March 3, 1964 R. E. PROCTOR 3,123,264

BOOK CARRIER

Filed Dec. 5, 1961

FIG. 8.

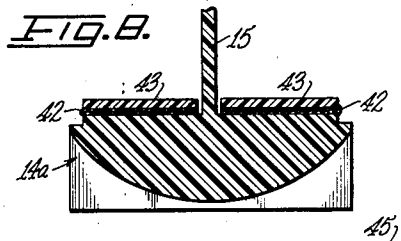


FIG. 7.



FIG. 9.

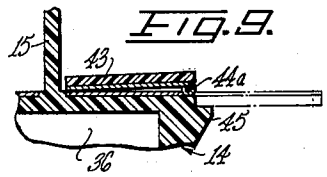


FIG. 6.

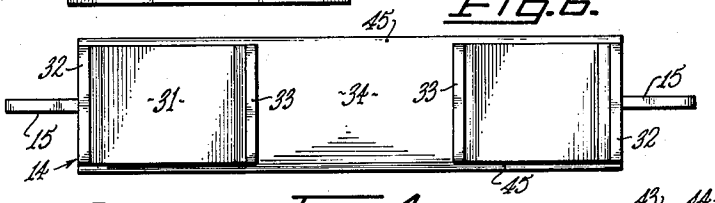


FIG. 5.

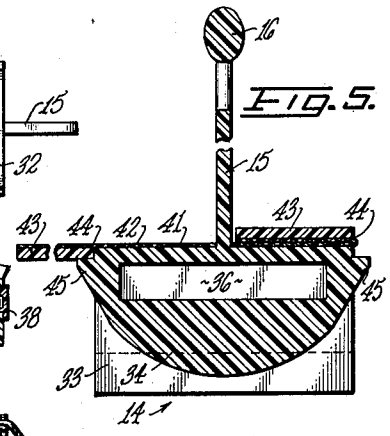


FIG. 4.

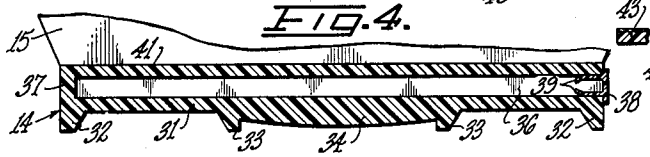


FIG. 2.

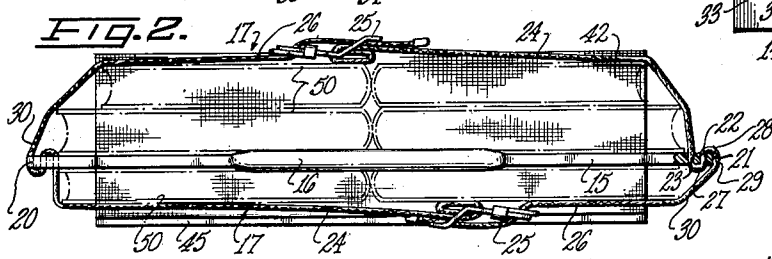


FIG. 3.

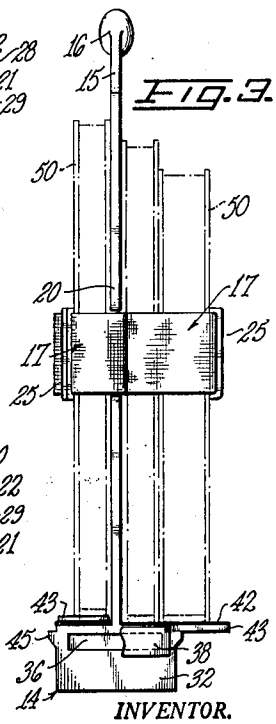
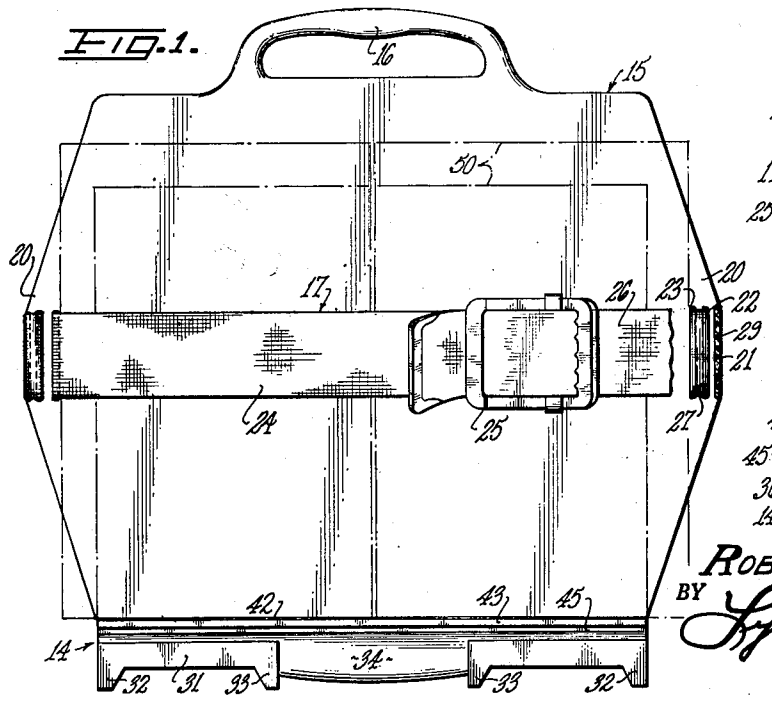


FIG. 1.



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United States Patent Office 3,123,264 Patented Mar. 3, 1964

3,123,264

BOOK CARRIER

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Filed Dec. 5, 1961, Ser. No. 157,083
7 Claims. (Cl. 224—45)

This invention relates to hand-held carriers and has as its general object to provide a carrier for use by students, professional people, etc, for carrying textbooks, reference books, etc.

In general, the invention contemplates a relatively simple, inexpensive carrier embodying a handle for suspending it in the hand of a user, embodying supporting ledges along its bottom on which books may rest, and having straps or equivalent means for securing a plurality of books to the carrier in positions supported by said ledges.

A further object is to provide such a carrier which, in addition to a handle for suspended carrying has a supplementary hand grip means for under-arm carrying of the device and its load.

A further object is to provide such a device having, at its bottom, supporting ledge means which is extensible to accommodate variations in the number of books carried thereby.

A still further object is to provide such a book carrier having a base providing storage space for a waterproof cover, rolled up, and also useful for housing pencils, pens, or the like.

Other objects and advantages will become apparent in the ensuing specifications and appended claims in which:

FIG. 1 is a front elevational view of a book carrier embodying the invention, a plurality of books, carried thereby, being shown in phantom;

FIG. 2 is a top plan view of the same;

FIG. 3 is an end elevational view thereof;

FIG. 4 is a fragmentary view of the base portion of the carrier, shown in longitudinal section;

FIG. 5 is a fragmentary transverse sectional view through the center of the carrier showing one of the extensions supports in extended position and the other in folded position;

FIG. 6 is a bottom plan view of the carrier;

FIG. 7 is an inner side view of the waterproof cover compartment closure;

FIG. 8 is a fragmentary cross sectional view of a modified form of the invention, and

FIG. 9 is a fragmentary transverse sectional view of another modification.

Detailed Description—Preferred Form—FIGS. 1–6

Referring now to the drawings in detail, and in particular to FIGS. 1–6, I have shown therein, as an example of one form in which the invention may be embodied, a book carrier comprising, in general, a flat back panel 15, a carrying handle 16 at the top thereof, a base 14 providing book supporting ledges at the bottom of the back panel 15 on both sides thereof, and a pair of book securing straps 17 secured to respective ends of the back panel 15 and operative to secure a plurality of books against the respective side faces of the panel. The back panel 15, base 14 and carrying handle 16 are preferably formed integrally of expanded plastic foam material (e.g. expandable polystyrene) combining maximum strength and lightweight characteristics. The material sold commercially by Dow Chemical Co. as "Pelaspan" is suitable. Foamed aluminum metal also can be utilized.

Holding straps.—On the median longitudinal axis of the back panel 15, at its respective ends, it is formed

with extensions 20 projecting beyond the ends of base 14 and provided with shallow vertical notches 21 and a pair of vertical slots 22 and 23 in adjacent, parallel relation thereto. Each of the straps 17 comprises an end portion 24 on one side of the holder, to which is secured a buckle 25, and a tip portion 26 on the other side of the holder, attachable to the buckle 25 of the other strap. Intermediate the respective portions 24 and 26 thereof, each strap is threaded through the slots 22, 23 of a respective end extension 20 of the back panel 15 and, when fastened to the buckle of the other strap, is extended around the end extremity of a respective extension 20 and seated in the notch 21 thereof. More specifically a strap having its body portion 24 disposed on one side of the back panel 15 is threaded first through the inward slot 23 to the opposite side of the panel, is thence looped back upon itself into a bight 27 which is drawn against said opposite side, is thence extended back through the outward slot 22 to said one side of the back panel 15, is thence looped back in the opposite direction to form a bight 28 engaging the said one side of the panel 15, is thence bridged around the end of the panel 15 at 29, where it is seated in the notch 21, and thence is extended at 30 to the tip portion 26. It will now be seen that the two bights 27 and 28, together with the strap portion joining them in the slot 22, are of S-configuration. The S-looped portions 27 and 28 of the strap bear frictionally against the contacting portions of back panel 15 to hold the straps against slippage in the slots 22 and 22, while providing for adjustment of the straps relative to the back panel. Alternatively, the straps can be secured to the back panel 15 by rivets or any other suitable means.

The base 14 comprises an elongated body 31 having at its respective ends, supporting members (e.g. feet 32 and 33, defining flat horizontal support surfaces normal to the vertical plane of back panel 15, and having in its central region a bottom hand-hold section 34 disposed between the feet 33 and of downwardly bellied, barrel-shape cross section as best seen in FIG. 5. The hand-hold 34 provides a comfortable surface which can be nestled in the palm of the hand when the user chooses to utilize an under-arm carry. That is to say, the book holder and its load may be embraced between the user's body and his downwardly hanging arm, with the arm extending downwardly around the outward side of the holder and the hand curled beneath the hand-hold 34 toward the user's body. Alternatively, the book holder and its load may be suspended from the user's hand, grasping the handle 16.

The end portions of the base body 31 are of approximately rectangular cross section as indicated in FIG. 5. The lower faces thereof (e.g. of feet 32, 33) are squared with respect to the back panel 15 (disposed in a common plane at right angles to the plane of panel 15) to rest solidly upon a horizontal supporting surface with the book carrier supported in an upstanding position. These squared, supporting lower faces extend the full width of the base 14. The chamber 36 has one end closed at 37.

Within the body 31, for its full length, is disposed a shallow chamber 36, of rectangular cross section, extending substantially full length of the base 14, and the other end has an open mouth adapted to be closed by a removable stopper 38 having spaced spring legs 39 (FIG. 7) receivable in and frictionally engageable against the upper and lower walls of the chamber 36.

The base 14 projects symmetrically on both sides of the plane of back panel 15, and its upper side provides a pair of oppositely projecting horizontal supporting ledges 41 upon which books 50 (shown in phantom in

FIGS. 1 and 2) may be rested. Each supporting ledge 41 is faced with one half of the width of a strip of non-stretchable fabric 42, adhesively secured thereto. The strip 42 has the remaining half of its width cemented or bonded to the face of an extension shelf 43, and has a median longitudinal portion 44 functioning as a hinge joining extension shelf 43 to a respective ledge 41. Formed integrally in the respective sides of base 14 and extending full length thereof, are respective supporting stops 45 against which the shelves 43 come to rest in their fully extended positions corresponding to that seen at the leftward side of FIG. 5. Where only one pair of books is to be supported on a respective side of the holder, the shelf 43 may be folded back upon its respective supporting ledge 41 and the books hence supported against the back (upper) side of the shelf 43 as seen at the leftward side of FIG. 3. Where two pairs of books are to be supported on one side of the holder (as at the rightward side of FIG. 3) the outward pair of books is supported upon the extension shelf 43. The books are held in place by the straps 17, as illustrated.

The fabric of hinge sheets 41 is of very closely woven, thin fabric (e.g. about 1/32 inch in thickness) which is sufficiently non-stretchable so as to support the extended shelves 43 by tension in the hinge areas 44 of the fabric, to the extent that when resting upon the supporting stops 45, the shelves 43 will provide adequate support for a pair of books without sagging below the horizontal plane of coplanar relationship with the edges 41. For improved strength, flexibility and wear-life, the fabric strips 41 are preferably impregnated with a thermoplastic resin film of relatively high tensile strength and high flexibility.

Modified Form—FIG. 8

As illustrated in FIG. 8, the base may be solid, shallow and flat, where it is not required to embody a receptacle therein; and the hand-hold 34 may be more shallow and more broadly curved as shown. In other respects, this form of the invention is the same as that shown in FIGS. 1–7.

Instead of spaced feet 32 and 33 (defined by notching out the base to eliminate excess weight) the end portions of the base (e.g. 14*a* in FIG. 8) may be in the form of rectangular blocks of uniform cross-section from the ends of hand-hold 34 to the ends of the base.

Modified Form—FIG. 9

FIG. 9 illustrates the substitution of metal hinges 44*a* in lieu of the hinges 44 of FIGS. 1–7. In other respects this form is the same as that shown in FIGS. 1–7.

I claim:

1. In a book carrier, in combination: a thin flat back panel, a carrying handle attached to the top thereof, a base secured to the lower margin of said panel and having supporting ledges projecting from respective sides of the panel at right angles thereto, retainer straps linked to said back panel and adapted to retain a plurality of books in engagement with the respective sides of the panel with the books resting upon said supporting ledges, and extension shelves hinged to the lateral margins of said supporting ledges, for movement between folded positions resting in flat face-to-face contact with said ledges and extended positions coplanar with said ledges and extending laterally therefrom.

2. A book carrier as defined in claim 1, including respective strips of thin, non-stretchable fabric adhesively secured to the opposed faces of said ledges and shelves and functioning as hinges at the joints between said ledges and shelves.

3. A book carrier as defined in claim 2, wherein said fabric strips are impregnated with a synthetic resin plastic film of high flexibility and tensile strength.

4. A book carrier as defined in claim 1, wherein said base has integral supporting stops extending longitudinally along its respective sides and spaced below the axes of hinged connection between said shelves and ledges, a depth corresponding to the thickness of the shelves whereby the inboard marginal portions of said shelves may rest upon such stops in said extended positions thereof.

5. A book carrier as defined in claim 1, wherein said back panel, handle and base are molded integrally of expandable polystyrene.

6. A book carrier as defined in claim 1, wherein said base in its lower side comprises end portions having squared bottom faces for supporting said carrier in an upright position, and an intermediate hand-hold portion having a rounded convex surface.

7. A book carrier as defined in claim 1, wherein said base has an internal chamber extending longitudinally therein and of shallow, flat cross section, with its width extending horizontally.

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