May 16, 1933. W. R. BUXTON 1,909,807

LOOSE LEAF BINDER

Filed April 9, 1930

Fig. 1.

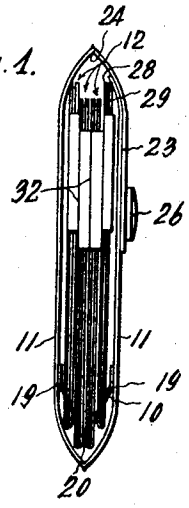


Fig. 2.

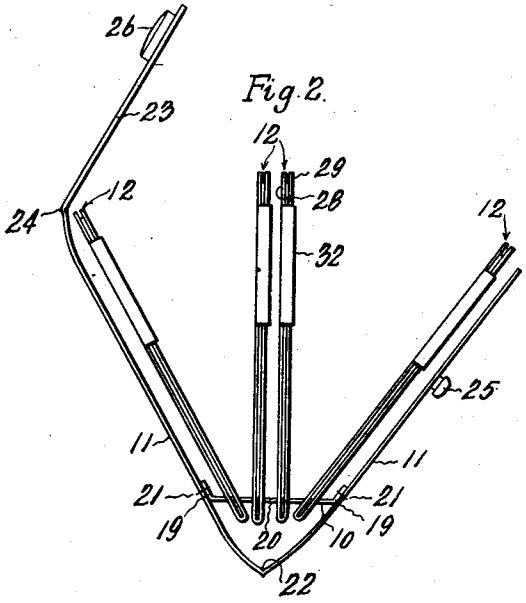


Fig. 4.

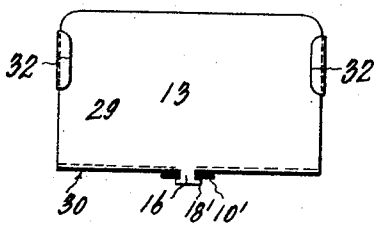


Fig. 3.

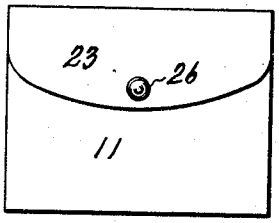


Fig. 5

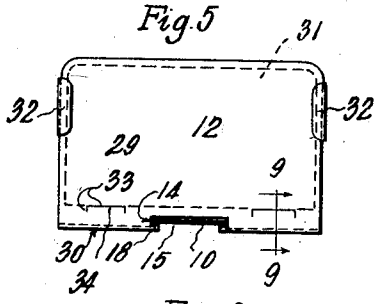


Fig. 7.

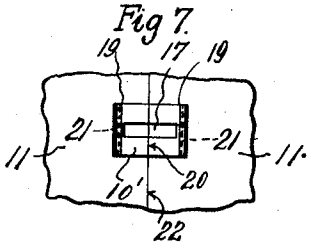


Fig. 6.

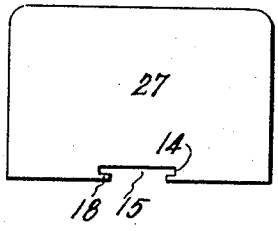
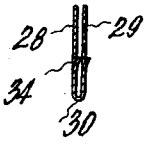


Fig. 8.



Fig. 9.



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UNITED STATES PATENT OFFICE

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LOOSE LEAF BINDER

Application filed April 9, 1930. Serial No. 442,933.

This invention relates to improvements in loose leaf binders.

The invention, while capable of other uses, is particularly suited for use in connection with small books, as for example, note books, card cases and the like, such as are adapted to be carried in the pocket. It can likewise be employed to advantage in connection with pocket books designed for carrying membership cards, passes, and the like. A pocket book, for any of these purposes, should be flexible and as thin and compact as possible.

The ordinary loose leaf binder is a relatively heavy, bulky, metal affair and therefore is not particularly adapted for the present purposes. A book, using the ordinary loose leaf binder, is substantially as thick at the hinged edge, when empty, as when filled with leaves.

The present invention makes use of a foldable binder member, preferably constructed of flexible material, such as leather or the like for example, combined with book covers in such a way as to avoid bulkiness at the hinged end of the book. The book is expansible or contractible to meet individual needs. It will accommodate a single leaf, a few leaves, or a considerable number of leaves, as desired. Characteristics of the binder are that its thickness is substantially in direct proportion to the number of leaves bound and that the thickness at the bound edge is substantially no greater than at any other point, irrespective of the number of leaves. As a result, the loose leaf pocket book will be very thin if only a few leaves are carried and, as it is loaded up with leaves, its thickness will increase in proportion to the load and for any given load the thickness of the book will be approximately uniform throughout. At least, there will be no bunching at the hinged edge of the book and no extra thickness there.

The invention also has for an object to provide, in combination with the covers and binder, a plurality of leaves mounted thereon for the convenient detachment of any one independently of the others.

The invention also has for an object to provide, as a new article of manufacture, a leaf for the above purpose, characterized by the provision of means thereon enabling it to be attached to or detached from the binder without disconnection of the binder from its covers.

These and other objects will more particularly appear as the detailed description proceeds and will be pointed out in the appended claims.

The invention will be disclosed with reference to the accompanying drawing, in which:—

Figs. 1 and 2 are end elevational views of a loose leaf book, embodying the binding means of my invention, showing the book in closed and open positions respectively;

Fig. 3 is a small scale front elevational view of the book, when closed;

Figs. 4 and 5 are elevational views of envelopes or folders constructed to be detachably mounted on the binder as leaves of the book shown in Fig. 1;

Fig. 6 is a view of a card for the same purpose;

Fig. 7 is a fragmentary sectional plan view illustrative of the construction of the binder for use with leaves having the attaching means shown in Fig. 4;

Fig. 8 is a fragmentary top plan view of the envelopes shown in Figs. 4 and 5; and

Fig. 9 is a fragmentary cross sectional view taken on the line 9—9 of Fig. 5.

Referring to the drawing; the binder consists of a member 10, connected with book covers 11 and serving to retain the leaves of the book. Each leaf, such as 12 or 13, is so constructed as to be conveniently attached to or detached from the binder independently of all the other leaves and without necessitating disconection of the binder from either cover 11. With the leaves, thus constructed, the binder may, if desired, be permanently fixed, as shown, to the covers although the binder may, insofar as features of invention pertaining to the leaf construction are concerned, be otherwise connected to or engaged with the covers.

The leaves may be constructed for quick

attachment to, or detachment from the binder in various ways and, as an illustrative example, one construction that I have found suitable is shown in Fig. 5. The leaf 12 is formed with one or more T-slots, each having an opening 14, near the hinged edge of the leaf, suitably shaped to receive the binder 10 and a passage 15 extending from said edge to and communicating with said opening,—this passage being of less width than the opening 14 or binder 10. As an alternative, the leaf may have one or more T-shaped parts 16 projecting from its hinged edge, as shown in Fig. 4, and the binder 10′ may have a longitudinal slot 17 therein (see also Fig. 7) in which the parts 16 may be engaged. In each case, it will be noted, the binder is slidably engaged in a pair of opposed grooves. In either case, if the binder 10 or 10′ is flexible,—as for example if it is a strap of leather or the like,—it can readily be bent laterally to disengage it from the T-slot or the T, as the case may be. In many cases, the leaves will be so-called window envelopes or folders, such as are shown in Figs. 4 and 5. These are usually made of celluloid or like material having a considerable degree of flexibility. In consequence, the ears 18 or 18′ can be flexed, if desired, to disengage the leaves from the binder. When the leaves are flexible enough for the stated purpose the binder 10 or 10′ need not necessarily be made flexible.

The binder may be considered broadly as a jointed member having hinge lines 19, one near each end and closely adjacent the point of attachment to a cover 11, and a central hinge line 20. As said before, it need not necessarily be otherwise flexible, although as a practical matter, I prefer to make the binder of leather or the like. In the form shown, the binder and the covers are both made of such material and the binder is attached to the covers by lines of stitching 21.

The covers 11 are hingedly connected at 22 and, if of leather or the like, the hinge connection may consist simply of a score or crease. Where it is necessary or desirable to hold the covers together, I provide a flap 23, hingedly connected to one cover 11, as by a score line 24. This flap 23 folds over upon the other cover 11 and may be secured thereto by engaging the snap fastener elements 25 and 26, attached one to the last named cover and one to said flap.

The leaves of the book may be anything desired. They may, for example, be sheets of paper or cardboard, as shown at 27 in Fig. 6, or they may be folders or envelopes, such as shown at 12 and 13 in Figs. 4 and 5. The size, material and construction of the leaves will vary according to the purpose for which the book is to be used. It might, for example, be made large enough to serve as a brief case with folders or envelopes connected thereto and still serving as the leaves of a book. Or, the book may be of pocket size and used as a notebook. I have chosen to illustrate the invention as adapted to a pocket-size book for carrying pass cards, membership cards and the like but it will be obvious that many other uses may be made of the invention as will readily occur to those skilled in the art.

When the book is used for carrying pass cards, the leaves are envelopes or folders, such as 12 or 13. These are usually formed from strips of flexible transparent material, such as celluloid, doubled over as indicated, to form front and back walls 28 and 29, respectively, hinged at 30. The cards 31, usually two arranged back to back as shown in Fig. 8, are placed between these walls. Ears 32, formed on one wall as 28, serve to hold the other wall, as 29, against movement on its hinge line 30, but admit of convenient disengagement of the wall 29 from the ears so that the walls may be relatively moved on said hinge line to separate them, when required.

In the case of the member 12, it is desirable to provide on one of its walls some sort of stop to prevent the cards 31 from dropping so low as to block off slot 14. One way of making these stops is to run a knife through both walls 28 and 29 to form the slits 33, indicated in Fig. 5 and to then offset the part 34 (within the slits) inwardly so that it lies between the walls 28 and 29 as shown in Fig. 9.

The invention thus provides a construction of binder and leaves which enables any one leaf to be attached to or detached from the binder independently of all other leaves. It is unnecessary, as a prerequisite to attachment or detachment of the leaves, to disturb the connection of the binder to either cover. Consequently, the binder, if desired, may be permanently fixed to the covers, although that is not necessarily essential so far as this feature of the invention is concerned.

The invention also provides, as a feature which may desirably be used in conjunction with the above feature, a simple, inexpensive yet eminently satisfactory binder, for purposes stated herein. Such feature includes a binder, permanently attached at its ends to the covers and interconnecting the same, and the binder is either in itself flexible or in the form of a jointed member hinged along the lines indicated. An important advantage is that the binder does not add materially to the thickness of the book at the hinged end and therefore the book can be exceedingly thin when only a few leaves are carried. Also bunching and cramping of the leaves at the hinged end of the book is avoided. The leaves naturally

assume the stepped or offset relation shown in Fig. 1, when the covers are closed, and none can become pinched between the covers at the hinged end thereof. Another advantage is that when the covers are opened, the binder stretches out taut and lifts the leaves so that their upper edges project above the upper edges of the covers, whereby the leaves can readily be seen. The leaves then readily fan out, as indicated in Fig. 2, and can be spread apart for the purposes of convenient inspection, or for the attachment or removal of leaves.

The invention has been disclosed herein, in an embodiment at present preferred, for illustrative purposes, but the scope of the inveniton is defined by the appended claims rather than by the foregoing description.

What I claim is:

1. A loose leaf book, comprising, a pair of covers hingedly connected the one directly to the other and when closed forming a substantially V-shaped part at their hinge line, a flexible binder member fixed at its ends one to each said cover and extending across between the inner surfaces of the covers and having a well defined hinge line intermediate its ends and overlying the hinge line of the covers, and a plurality of leaves threaded on said binder member and retained thereby against lateral displacement relatively thereto.

2. A loose leaf book, comprising, a pair of hingedly connected covers, a flexible binder member hingedly connected to the inner face of each cover and extending across between the covers, said binder member having a hinge line intermediate its ends, and a plurality of leaves mounted on said member each having a pair of opposed grooves slidable receiving said binder member, said binder member being sufficiently pliable to enable it to be flexed laterally and disengaged from said opposed grooves.

3. A loose leaf book, comprising, a pair of hingedly connected covers, a flexible binder member having a longitudinal slot therein, said member attached at its ends one to each cover on the inner face thereof and interconnecting the same at a point intermediate the hinged and free edges therof, and a plurality of leaves mounted on said member each having a T-shaped element for engagement with said slot in said binder member, said binder member being sufficiently flexible to enable it to be flexed laterally and disengaged from said T-shaped element.

4. A loose leaf book, comprising, a pair of covers hingedly connected the one directly to the other and when closed forming a substantially V-shaped part at their hinge line, a flexible binder member fixed at its ends one to each said cover and extending across between the inner surfaces of the covers and having a well defined hinge line intermediate its ends and overlying the hinge line of the covers, and a plurality of leaves each independently and detachably connected to the binder member to slide longitudinally thereon and each retained by said member against lateral displacement.

In testimony whereof I have affixed my signature.

WARNER R. BUXTON.