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3,435,828

ARTICLE AND METHOD FOR RETAINING LOOSE LEAVES IN BOUND VOLUMES

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Sheet 1 of 2

FIG. 1

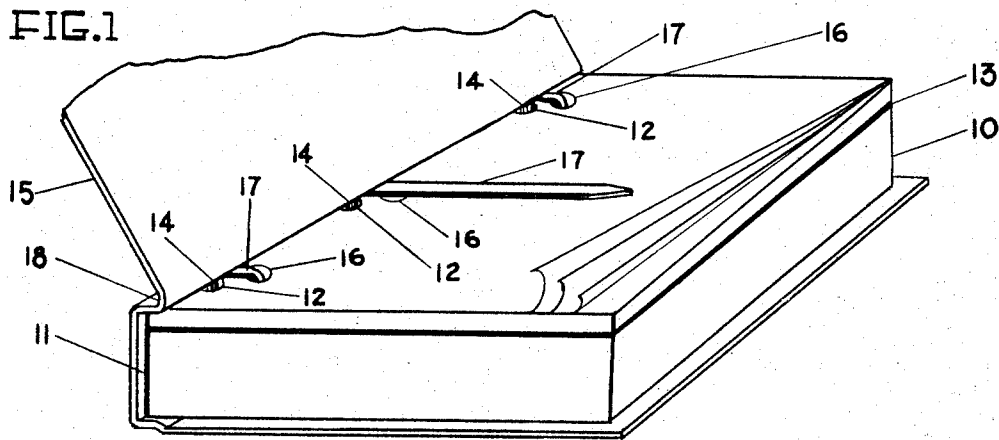


FIG. 3

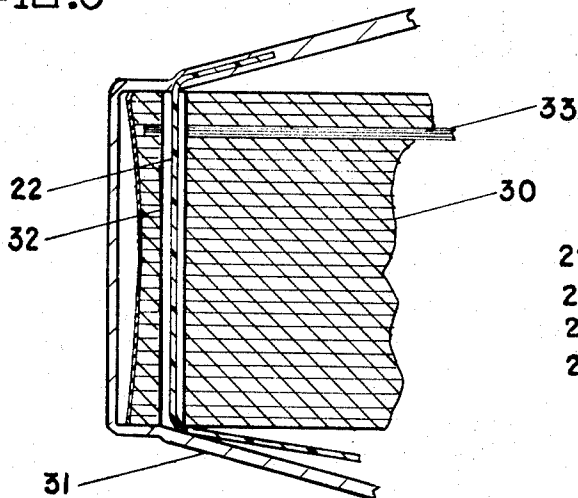
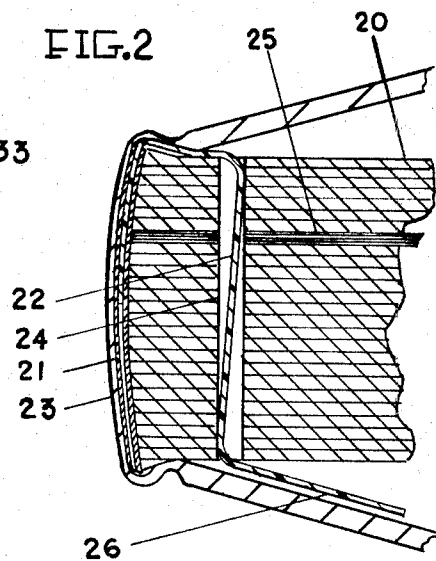


FIG. 2



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FIG. 4

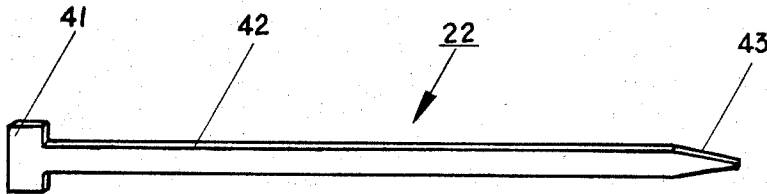


FIG. 5

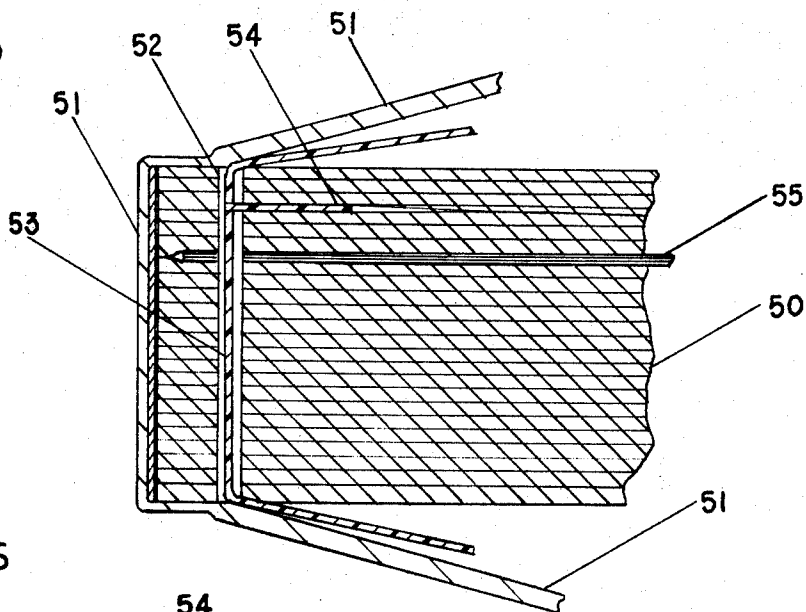


FIG. 6

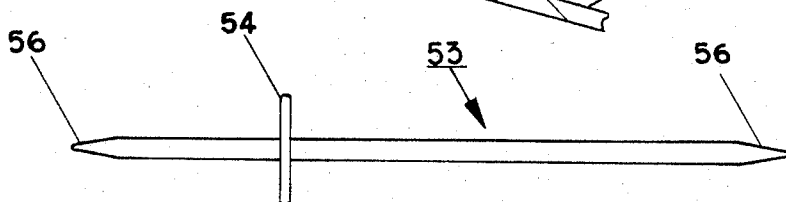
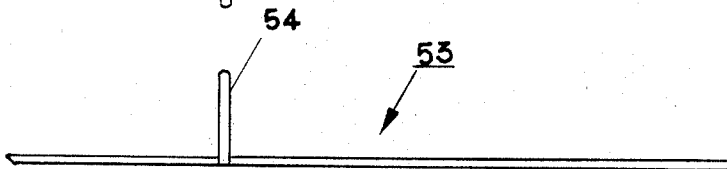


FIG. 7



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ARTICLE AND METHOD FOR RETAINING LOOSE LEAVES IN BOUND VOLUMES

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2 Claims

ABSTRACT OF THE DISCLOSURE

Described are means and methods for removeably securing loose leaves among bound leaves of a permanently bound book. Pliable lacing members, one end of which may be attached to the book but having at least one free end, are passed through holes in the bound and loose leaves to secure the loose leaves at the desired positions among the bound leaves. Also disclosed are methods of incorporating such lacing members within a bound book and lacing members which are not permanently affixed to the book.

This invention relates to books and book binding. More particularly it relates to permanently bound books with means for inserting or incorporating loose leaves as inserts between permanently bound leaves and to methods of securing loose inserts in permanently bound volumes such as books, catalogs and the like.

In the art of bookbinding, many varied means of securing a plurality of leaves or sheets in a bound or semi-bound volume have been used, each with some degree of success in accomplishing specific desired purposes. The common permanently bound book takes many forms, all having one common feature; a plurality of leaves permanently arranged with one edge thereof secured to a spine or binder. In addition to such obvious qualities as durability, compactness, and simplicity of indexing, cross-referencing, etc., they are susceptible to inexpensive manufacturing processes.

However, permanently bound books suffer one great disadvantage. Pages cannot be rearranged, replaced, removed, or added. When extensive rearranging or replacing of pages is contemplated, loose leaf binders are generally used.

In contrast with permanently bound books, loose-leaf binders are usually bulky, difficult to use, and leaves are easily torn therefrom and lost. Loose-leaf binders, however, have one advantage. Leaves can be removed, added, replaced or rearranged without destroying the entire volume. Furthermore, since each leaf is bound only by a plurality of binding rings, very rugged paper must be used to prevent leaves from being torn out of the binder. Of necessity, a loose-leaf book of several hundred pages of rugged, heavy paper is large, cumbersome, and may be too heavy for convenient use. Furthermore, the cost of paper and printing is directly related to the quality and thickness of paper used. Consequently, large loose-leaf catalogs are much more expensive than permanently bound volumes containing the same number of leaves.

Permanently bound volumes, while being much less expensive, more rugged, convenient, and compact, generally can not be used for supply catalogs and the like since new leaves can not be added as new products are added to the supplier's product line.

It is therefore an object of this invention to combine the convenience of loose-leaf binding with the low cost, ruggedness, and compactness of a permanently bound volume. A further object is to provide means for inserting and maintaining loose-leaf supplements in a permanently bound book and means for substituting new leaves for old

leaves in a permanently bound catalog or similar article. A further object is to provide a method of retaining additional or replacement pages among the permanently bound pages of a book.

In accordance with the invention, pliable lacing members passing through holes in the leaves of a permanently bound book or volume are used to retain loose leaves among the permanently bound leaves. The lacing members may be removed to accommodate removal or rearrangement of the loose leaves or the insertion of additional loose leaves as desired.

A particular feature of the invention is the unique combination of loose-leaf fastening means and a permanently bound book, thus providing means for retaining supplemental loose leaves among the permanently bound leaves. These and other objects, features and advantages will become more readily understood when taken in conjunction with the attached claims and drawings in which:

FIGURE 1 is a perspective view of a permanently bound volume containing the lacing members of the invention;

FIGURE 2 is a sectional view of an edition bound volume embodying the lacing member of the invention;

FIGURE 3 is a sectional view of a book incorporating the lacing member of the invention in an alternative arrangement;

FIGURE 4 is a perspective view of the lacing member shown in FIGURES 2 and 3;

FIGURE 5 is a sectional view of a permanently bound volume incorporating another embodiment of the invention, and

FIGURE 6 and FIGURE 7 are plan and side views, respectively, of the lacing member shown in FIGURE 5.

Referring now to FIGURE 1, there is shown a permanently bound book comprising a plurality of leaves 10 and a hardback cover 15. The leaves 10 are joined along one edge thereof by an adhesive and reinforced by a binding tape 11 which may be glued or otherwise attached to the edge of each of leaves 10. Passing transversely through the volume of leaves are holes 12. The holes 12 are spaced near the bound edge and cords 14 passing therethrough secure the bound leaves 10 to the hardback cover 15.

The binding of leaves 10 to hardback cover 15 using cords 14 with both ends thereof permanently affixed to the book as described above is known in the art as a conventional method for binding large volumes of pages and forms no part of this invention.

In accordance with the invention a plurality of loose-leaf binding or lacing members 17 is provided each having at least one free end. In the embodiment shown in FIGURE 1, one end is permanently secured to the hardback cover 15 near the flexing region 18. Each lacing member 17 is attached in registry with a hole 16 passing through the stack of leaves 10. Holes 16 are parallel to holes 14 and pass through the entire stack of leaves 10.

To add a supplemental leaf or sheet 13 to the book of FIGURE 1, lacing members 17 are withdrawn from holes 16. The supplemental leaf 13 having holes along one side thereof corresponding to holes 16 in the book, is inserted between the bound pages at the desired position within the book. Each lacing member 17 is then inserted in the appropriate hole 16. The supplemental leaf is thus held between the bound pages by the lacing members 17.

An arrangement for including the lacing member of this invention within an edition bound book is depicted in FIGURE 2. A plurality 20 of leaves is permanently bound at one edge thereof. In binding the plurality 20 of leaves an adhesive is first applied to one edge thereof. A gauze or other suitable material 21 is applied to the glue to form a spine. A plurality of lacing members 22 is then

secured to the spine. The lacing members extend around the edges of the bound leaves along the inner surface of the cover. A hardback edition cover 23 is then secured to the bound leaves by conventional means. A plurality of holes 24 is provided in the leaves near the spine.

To add supplemental leaves to the book of FIGURE 2, the supplemental leaves 25 are inserted at the appropriate places and the free end 26 of each lacing member passed through the entire stack of leaves as described with reference to FIGURE 1. The lacing members may conveniently pass through the entire thickness of the bound leaves and the free end 26 folded parallel to the opposite cover. The free end 26 of each lacing member is thus hidden between the cover and the page adjacent thereto.

It should be noted that only one end of the lacing member 22 is attached to the book. The free end 26 need not be clamped or otherwise secured. The supplemental leaf 25 is held in place by the lacing members 22 passing perpendicularly through holes therein. The supplemental leaf is thus securely bound by the lacing members. Furthermore, the loose leaf 25 is more secure than leaves in a loose leaf binder since the permanently bound pages adjacent the loose leaf grip the entire edge of the loose leaf to further bind it in place.

It should also be noted that the lacing member 22 need not pass through the entire volume. If desired, the lacing member may be folded to extend parallel to and between the bound pages after passing through only a portion of the entire volume. Furthermore, it will be apparent that the lacing members need not be anchored at the cover, but may, for example, be bound at the spine between the pages and extend therefrom through holes in the leaves and emerge at the cover.

Another embodiment of the invention is illustrated in FIGURE 3. The leaves 30 illustrated in FIGURE 3 are bound along one edge thereof with a cover 31 affixed permanently thereto. This type of binding is known in the art as an adhesive binding or perfect binding. In accordance with the invention a lacing member 22 is provided having one end thereof secured to the cover 31 near the spine. Holes 32 are provided near the spine and pass transversely through the bound leaves. Additional pages 33 may be secured between the bound leaves 30 by inserting loose leaves having holes in registry with holes 32 and inserting the lacing strap 22 as described above. The free end of the lacing member 22 may conveniently be bent parallel to the opposite cover 31 and contained between the cover and the adjacent page.

It will be readily apparent that bound books incorporating the lacing means described above have all the advantages of permanently bound books and also can accommodate additional leaves inserted as desired, thus also including the advantages of a loose-leaf binder.

The preferred configuration of the lacing member is depicted in FIGURE 4. The lacing member generally indicated at 22 is a T-shaped member having an elongated shank 42 with a slightly sharpened or tapered point 43. The opposite end 41 is broadened to provide a secure anchor when embedded in the spine or cover of a bound book as described in FIGURES 2 and 3. The dimensions of member 22 may be, for example, $\frac{3}{16}$ inch wide at the shank, $\frac{1}{4}$ inch wide at the anchor, about 40 mils thick, and 5 to 7 inches in length, depending on the size of book in which it is used. These dimensions, however, are merely exemplary. The dimensions and configurations may be varied as desired without departing from the teachings of this invention.

The lacing member 22 may be constructed of any suitable pliable or flexible material. For example, natural or synthetic fibers, plastics, nylon, and thin metals may be used. The lacing member need only be pliable and possess sufficient tensile strength to retain the inserts. For economy and ease of manufacture, a nylon strap of the dimensions above has been found preferable. However, other con-

figurations, dimensions, and compositions may be dictated by the specific use intended.

In the embodiments shown and described with reference to FIGURES 1-3, incorporation of the lacing member within the book during manufacture is contemplated. However, the invention is not limited to a lacing member having one end permanently affixed to the book. For example, a strap or cord having an enlarged anchor or head similar to that shown in FIGURE 4 may be used. The head of such strap or cord need not be affixed to the book, but may rest on the periphery of the hole in the first page between the bound leaves and the cover. This embodiment may be likened to a flexible nail which may be withdrawn at will to accommodate rearrangement or insertion of free leaves.

An alternate embodiment of the invention is shown in FIGURES 5-7. FIGURE 5 depicts a volume 50 of leaves bound along one edge thereof by a cover 51 to form an adhesive bound, or perfect bound, book. A series of holes 52 near the bound edge pass transversely through the bound leaves. A double-ended lacing strap 53 having a fillet or tab 54 of exaggerated dimensions about its midsection is positioned within each hole. When the double-ended strap is inserted the fillet 54 prevents the lacing strap from being drawn through the holes.

The lacing strap 53 preferably extends through the entire thickness of the bound volume and each end is bent to extend parallel to the covers. It will be noted that both ends of lacing member 53 are free to be withdrawn as desired to allow insertion of additional leaves 55 as desired. However, the tab 54 prevents the entire lacing member from being accidentally withdrawn.

The preferred configuration of the double-ended lacing member is generally indicated at 53 in FIGURES 6 and 7. The lacing member is preferably in the shape of a strap formed of nylon approximately 40 mils thick. Both ends are tapered to facilitate insertion of the straps into the holes. The fillet or tab is positioned along the midsection of the strap, preferably near one end, and is wider than the strap. The fillet may extend outwardly in all directions from the strap or may extend only in one direction. The double-ended strap may be warped to desired shapes to provide a lacing member which is easily inserted.

It will be apparent that the double-ended strap may be formed of any suitable flexible material such as those mentioned above. Furthermore, the double-ended lacing member need not be flat but may be in the form of a cord having circular or elliptical cross section, or any other desired form.

The embodiment shown in FIGURES 5-7 possesses all the advantages described with reference to FIGURES 1-4. Furthermore, it will be readily apparent that permanently bound book already bound can be modified to accommodate the double-ended strap and thus take advantage of the invention. One need merely form a plurality of holes passing transversely through the leaves of the book near the spine and insert the double-ended lacing members. Additional leaves may then be added by withdrawing the appropriate free end of the strap, placing the additional leaves in the desired positions with holes in registry with the holes in the bound leaves, and replacing the straps.

It will be understood that a plurality of supplemental leaves, or even small pamphlets, may be inserted in a bound volume in the manner described herein with reference to single sheets or leaves. It will be further understood that permanently bound leaves may conveniently be perforated between the bound edge and the lacing holes permitting one to remove leaves as desired and substitute new leaves therefor in accordance with the invention. Thus leaves may be removed, replaced, or rearranged within a permanently bound book.

Although the invention has been described with particular reference to lacing members in the form of substantially flat straps, it is to be understood that other geo-

metrical configurations may likewise be used without departing from the scope of the invention. Likewise, many materials possessing semi-rigid or pliable characteristics may be used. Furthermore, the lacing members described may be used in connection with other types of bound books than those shown and described.

It is to be understood that although the invention has been described with reference to specific embodiments thereof, the form of the invention shown and described is to be taken as the preferred embodiment of same, and that various changes may be resorted to without departing from the spirit and scope of the invention as defined by the appended claims.

What is claimed is:

1. A bookbinding arrangement for a book of permanently bound leaves, the pages of which contain information which is supplemented by related information contained on loose leaf pages inserted between the permanently bound leaves, said arrangement comprising:

- a plurality of said bound leaves integrally and permanently joined together at the entire length of respective one edges of said bound leaves,
- a plurality of holes near said respective one edges passing completely through said bound leaves,
- a hard back cover having front and back flaps adapted for flexing open and closed about said permanently bound leaves,
- a plurality of loose leaves containing said related information inserted between adjacent bound leaves and having respective holes in registry with said plurality of holes passing through said bound leaves, and
- a plurality of semi-rigid lacing members, each lacing member having only one free end, the said free ends passing respectively through the plurality of holes in said bound leaves and said loose leaves, thereby to retain said loose leaves with said bound leaves, the other ends of said lacing members secured at spaced locations from one another at the flexing region of said hard back cover near one of said flaps, the free ends of said lacing members being folded parallel to said bound leaves when the other one of said flaps is closed.

2. A bookbinding arrangement for a book of permanently bound leaves, the pages of which contain information which is supplemented by related information contained on loose leaf pages inserted between the permanently bound leaves, said arrangement comprising:

- a plurality of said bound leaves integrally and perma-

nently joined together at the entire length of respective one edges of said bound leaves,

a plurality of holes near said respective one edges passing completely through said bound leaves,

a hard back cover having front and back flaps adapted for flexing open and closed about said permanently bound leaves,

a plurality of loose leaves containing said related information inserted between adjacent bound leaves and having respective holes in registry with said plurality of holes passing through said bound leaves, and

a plurality of semi-rigid lacing members, each lacing member having two free ends, the said two free ends passing respectively through the plurality of holes in said bound leaves and said loose leaves, thereby to retain said loose leaves with said bound leaves,

each lacing member being separate from one another an including a tab disposed between the said two free ends, said tab having a dimension which prevents its insertion or removal through the holes in said bound leaves and said loose leaves,

the free ends of said lacing members being folded parallel to said bound leaves when said front and back flaps are closed.

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U.S. Cl. X.R.

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