the invention to provide a book support which is more resistant to skidding along the shelf, under the pressure of the books it supports, than conventional book supports.

It is a further object of the invention to provide such a book support which is thoroughly practical to manufacture, and which may be formed in one piece of molded plastic, exclusive of the cushioning material.

To accomplish these objectives, the present book support is provided in its bottom surface with a recess, and a relatively small cushioning element is mounted within the recess. The cushioning element is so sized that it extends below the bottom face of the book support. Due to the recessed nature of the cushioning element, it is prevented from sliding along the bottom surface of the book support. In addition, the fact that the cushioning element projects below the bottom face of the book support causes the latter to be positioned at an angle. As a result, when books are placed on the tongue of the support and against its supporting wall, an increased force is exerted on the cushioning material thereby providing a desirable braking effect.

Other objects and advantages of the invention will be

2

apparent from the following description in which reference is made to the accompanying drawings.

In the drawings:

FIG. 1 is a side elevational view of a book support formed according to this invention;

FIG. 2 is a bottom plan view of the book support;

FIG. 3 is a rear elevational view of the book support;

FIG. 4 is a front elevational view of the book support; and

FIG. 5 is an enlarged, fragmentary, vertical cross-sectional view of the lower portion of the book support.

The book support chosen to illustrate the present invention comprises generally an upright supporting wall 10, and a flat tongue 11 projecting substantially horizontally from the lower end of the wall 10. Preferably, the supporting wall and tongue are integrally molded from a flexible material, such as a suitable plastic.

In the present example, the supporting wall 10 comprises a panel 12, arranged at a small angle to the vertical, having vertical strengthening ribs 13 and 14 on its front and rear faces, respectively. A horizontal rib 15 extends across the top of the panel 12 and ribs 13. The ribs 13-15 make the supporting wall 10 a rigid element even though it may be fabricated from a flexible material.

The tongue 11 is a relatively thin, flat element projecting rearwardly in a horizontal plane from the lower end of the panel 12. The front region 18 of the tongue interconnects the lower ends of the ribs 14 and forms, in effect, the bottom of the supporting wall 10. The remainder of the tongue 11 tapers rearwardly, and at its rearward end it becomes attenuated to form an edge 19 which may readily be slipped beneath the last few books in a row of books to be supported.

In the region 18, the bottom face of the tongue is provided with a recess 20. Since the tongue is so thin, its upper face is provided with stepped portion 21 to accommodate the recess. Mounted within the recess 20, as by means of a suitable adhesive, is a cushion element 22. This element may be formed of a resilient plastic or rubberized material. An important characteristic of the material chosen to form the cushion element is a relatively high coefficient of friction with respect to the surface upon which the books to be supported rest. In other words, the cushion element must resist slipping or sliding along the surface of the book shelf. As may be seen clearly in the drawings, the cushion element 22 is so sized with respect to the depth of the recess 20 that it extends below the bottom surface of the tongue 11. In addition, the recess 20 and cushion element 22 preferably extend along a major portion of the horizontal length of the supporting wall 10 in order to insure that enough cushioning material is present to prevent slippage of the book support.

It will be appreciated from an inspection of FIG. 5 that the cushion element 22, due to its recessed mounting, cannot slip in a horizontal plane with respect to the remainder of the book support. Therefore, the shear force on the cushion element, produced by the pressure of the books 23 in a rightward direction in FIG. 5 and the friction force between the element 22 and the surface of the shelf 24 in a leftward direction, will not cause the cushion element to slide along the bottom surface of the book support. This is true even if the adhesive material securing the cushion element 22 in the recess 20 eventually dries out thus weakening the bond between the cushion element and the remainder of the book support. Consequently, the present book support will give many years of service with no loss in effectiveness and without the unsightly appearance of any cushioning material outside the borders of its bottom surface.

Due to the fact that the cushion element 22 projects below the bottom surface of the tongue 11, the support-

3

ing wall 10 is raised slightly off the shelf on which the book support is placed. In use, of course, books are placed upon the tongue 11, and one face of the last book in the row presses against the rearward edge of the ribs 14 of the supporting wall 10. Since the tongue 11 is deflectable with respect to the supporting wall, and since the cushion element 22 is resilient, the outward pressure of the books tends to pivot the supporting wall outwardly with respect to the tongue which is held in place by the weight of the books. This pivotal movement of the supporting wall 10 causes a downward pressure to be exerted on the cushion element 22. As a result, a relatively large force exists between the cushion element and shelf 24 thus producing an increased frictional force between the cushion element and the surface of the shelf. The frictional force, of course, opposes the force produced by the books tending to slide the book support along the shelf.

It will be seen, therefore, that the present invention provides a book support less likely to slide along the book shelf, and in which the cushioning material applied to its bottom surface is positively prevented from moving relative to the remainder of the book support.

The invention has been shown and described in preferred form only, and by way of example, and many variations may be made in the invention which will still be comprised within its spirit. It is understood, therefore, that the invention is not limited to any specific form or embodiment except insofar as such limitations are included in the appended claim.

What is claimed is:

A book support for maintaining one end of a row of

4

books in upright condition, comprising a supporting wall adapted to stand adjacent to the last book of the row, a flat elongate tongue projecting substantially horizontally from the lower end of said wall and adapted to underlie said books, said wall comprising a single panel having vertically extending integral reinforcing ribs on its inner face, said ribs being widest at the bottom, said tongue and wall being integrally formed of flexible plastic and said ribs preventing flexure of said wall, said tongue being thickened at the base of said wall and provided with a downwardly opening recess in said thickened portion, and a friction producing cushion element arranged in said recess, said tongue and wall being arranged at an angle to each other slightly less than 90 degrees, whereby when books resting on said tongue push against said supporting wall they pivot said wall away from said tongue by flexing the latter and thereby press said cushion element downwardly against the surface carrying the books and book support.

References Cited by the Examiner

UNITED STATES PATENTS

945,877	1/1910	Updegraff	211—43
1,832,884	11/1931	Ulrich	211—43
2,872,046	2/1959	Polay	211—42

FOREIGN PATENTS

860,726	2/1961	Great Britain.
---------	--------	----------------

30 CLAUDE A. LE ROY, *Primary Examiner.*

FRANK L. ABBOTT, *Examiner.*