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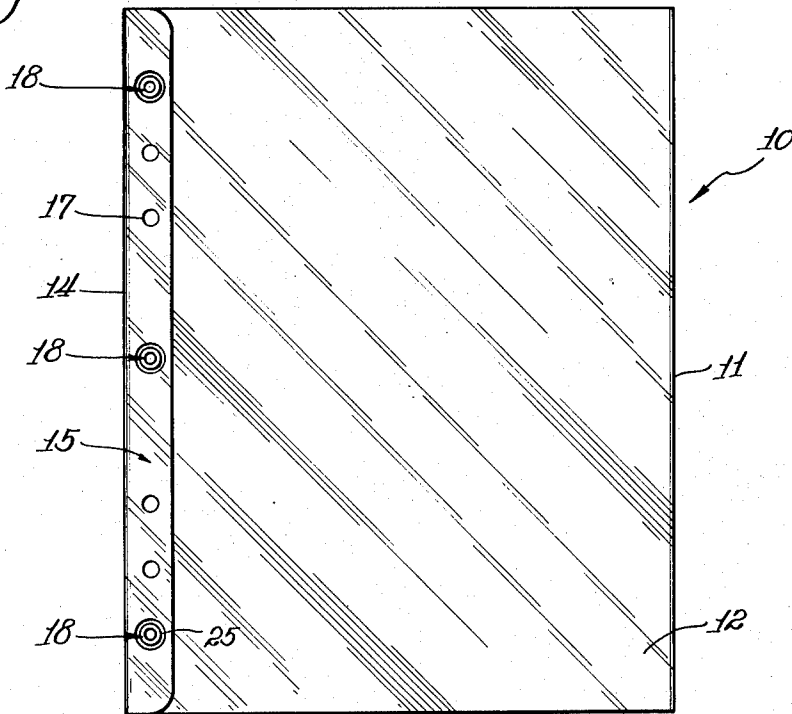
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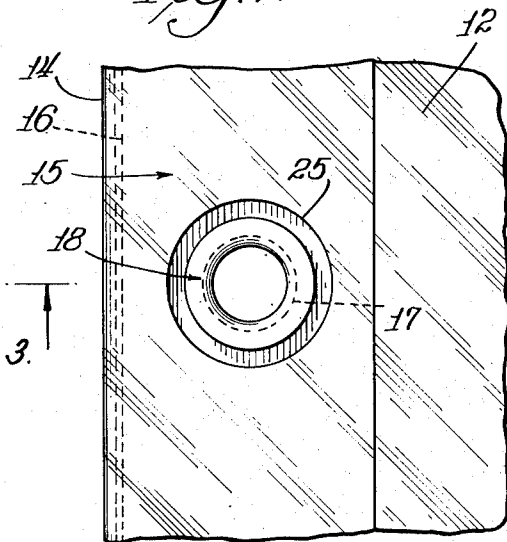
SHEET PROTECTOR

Original Filed July 20, 1949

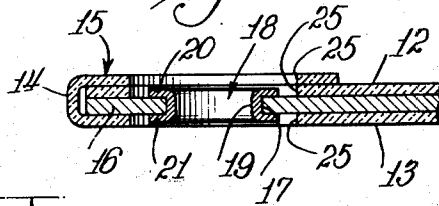
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



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## SHEET PROTECTOR

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Original application July 20, 1949, Serial No.  
105,776, now Patent No. 2,592,373, dated April  
8, 1952. Divided and this application January  
17, 1952, Serial No. 266,958

1 Claim. (Cl. 129—20)

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My present invention relates generally to transparent sheet protectors of the type utilized for protecting and carrying loose-leaf display materials in a loose-leaf notebook binder or the like, with the instant application constituting a division of my copending application, Serial No. 105,776, filed July 20, 1949 now Patent No. 2,592,373.

Generally speaking, the class of sheet protectors to which my present invention is directed, find widespread use in a salesman's display notebook, or the like, wherein photographic or chart-like reproductions are carried to aid the salesman in graphically displaying his wares. Other uses will be called to mind by those familiar with this art since such display sheet protectors are in common usage by the public. As a general rule, it may be stated that while present transparent sheet protectors afford adequate protection to the materials which are stored therein for avoiding the caustic effects of repeated handlings, several vexing and disquieting problems accompany their use which my present invention is designed to alleviate. Specifically, present transparent sheet protectors tend to add considerable bulk to the notebook in which they are carried and are constructed in a manner which leads to binding and interference with the leafing of the protectors over the binding posts of the notebook. Further, provision of suitable openings for the reception of loose-leaf binder rings through the display sheet protectors and the display materials themselves weakens the binding edge of the protectors which eventually results in the tearing away of the protector adjacent such openings unless some suitable reinforcing means is utilized therewith.

Briefly my present invention is directed primarily to a style of transparent sheet protector adaptable for the reception of an opaque display filler or sheet which mounts the material to be displayed and enclosed by the transparent protector unit. The opaque display filler further is designed to carry an improved reinforcing means about the periphery of the binder receiver openings formed through one edge of the protector unit with such reinforcing means being constructed and mounted in a manner to minimize bulkiness of the marginal binding edge of the sheet protector unit, as will be amplified later herein.

The primary object of my present invention is to disclose the features and construction of a new and improved transparent protector having a display filler sheet therein on which a new and improved reinforcing means is provided for pre-

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venting the tearing of the marginal binding edge of the protector unit and to aid the user in easily leafing such over the loose-leaf binder rings.

A further object of my invention is to disclose the features of a new and improved transparent sheet protector which is so constructed as to minimize bulk along the marginal binding edge thereof to facilitate its usefulness in a loose-leaf style of notebook binder.

The above and further objects and features of my invention will be recognized by one familiar with the art from the following specification and description thereof and in light of the accompanying drawings.

In the drawings:

Figure 1 is a plan view of a display sheet protective unit made in accordance with the features of my invention;

Figure 2 is an enlarged plan view of a portion of the marginal binding portion of the sheet protector unit shown in Figure 1, displaying in detail the provision of the reinforcing means and the mode of carrying such on an opaque display filler inserted and maintained between the transparent leaf element of the protector unit; and

Figure 3 is an enlarged partial cross sectional view taken substantially along line 3—3 of Figure 2 and displaying the mounting arrangement of my new and improved reinforcing means in the opaque display filler and the means employed therewith for maintaining the marginal binding edge of my new protective unit at a minimum thickness.

Referring now to Figure 1 of the drawings, it will be observed that a sheet protector or display folder 10 is therein illustrated comprising a substantially rectangular sheet of thin transparent and substantially incompressible flexible material, such as cellulose acetate or a transparent plastic, which is folded along one marginal edge 11 backwardly on itself or through approximately 180° to form upper and lower leaf elements 12 and 13, as shown best in Figure 3 of the drawings. It will be noted that in forming the marginal edge or fold 11, the lower leaf element 13 is somewhat wider than the upper leaf element 12 and that this excessive width is turned or folded through 180°, parallel to the marginal edge 11 to formulate a marginal holding edge 14 and a marginal lip element 15 which overlies the uppermost leaf element 12 to maintain such in substantially parallel coextensive relation over the lower leaf element 12.

A sheet or planar display filler 16, which is usually made of an opaque heavy paper, is then

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sandwiched in between the two leaf elements 12 and 13 and intermediate the folded marginal edges 11 and 14 of the folder, formed as described above. The overlapping lip element 15, of course, serves to hold the display filler 16 in substantially coextensive relation between the two leaf elements 12 and 13 intermediate the marginal edges 11 and 14 as desired.

It will be appreciated that in constructing my folder 10, as described above, the gripping action of the marginal holding lip 15 helps to maintain the display filler 16 in a desired coextensive aligned position intermediate the upper and lower leaf elements 13 and 12, respectively, so that the lateral limits or edges of the display filler 16 are in substantially abutting contact with the inner bends of the opposed marginal or folded edge portions 11 and 14 of the protector. This feature is important to the proper functioning of the new and improved reinforcing means of my invention which are to be carried by the opaque display filler, as will now be described.

As seen in Figure 1, a series of binder receiving apertures 17, herein shown as seven in number, are first formed through the marginal binding edge of the protector unit 10 so as to communicate or form a passage through the lip, the upper and lower leaf elements and the opaque display filler sheet held intermediate the two leaf elements. Such openings 17 are arranged at convenient spaced intervals for the reception of binding posts or rings of a loose-leaf notebook or the like. Selection of certain of these apertures 17 for mounting my new and improved reinforcing means is then made in accordance with the particular spacing of the binding posts or rings of the notebook with which the protector 10 is to be used. Having selected the apertures 17, which are to receive the notebook binder rings or posts, annular hollow-centered rivets 18, 18, made of light gauge copper or brass are mounted in such selected openings 17 in the display filler 16, as demonstrated in Figure 3 of the drawings, so that a cylindrical body portion 19 thereof is received coaxially within an opening 17 in the opaque display filler. Upper and lower head ends 20 and 21 of each rivet 18 are turned over radially outwardly of the peripheral limits of the body portion 19 so as to firmly grip the adjacent opaque display filler therebetween, as illustrated in Figure 3 in particular. It will be noted that the head portions or ends of the reinforcing rivet members protrude outwardly of the opposite faces of the opaque display filler 16 and that the rivets provide effective protection about the periphery of the binder receiving openings 17 in which such are mounted to prevent the tearing of the opaque display filler adjacent the binder openings 17.

Further, it will be appreciated that the head ends of the rivet members are pressed to a substantially planar or flat condition thereby to minimize the overall thickness of such rivet members. At least two or more of the reinforcing rivet members should be mounted in the opaque display filler binder receiving openings for effective utilization of the transparent sheet protector unit. However, depending upon the particular requirements and location of the binding rings or posts of the notebook, reinforcing members may be placed in any two or more of the apertures of the transparent sheet protector unit, as desired. Although the mounting of the reinforcing members usually takes place at the manufacturing stage of a sheet protector unit of my invention, the adaptability of such to meet various spacing

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requirements of different style notebook binder posts and rings is readily apparent.

In order that the binding marginal edge comprising the thickness of the upper and lower leaf elements, the opaque display filler member held therebetween and the overlapping marginal lip member may be maintained at a minimum or substantially no greater than the combined thicknesses of those members, enlarged and registeringly aligned relief apertures 25 are formed in the marginal binding edge of my protector unit. Such relief apertures 25 are herein shown as circular in form, so as to coaxially extend beyond the radial limits of the outwardly turned over head portions 20 and 21 of the reinforcing members 18. Further, it will be appreciated that the transparent elements of the display unit, i. e. the binding marginal lip 15, the upper leaf 12 and the lower leaf 13, are all provided with the relief apertures 25 to form a substantially cylindrical relief clearance for the reception of the protruding head portions of the reinforcing rivet members. The slightly greater diameter of the relief apertures over the diameter of the turned over rivet head ends accommodate slight movement of the rivet heads relative to the leaf and lip elements which lie thereabove and below. Since such relief apertures are aligned registeringly above and below the reinforcing rivet members so that the head ends 20 and 21 thereof protrude into the relief openings, the marginal thickness of my transparent sheet protector unit which receives the notebook binder rings or posts there-through does not exceed the overall combined thicknesses of the lip, two leaf elements and opaque display filler. This desirable construction means less marginal bulk and provides a very flat and compact marginal construction while serving to give maximum protection against tearing away of the marginal edge of the display unit through which the binders are received. The flat marginal and compact marginal construction of my transparent sheet protector unit is, of course, obtained through the cooperation of the reinforcing rivet members, the enlarged protruding head portions thereof and the ability of the enlarged relief apertures to receive the protruding end portions of the reinforcing rivet members, thereby to prevent interference between the head portions of the rivet members and the adjacent transparent elements of the display protective unit. Further, it will be appreciated that the provision of a marginal binding lip element in association with the two transparent leaf elements, which serve as protective coverings for the opaque display filler, gives adequate protection for the display materials carried therein. The further provision of the reentrant bends at the marginal edges of the transparent leaf elements and the integral junction of the two leaf elements and lip element by virtue of such marginal reentrant bends provides a compact construction which serves to tightly maintain the display materials under the protective transparent covering from which the leaf elements are constructed. In this latter connection the coextensive registration of the two leaf elements is enhanced by the protrusion of the head ends of the reinforcing rivets into the relief openings formed in the two leaf elements; such protrusion serving to loosely lock the upper leaf against ready withdrawal from beneath the lip element 15 and to lock likewise the opaque display filler with the lower leaf element.

While I have herein shown one form in which the features and teachings of my invention may

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occur, it will be appreciated that changes and modifications may be made therein without departing from the inventive spirit and scope thereof. Consequently, I do not intend the embodiment herein illustrated to be a restriction on my present invention, except as may appear in the appended claim.

I claim:

A loose-leaf sheet protector unit for use in mounting display materials in a loose-leaf binder or the like, comprising a substantially rectangular sheet of flexible transparent material folded reentrantly on itself to form a pair of superposed leaf elements, a marginal holding lip element comprising the free marginal portion of one of said leaf elements folded reentrantly on itself to overlap the adjacent free marginal portion of the other of said leaf elements; a planar display filler sheet insertably mounted coextensively between said two leaf elements, with adjacent marginal portions of said two leaf elements and said display sheet being held beneath said lip element and comprising the binding marginal portion of the protector unit for connection with binder members of the said loose-leaf binder; a plurality of open centered, reinforcing rivet members insertably mounted at spaced intervals along the binding marginal portion of said filler sheet, said rivet members each having upper and lower head ends turned radially outward of the open centered main body portion thereof and protruding

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outwardly of the opposite faces of said filler sheet to tightly grip said sheet therebetween and provide reinforced binder receiving openings in the latter, and enlarged relief openings formed in said two leaf and said lip elements, coaxially with said protruding head ends of said rivet members thereby to relieve interference between such elements and the said protruding rivet head ends, with the protrusion of the said rivet head ends terminating inwardly of the outer surfaces of said lip and other leaf element thereby to maintain the binding marginal portion of the protector unit substantially equal to the combined thickness of said filler sheet, lip and two leaf elements, but with such rivet head ends extending into said relief apertures formed in said two leaf elements sufficiently to loosely lock said display filler sheet in substantially coextensive alignment intermediate said two leaf elements.

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