April 22, 1941. J. COOPER ET AL 2,239,081

LOOSE-LEAF BINDER STRUCTURE

Filed March 6, 1939 3 Sheets-Sheet 1

FIG. 1.

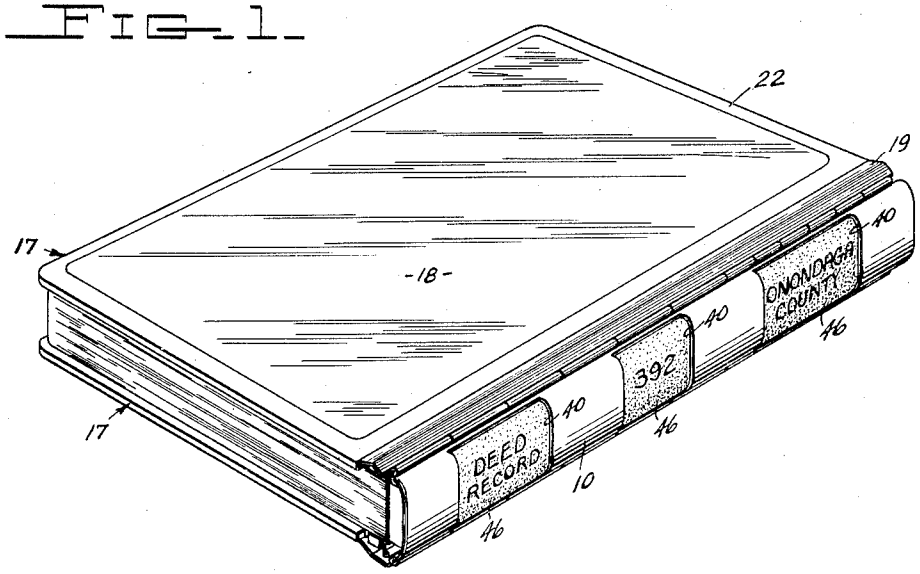
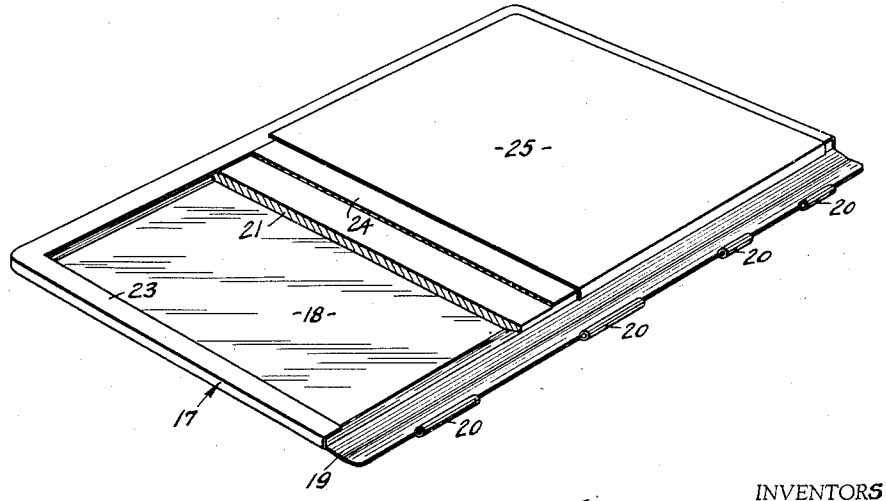


FIG. 2.



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FIG. 4.

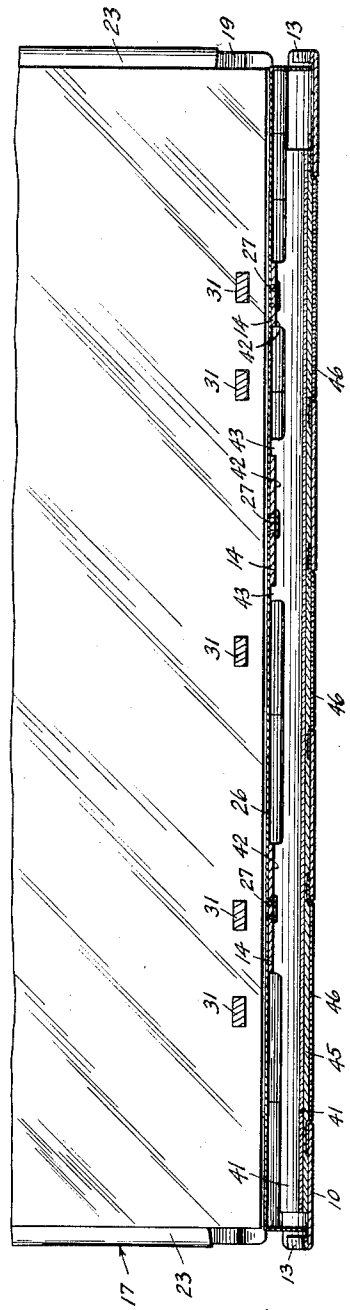
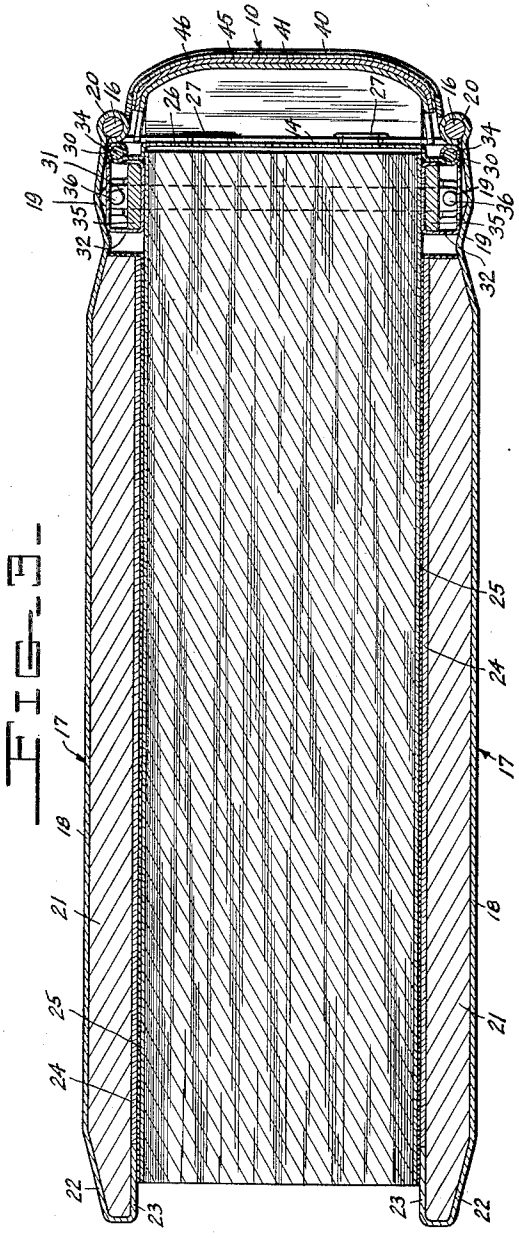


FIG. 5.



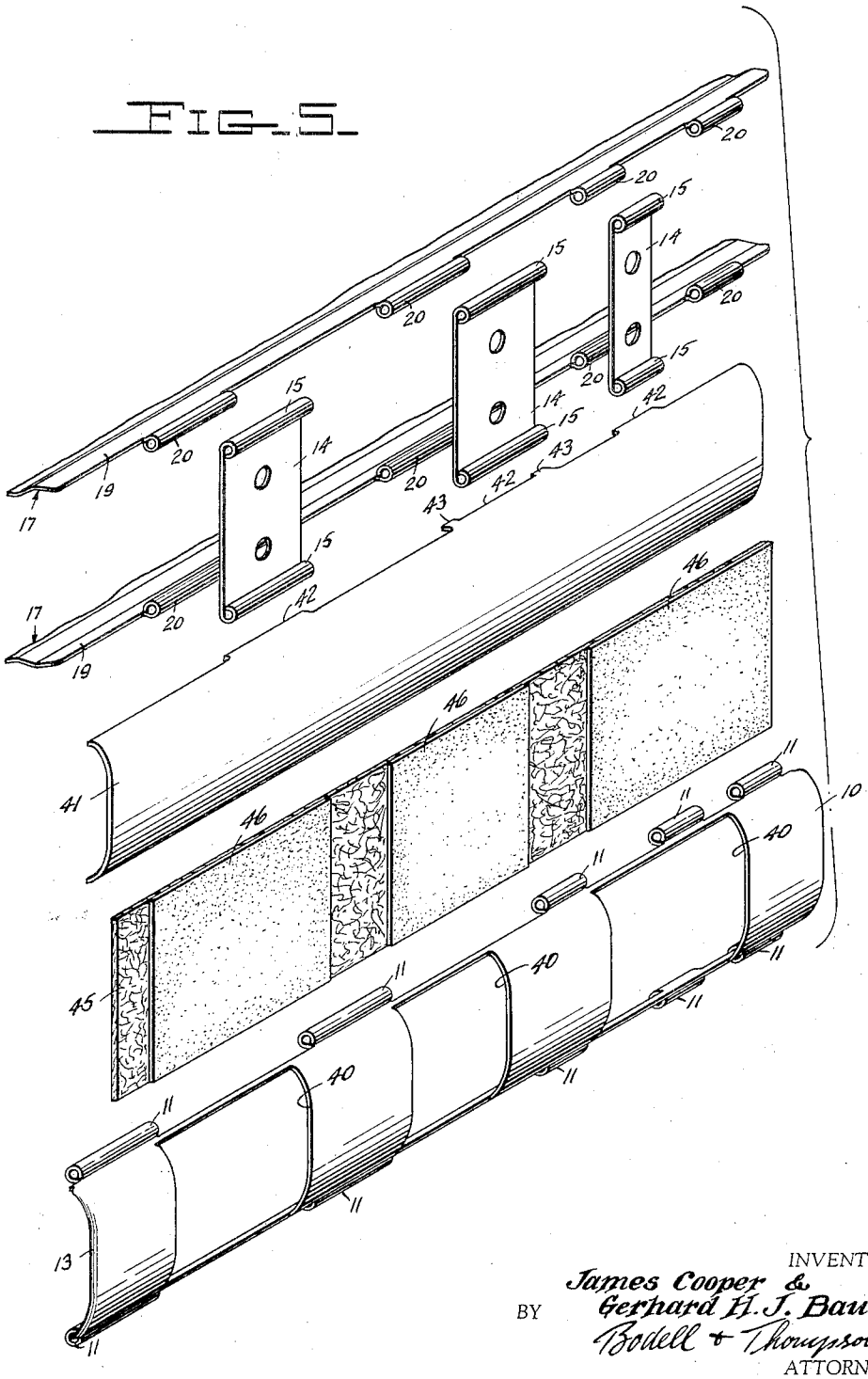
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FIG. 5



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UNITED STATES PATENT OFFICE

2,239,081

LOOSE-LEAF BINDER STRUCTURE

James Cooper, Solvay, and Gerhard H. J. Baule, Syracuse, N. Y., assignors to Hall & McChesney, Inc., Syracuse, N. Y., a corporation of New York

Application March 6, 1939, Serial No. 260,054

6 Claims. (Cl. 281—36)

This invention relates to loose-leaf binders of the type used as record books for the recording of documents such as deeds, mortgages, assignments, etc.

The invention has as an object a loose-leaf binder structure which is particularly rugged and durable and which will, to a great extent, withstand the ravages of fire and flood without permanent damage, and which affords maximum protection to the leaves. More particularly, substantially the entire structure of the book is formed of corrosion resisting material, such as aluminum and, while possessing the advantageous characteristics herein referred to, is of less weight than such binders embodying conventional construction.

A further and important object of the invention resides in a structure of the type alluded to which possesses certain economical factors contributing to low manufacturing costs and which embodies an arrangement by which the structure of the book can be quickly and conveniently changed to incorporate or eliminate certain features as desired. For example, the leaf impaling means is readily detachable from the back member of the binder, permitting different forms of leaf impaling mechanism to be used in the binder, such change being accomplished without the aid of any special tools whereby the jobber or dealer can conveniently assemble the binder incorporating the particular features desired by the customer.

The invention has as a further object a loose-leaf binder structure wherein the back member, leaf impaling means and covers are formed of metal, and which structure incorporates surfaces formed of fibrous material on which printing, legends, or descriptive matter, may be applied, the arrangement being such as to enhance the attractiveness of the binder and to simulate binders of conventional structure covered with leather, or other facing material.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawings in which like characters designate corresponding parts in all the views.

Figure 1 is a perspective view of a loose-leaf binder embodying the structure of our invention.

Figure 2 is a perspective view of the inner side of one of the covers of the binder with portions broken away and partly in section.

Figure 3 is a transverse sectional view of the structure shown in Figure 1.

Figure 4 is a lengthwise sectional view of the back member structure and a contiguous portion of a cover in plan view.

Figure 5 is an exploded view of the elements or members illustrating the arrangement of the assembly to form the back member of the binder and including contiguous portions of the covers.

Our binder consists generally of a back member, covers hinged to the back member, and leaf impaling means detachably secured to the back member. As will be apparent hereinafter, the invention resides particularly in the novel structure of the back member and cover. Any suitable leaf impaling means may be employed.

The back member consists of an outer member 10 of general trough-shaped formation provided with hinge eyes 11 arranged in spaced relation along each edge thereof. This outer member 10 is formed of sheet metal of light weight and having comparatively great tensile strength, such as aluminum, and the member may be conveniently pressed or drawn from a flat sheet, and the ends are preferably rolled or crimped inwardly as at 13 to form finished end edges. The back member of the binder also includes a flat member which may take the form of a plurality of individual straps 14, or a continuous plate extending transversely across the open side of the trough-shaped member 10 and being provided on opposite edges with hinge eyes 15. The arrangement is such that when the straps 14 are assembled on the member 10, the hinge eyes 15 are in axial alinement with the hinge eyes 11, and the flat members 14 are detachably secured to the member 10 by pintle rods 16 extending through the hinge eyes 11 and 15.

The binder includes front and rear covers 17, each of which consists of a shell formed from sheet metal and including a main panel 18 having a rearwardly extending portion 19 formed with spaced hinge eyes 20 arranged intermediate the hinge eyes 11 and 15 and being pivotally mounted upon the pivot pins 16.

The covers further include a filler member 21 of heavy cardboard, or like material, arranged on the inner side of the shell and with the marginal edges tapered, as illustrated in Figure 3. The marginal portion of the shell is formed on a complemental taper 22, and the top, bottom and front edges thereof bent inwardly to form inwardly extending flanges 23 overlapping the marginal portion of the filler 21 on the inner side thereof and serving to retain the filler in the shell. A liner 24, of substantially the same thickness as the sheet metal from which the shell is formed, is secured

to the inner side of the filler 21 within the flanges 23 by means of adhesive or the like, and a finishing layer 25 of paper, or like material, is secured to the inner side of the cover to effect a proper finished appearance for the same.

The leaf impaling means is secured to the flat members 14, and is here shown in the nature of a plate 26 secured to the members 14 as by rivets 27. The plate is substantially the length of the binder and extends transversely of the back member and is provided with hinge eyes 30 arranged in spaced relation along each edge thereof. The leaves are arranged upon a plurality of leaf impaling posts 31, the ends of which extend into and are detachably secured to housings 32 likewise provided with hinge eyes 33 and pivotally secured to the eyes 30 of plate 26 by a pintle rod 34. The leaf impaling means shown is similar to that disclosed in Cooper Patent No. 2,067,846, and includes a slide bar 35 arranged in the housings 32 and being provided with pintles 36 to engage apertures in the ends of the posts 31 to detachably secure the posts to the housings. Inasmuch as the leaf impaling means is carried by the flat member 14, one leaf impaling means may be substituted for another by simply removing the pintle rods 16.

The back of the binder is usually provided with certain legends designating the subject matter of the instruments recorded in the binder, the number of the book, and the date or dates covered by the instruments recorded, as illustrated in Figure 1. These legends may be applied at the plant where the binder is manufactured, but usually the legends are applied to the binder by a local dealer by means of printing the legends on the exterior surface of the back member. In order to facilitate the application of the legends by the local dealer, the member 10 is provided with one or more openings 40, and the back member of the binder includes an intermediate member 41 formed with a convex portion complemental with the concave inner surface of the outer member 10, and may be formed of suitable material, to fill the space between the flat plate member 14 and the outer member 10 when leaf impaling means of the type shown is employed in the binder. As here shown, the intermediate member 41 is formed of sheet metal and as being complemental in general form to the outer trough-shaped member 10, and being provided at each edge with surfaces 42 engaging the members 14, and with one or more of the surfaces 42 provided with prongs 43 engaging the sides of the members 14, whereby the members 14 retain the intermediate member 41 from movement relative to the outer member 10.

The openings 40 give the back member a paneled appearance simulating the design of the back member of conventional binders now in use. With this structure, the legends may be applied to or embossed in the intermediate member 41 and so arranged as to register with the openings 40. However, these legends are usually applied to the binders by local dealers and the apparatus for this purpose is, of course, particularly adapted for printing upon the leather covered back members of conventional binders. To further enhance the appearance of our binder, and to more closely simulate the conventional leather covered binder, and to also avoid the necessity of dealers acquiring special apparatus for applying the legends to metal surfaces, or embossing apparatus, we prefer to include a legend strip 45 preferably of fibrous material, such as leather, which strip is inserted between the outer member 10 and the intermediate member 41, and which strip may be provided with raised surfaces 46 arranged in register with the openings 40 of the outer trough-shaped member 10, the strip being pressed against the latter and held in place by the intermediate member 41. This arrangement adds to the appearance of the binder and closely simulates the paneled effect of the conventional binder now in use. Due to the fact that the strip 45, or the raised surfaces 46 thereof, are formed of leather, the printing apparatus now used by jobbers, dealers and customers, may be used to apply the legends to the binders as they go into use.

The outer member 10 and the metallic cover shells may be provided with a colored crackled finish which very closely simulates the appearance of grained leather, whereby the entire binder matches conventional binders now in use in general appearance.

The binder is particularly economical to manufacture in that all of the metallic parts are conveniently formed or drawn upon a press, and the binder is particularly durable and rugged and is not of greater weight than binders of conventional structure. These features are of particular importance in view of the fact that record books are continually consulted over a long period of years by search clerks and the like, and accordingly receive a great deal of usage and rough handling.

It will also be observed that the binder is quickly and conveniently disassembled by simply removing the two pintle rods 20. This permits the local dealer to reassemble the binder with any particular leaf impaling mechanism desired by a customer. Also, this permits removal of the legend strip 45 for convenient printing.

It will be apparent that many of the functional features of our binder may be retained if the outer back member 10 is formed solid or without openings, and the legends, which are illustrated in Figure 1 as being applied to the legend strip 46, may be placed or embossed directly on the outer back member 10.

What we claim is:

1. A loose-leaf binder construction comprising an outer trough-shaped back member formed of sheet metal and having an opening therein and being provided with hinge eyes arranged in spaced relation along each side thereof, a flat back member formed with hinge eyes on opposite edges, front and back covers, each being provided with hinge eyes along one edge thereof, the hinge eyes of said covers and back members being arranged in alinement, a pintle rod extending through said hinge eyes and being operable to detachably secure said back members and covers together, an inner back member arranged intermediate said outer member and said flat member and forming a closure for the opening in said outer member, said flat member being cooperable with said intermediate member to retain the same from movement relative to said outer member.

2. A loose-leaf binder construction comprising an outer trough-shaped back member formed of sheet metal and having an opening therein and being provided with hinge eyes arranged in spaced relation along each side thereof, a flat back member formed with hinge eyes on opposite edges, front and back covers, each being provided with hinge eyes along one edge thereof, the

hinge eyes of said covers and back members being arranged in alinement, a pintle rod extending through said hinge eyes and being operable to detachably secure said back members and covers together, an inner back member arranged intermediate said outer member and said flat member, a strip of fibrous material interposed between said outer member and said intermediate member, said flat member being cooperable with said intermediate member to retain the same from movement relative to said outer member.

3. A loose-leaf binder construction comprising a trough-shaped back member formed of sheet metal and being provided with integral hinge eyes arranged in spaced relation along each edge thereof, a plurality of metal straps extending transversely across the open side of said trough-shaped member and being provided with integral hinge eyes arranged in alinement with the hinge eyes of said trough-shaped member, front and back covers, each of said covers having hinge eyes along one edge thereof and arranged in alinement with the hinge eyes of the back members, a pintle rod extending through said hinge eyes and being operable to detachably secure said back members and covers together, a flat back member secured to said straps and being formed with spaced apart hinge eyes along each edge thereof and arranged in spaced relation to the hinge eyes of said other back members, a housing pivotally connected to the hinge eyes of said flat back member, and leaf impaling posts carried by said housings.

4. A loose-leaf binder construction comprising an outer trough-shaped back member complemental in length to the length of the binder and being formed with a plurality of openings therein and having hinge eyes arranged in spaced relation along each side thereof, an inner back member formed with hinge eyes on opposite edges, front and back covers, each being provided with hinge eyes along one edge thereof and the hinge eyes of said covers and back members being arranged in alinement and being detachably secured together by a pintle rod extending through said hinge eyes, a legend strip arranged in the outer back member and an intermediate member arranged between the outer and inner back members, said intermediate member being provided with projections interlocking with said inner back member to prevent endwise displacement of said intermediate member and said intermediate member being operable to hold said legend strip in engagement with the inner surface of said outer back member.

5. A loose-leaf binder construction comprising an outer trough-shaped, metallic, back member formed with a plurality of openings and with integral hinge eyes along each edge thereof, an inner back member formed with hinge eyes along opposite edges thereof, front and back covers, each provided with hinge eyes, the hinge eyes of said covers and inner and outer back members being arranged in alinement and being secured together by pintle rods, a legend strip arranged within the outer back member, an intermediate trough-shaped member arranged between said legend strip and said inner back member and being operable to hold said legend strip against the inner surface of said outer back member, said intermediate member being provided along each edge with means cooperable with said inner back member to prevent endwise displacement of said intermediate member.

6. A loose-leaf binder construction comprising a trough-shaped back member formed of sheet metal and being provided with integral hinge eyes arranged in spaced relation along each edge thereof, a plurality of metal straps extending transversely across the open side of said trough-shaped member and being provided with integral hinge eyes arranged in alinement with the hinge eyes of said trough-shaped member, front and back covers, each of said covers having hinge eyes along one edge thereof and arranged in alinement with the hinge eyes of the back members, a pintle rod extending through said hinge eyes and being operable to detachably secure said back members and covers together, a flat back member secured to said straps, a leaf impaling post housing secured along each edge of said flat back member and leaf impaling posts carried by said housings.

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