Feb. 25, 1941. F. S. SCHADE 2,232,975

TRANSPARENT FILLER UNIT FOR LOOSE-LEAF BOOKS

Filed June 7, 1940

Fig. 1.

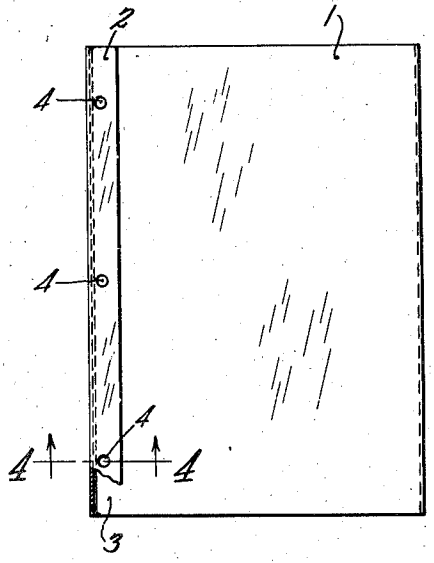


Fig. 2.

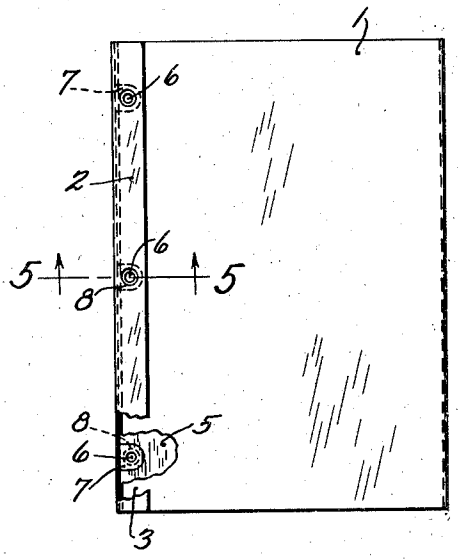


Fig. 3.

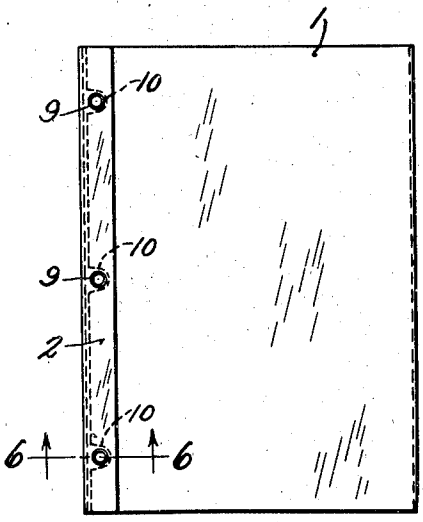


Fig. 4.



Fig. 5.

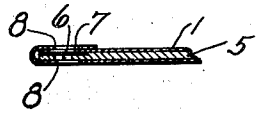
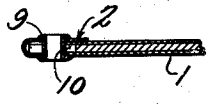


Fig. 6.



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2,232,975

TRANSPARENT FILLER UNIT FOR LOOSE-LEAF BOOKS

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Application June 7, 1940, Serial No. 339,346

9 Claims. (Cl. 129—20)

This invention relates to improved means for protecting and reenforcing, or for protecting, reenforcing, and supporting material which it is desired to display in loose-leaf books. In one embodiment of the invention the protecting, supporting, and reenforcing features are combined to form a unitary filler structure which serves as a carrier for the material to be displayed. In other embodiments the protecting and reenforcing features of the invention are made applicable to display material which may itself form the filler sheets of the loose-leaf book.

For many purposes, as for example where the filler sheets of the loose-leaf book take the form of a catalog display, samples of advertising copy or other flat sample material, it is desirable to protect the displayed material against surface abrasion and other hazards of excessive handling and also to reenforce the binding edges of the filler sheets against the wear and tear of constant turning of the sheets on the rings of the binder.

A common device for protecting filler display material has been to fold a sheet of transparent material upon itself and insert the filler sheet between the folds. The free edges of the folder extend to the binding edge of the filler and holes are provided in those free edges and in the filler sheet through which the rings are threaded. These holes are in registration when threaded, but while in use the edges of the holes in the filler and the protecting folds wear on the rings individually. As the pages are flipped and turned back and forth in use the sheets have a tendency to spread fanwise on the rings, and when the sheets are thus spread the protecting leaves will tend to buckle and increase the wearing and tearing action still further.

It is the object of this invention to provide, not only the protection for the display material against surface abrasion, but to provide a novel reenforcing means for the binding margin of the transparent folder itself, and to support and protect the edges of the holes of the filler sheets against the excessive wear occasioned by the rings.

Attempts have been made to reenforce the binding holes of prior transparent folders but these have met with little or no success since the composition of the material has no adhesive qualities and will resist any attempt to satisfactorily glue or paste reenforcements on its surface. This invention obviates any need to make such attempts and protects the binding edges from wear because of its novel structure.

In the drawing—

Fig. 1 is a front view of one type of the improved display folder, with part of the binding lip broken away;

Fig. 2 is a front view of another type of folder with parts broken away around one binding hole;

Fig. 3 is a front view of the folder with a modified reenforcing means;

Fig. 4 is a section on line 4—4 of Fig. 1;

Fig. 5 is a section on line 5—5 of Fig. 2; and

Fig. 6 is a section on line 6—6 of Fig. 3.

The folder as seen in Fig. 1 is composed of a single sheet 1 of thin, transparent, flexible material folded back on itself to provide the protective leaves of the folder. One leaf extends farther than the other, and the free margin of this leaf is folded back tightly against the inner surface of the leaf to form a lip 2, underneath which the free edge 3 of the other leaf is then inserted to complete the transparent cover for the matter to be displayed.

The creasing of these folds is of importance in making the most serviceable display folder. While it is desirable to have a transparent material of a flexible character, at the same time it is important to provide a material which will have a certain amount of yielding tension where it has been creased. There are cellulose products which, when creased under heat, will hold the crease and cause the two surfaces to press together, thus providing the spring action desired. I have found cellulose acetate sheets to be a good material from which to shape the folder. This spring action gives a gripping force to the surfaces adjacent the crease and tends to hold any inserted papers against shifting. The tendency of the surfaces to grip may be seen in Figs. 4, 5, and 6 where the crease has not been flattened but appears rounded and the surfaces are more or less pressed together by the action of the fold.

This tension is important in providing a flattened cover for the display sheet, but is of greater importance in its action on the binding edge of the folder. The lip beneath which the free edge of the folder is tucked exerts a slight pressure on the tucked edge and keeps the leaves of the folder snugly together and holding the binding margin of the display sheet closely between them.

It is in this edge of the folder held by the lip that the binding holes are punched. In the form of folder shown in Fig. 1 the holes 4 of the folder are punched to the size ordinarily punched in the sheet which is to be displayed. Thus, the

holes in the display sheet and those in the folder will be in registration (see Fig. 4) and the binding edge of the folder will act as a reenforcing means for the holes of the display sheet. The holes in the display sheet will be reenforced by three thicknesses of folder material and, because of the pressure by the lip, these edges will be prevented from spreading fanwise and will act as one reenforcing member with which the folder and contents may ride on the rings as a unit.

In the display folder shown in Fig. 2 a backing or filler sheet 5 is inserted in a cover made of a thin transparent sheet folded as described in connection with the structure of Fig. 1. The binding holes 6 of the filler sheet 5 are reenforced with metal patches 7 around each hole 6. Metal reenforcements represent the greatest available strength against tearing and the metal reenforcements in this embodiment of the invention are made the means on which the display filler turns on the rings as a unit. The holes 8 punched in the binding edge of the transparent folds are larger than those in the filler sheet 5 so that the metal reenforcements take all the strain and the transparent material is subjected to no wear from the rings. This permits the use of very much thinner transparent sheet material for the folder, if desired. Also, there is no need for minute accuracy in providing an exact registration of the corresponding holes 6 and 8 (see Fig. 5).

The modification of Fig. 3 is designed for use in those instances where a greater degree of resistance to wear on the rings is desired than is afforded by the three tightly associated plies of the transparent material as shown in Fig. 1 and where the metal reenforcement of the display sheet of Fig. 2 is for any reason impractical. Here the folded lip is riveted to the back surface of the folder by eyelets 9 through which the rings of the binder may be threaded (see Fig. 6). The free edge of the top leaf of the folder is provided with slots 10 to straddle the rivets and permit insertion underneath the lip. The filler sheets used for display in this embodiment are also slotted along their binding edges to straddle the rivets.

Each of these embodiments provides a novel supporting, protecting, and reenforcing structure for use in displaying sheets that ordinarily undergo excessive handling in a loose-leaf book. The devices now in use are either inadequate or are so elaborate as to be cumbersome and limited to one special use. By my invention a simple structure is provided which, within the scope of the three modified forms disclosed, will cover any circumstances under which greater protection is desired in any given situation. One of the modifications will meet any contingency where display filler sheets require protection, support, or greater binding strength.

I claim:

1. A display filler unit for loose-leaf ring type binders which comprises a sheet of thin transparent material folded on itself to form two leaves, that edge portion of one leaf which is opposite the fold line being tightly folded inwardly on itself to form a lip beneath which the adjacent free edge portion of the other leaf may be inserted and held, a display sheet enclosed between the leaves, said lip and the underlying marginal portions of the transparent leaves and display sheet forming the binding margin of the unit and being provided with registering binding openings, said lip holding the binding margins of said leaves and display sheet in close association to turn as a unit on the binding rings of the loose leaf binder in which the filler unit is inserted.

2. A display filler unit for loose-leaf ring type binders which comprises a sheet of thin transparent material folded on itself to form two leaves, that edge portion of one leaf which is opposite the fold line being tightly folded inwardly on itself to form a lip beneath which the adjacent free edge portion of the other leaf may be inserted and held, a display sheet enclosed between the leaves, said lip and the underlying marginal portions of the transparent leaves and display sheet forming the binding margin of the unit and being provided with registering binding holes, said lip holding the binding margins of said leaves and display sheet in close association to turn as a unit on the binding rings of the loose leaf binder in which the filler unit is inserted, the binding holes of the display sheet being reenforced with metal and the binding holes in the several portions of the transparent sheet being larger than the reenforced holes of the display sheet so that the binding strain of the unit as a whole is taken by the reenforcements carried by the display sheet.

3. A display filler unit for loose-leaf ring type binders which comprises a sheet of transparent material folded on itself to form two leaves, a display sheet enclosed between said leaves, that edge portion of one leaf which is opposite the fold line being folded on itself to form a lip, said lip and underlying marginal portion of said leaf being provided with binding holes, reenforcing eyelets in said holes riveting the lip to said marginal portion and slots in the free edge of the other leaf and in the binding margin of the filler sheet to register with said eyelets and permitting insertion of the slotted marginal portions beneath the lip whereby said leaves and filler sheet turn as a unit on the binding rings of the binder and the binding strain of the filler unit is carried by the riveted eyelets.

4. A display filler unit for loose-leaf ring type binders which comprises a sheet of transparent material folded on itself to form two leaves, that edge portion of one leaf which is opposite the fold line being tightly folded inwardly on itself to form a lip beneath which the adjacent free edge portion of the other leaf may be inserted and held, a display sheet enclosed between the leaves, said lip and underlying portions of the transparent leaves and display sheet forming the binding margin of the unit and being provided with registering binding holes, the binding margins of said leaves and display sheet being held by said lip in close association whereby said lip and the underlying portions of the leaves form a three-ply reenforcement for the binding holes of the display sheet as the parts turn as a unit on the binding rings of the loose-leaf binder in which they are inserted.

5. A reenforcing and protecting display holder for loose-leaf notebook filler sheets which comprises a sheet of transparent material folded on itself to form two leaves between which a filler sheet may be inserted, that edge portion of one leaf which is opposite the fold line being tightly folded on itself to form a lip beneath which the adjacent free edge portion of the other leaf may be inserted and held, said lip and the underlying marginal portions of the transparent leaves forming the binding margin of the holder and being provided with registering binding holes, the binding margins of said leaves being held by said lip in close association to resist wear in a loose leaf book.

6. A display holder for loose-leaf notebook filler sheets which comprises a sheet of transparent material folded on itself to form two leaves between which the filler sheet may be inserted, the edge portion of one of the leaves, which is opposite the fold line, being tightly folded inwardly on itself to form a lip beneath which the adjacent free edge portion of the other leaf may be inserted, said lip and the underlying portions of the leaves forming the binding margin of the holder for enclosing the binding margin of the filler sheet when positioned between the leaves, said lip and the underlying portions of the leaves being provided with binder openings, said openings registering with each other and adapted to register with the binding openings of the enclosed filler sheet.

7. A reenforcing and protecting display holder for loose-leaf notebook filler sheets which comprises a sheet of transparent material folded on itself to form two leaves between which a filler sheet may be inserted, that edge portion of one leaf which is opposite the fold line being tightly folded on itself to form a lip beneath which the adjacent free edge portion of the other leaf may be inserted and held, said lip and the underlying marginal portions of the transparent leaves forming the binding margin of the holder and being provided with registering binding holes to register with the binding holes of a filler sheet, the binding margins of said leaves being held by said lip in close association as a three-ply reenforcement for the binding holes of the filler sheet.

8. A composite display unit for binding in a book structure, which comprsies a sheet of transparent material folded on itself to form two leaves, that edge portion of one leaf which is opposite the fold line being tightly folded inwardly on itself to form a lip beneath which the adjacent free edge portion of the other leaf is releasably inserted, a display sheet enclosed between the leaves, said lip, the display sheet and the underlying transparent leaf being provided with registering binding openings, said lip holding the adjacent marginal portions of the leaves and display sheet in close association whereby said leaves and display sheet turn as a unit in the binder.

9. A composite display unit for binding in a book structure, which comprises a sheet of transparent material folded on itself to form two leaves, that edge portion of one leaf which is opposite the fold line being tightly folded inwardly on itself to form a lip beneath which the adjacent free edge portion of the other leaf may be inserted and held, a display sheet enclosed between the leaves, said lip and the underlying portion of at least the leaf on which the lip is formed being provided with registering binding holes, the binding margin of the display sheet being provided with recesses registering with said binding holes, said lip holding the adjacent marginal portions of the leaves and display sheet in close association whereby said leaves and display sheet turn as a unit in the binder.

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