

Oct. 7, 1941.

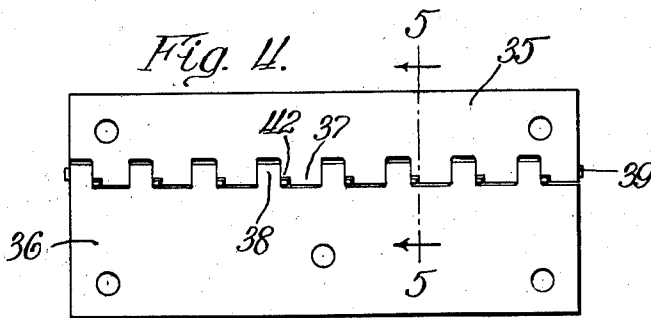
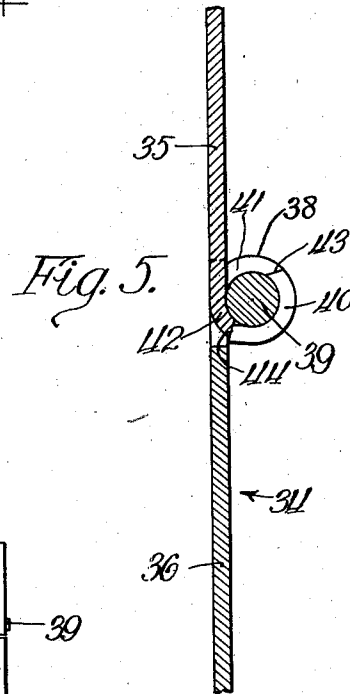
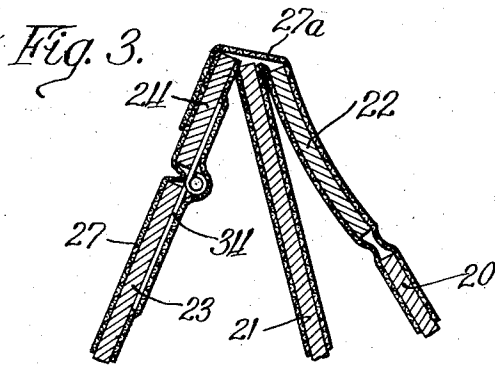
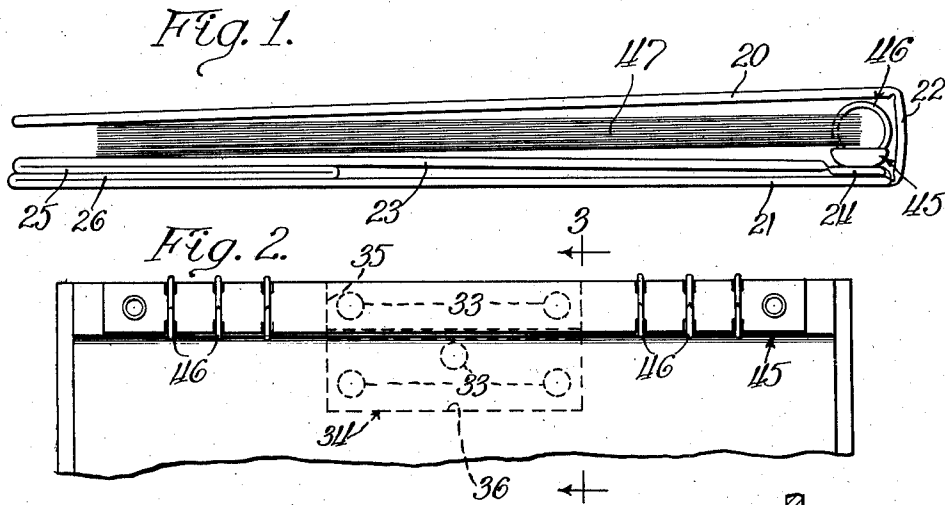
E. W. ERICSON

2,258,282

DISPLAY BINDER

Filed Oct. 24, 1940

4 Sheets-Sheet 1



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ATTYUS₂

Oct. 7, 1941.

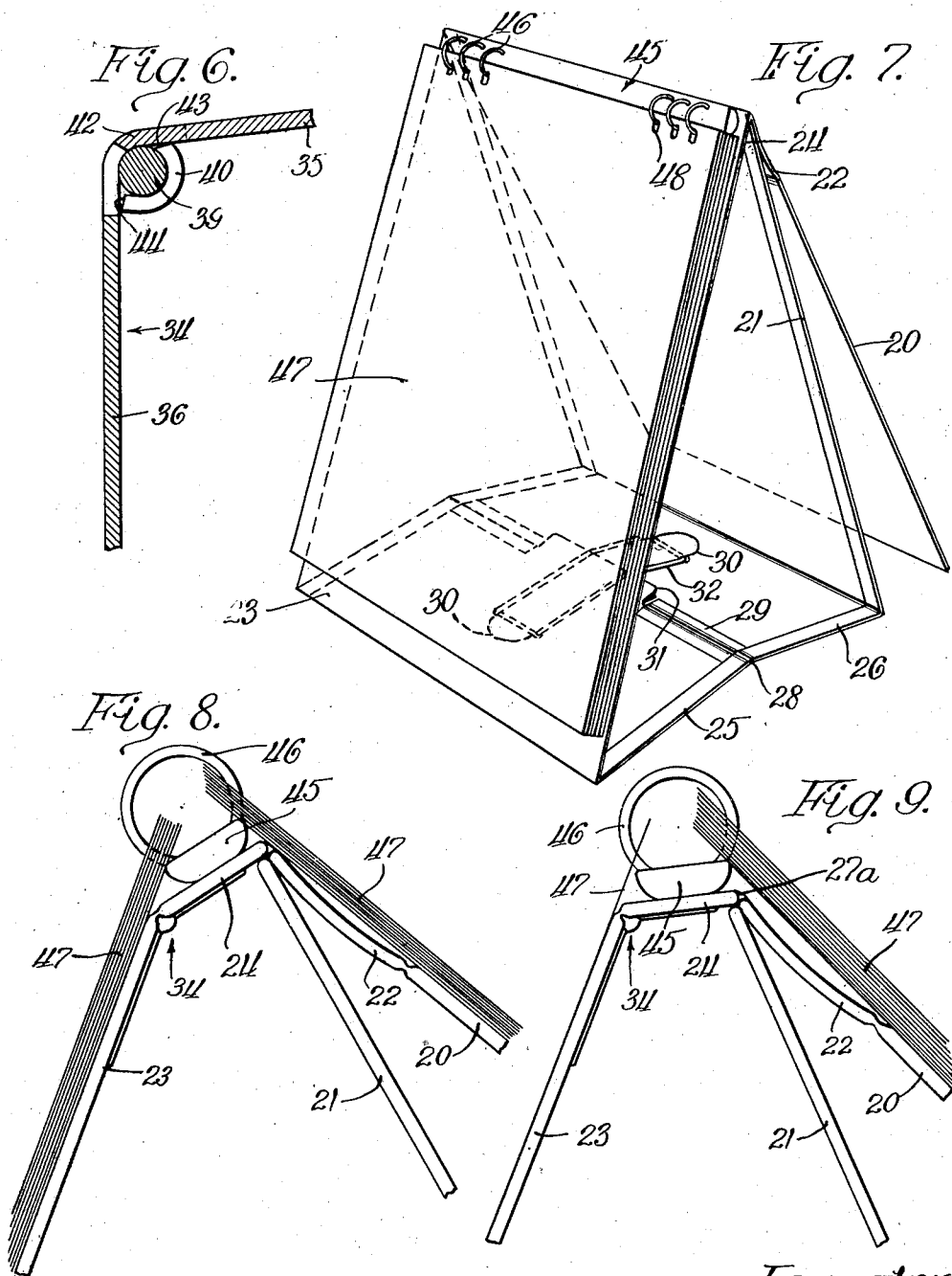
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DISPLAY BINDER

Filed Oct. 24, 1940

4 Sheets-Sheet 2



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Oct. 7, 1941.

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2,258,282

DISPLAY BINDER

Filed Oct. 24, 1940

4 Sheets-Sheet 3

Fig. 11.

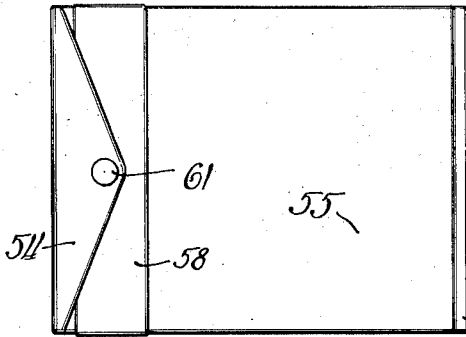


Fig. 10.

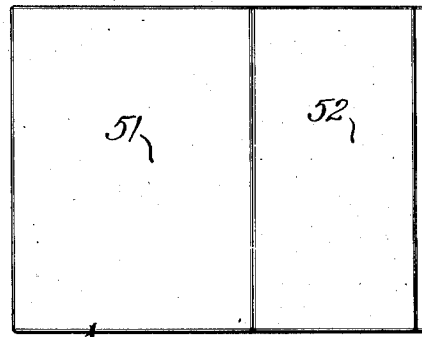


Fig. 12.

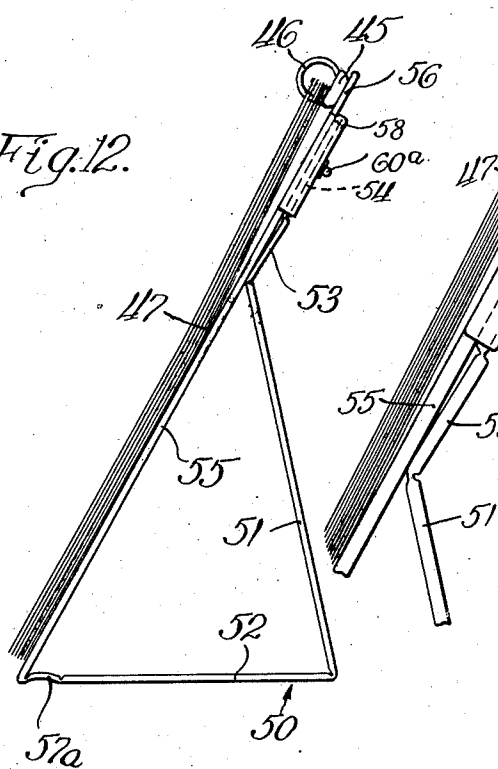
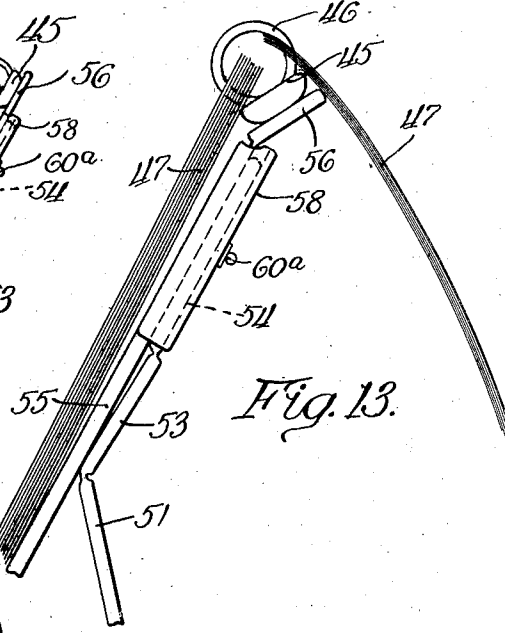


Fig. 13.



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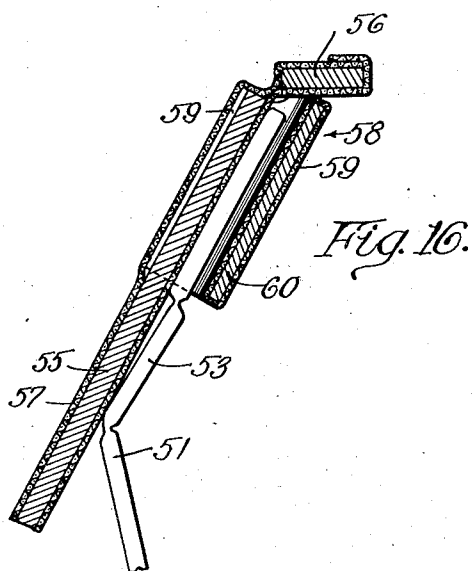
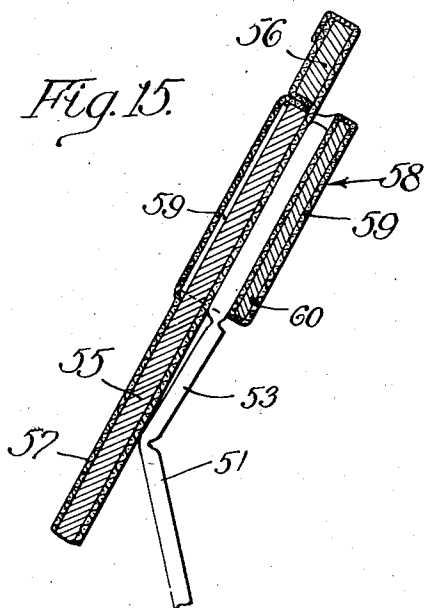
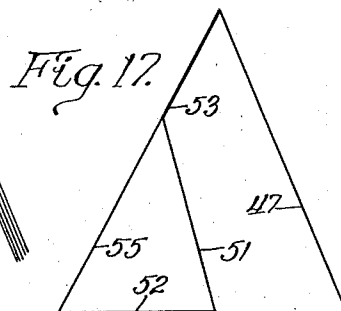
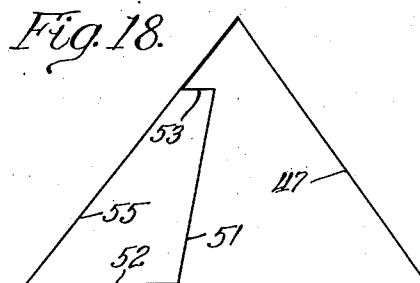
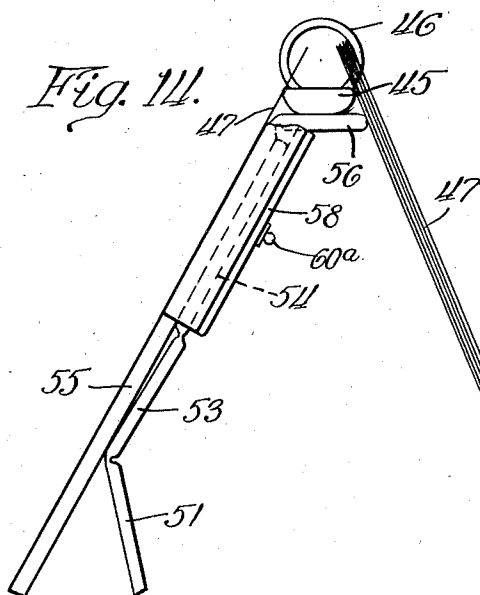
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2,258,282

DISPLAY BINDER

Filed Oct. 24, 1940

4 Sheets-Sheet 4.



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UNITED STATES PATENT OFFICE

2,258,282

DISPLAY BINDER

Elmer W. Ericson, Chicago, Ill., assignor to The Barrett Bindery Co., Chicago, Ill., a corporation of Illinois

Application October 24, 1940, Serial No. 362,483

14 Claims. (Cl. 281—33)

This invention relates to display devices, and has to do with loose leaf binders of the easel type, such as are used by salesmen and others in presenting to prospective customers sales literature, pictures, charts and analogous materials in convenient form.

It is known, in display binders, to apply to the sheets to be displayed individual fabric stubs providing cloth hinging, with a view to permitting the sheets to lie more or less flat for display purposes. This cloth hinging of the sheets is quite expensive and necessitates a corresponding increase in the sales price of such binders, with resultant restriction of their use. My invention is directed, broadly, to a display binder in which the sheets will lie flat for display purposes, and which avoids the necessity of providing cloth hinging or equivalent means for the sheets, thereby enabling the binder of my invention to be produced at a sufficiently low cost to justify its extensive use.

In general, my invention is directed to a binder which can readily be set up in easel form to display the contained literature or the like to best advantage, and, when not in use, provides a book enclosing the leaves or sheets bearing the material to be displayed and well suited to be carried by hand. More specifically, I provide novel means for mounting the binder mechanism so that it is capable of automatically adjusting itself in accordance with the number of sheets at the front and at the back of the binder, when the latter is set up in easel form and in use for display purposes, in such manner as to assure that the sheets will lie flat and substantially parallel with the covers or panels of the binder, while avoiding the necessity of having to add hinged stubs to the sheets, or of subjecting the sheets to objectionable stresses. Further objects and advantages will appear from the detail description.

In the drawings:

Figure 1 is a side view of a binder embodying my invention, in folded condition;

Figure 2 is a front view of the top portion only of the binder as set up for display purposes, the sheets being omitted for clearness of illustration;

Figure 3 is a vertical sectional view taken substantially on line 3—3 of Figure 2, on an enlarged scale;

Figure 4 is a front view of the hinge for the binder mechanism mounting strip;

Figure 5 is a sectional view taken substantially on line 5—5 of Figure 4, on a considerably enlarged scale, showing the relation between the

hinge leaves in the set up condition of the binder with all of the sheets at the front thereof;

Figure 6 is a view similar to Figure 5 but showing the approximate relation between the hinge leaves when all of the sheets are at the back of the binder;

Figure 7 is an isometric side view of the binder set up for display purposes, with all of the sheets at the front;

Figure 8 is a side view of the top portion of the binder as set up for display purposes, with one portion of the sheets at the front, and a second portion of the sheets at the back thereof;

Figure 9 is a view similar to Figure 8, but with all but one of the sheets at the back of the binder;

Figure 10 is a front view of a modified form of display binder embodying my invention, in folded condition;

Figure 11 is a back view of the binder shown in Figure 10;

Figure 12 is a side view of the binder of Figures 10 and 11 set up for display purposes, with all of the sheets at the front;

Figure 13 is a view similar to Figure 12, showing the upper portion only of the binder, with a portion of the sheets at the back, on an enlarged scale;

Figure 14 is a view similar to Figure 13 with all but one of the sheets at the back of the binder;

Figure 15 is a sectional view, on an enlarged scale, of the top portion of the binder of Figure 12, taken from front to back, certain parts being shown in side view and the inserts for the covers and associated elements and the fabric covering therefor exaggerated in thickness, with the binder mechanism omitted, for clearness of illustration;

Figure 16 is a view similar to Figure 15, of the binder as shown in Figure 14; and

Figures 17 and 18 are diagrammatic side views showing alternative adjustments of the binder of Figure 12.

Figure 1 shows the binder folded into book form, in which condition it is of convenient size and shape to be carried by hand. The binder comprises substantially rectangular front and back covers 20 and 21, respectively, an intervening back-bone 22, a display panel 23, a relatively narrow mounting strip 24, and spacing panels 25 and 26. Each of the covers, the back-bone, each of the panels and the mounting strip respectively comprises a substantially rigid insert enclosed by a flexible covering 27, of fabric or other suitable material. Covering 27 encloses the inserts of all

of the parts referred to and provides hinge connections between the various parts, except between panel 23 and mounting strip 24, as will be explained presently.

The binder thus comprises a plurality of hingedly connected elements foldable into book form, as in Figure 1, and positionable to support the binder in set up condition for display purposes, as in Figure 7. In the latter figure, panels 25 and 26, hingedly connected at their inner edges, at 28, and hinged at their outer edges to the bottom edges of panel 23 and back cover 21, respectively, limit movement apart of the latter two members. Front cover 20 is hinged at its upper edge to back-bone 22, and with the latter is turned into position in back of back cover 21. The mounting strip 24 extends between the top edge of panel 23 and the top edge of back cover 21 and is hingedly connected at its upper or rearward edge to back-bone 22, by element 27^a of covering 27, this edge of mounting strip 24 being otherwise free from back cover 21 and back-bone 22.

The panels 25 and 26 preferably are considerably thinner than covers 20 and 21 and panel 23 and, if desired, may further be connected at their inner edges by fabric strips 29. Each of the panels 25 and 26 is provided with a tab 30 cut therefrom, which tabs are oppositely directed, and panel 25 is further provided with a tongue 31 extending from the midportion of its inner edge rearward beyond the hinge connection 28. An elastic band 32 is passed about the tabs 30 and bears upon the upper face of tongue 31, this band acting to urge the panels 25 and 26 downward into substantial alignment with one another, thus spreading back cover 21 and panel 23 apart and assisting in setting up the binder for display purposes.

Panel 23 and mounting strip 24 are further connected together by a hinge 34, shown in Figures 3 to 6, inclusive. Hinge 34 comprises upper and lower leaves 35 and 36 respectively secured in any suitable manner, as by means of rivets 33 (Figure 2), to mounting strip 24 and panel 23. Hinge leaf 35 is provided, at its lower edge, with spaced sleeves 37 disposed in interfitting relation to spaced sleeves 38, at the upper edge of leaf 36, the sleeves being axially aligned and receiving a connecting pin or pintle 39. Each of the sleeves 38 is cut away from one end to provide a substantially semi-cylindrical extension 40 and a substantially semi-circular notch 41. Each of the sleeves 37 is provided at one end with a stop element 42 which projects into notch 41 of the adjacent sleeve 38. Elements 42 cooperate with shoulders 43 and 44 of sleeves 38 for limiting relative turning movement of hinge leaves 35 and 36 in either direction. In Figures 5 and 6 hinge leaf 35 is shown in its extreme forward position and its extreme rearward position, respectively.

A binding mechanism 45 is secured, in any suitable manner, to mounting strip 24 at the front thereof. The mechanism comprises sectional rings 46 normally held closed in a suitable manner, for engagement through sheets 47 mounted in the binder, these sheets having openings 48 (Figure 7) of greater area than the cross section of the rings, as is known. The binding mechanism is of known type and need not be described nor illustrated in greater detail. Any suitable mechanism other than that shown may be used. Suffice it to state that suitable binding mechanism is carried by mounting strip

24 for movement as permitted thereby, for the purpose and as will be explained more fully presently.

When the binder is set up with all of the sheets at the front of the display panel 23, as shown in Figure 7, the mounting strip 24 is disposed substantially as shown in Figures 3 and 7, and the leaves 35 and 36 of hinge 34 are then disposed as shown in Figure 5. The weight of the sheets 47 tends to swing mounting strip 24 downward and panel 23 rearward into positions substantially at right angles to each other. But the hinge 34 limits such movements, as will be clear from Figure 5, thus assuring that panel 23 is so disposed, relative to the binding mechanism, that the sheets will lie flat on panel 23 and on one another, for the major portion at least of their length, and without being subjected to objectionable bending or tearing stresses.

As the sheets are successively moved, about rings 46, from in front of panel 23 to position in back of cover 20, the weight tending to swing the binder mechanism downward progressively decreases with corresponding increase in the weight tending to swing that mechanism upward. That causes the mounting strip 24, and with it the binding mechanism 45, to be gradually swung from the position shown in Figure 7 downward into the position shown in Figure 9, as the sheets 47 are moved from the front to the back of the binder. In Figure 8 the position of the mounting strip 24, when approximately one-half of the sheets have been turned back onto the cover 21, is shown. When all of the sheets 47, or approximately all, have been turned back onto cover 20, the mounting strip 24, and with it the binding mechanism 45, assumes the position shown in Figure 9. The downward swinging movement of mounting strip 24 is accompanied by upward and forward movement of the upper end of panel 23 and downward and forward movement of the upper end of cover 21, with corresponding movement of back-bone 22 and the upper end of cover 20; as will be clear from Figures 7, 8 and 9. I thus obtain automatic adjustment of panel 23, mounting strip 24, and back-bone 22 and cover 20 effective for maintaining them in proper relation such as to assure that the sheets, at both the front and the back of the binder, will lie flat and will not be subjected to objectionable bending or tearing stresses. If the sheets are moved successively from the back to the front of the binder, the movements of the elements thereof will be the reverse of that above described, but the parts will be automatically adjusted so as to assure that the sheets will lie flat, as before. It will thus be seen that the sheets lie flat and may readily be turned from the front to the back of the binder, and vice versa, without any necessity of providing fabric stubs forming hinges for the sheets, or analogous means.

The modified form of binder shown in Figures 10 to 18, inclusive, comprises a front cover 50, formed of upper and lower sections 51 and 52, respectively, a back-bone 53 at the upper edge of cover 50, a triangular flap 54 at the upper edge of back-bone 53, a continuous back cover 55 and a narrow mounting strip 56 at the top edge of cover 55. The sections 51 and 52 of cover 50, back-bone 53, flap 54, cover 55 and strip 56 respectively comprise a substantially rigid insert enclosed by a flexible covering 57, of fabric or other suitable material, which provides hinge connections between these members. The lower

edge of section 52 of cover 50 is connected to the lower edge of cover 55 by a narrow strip 57^a of covering 57, which strip preferably is unstiffened but may be stiffened if desired. A strap 58, comprising a covering 59 and a stiffening insert 60, extends across the back of cover 55, at the upper portion thereof, the top of strap 58 being disposed a short distance above the upper edge of cover 55. Conveniently, the end portions of strap covering 59 are inserted beneath covering 57 and adhesively secured to the front of cover 55, as in Figures 15 and 16, for securing the strap to this cover. Strap 58 may be secured to cover 55 in any other suitable manner. A stud 60^a, carried by strap 58 cooperates with a socket member 61, carried by flap 54, to provide snap fastener means of known type for securing the binder in its folded book form shown in Figures 10 and 11. The binder thus comprises a plurality of hingedly connected members which may readily be folded into book form suitable for carrying by hand, and may as readily be set up for display purposes.

Binding mechanism 45, similar to that shown in Figures 1 and 2, is suitably secured to mounting strip 56, at the front thereof, and supports the sheets 47 to be displayed. The covering 57 is folded inwardly between the adjacent edges of the inserts of back cover 55 and mounting strip 56, these two members being thus hinged together at their rearward edges only, as will be clear from Figures 15 and 16. In setting up the binder for display purposes, front cover 50 is turned rearward and flap 54 is inserted between strap 58 and back cover 55, the maximum width of flap 54 being such that it fits tightly beneath strap 58 but will not pass through the latter. The binder then appears as in Figure 12, with the front cover 50 cooperating with flap 54 and strap 58 to provide an easel structure supporting back cover 55, which then functions as a display panel, at an inclination downward and forward of the binder.

When all of the sheets 47 are at the front of cover 55, the mounting strip 56 is disposed substantially as shown in Figure 12 so that the sheets 47 lie flat and substantially parallel to cover 55. As the sheets 47 are successively moved from the front to the back of the binder, the mounting strip 56, and with it the binding mechanism 45, swings downward and rearward, the sheets at the back curving slightly downward and resting on the rear edge of strip 56, as in Figure 13. Disposal of a considerable portion of sheets 47 at the back of the binder results in movement of strip 56 into position resting on the upper edge of strap 58. Thereafter strap 58 offers increasing resistance to rearward and downward movement of strip 56, until all of the sheets 47 are disposed at the back of the binder, at which time the central portion of strap 58 may be bulged slightly rearward, as shown in Figure 16. In Figure 12 the position of mounting strip 56 is shown, when all of the sheets 47 are at the front of the binder.

As the strip 56 swings backward it also moves downward, as does the binding mechanism 45. In that manner, the binding mechanism is automatically adjusted, as the sheets 47 are moved from the front to the back of the binder, in such manner as to maintain the proper relation between the binding mechanism 45 and the cover or display panel 55 to assure that the sheets at the front of the display panel will lie flat and substantially parallel therewith. It will thus be seen that in both forms of my invention illus-

trated by way of example, I have provided means for automatically compensating for movement of the sheets from in front of the display panel to the back of the binder, in such manner as to maintain the proper relation between the display panel and the binding mechanism, which assures that the sheets at the front of the display panel will lie flat and substantially parallel with the latter.

In Figure 17 the binder is shown diagrammatically adjusted as in Figure 12, in which latter figure section or backbone 53 is disposed adjacent the back of cover 55 substantially parallel therewith. If desired, backbone 53 may be turned upward into substantially horizontal position, extending rearward from cover 55, as in Figure 18. That permits of slight rearward swinging movement of cover 55, which then is supported, in Figure 18, at a slightly greater inclination to the horizontal than in Figure 17.

Conveniently, in both forms of my invention shown, the covers and associated parts are hingedly connected together by a flexible covering of fabric or other suitable material. That is not, however, essential to my invention, since the parts may be hinged together in any suitable manner. In its broader aspects my invention comprehends a structure in the nature of a linkage system comprising a plurality of members hinged together as and for the purposes disclosed, with provision for effecting automatic adjustment of the binding mechanism in the manner and for the purposes stated.

As above indicated, and as will be understood by those skilled in the art, changes in construction and arrangement of parts of my invention may be made without departing from the field and scope thereof, and I intend to include all such variations, as fall within the scope of the appended claims, in this application in which the preferred forms only of my invention have been disclosed.

I claim:

1. In a display binder, a substantially rigid panel member, means for supporting said member in substantially upright position, a rigid mounting strip hinged to the upper end of said panel member for relative forward and rearward swinging movement, means limiting forward swinging movement of said strip to a position substantially in alignment with said panel member, and binding mechanism carried by said strip.

2. In a display binder, a substantially rigid panel member, means for supporting said member in substantially upright position, a rigid mounting strip, means hingedly connecting said strip to the upper end of said panel member for relative forward and rearward swinging movement and for limiting the extent of forward movement thereof to a position substantially in alignment with said panel member, and binding mechanism carried by said strip.

3. In a display binder, substantially rigid front and back covers, a back-bone between and hinged to said covers at one end thereof, a substantially rigid display panel, means foldable between said panel and said back cover connecting the other end of the latter to the corresponding end of said panel and limiting movement apart of said other end of said back cover and said corresponding end of said panel, a mounting strip between and hinged to said one end of said back cover and the other end of said panel with means limiting swinging movement of said strip in either direction relative to said panel, and binding

mechanism carried by said strip at the front thereof.

4. In a display binder, substantially rigid front and back covers, a back-bone between and hinged to said covers at one end thereof, a substantially rigid display panel, means foldable between said panel and said back cover connecting the other end of the latter to the corresponding end of said panel and limiting movement apart of said other end of said back cover and said corresponding end of said panel, a mounting strip between said one end of said back cover and the other end of said panel and hinged at its adjacent edge to said back-bone adjacent said one end of said back cover, a hinge connecting said strip at its other edge to said other end of said panel provided with means limiting swinging of said strip in either direction relative to said panel, and binding mechanism carried by said strip at the front thereof.

5. In a display binder, substantially rigid front and back covers, a back-bone between and hinged to said covers at one end thereof, a substantially rigid display panel, two limiting panels hinged together at their inner edges foldable between said display panel and said back cover and respectively hinged at their outer edges to the other end of said back cover and the corresponding end of said panel, a mounting strip between the other end of said display panel and said one end of said back cover hinged at its adjacent edge to said back-bone adjacent said one end of said back cover, hinge means connecting said strip at its other edge to said other end of said display panel and limiting swinging movement of said strip in either direction relative to said display panel, and binding mechanism carried by said strip at the front thereof.

6. In a display binder, substantially rigid front and back covers, a back-bone between and hinged to said covers at one end thereof, a substantially rigid display panel, two limiting panels hinged together at their inner edges foldable between said display panel and said back cover and respectively hinged at their outer edges to the other end of said back cover and the corresponding end of said panel, a mounting strip between the other end of said display panel and said one end of said back cover hinged at its adjacent edge to said back-bone adjacent said one end of said back cover, hinge means connecting said strip at its other edge to said other end of said display panel and limiting swinging movement of said strip in either direction relative to said display panel, binding mechanism carried by said strip at the front thereof, and yielding means urging said limiting panels into substantial alignment with one another.

7. In a display binder, a substantially rigid back cover, a front cover hinged at one end to the corresponding end of said back cover and turnable into position in back of the latter, said front cover comprising a substantially rigid lower section and a substantially rigid upper section hinged together, a substantially rigid flap hinged at its lower edge to the upper edge of said upper section, means at the back of said back cover adjacent the other end thereof adapted to receive and retain said flap, a mounting strip hinged to said other end of said back cover for limited swinging movement relative thereto in either direction, and binding mechanism carried by said strip at the front thereof.

8. In a display binder, a substantially rigid back cover, a front cover hinged at one end to

the corresponding end of said back cover and turnable into position in back of the latter, said front cover comprising a substantially rigid lower section and a substantially rigid upper section hinged together, a substantially rigid flap hinged at its lower edge to the upper edge of said upper section, a strap extending across the back of said back cover adjacent the other end thereof, said flap being insertible between said back cover and said strap to be retained thereby, a mounting strip hinged to said other end of said back cover for limited swinging movement relative thereto in either direction, and binding mechanism carried by said strip at the front thereof.

9. In a display binder, a substantially rigid back cover, a front cover hinged at one end to the corresponding end of said back cover and turnable into position in back of the latter, said front cover comprising a substantially rigid lower section and a substantially rigid upper section hinged together, a substantially rigid flap hinged at its lower edge to the upper edge of said upper section, a strap extending across the back of said back cover adjacent and projecting outward beyond the other end thereof, said flap being insertible between said back cover and said strap to be retained thereby, a mounting strip, means hinging said strip to said other end of said back cover and limiting relative forward swinging movement of said strip, said strap limiting rearward swinging movement of said strip relative to said back cover, and binding mechanism carried by said strip at the front thereof.

10. In a display binder, a substantially rigid back cover, a front cover hinged at one end to the corresponding end of said back cover and turnable into position in back of the latter, said front cover comprising a substantially rigid lower section and a substantially rigid upper section hinged together, a substantially rigid back-bone hinged at one edge to said upper section, a substantially rigid flap hinged to the other edge of said back-bone and tapering in width therefrom, a strap extending across the back of said back cover adjacent and projecting outward beyond the other end thereof, said flap being insertible between said back cover and said strap to be retained thereby, a mounting strip, means hinging said strip to said other end of said back cover and limiting relative forward swinging movement of said strip, said strap limiting rearward swinging movement of said strip relative to said back cover, and binding mechanism carried by said strip at the front thereof.

11. In a display binder, a substantially rigid panel member, means for supporting said member in substantially upright position, a rigid mounting strip hinged to the upper end of said panel for relative forward and rearward swinging movements, means limiting forward swinging movement of said strip to a position substantially in alignment with said panel member and rearward swinging movement of said strip to a position substantially at right angles to said panel member, and binding mechanism carried by said strip.

12. In a display binder, a substantially rigid panel member, means for supporting said member in substantially upright position, a rigid mounting strip at the upper end of said panel member, loose leaf binding mechanism carried by said strip comprising rings adapted for reception of a plurality of independent sheets individually movable about the rings into positions in front of and in back of said panel member, hinge

means connecting said strip to the upper end of said panel for swinging movement of said rings forward and rearward relative to said panel member in accordance with differences in weight between sheets suspended from said rings in back of said panel member and sheets suspended from said rings in front of said panel member, and means supplementary to said hinge means comprising stop means limiting forward movement of said rings to a position in which the sheets depending therefrom in front of said panel member extend substantially parallel with the latter and lie substantially flat thereon.

13. In a display binder, a substantially rigid panel member, means for supporting said member in substantially upright position, loose leaf binding mechanism comprising rings adapted for reception of a plurality of independent sheets individually movable about the rings into positions in front of and in back of said panel member, means connecting said binding mechanism to the upper end of said panel member for swinging movement of said rings forward and rearward relative to said panel member in accordance with differences in weight between sheets suspended from said rings in back of said panel member and sheets suspended from said rings in front of said panel member, and means supplementary

to said connecting means comprising stop means limiting forward movement of said rings to a position in which the sheets depending therefrom in front of said panel member extend substantially parallel with the latter and lie substantially flat thereon.

14. In a display binder, a substantially rigid panel member, means for supporting said member in substantially upright position, loose leaf binding mechanism comprising rings adapted for reception of a plurality of independent sheets individually movable about the rings into positions in front of and in back of said panel member, means connecting said binding mechanism to the upper end of said panel member for swinging movement of said rings forward and rearward relative to said panel member in accordance with differences in weight between sheets suspended from said rings in back of said panel member and sheets suspended from said rings in front of said panel member, and means supplementary to said connecting means comprising stop means limiting forward and rearward movements of said rings to positions in which the sheets depending therefrom in front of said panel member extend substantially parallel with the latter and lie substantially flat thereon.

ELMER W. ERICSON.