

[54] **RECORD CARD BOOK**

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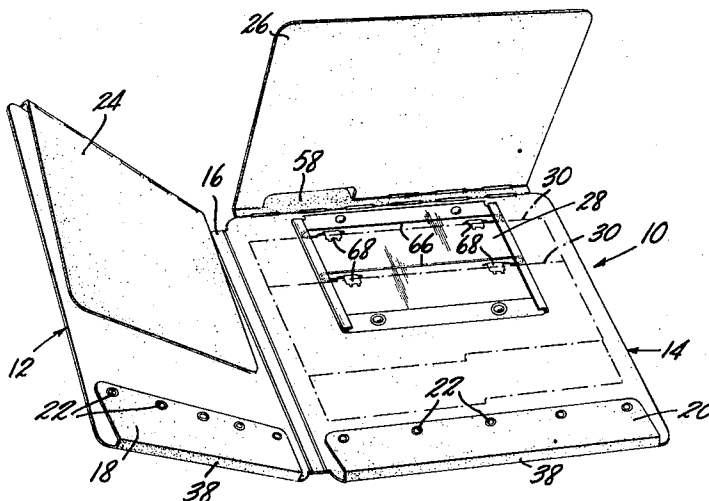
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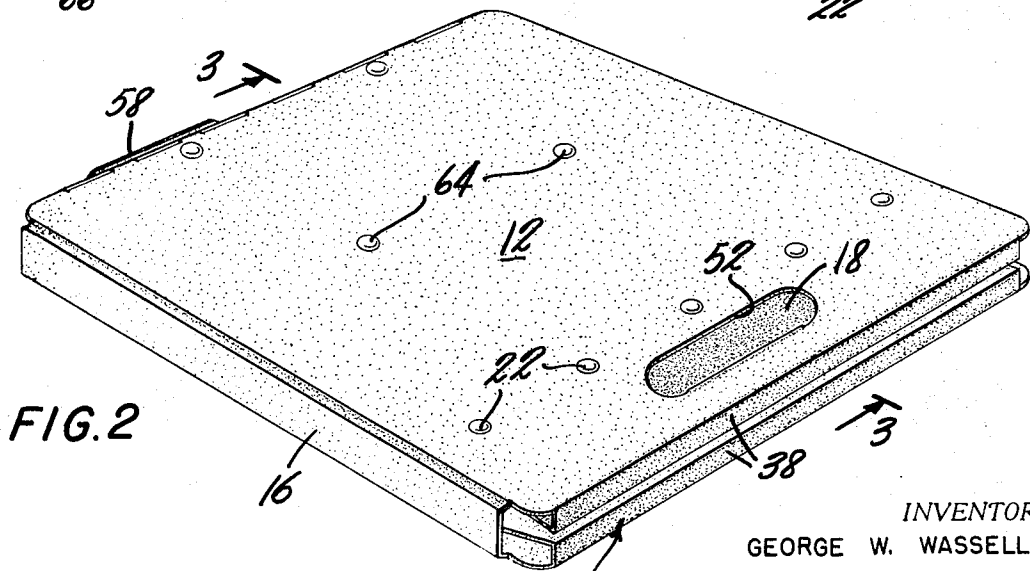
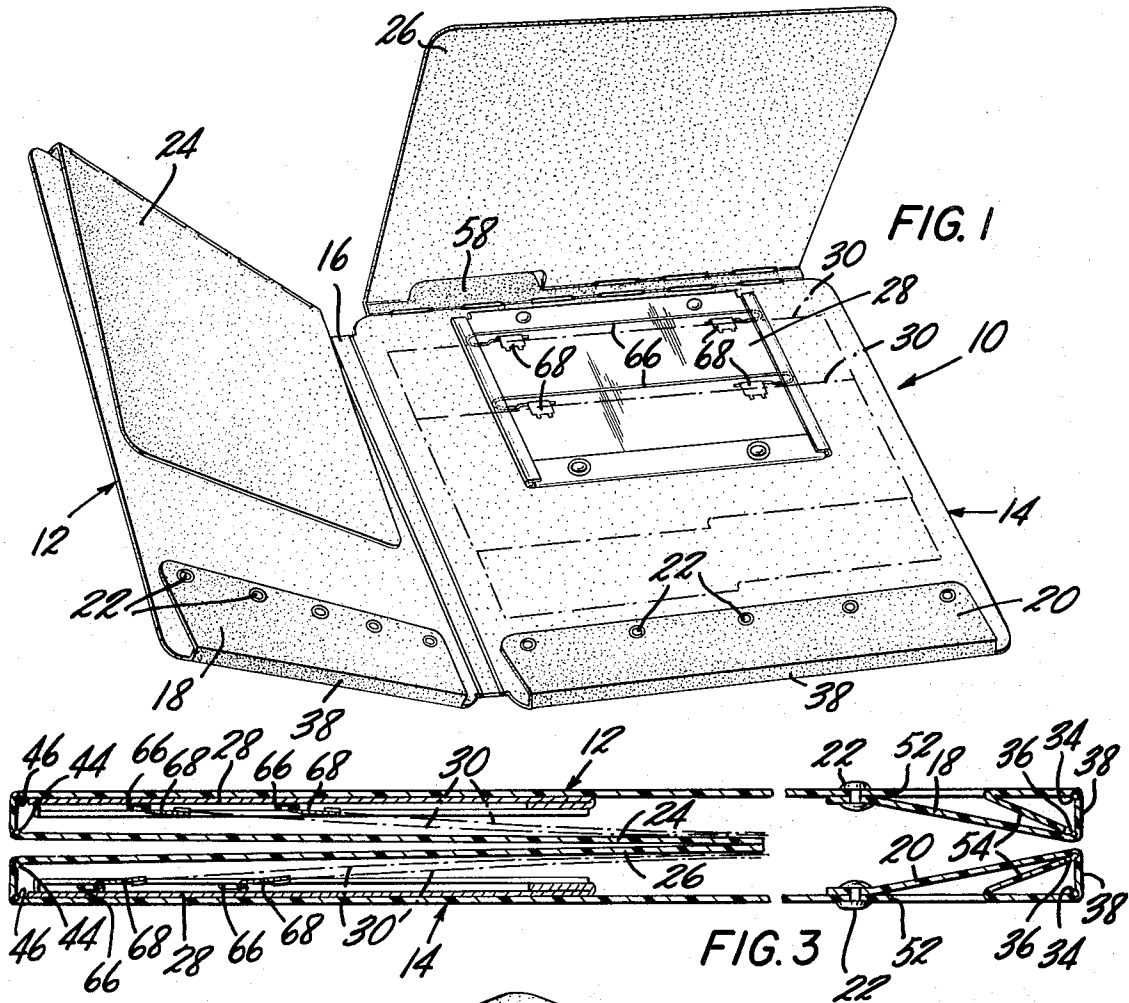
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ABSTRACT

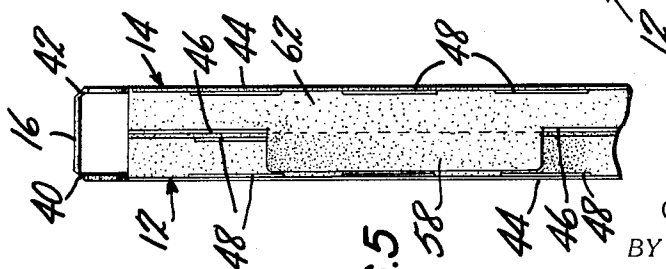
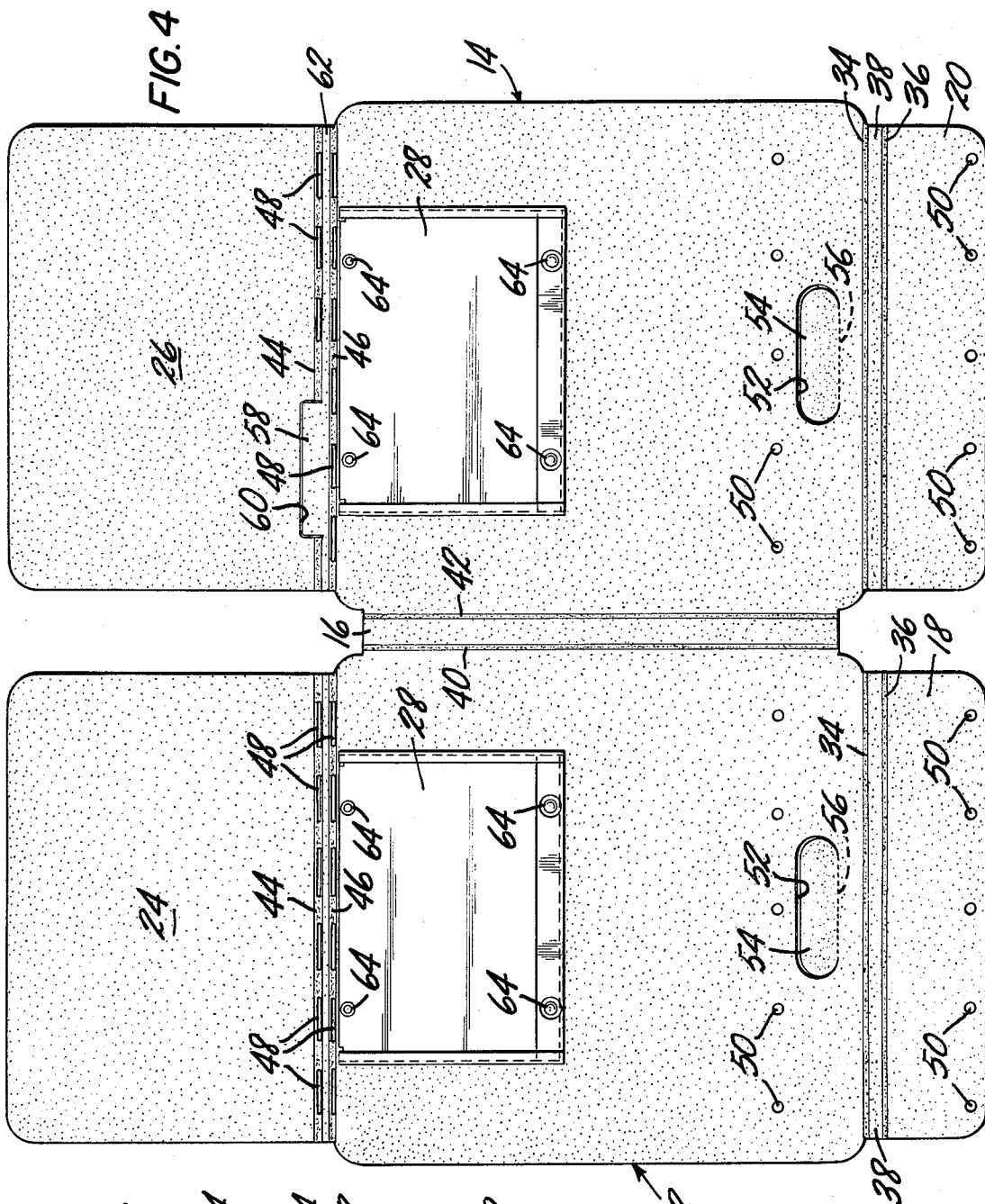
A book for card records and the like comprises a one-piece blank of polymeric sheet material scored and folded to provide front and rear covers and a back, the covers being hinged to the back along integral hinge formations constituted by spaced-apart, parallel, scored hinge lines along the parallel longer edges of the back. An inside spacer flap is folded back along scored lines at the bottom edge of each of the covers into overlying relation with the lower portion of the inside face of the cover and is secured along its free edge to the cover. An internal cover flap is bent in from the top edge along an integral hinge so that the cover flap can be folded down over material supported on the inside face of the respective cover or opened-out to reveal the contents of the book. Brackets for supporting hinge-type record card mounting elements are fastened to the inside faces of the covers underneath the cover flaps. Hand-hold formations along the bottom edge of the cover facilitate removing and replacing the book in a storage shelf or other receptacle, and a protective flange bridges the edge of the book between the top edges of the covers, preferably in a position near the back of the book, to prevent the book from accidentally being damaged by attempting to force it into a storage location with an object intruding between the two covers.

18 Claims, 5 Drawing Figures





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RECORD CARD BOOK

BACKGROUND OF THE INVENTION

This invention relates to record card books of the type used for keeping records that are referred to frequently and are desired to be kept readily accessible in a visible type of file. A book of the type with which the invention is concerned is sometimes referred to as a visible card book.

There are many records in all kinds of businesses and other operations which are best stored in a manner such that the information is readily accessible. Frequently, such information is consulted on a daily basis, sometimes many times each day, and various types of visible records have been developed for such purposes. One form of visible record is a book that resembles an ordinary notebook except that the material is stored in the form of cards or sheets that are hinged in an array which enables index formation along the bottom of each card to be readily and quickly observed. The cards or sheets are thus in a regular staggered relation with the major portions overlying each other. Usually, the cards are hinged from the top edges.

Because of the frequency with which the books are handled, they undergo substantial wear and tear and their life may be relatively short, particularly if they are not very durably constructed. Consequently, such books are usually made of durable materials, sometimes primarily of metal. Some books are manufactured from a relatively large number of separate components, and the greater number of separate components presents an increased risk of failure of one or more components. Moreover, the metal-type visible card books are frequently quite heavy and cumbersome to handle, their high weight being a necessary part of the durable construction and the use of metal components. The multiple part, relatively heavy, visible card books proposed and used heretofore thus suffer from the disadvantages of frequent failures of vital components after a relatively short service life, difficulty of handling the relatively heavy weights involved, a relatively high cost by virtue of manufacturing techniques involving the assembly of multiple parts and, in some instances, a rather unattractive overall appearance.

SUMMARY OF THE INVENTION

There is provided, in accordance with the present invention, a novel and improved visible card book that overcomes many of the disadvantages of the card books proposed and used heretofore and offers significant advantages in its own right. More particularly, a card book, according to the invention, is made from a one-piece blank of polymeric sheet material scored and folded to provide the usual front and rear covers and a back, the covers being bendable along the edges of the back by parallel, spaced-apart, scored integral hinge lines constituting an integral-type hinge between the back and each cover. The book further includes integral, internal spacer flaps folded back from the lower edges of the covers into overlying relation to the lower portions of the inside faces of the covers, each of the flaps preferably being set in from the respective cover by a pair of scored fold lines extending parallel to each other and spaced a distance apart approximately one-half the width of the back of the book. The free edges of the spacer flaps are secured to the cover flaps to create inset portions that are spaced from the bottom edges of the respective covers and converge or taper toward the planes of the inside faces of the covers. Thus, in end section, a wedge-shaped spacer element is provided on each cover that serves to support the bottom edges of an array of staggered cards mounted on the book cover.

Preferably, the visible card book also has an integral, internal cover flap associated with the top edge of each main cover, the cover flap being bent back into overlying relation to the top portion of the inside face of the respective cover so that it overlies the stack of cards carried on the cover. Further preferred features of the card book are the provision of a hand-hold formation to facilitate handling the book and a pro-

TECTIVE flange bridging the space between the covers along the edge opposite the edge where the hand holds are provided so that the book cannot be forced into a storage position with an object, such as another book or a shelf divider, intruding into the space between the covers.

Among the advantages of the card book of the invention is the fact that it employs a relatively limited number of parts, the book being mainly a one-piece unit, apart from rivots or other fasteners employed to secure certain elements together. Consequently, the assembly costs involved with multiple part types of similar books are to a large extent eliminated and the costs of manufacture are somewhat reduced. The book is of significantly lower weight than books of comparable durability. By selection of an appropriate polymeric sheet material for the book, it is highly durable and resistant to damage and has a long service life. The construction features embodied in the book make it relatively easy to use, the hand-hold feature facilitating handling and the protective flap facilitating the return of the book to a storage location. The one-piece construction also presents a neat, attractive appearance.

DESCRIPTION OF THE DRAWINGS

For a better understanding of the invention, reference may be made to the following description of an exemplary embodiment, taken in conjunction with the figures of the accompanying drawings, in which:

FIG. 1 is a pictorial view of a book shown open and with an internal cover flap folded out to reveal the contents;

FIG. 2 is a pictorial view of a closed book;

FIG. 3 is a side view in section of a closed book, the section being taken generally along a plane represented by the lines 3—3 of FIG. 2 and in the direction of the arrows and being on a larger scale than FIG. 2;

FIG. 4 is a plan view of the blank from which the book is formed, also illustrating the further subassembly of brackets for hinge-type card mounting elements; and

FIG. 5 is a partial end elevational view, of a relatively larger scale than FIGS. 1, 3 and 4, showing a protecting flange that bridges one edge of the book.

DESCRIPTION OF AN EXEMPLARY EMBODIMENT

Referring first to FIG. 1 of the drawings, an exemplary form of visible card book, according to the invention, comprises a one-piece blank 10 of polymeric sheet material that is cut and scored, in the manner described in greater detail below, to form a front cover 12, a rear cover 14, and a back 16, the covers being hinged by an integral hinge to the back, also as described below. Each of the covers 12 and 14 has an internal spacer flap 18 and 20, respectively, that is folded back from the bottom edge of the respective cover and is joined along its free edge to the cover, such as by heat sealing, gluing or any other suitable fastening arrangement. In the embodiment shown in the drawings, the spacer flaps are joined to the cover by eyelets or rivots 22. Internal cover flaps 24 and 26 are folded back from the top edges of the covers 12 and 14, respectively, to cover a stack of visible record cards retained on the inside surface of each cover by a bracket 28 secured by gluing, rivoting or the like to the upper part of each of the covers 12 and 14. Two such record cards are shown in phantom lines in FIG. 1 and are designated generally by the reference number 30.

Inasmuch as the card book employs a number of integral hinges, that is, hinges formed by weakened portions of the substrate sheet material, the polymeric material used for the books should have a high endurance. Moreover, the record book should be relatively rigid, and thus high-density polymeric materials are preferred. Preferred polymeric materials for the card book are high-density polyolefins, such as polyethylene, polypropylene, or a copolymer of polyethylene and polypropylene. Excellent results are obtained by using sheet material available under the trade name "Polyelmer" (Eastman Kodak), a copolymer of polypropylene and

polyethylene. For a relatively large card book, on the order of 14 inches by 16 inches, a sheet thickness of about 0.070 inch is appropriate.

The card book is manufactured from a blank of sheet material that is cut using suitable cutting dies into the shape depicted in FIG. 4 of the drawings to define the outline of the covers, back and the flaps. In addition to cutting the overall pattern of the blank 10 of the book, the dies may also incorporate scoring components for cold-forming fold lines where the blank is folded to form the final configuration of the book. However, it has been found to be of considerable advantage to employ hot scoring techniques in the formation of the integral hinges. The basic techniques of cutting and scoring plastic sheet material are well known to those skilled in the art and are not directly involved in the present invention.

The score lines, which as mentioned above may be formed at the same time as the cuts by the cutting-forming die equipment or may be formed as a separate operation, include a pair of parallel, spaced-apart score lines 34 and 36 along which each of the spacer flaps 18 and 20 is folded. The scored line 34, that is, the line that is the more remote from the free edge of the respective flaps 18 and 20, is formed directly along the lower edge of the respective covers, and the other score line 36 is spaced from the score line 34 a distance of approximately one-half the width of the back 16. Accordingly, with reference briefly to FIG. 2, when the flaps are folded in and secured in the manner depicted in FIG. 1, an edge band 38 defined between the fold lines 34 and 36 extends generally perpendicular to the respective cover and offsets the lower edge of the spacer flap, in the finished book, inwardly from the plane of the cover a distance approximately equal to one-half the thickness of the book, such thickness being of course established by the width of the back 16.

The spacer flaps 18 and 20 serve two purposes; first, they provide, particularly by reason of the exposed edge portions 38, rigid edges or spacer portions that hold the bottom edges of the covers of the book at a relatively uniform spacing about equal to the thickness of the book. Secondly, each flap tapers back from the bottom edge, where it is relatively widely spaced from the cover, toward the inside face of the cover to produce a wedge-shaped support for the bottom edges of an array of cards. As will be readily apparent to those skilled in the art from a consideration of FIG. 1 of the drawings, the cards 30 are arranged in a vertical row with the major portions of the cards overlapping each other, but with the free or bottom edges exposed for indexing purposes. Thus, the bottom portion of the array of cards 30 will form a wedge-shape cross-section, and the gradually reduced thickness of cards at the bottom of the file are supported by the flaps 18 and 20.

Referring again to FIG. 4, a pair of spaced-apart, scored integral hinge lines 40 and 42 define the intersections between the covers 12 and 14 and the back 16. As mentioned above, the hinge lines 40 and 42 are preferably hot-formed, rather than cold-formed, inasmuch as hot-formed integral hinges are relieved of internal stresses and have a significantly greater endurance. It may be mentioned here that inasmuch as the score lines 34 and 36 associated with the spacer flaps 18 and 20 are not subjected to flexure in use, they need not be hot-formed. In each instance, as is well known to those skilled in the art, the score lines or hinge lines are narrow bands or lines of reduced thickness material that facilitate the folding or hinging of the substrate material along them.

Each of the internal cover flaps 24 and 26 is also set off from the covers 12 and 14 by a pair of parallel, spaced-apart scored hinge lines 44 and 46 which may be either hot or cold formed. When they are hot-formed, they have a higher endurance than when coldformed, but it is less expensive and satisfactory to cold-form them. In addition to the scored hinge lines, that is, bands of reduced thickness, it is advantageous further to weaken the hinge connection, thereby to facilitate opening and closing the flaps 24 and 26, by cutting a series of spaced-apart elongated slits 48 along the score line.

As mentioned above, the spacer flaps 18 and 20, in the embodiment shown in the drawings, are joined along their free edges to the cover by rivots 22, and it is advantageous to pre-form holes 50 (see FIG. 4) at the rivot locations in the blank, preferably as part of the cutting operation when the blank is initially cut to shape. The formation of the blank may also include the punching of holes in the proper locations to receive rivots 64, eyelets or other fasteners that fasten the brackets 28 to the inside faces of the covers 12 and 14 (see FIG. 4).

The blank is also cut with generally C-shaped cuts 52, that serve as hand-holds, near the bottom edges of both of the covers 12 and 14. The strips 54 of the material bounded by the cuts 52 are advantageously bent back inside of the spacer flaps 18 and 20 before the spacer flaps are secured, as shown in FIG. 3, so that, in effect, hand-hold recesses are left by the openings defined by the cuts 52. The folded back strips 54 provide tapered surfaces that may be engaged by the fingers of one who is handling the file and thus are advantageously left in place in the folded back position. To facilitate folding back the strips 54, a scored fold line 56 may be formed along the uncut portion of the hand-hold openings defined by the cuts 52.

The book also includes an integral protecting flange 58 formed at the top edge of one of the covers, the back cover 14 in the embodiment shown. The flange 58 is set off by a cut 60 that leaves a strip of material constituting the flange 58 that has an overall width, across the thickness of the book (see FIG. 5) that is approximately equal to the total thickness of the book. The cut line 60 may begin at approximately the fold line 44, the fold line nearest to the free edge of the internal cover flap 26, so that, in effect, an undisturbed segment of material constituted by a band 62 extending the entire length of the top edge of the cover 14 and the flange 58 forms a unitary, flat edge portion that lies generally in a plane perpendicular to the major surface of the cover 14. When the book is finished and the cover flaps are folded in (see FIG. 3), the flange 58 will bridge the space between the covers 12 and 14. Advantageously, the flange 58 is located relatively close to the back 16 of the book and serves to prevent an object, such as another file or a shelf or file divider, from intruding into the space between the book and possibly damaging or tearing the back 16 when the book is replaced in a storage shelf or other storage receptacle.

The cutting and scoring of the blank for the book constitutes by far the major portion of the operations involved in the manufacture of the book. Once the blank is formed, in the manner described above, it merely remains to install the brackets 28, fold under the strips 54 associated with the hand holds and fold over and fasten the spacer flaps 18 and 20 in place as shown in FIGS. 1 and 3. It is thus apparent that the manufacturing operations involve a minimum of time and labor and that the costs of the file are therefore minimal, apart from the raw materials and the capital costs of the die equipment used to form the blank.

The user of the book will normally install the cards 30, the cards being mounted on the bracket 28 by, for example, wire hinge elements 66 that receive hinge tabs 68 on the cards (see FIG. 1). The cards and card-mounting elements 66 are generally known in the art, and various forms of card mounting can be used with the card book of the invention. Accordingly, further detailed description of these components is unnecessary.

Normally, the visible card books will be stored on shelves, in a rotary file, or in some other receptacle in a vertical orientation. Preferably, either the bottom edge or the back of the book faces outwardly at the front or top of the storage receptacle. Either the back 16 or the edges 38 provide appropriate locations for legends for identifying the file. The hand hold 52 provides a convenient medium for handling the book, and if the bottom edges 38 face out, the user may merely reach in and grasp the hand holds to pull the book from the receptacle. When the book is replaced, the opportunity for another book or a shelf or a file divider to intrude between the covers 12 and

14 in a manner possibly to damage the cards or the back 16 of the book is virtually eliminated, inasmuch as the protecting flange 58 bridges the space between the covers 12 and 14. Thus, the flange 58 provides an important function, namely, protecting the contents and protecting the back against damage. The internal cover flaps 24 and 26, of course, provide further protection for the contents and also provide a supporting surface for the cards, if it is desired to make entries on the back of the cards without removing them from the book. As is apparent from FIG. 1, the cover flaps are readily opened up along the hinged edge for examining the cards, but are normally closed in the position shown to the left in FIG. 1 for storage.

We claim:

1. A book cover for card records and the like comprising a one-piece blank of polymeric sheet material scored and folded to provide (1) a front cover, (2) a rear cover, (3) a back, the covers being bendable along parallel spaced-apart scored integral hinge lines along the edges of the back so that the covers may be closed with their inside faces in facing relation and opened to present their inside faces for viewing of material contained in the book, (4) a spacer flap folded back along a pair of parallel score lines extending along the bottom edge of each cover, the spacing between the score lines for each spacer flap being approximately one-half of the spacing between the hinge lines between the respective covers and the back, and each spacer flap being bent inwardly into overlying relation to a portion of the inside face of the respective cover adjacent the bottom edge thereof, and (5) an internal cover flap folded along a pair of parallel spaced-apart hinge lines at the top edge of each cover into overlying relation with an upper portion of the inside face of the respective cover but susceptible of being folded out into an open position, the spacing between the hinge lines being approximately one-half of the spacing between the hinge lines between the respective covers and the back, and the polymeric material being sufficiently rigid whereby the portion of the cover flaps between the hinge lines remains substantially perpendicular to the cover to assist in holding the covers spaced from each other at their top edge when the book is closed, means securing the free edges of the spacer flaps to the respective covers such that the portion between the fold lines extends substantially perpendicular to the cover and is presented as an edge of the book when the covers are closed, and means including a bracket secured to the inside face of each cover adjacent the top edge thereof and under the internal cover flap, when the cover flap is closed, for supporting hinge-type card-mounting elements.

2. A book cover according to claim 1 wherein the scored hinge lines associated with the internal cover flaps further include spaced-apart, elongated slots cut through the sheet material to afford increased flexibility in the hinge action provided thereby.

3. A book cover for card records and the like comprising a one-piece blank of sheet material folded to provide a front cover, a rear cover, and a back, the covers being bendable along parallel spaced-apart hinge lines along the edges of the back so that the covers may be closed with inside faces thereof in facing relation, a spacer flap folded back along at least one of the edges of the covers into overlying relation to a portion of the inside face of the cover and secured to the cover at a location spaced from the edge, each spacer flap being bent back along parallel, spaced-apart lines along the edge of the respective cover, whereby a portion of the flap adjacent said edge is spaced from the portion of the cover that it overlies, and a hand-hold formation comprising an opening formed in the cover adjacent at least one of said edges and in the portion thereof which the spacer flap overlies, whereby the spacer flap covers such opening.

4. A book cover according to claim 3 wherein the blank further includes a protecting flange extending from an edge of one cover and adapted to extend across and bridge the space between the covers when the book is closed.

5. A book cover according to claim 3 wherein the hand-hold formation is an elongated opening having a flange attached to the edge of the opening that is nearest the edge of the cover from which the spacer flap is folded, said flange being constituted by at least a portion of the cover material severed to form the opening and being bent back along a scored fold line toward the edge from which the spacer flap is folded.

6. A book cover according to claim 5 wherein the blank includes a spacer flap folded back along one edge of one of the covers and the corresponding edge of the other cover.

7. A book cover according to claim 6 wherein the spacer flaps are folded back along score lines at the bottom edges of the covers.

8. A book cover according to claim 7 wherein the blank further includes internal cover flaps folded back along scored hinge lines at the top edges of the covers into overlying relation with upper portions of the inside faces of the covers.

9. A book cover according to claim 8 wherein each internal cover flap is bent back along parallel spaced-apart score lines along the top edge of the respective cover, whereby a portion of the flap adjacent the top edge of the cover is spaced from the portion of the cover that it overlies.

10. A book cover according to claim 9 and further comprising means carried by the covers for retaining record cards or sheets thereon.

11. A book cover according to claim 10 wherein the means for retaining record cards includes a bracket secured to the inside face of each cover for supporting hinge-type card-mounting elements.

12. A book cover for card records and the like comprising one-piece of blank sheet material folded to provide a front cover, a rear cover, and a back, the covers being bendable along spaced-apart hinge lines long the edges of the back so that the covers may be closed with their inside faces thereof in facing relation, a flap folded back along one edge of one of the covers and a corresponding edge of the other cover into overlying relation to portions of the inside faces of the covers, each flap being bent back along parallel, spaced-apart lines along the edge of the respective cover, with the portions of the flaps between the fold lines extending substantially perpendicular to the covers, and a protecting flange extending from said edge of one cover and across the portion between the fold lines of the flap extending from the other cover and bridging the space between the covers when the book is closed.

13. A book cover according to claim 12 wherein the protecting flange is constituted by a strip of material partially severed from an internal cover flap of the book.

14. A book cover according to claim 13 wherein the protecting flange is defined by a three-sided elongated cut through the cover flap and by an imaginary line constituting an extension of that fold line that is the nearer to the free edge of the cover flap, and wherein the fold line is interrupted along such imaginary line.

15. A book cover for card records and the like comprising a one-piece blank of polymeric sheet material scored and folded to provide (1) a front cover, (2) a rear cover, (3) a back, the covers being bendable along parallel spaced-apart scored integral hinge lines along the edges of the back so that the covers may be closed with their inside faces in facing relation and opened to present their inside faces for viewing of material contained in the book, (4) a spacer flap folded back along a pair of parallel score lines extending along the bottom edge of each cover, the spacing between the score lines for each spacer flap being approximately one-half of the spacing between the hinge lines between the respective covers and the back, and each spacer flap being bent inwardly into overlying relation to a portion of the inside face of the respective cover adjacent the bottom edge thereof, and (5) an internal cover flap folded along a pair of parallel spaced-apart hinge lines at the top edge of each cover into overlying relation with an upper portion of the inside face of the respective cover but susceptible to being folded out into an open position, a protecting flange extending from an edge, other than the back

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edge, of one cover and across the space between the covers when the book is closed, means securing the free edges of the spacer flaps to the respective covers such that the portion between the fold lines extends substantially perpendicular to the cover and is presented as an edge of the book when the covers are closed, and means including a bracket secured to the inside face of each cover adjacent the top edge thereof and under the internal cover flap, when the cover flap is closed, for supporting hinge-type card-mounting elements.

16. A book cover according to claim 15 wherein each cover includes a hand-hold formation adjacent an edge thereof.

17. A book cover according to claim 16 wherein the edge of

8

each cover nearest the hand-hold formation is opposite from the edge of the cover from which the protecting flange extends.

18. A book cover according to claim 17 wherein the hand-hold formation is adjacent the bottom edge of each cover and wherein the protecting flange extends from the top edge of one of the covers, and further wherein the protecting flange is generally adjacent the back of the book so that it inhibits the tendency for damage to the back by intrusion of an object between the covers at a place near the back.

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