

Nov. 19, 1968

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3,411,741

BOOK REST

Filed Sept. 13, 1966

2 Sheets-Sheet 1

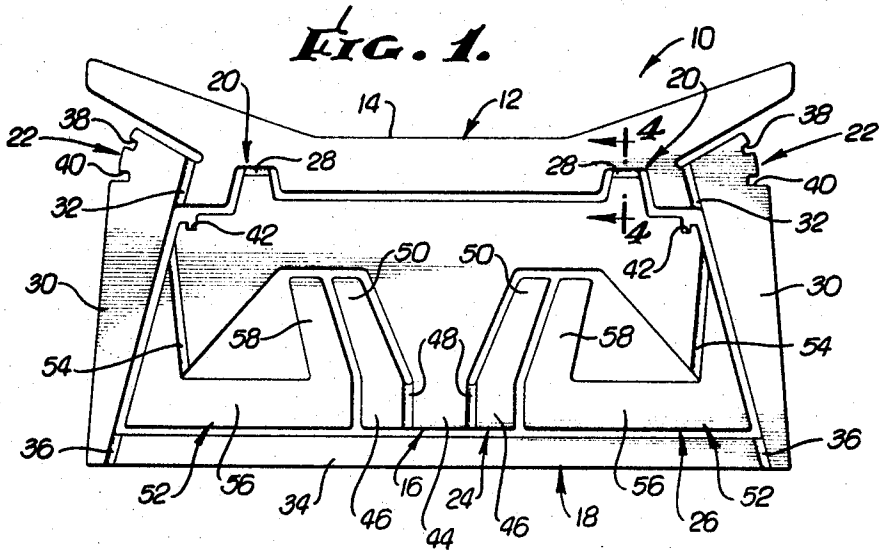


FIG. 2.

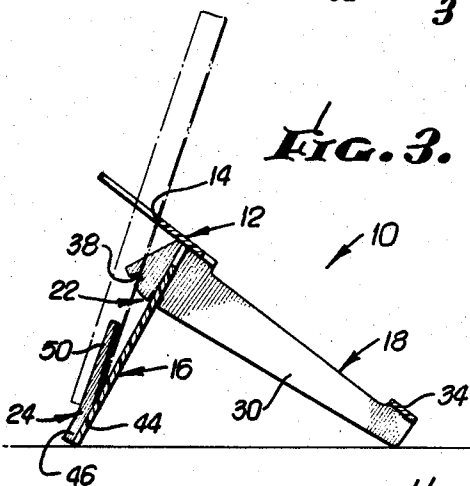
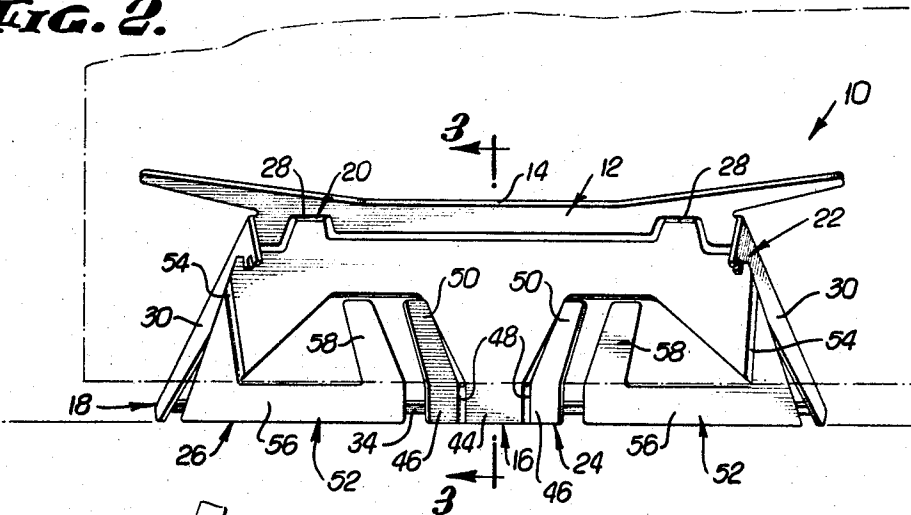
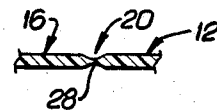


FIG. 4.



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FIG. 5.

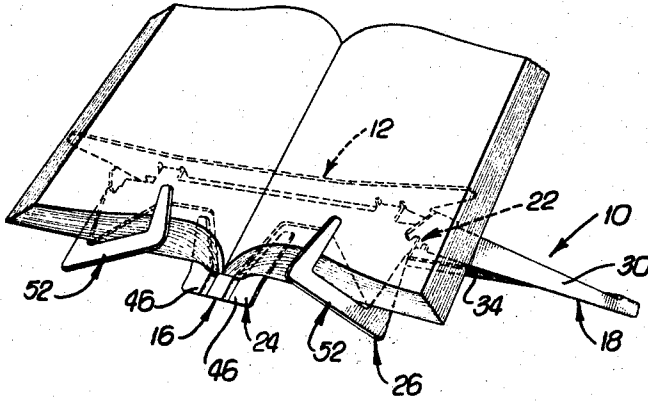


FIG. 6.

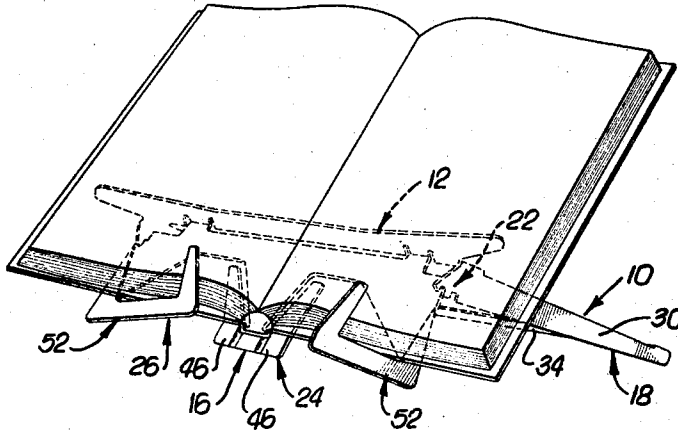


FIG. 7.

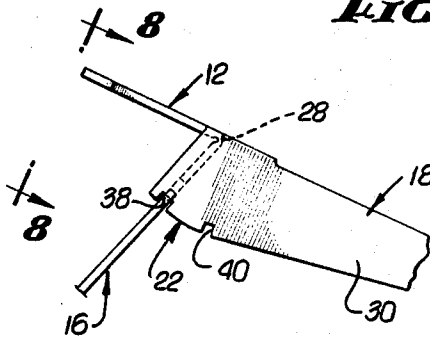
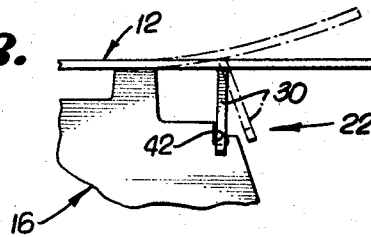


FIG. 8.



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BOOK REST

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5 Claims. (Cl. 248-456)

ABSTRACT OF THE DISCLOSURE

A one-piece collapsible book rest of flexible plastic material comprising members foldable between erected, operative positions and collapsed, inoperative positions wherein all of the members are coplanar. Reduced-thickness portions of the plastic material act as hinges between the various foldable members, and integral latch elements secure various of the members in their erected positions.

Summary and objects of invention

The present invention relates in general to a book rest, i.e., a device for holding a book open in a convenient viewing position, and a primary object of the invention is to provide a collapsible book rest foldable between an erected, operative configuration and a collapsed, inoperative configuration wherein all of its components are coplanar.

More particularly, an important object of the invention is to provide a one-piece collapsible book rest comprising various members and elements foldable between erected, operative positions and collapsed, inoperative positions wherein all such members and elements are coplanar.

The fact that the book rest of the present invention has a flat configuration prior to use, or may be unfolded into a flat configuration when not in use, is an important feature since the book rest occupies a minimum of space during shipment, storage, and the like. For example, a large number of the book rests of the invention can be displayed in a store in no more space than that required for a small number of conventional book rests. Also, in its flat condition, the book rest of the invention may be used as a book mark.

Considering the invention more specifically, an important object is to provide a one-piece collapsible book rest of the foregoing nature comprising: a book supporting member engageable by the back of a book; front and rear leg members connected to the book supporting member; hinge means providing for relative pivotal movement of the front and rear leg members between angularly spaced operative positions and coplanar inoperative positions; latch means for latching the front and rear leg members in their operative positions; and retaining means hingedly connected to the front leg member for supporting the bottom of the book and for holding the book open.

Another object is to provide a book rest wherein the latch means includes interengageable latch elements on the front and rear leg members.

A further object of the invention is to provide a book rest wherein the hinge means interconnects the book supporting member and the front leg member and wherein the latch means includes hinged latch elements forming parts of the rear leg member and engageable with latch elements on the front leg member.

Still another object of the invention is to provide a book rest wherein the book supporting member is provided with a concave edge engageable by the back of the book.

An additional object of the invention is to provide a book rest wherein the retaining means includes two relatively-closely-spaced retaining members hingedly con-

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nected to the front leg member for forward pivotal movement toward each other. Such retaining members are useful in supporting and holding a book of but a few pages, or even a single sheet of paper.

Yet another object is to provide a book rest wherein the retaining means includes two relatively-widely-spaced retaining members hingedly connected to the front leg member for forward pivotal movement away from each other. Such retaining members are useful in supporting and holding relatively thick books.

The foregoing objects, advantages, features and results of the present invention, together with various other objects, advantages, features and results which will be evident to those skilled in the art to which the invention relates in the light of this disclosure, may be achieved with the exemplary embodiment of the invention described in detail hereinafter and illustrated in the accompanying drawings.

Description of drawings

In the drawings:

FIG. 1 is a plan view of the book rest of the invention in its collapsed or flat configuration, wherein all of the members and elements of the book rest are coplanar;

FIG. 2 is a front view of the book rest of the invention in one of its erected configurations and in use to hold a single sheet of paper;

FIG. 3 is a vertical sectional view taken as indicated by the arrowed line 3-3 of FIG. 2;

FIG. 4 is a fragmentary sectional view taken as indicated by the arrowed line 4-4 of FIG. 1;

FIG. 5 is a perspective view of the book rest of the invention in another of its erected configurations and in use to support a book with a paper back;

FIG. 6 is a view similar to FIG. 5, but showing the book rest in use to support a book with a hard cover;

FIG. 7 is a fragmentary end elevational view of the book rest showing a latch means for latching front and rear leg members of the book rest in one set of operative positions; and

FIG. 8 is a fragmentary front elevational view taken as indicated by the arrowed line 8-8 of FIG. 7 and showing the operation of the latch means.

Description of exemplary embodiment of invention

In the drawings, the book rest of the invention is designated generally by the numeral 10 and is formed in one piece, in its flat configuration, of a suitable plastic material, utilizing a stamping or molding operation. Preferably, the book rest 10 is made of polypropylene, this material having the physical characteristics necessary to perform the hinging and latching functions hereinafter described without fatigue failure, as well as having the necessary structural strength. Although the book rest 10 of the invention may be stamped from a flat sheet of polypropylene, or other suitable material, it is preferably formed by a molding operation so as to provide the various parts with smooth, rounded edges having a more finished appearance.

Continuing to consider the book rest 10 in a general way, all of its parts are flat and are interconnected by integral hinges which permit them to be folded between erected, operative positions and collapsed, inoperative positions. When the various parts of the book rest 10 are in their collapsed, inoperative positions, they are all coplanar so that the book rest has a flat configuration, as shown in FIG. 1. Consequently, the book rest 10 occupies a minimum of space during shipment, storage, and the like.

Considering the structure of the book rest 10 more specifically now, it includes a book supporting member 12 having a centrally recessed, or generally concave, book

supporting edge 14 engageable by the back of a book. As will be clear from such figures of the drawings as 2, 3, 5 and 6, the book supporting edge 14 faces upwardly and forwardly, when the book supporting member 12 is in its operative position, so that the back of the book rests against the book supporting edge 14 with the book in an upwardly and rearwardly inclined position.

The book rest 10 includes front and rear leg members 16 and 18 which are connected to the book supporting member 12 and which are interconnected by hinge means 20 providing for relative pivotal movement of the front and rear leg members between angularly spaced operative positions, best shown in FIGS. 3, 5, 6 and 7, and coplanar inoperative positions, shown in FIG. 1. The book rest 10 includes latch means 22 on the front and rear leg members 16 and 18 for latching the front and rear leg members in either of two sets of operative positions with different angular spacings therebetween, one set of operating positions of the front and rear leg members being shown in FIGS. 2 and 3 and another being shown in FIGS. 5, 6 and 7. The front leg member 16 includes hinged inner and outer retaining means 24 and 26, the inner retaining means 24 being adapted to support and hold open a thin book, or a single sheet of paper, as shown in FIGS. 2 and 3, and the outer retaining means being adapted to support and hold open thicker books, as shown in FIGS. 5 and 6.

The hinge means 20 for pivotally interconnecting the front and rear leg members 16 and 18 includes two axially spaced, axially aligned hinges 28 which integrally connect the front leg member 16 to the book supporting member 12 at points adjacent the laterally spaced ends of the front leg member and the book supporting member. The hinges 28 simply comprise thinner portions of the sheet of material forming the book rest 10, as shown in FIG. 4. More particularly, the sheet of material forming the book rest 10 is grooved on opposite sides thereof to form each hinge 28. The other hinges referred to hereinafter are formed in the same way and will not be described in detail.

Considering the rear leg member 18, it includes two laterally spaced leg elements 30 connected to the book supporting member 12 adjacent its ends by integral hinges 32 generally perpendicular to the hinges 28. As will become apparent, the leg elements 30 also act as latch elements and will occasionally be referred to as such hereinafter. The extremities of the leg elements 30 are interconnected by a strap member 34 through integral hinges 36 axially spaced from and axially aligned with the respective hinges 32. When the book rest 10 is in one of its operative configurations, the extremities of the leg elements 30 rest on a suitable supporting surface, such as a table, or the like.

It will be noted that, when the book rest 10 is in its flat configuration, the front leg member 16, including the inner and outer retaining means 24 and 26, lies flat within the confines of the book supporting member 12 and the leg elements 30 and the strap member 34 of the rear leg member 18. Not only does this construction permit flat manufacture, shipment and storage of the book rest 10, but it also minimizes the amount of material required. Further, in the flat configuration, the book rest 10 may be slipped between two pages of a book to serve as a book mark.

Considering the latch means 22, it will be noted that each leg element or latch element 30 of the rear leg member 18 is provided with two latch notches 38 and 40. When the book rest 10 is in its erected configuration, the latch notches 38, or the latch notches 40, interlock with complementary latch notches 42 in the front leg member 16 adjacent the respective hinges 28. FIG. 8 of the drawings illustrates how the ends of the book supporting member 12 may be flexed to engage and disengage the latch notches 38 and 42, or the latch notches 40 and 42. When the latch notches 38 and 42 are engaged, the book rest 10 supports a book in a relatively flat position, as shown

in FIGS. 5 to 7. When the latch notches 40 and 42 are engaged, the book rest 10 supports a book in a steeper position, as shown in FIGS. 2 and 3.

Turning to a more detailed consideration of the front leg member 16, it includes a central leg element 44 which is engageable with a table, or other supporting surface, when the book rest 10 is in its erected configuration. Under such conditions, the inner and outer retaining means 24 and 26, which form parts of the front leg member 16, also rest on the supporting surface.

The inner retaining means 24 includes two relatively-closely-spaced, inner retaining members 46 connected to the central leg element 44 by integral hinges 48 for forward pivotal movement toward each other, as shown in FIGS. 2 and 3, the hinges 48 being generally perpendicular to the hinges 28. It will be noted that the inner retaining members 46 are what might best be described as generally hook-shaped and are adapted to receive the lower edge of a thin book, or a single or a few sheets of paper, therein to support the bottom of such book or sheet of paper, and to hold such book open. As shown in FIGS. 2 and 3, the lower edge of such a thin book, or a single or a few sheets of paper, are inserted into the hook-shaped inner retaining members 46 forwardly of the central leg element 44, the inner retaining members 46 having tabs 50 which overlie the book, or sheet or sheets of paper, to hold them open. It will be understood that when a single sheet or a few sheets are held in this manner, they are curved into a generally tubular configuration by the coaction of the retaining members 46 and the concave supporting edge 14, thereby providing the rigidity or stiffness necessary to keep the sheet or sheets from collapsing.

The outer retaining means 26 comprises two relatively-widely-spaced outer retaining members 52 hingedly connected to the outer edges of the front leg member 16 by integral hinges 54 generally perpendicular to the hinges 28, the outer retaining members 52 being forwardly pivotable away from each other. These retaining members are also generally hook-shaped and includes arms 56 adapted to support the bottom edge of a book resting thereon, and further include tabs 58 adapted to overlie the bottom edge of the opened book to hold it open. The manner in which the outer retaining members 52 support the bottom of the book and hold it open will be clear from FIGS. 5 and 6 of the drawings.

It will be understood that the inner retaining members 46 and the outer retaining members 52 may also be used to hold books open with the front and rear leg members 16 and 18 in their collapsed positions so that the books lie flat on a table, or other supporting surface. In this case, the invention merely serves as a means for holding a book open, instead of as a book rest.

Thus, it will be apparent that the invention provides a one-piece collapsible book rest foldable between an erected, operative configuration and a collapsed, inoperative configuration wherein all of its components are coplanar so that the book rest occupies a minimum of space during shipment, storage, and the like. When the book rest 10 is in its collapsed configuration, the front leg member 16 and the various components connected thereto are nested within the confines of the book supporting member 12 and the rear leg member 18. Consequently, the book rest 10 can readily be manufactured in a flat condition from a single sheet of material. Alternatively, it can be molded in a flat condition with a very simple flat mold.

The various hinges incorporated in the book rest 10 are double acting, i.e. they are capable of pivoting the parts involved in either direction from the flat positions of such parts. Consequently, either side of the book rest 10 may be used as the front side thereof, which simplifies its usage.

Although an exemplary embodiment of the invention has been disclosed herein for purposes of illustration,

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it will be understood that various changes, modifications and substitutions may be incorporated in such embodiment without departing from the spirit of the invention as defined by the claims which follow.

I claim as my invention:

1. A one-piece collapsible book rest of flexible plastic material foldable between an erected, operative configuration and a collapsed, inoperative configuration wherein all of its components are coplanar, including:

- (a) a book supporting member engageable by the back of a book;
- (b) front and rear leg members which are formed integrally with said book supporting member and one of which is rigidly connected to said book supporting member;
- (c) integral first hinge means providing for relative pivotal movement of said front and rear leg members between angularly spaced operative positions and coplanar inoperative positions;
- (d) said first hinge means comprising reduced-thickness portions of said plastic material;
- (e) integral latch means formed of said plastic material for latching said front and rear leg members in said angularly spaced operative positions;
- (f) retaining means formed integrally with said front leg member, and pivotable forwardly relative to said front leg member from a coplanar inoperative position to a forwardly-projecting operative position, for supporting the bottom of the book when in said forwardly-projecting operative position;
- (g) integral second hinge means connecting said retaining means directly to said front leg member adjacent the bottom thereof for pivotal movement of said retaining means between said coplanar inoperative and said forwardly-projecting operative positions; and
- (h) said second hinge means comprising reduced-thickness portions of said plastic material.

2. A collapsible book rest foldable between an erected, operative configuration and a collapsed, inoperative configuration wherein all of its components are coplanar, including:

- (a) a book supporting member engageable by the back of the book;
- (b) front and rear leg members connected to said book supporting member;
- (c) hinge means interconnecting said book supporting member and said front leg member and providing for relative pivotal movement of said front and rear leg members between angularly spaced operative positions and coplanar inoperative positions;
- (d) latch means for latching said front and rear leg members in their operative positions and including hinged latch elements forming parts of said rear leg member and engageable with latch elements on said front leg member; and
- (e) retaining means hingedly connected to said front leg member for supporting the bottom of the book and for holding the book open.

3. A collapsible book rest foldable between an erected, operative configuration and a collapsed, inoperative configuration wherein all of its components are coplanar, including:

- (a) a book supporting member engageable by the back of a book;
- (b) front and rear leg members connected to said book supporting member;

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(c) hinge means providing for relative pivotal movement of said front and rear leg members between angularly spaced operative positions and coplanar inoperative positions;

- (d) latch means for latching said front and rear leg members in their operative positions;
- (e) retaining means hingedly connected to said front leg member for supporting the bottom of the book and for holding the book open; and
- (f) said retaining means including two retaining members hingedly connected to said front leg member for forward pivotal movement toward each other.

4. A collapsible book rest foldable between an erected, operative configuration and a collapsed, inoperative configuration wherein all of its components are coplanar, including:

- (a) a book supporting member engageable by the back of a book;
- (b) front and rear leg members connected to said book supporting member;
- (c) hinge means providing for relative pivotal movement of said front and rear leg members between angularly spaced operative positions and coplanar inoperative positions;
- (d) latch means for latching said front and rear leg members in their operative positions;
- (e) retaining means hingedly connected to said front leg member for supporting the bottom of the book and for holding the book open; and
- (f) said retaining means including two retaining members hingedly connected to said front leg member for forward pivotal movement away from each other.

5. A collapsible book rest foldable between an erected, operative configuration and a collapsed, inoperative configuration wherein all of its components are coplanar, including:

- (a) a book supporting member engageable by the back of a book;
- (b) front and rear leg members connected to said book supporting member;
- (c) hinge means providing for relative pivotal movement of said front and rear leg members between angularly spaced operative positions and coplanar inoperative positions;
- (d) latch means for latching said front and rear leg members in their operative positions;
- (e) retaining means hingedly connected to said front leg member for supporting the bottom of the book and for holding the book open; and
- (f) said retaining means including two inner retaining members hingedly connected to said front leg member for forward pivotal movement toward each other and two outer retaining members hingedly connected to said front leg member for forward pivotal movement away from each other.

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