June 9, 1953 A. BRODY 2,641,484

PROTECTIVE BOOK COVER

Filed July 14, 1950 2 Sheets-Sheet 1

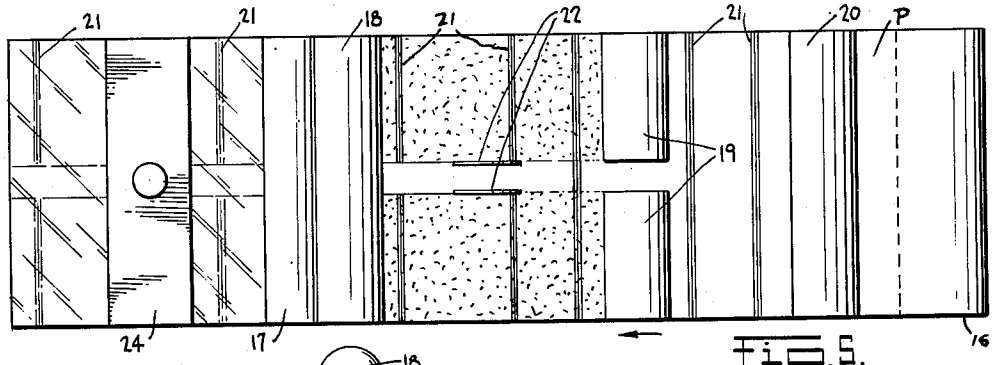

Fig. 5.

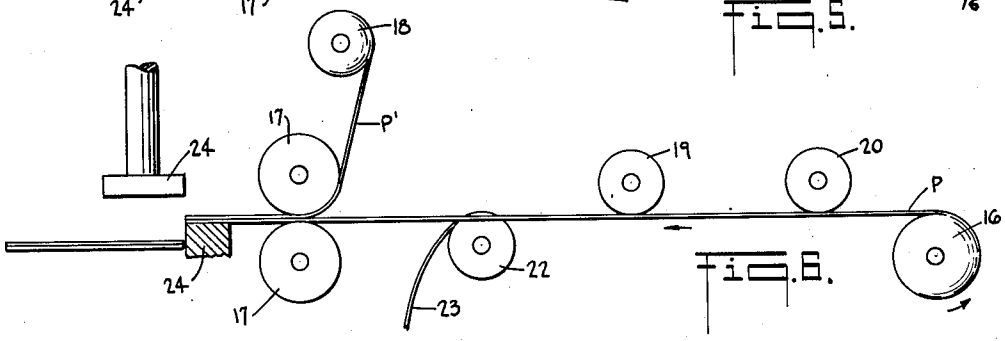

Fig. 6.

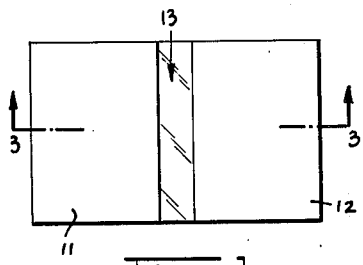

Fig. 1.

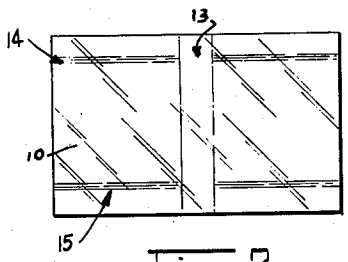

Fig. 2.

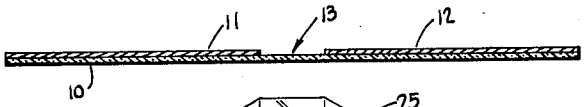

Fig. 3.

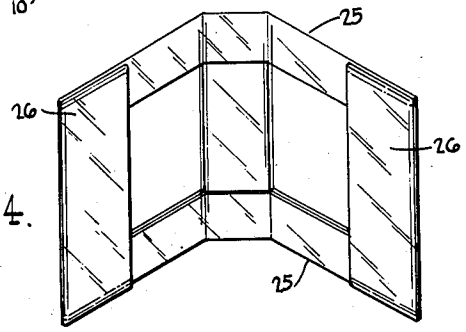

Fig. 4.

INVENTOR.
ARTHUR BRODY
BY Frederick Breitenfeld
ATTORNEY

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PROTECTIVE BOOK COVER

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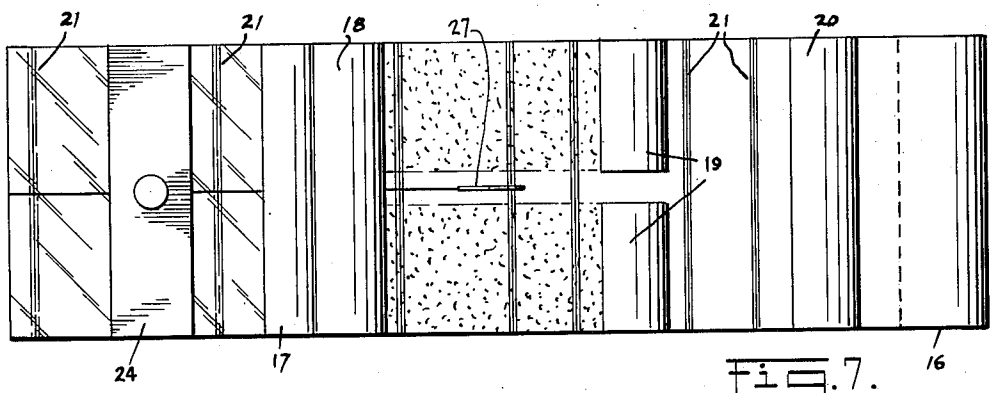

Fig. 7.

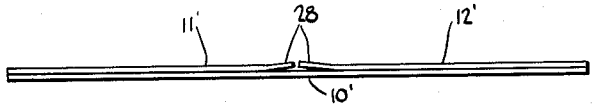

Fig. 8.

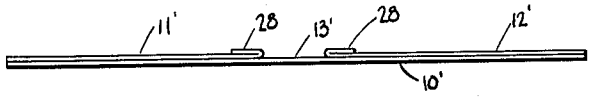

Fig. 9.

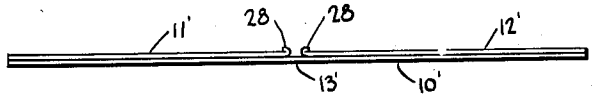

Fig. 10.

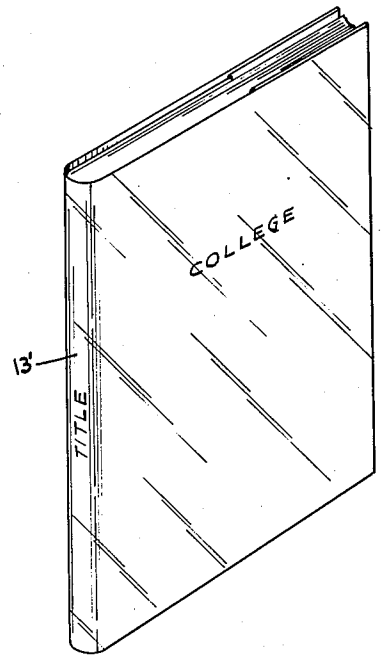

Fig. 11.

INVENTOR.
ARTHUR BRODY

BY Frederick Breitenfeld

ATTORNEY

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PROTECTIVE BOOK COVER

Arthur Brody, Newark, N. J.

Application July 14, 1950, Serial No. 173,775

4 Claims. (Cl. 281—34)

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My present invention relates generally to book covers, and has particular reference to the type of book cover device that is customarily applied for protective purposes to school books and the like.

Book covers composed of paper are well-known and have been used for years to shield school books and other books likely to be subjected to extensive use. They are relatively inexpensive and easy to use, but they have a number of disadvantages. They are opaque and therefore conceal the title and other lettering on the book itself; they are not weather resistant; they soil readily; and they do not wear well.

Attempts to use plastic sheet material in place of paper has not been wholly successful. Those materials which have sufficient body and wear resistance are too brittle and cannot be readily folded. Other materials have a tendency to crack, and because of insufficient tear strength they are easily damaged and rapidly become unsuitable for continued use. Those plastic sheet materials which have adequate resistance to tearing and which do not crack are usually of such limp character that the requisite body and form-retaining qualities are lacking. Moreover, such limp materials do not retain a crease.

It is a general object of the present invention to provide a protective book cover of novel structural character, coupling in a unique way the desirable qualities of both plastic and paper and avoiding most of the disadvantages heretofore encountered.

Another object of the invention lies in the provision of an improved and simplified procedure for making book covers of this kind.

Briefly stated, the present book cover consists of a laminated sheet formed of outer and inner layers adhesively bonded to each other. The outer layer is composed of a plastic sheet which is waterproof, translucid and tear resistant, but which is nevertheless too limp to retain a crease or to serve by itself as a satisfactory book covering material. The inner layer is composed of opaque relatively stiff paper having all the desirable attributes of paper, especially the ability to furnish the requisite strength and body, the ability to be marked or printed upon, and the ability to be folded and to retain a crease. The paper layer has a cut-out which is so positioned that the medial region of the book cover consists only of a single ply of translucid material through which the spine of the book remains visible.

One of the principal features of the present invention lies in forming the paper layer of separated parts which are segments of an initially

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single web. This is important because it permits the parts to bear accurately aligned markings formed by a single marking impression on the web.

Several ways of achieving the foregoing general objectives, and such other objects and advantages as may hereinafter appear or be pointed out, are illustrated in the accompanying drawings in which:

Figure 1 is a plan view of the inside surface of a book cover of the present improved character;

Figure 2 is a view of the reverse face;

Figure 3 is an enlarged cross-sectional view taken substantially along the line 3—3 of Fig. 1;

Figure 4 is a perspective view of the book cover in a folded condition ready to be applied to a book;

Figure 5 is a diagrammatic plan view of a preferred procedure in manufacturing the book cover;

Figure 6 is an elevational view of Fig. 5;

Figure 7 is a view similar to Fig. 5 illustrating a modified procedure;

Figure 8 is a cross-sectional view similar to Fig. 3 through a book cover constructed in accordance with Fig. 7;

Figures 9 and 10 are views similar to Fig. 8 showing the way in which this book cover can be adjusted to fit books of varying thicknesses; and

Figure 11 is a perspective view of a covered book.

Referring first to Figures 1, 2 and 3, the book cover of the present invention is a substantially rectangular laminated sheet which consists of an outer layer 10 of suitable plastic, and an inner layer composed of paper and consisting of the two separated parts 11 and 12.

The plastic sheet material may be of any suitable selected character, and without limiting the invention to any particular material or group of materials, I may say that the polyethylene resins, the vinyl resins, ethyl cellulose and rubber hydrochloride embody the qualities which the present purposes call for, whereas ethyl acetate is typical of a number of plastic materials which are too brittle and which tend to crack and disintegrate. The qualities which the present plastic sheet material should have are resistance to water and weather, good tensile strength, and a flexibility that resists cracking and a toughness that resists tearing. The material need not be unusually thick or heavy, and may in fact be relatively limp. It should also preferably be translucid.

The paper layer may be composed of any suit-

able kraft paper, or any paper of equivalent stiffness, opacity, foldability, and ability to retain a crease.

Any suitable adhesive may be used for bonding the two layers of the present book cover together. Preferably the adhesive should be transparent and colorless, so that printing or other markings on the paper layer may show through the translucid layer.

It will be observed that the parts 11 and 12 of the paper layer are spaced along the middle of the device so as to form a transverse region 13 in which there is only a single ply of the translucid sheet. It will also be noted that the paper layer has on it two sets 14 and 15 of parallel linear markings. For illustrative purposes I have shown each set as consisting of three parallel lines. These groups of lines are arranged along opposite longitudinal margins of the book cover, serving to guide the folding of the book cover along parallel longitudinal lines to reduce the effective width of the book cover to the height of the book to be covered. The markings on each part of the paper layer are accurately aligned, respectively, with the corresponding markings on the other, and this is achieved by making the two paper parts 11 and 12 segments of an initially single web of paper, and by making the markings of each group segments of a single marking impression.

The features of the invention will become more apparent upon inspection of Figs. 5 and 6, in which a preferred procedure is diagrammatically illustrated. A paper web P is fed from a roll or supply 16 to and between a pair of laminating rollers 17. Also fed to these rollers, from a roll or supply 18, is a web P' of the plastic material. The webs P and P' have exactly the same width. The glue for the adhesion of the webs may be applied to either of them, and I have illustratively shown a gluing roller 19 adapted to apply a coating of suitable adhesive to the paper web P. As will be seen in Fig. 5, the roller 19 preferably consists of two parts separated along the longitudinal axis of the web, whereby the central or medial region of the web is left with no adhesive on it.

Prior to the passage of the paper web beneath the roller or rollers 19, it is subjected to the action of a printing roller 20 which applies a series of successive markings to the web, each marking extending transversely across the web. These successive markings are indicated by the reference numeral 21, and I have illustratively shown each group consisting of three parallel lines.

After the paper has been marked as at 21, and has passed beneath the gluing rollers 19, but before it reaches the laminating rollers 17, it is subjected to the slitting action of a pair of knives 22 which are spaced apart to slit from the web a medial ribbon which is indicated at 23 and which may be discarded. The resultant laminated sheet which emerges from between the rollers 17 has a medial longitudinal region which consists of only a single ply.

Subsequently, the laminated sheet is subjected to the cutting or shearing action of a pair of shearing elements 24, serving to cut from the strip the successive book covers shown in Figures 1–3.

In applying the book cover to a book, the longer edges are first turned in along parallel lines, as indicated by the folds 25 in Fig. 4. This folding is performed along lines which reduce the effective width of the book cover to the height or approximate height of the book to be covered. The groups of markings 14 and 15 help to achieve this result, and the quality of the paper is such that the book cover remains creased in a highly desirable manner. The opposite ends of the book cover should then also fold inwardly as indicated at 26 and in this condition the book cover is ready to be applied to a book. This is done in well-known fashion, the front and rear boards of the book being slipped into position within the turned back portions 26. Obviously, the translucid central region of the present device leaves the spine of the book exposed to view. If the region 13 of the book cover is slightly narrower or slightly wider than the thickness of the book, no great harm results.

In Fig. 7 the procedure is the same as in Figs. 5 and 6 and the same reference numerals have therefore been applied, except that the two cutters 22 have been replaced by a single centrally disposed cutter 27. The result is that the book cover consists of an outer layer 18' of plastic, as before, and of the two parts 11' and 12' of the paper layer. However, the paper layer remains unattached to the plastic layer in the regions 28 lying directly alongside the medial gap. In this way, the translucid part of the cover, indicated 13' in Figs. 9, 10 and 11, may be varied in width by folding back the parts 28 by varying amounts, as shown.

The advantages of the present device lie in the fact that it is relatively inexpensive to make, just as easy to use as the well-known paper covers, yet the wearing qualities are greatly enhanced. The lettering or printing on the spine of the book remains visible, the paper layer can be imprinted with scholastic insignia or the like, the device may be applied to books of varying sizes without requiring any cutting or complicated adjustments, and the cover affords a protective sheath which is weather resistant, washable, durable, and unusually able to withstand rough and prolonged usage and wear.

It will be understood that those skilled in the art will readily be able to make changes in many of the details herein described and illustrated, without necessarily departing from the spirit and scope of the invention as expressed in the appended claims.

Having thus described my invention and illustrated its use, what I claim as new and desire to secure by Letters Patent is:

1. A protective book cover comprising a laminated sheet consisting of adhesively bonded outer and inner layers, the outer layer being composed of a plastic sheet which is waterproof, translucid and tear resistant but too limp to retain a crease, the inner layer being composed of opaque relatively stiff paper well adapted to be folded and to retain a crease, said paper layer being composed of spaced parts which define between them a gap so positioned that the medial region of the book cover adapted to overlie the spine of the book to be covered consists only of said translucid material.

2. A protective book cover as set forth in claim 1, said spaced parts of the paper layer bearing accurately aligned markings that show through said translucid layer.

3. A protective book cover comprising a substantially rectangular laminated sheet consisting of adhesively bonded outer and inner layers, the outer layer being composed of a plastic sheet which is waterproof, translucid and tear resistant

but too limp to retain a crease, the inner layer being composed of opaque relatively stiff paper well adapted to be folded and to retain a crease, said paper layer having a gap therein which extends transversely across the midportion of the book cover so that in the region adapted to overlie the spine of the book to be covered there is only said translucid material, the spaced parts of said paper layer bearing parallel linear markings arranged along opposite longitudinal margins of the book cover, the markings on each part being accurately aligned, respectively, with the corresponding markings on the other, said markings serving to guide the folding of the book cover along parallel longitudinal lines to reduce the effective width of the book cover to the height of the book to be covered.

4. A protective book cover comprising a substantially rectangular laminated sheet consisting of adhesively bonded outer and inner layers, the outer layer being composed of a plastic sheet which is waterproof, translucid and tear resistant but too limp to retain a crease, the inner layer being composed of opaque relatively stiff paper well adapted to be folded and to retain a crease, said paper layer having a gap therein which extends transversely across the midportion of the book cover so that in the region adapted to overlie the

spine of the book to be covered there is only a single ply of translucid material, said paper layer being unattached to said plastic layer in the regions directly alongside said gap, whereby the width of said single ply of translucid material may be varied to suit books of various thicknesses by doubling back said unattached regions.

ARTHUR BRODY.

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