Dec. 19, 1950 H. F. KRIEGEL 2,534,522

RECORD BINDER

Filed July 16, 1946

Fig. 1.

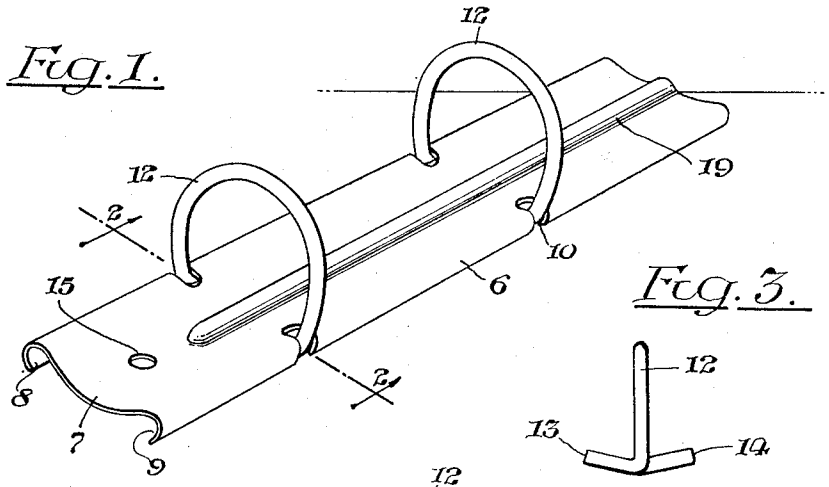


Fig. 3.

Fig. 2.

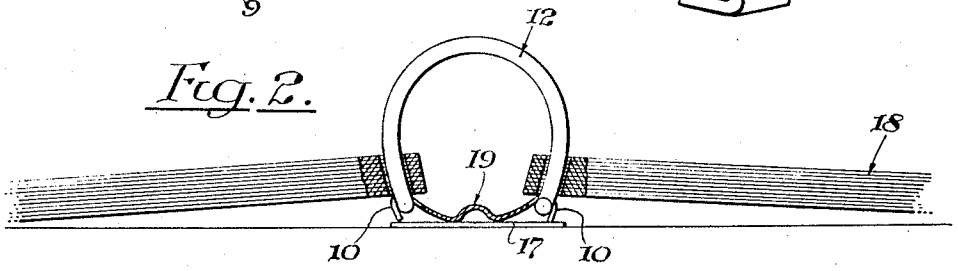
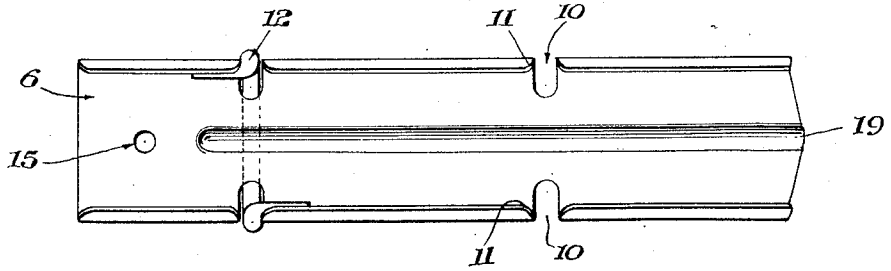


Fig. 4.



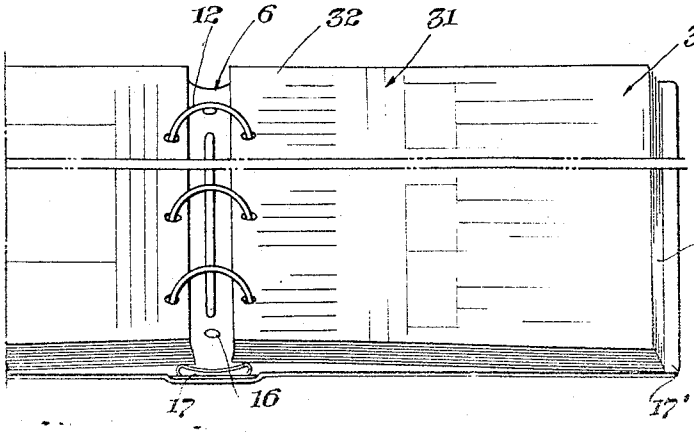


Fig. 5.

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RECORD BINDER

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1 Claim. (Cl. 281—25)

1

This invention relates to book binders of the loose-leaf type in which the pages are permanently secured in the binder. The invention is particularly useful for checkbooks or for other valuable records to render such records tamper-proof.

A loose-leaf form of binder is often preferable for checkbooks and other records as it enables the pages to lie flat when the book is open, whereas in a book bound in the conventional manner, as by stitching, etc., the pages will curve, thus making it difficult to write on such pages, particularly on the inner margin thereof. Also in the loose-leaf type binder the pages can be turned with greater facility than in a tightly bound book.

However, it has not been found feasible to use the loose-leaf type of binder known heretofore for valuable records, as it is a simple possibility for the pages to be taken out and tampered with and then replaced.

In the binder according to the present invention, the above-mentioned disadvantages are avoided by providing a construction in which the pages cannot be removed and/or replaced without causing injury either to the binding device or to the pages and to the cover, such injury being readily discernible. The holes in the pages have solid margins around the same; therefore if a page is removed it must be torn out of the rings and cannot be replaced. The pages of the book can be numbered or otherwise identified, thus making it easy to detect any page that has been removed.

It is therefore an object of my invention to provide an economical loose-leaf type of binder in which the pages are permanently secured.

A further object is to provide a binder in which the pages will turn easily and lie flat.

A still further object is to provide a binder of the ring type which can be assembled by unskilled labor without special or expensive equipment, and in which the pages once removed cannot be replaced without removing the entire ring unit from the book; and to provide a binder in which such tampering could not be done without causing conspicuous injury to the binder.

The invention will be more clearly understood from the following drawings, in which:

Fig. 1 is a perspective plan view showing a portion of the latch plate assembly with two of the rings attached thereto;

Fig. 2 shows a section along line 2—2 of Fig. 1 but with the loose leaves in position for use;

Fig. 3 shows one of the rings before assembly with, or attachment to, the latch plate;

2

Fig. 4 is a partial bottom view of the latch plate showing one ring in position; and

Fig. 5 shows a complete loose-leaf binder comprising the latch plate and ring assembly shown respectively in Figs. 1 through 4, as well as the loose leaves in position for use as a check book, for example.

Throughout the various figures, like reference numerals refer to like parts.

The latch plate 6 preferably may consist of a metal strip having a central longitudinal trough or depression 7. The sides of the latch plate are turned inwardly forming longitudinal grooves 8 and 9. A plurality of notches 10 are provided along the sides of the latch plate 6 for receiving the binding rings 12. These rings are of generally semi-circular shape or U-shape with arms 13 and 14 projecting in opposite directions substantially parallel with the longitudinal axis of the latch plate 6, but bent back beyond a right angle as shown in Fig. 3. These arms, by virtue of their shape, are adapted to be fitted resiliently into the grooves 8 and 9, but once in position in said grooves they are held therein fixedly. Two or more holes of which one only is shown at 15 are provided near the ends of the latch plate for receiving fastening means, such as rivets 16 shown, for example, in Fig. 5 for fastening the latch plate to the backing plate 17 of the book cover 17' after the sheets 18 are inserted into the rings and the ring arms have been snapped into grooves 8 and 9.

As shown, the latch plate 6 may be provided with a central longitudinal reinforcing rib 19 which may terminate a short distance before the hole 15 and the corresponding hole (not shown) at the other end of the latch plate. The provision of this reinforcing rib allows the use of lighter metal, a saving in cost and a minimum of weight for the latch plate.

The rings 12 may be made from any profiled wire, such as for example, oval, round, square, rectangular or triangular wire, but I prefer to use round wire as being more practical and less likely to tear the pages of the book when turned. Although any suitable or commercial degree of hardness or temper may be used for the wire from which the rings are made, I may prefer a material at least partly resilient so that the arms 13, 14 may be snapped under the grooves 8, 9 by spring action. As stated, the arms 13, 14 may be bent beyond a right angle so as to be locked rigidly in place when the latch plate is secured to the backing plate of the cover. To facilitate the insertion of the ring arms into the grooves 8 and

9, preferably the open ends of the notches 10 are provided with rounded corners 11 (Fig. 4) whereby the rings are allowed to snap over these points freely. The latch plate may be made of any desired width in accordance with the size of the book for which it is desired. However, the metal strip used in making the latch plate should be wide enough to allow for the edges being turned inwardly sufficient to accommodate the legs of the rings. The latch plate is made in one piece and can be made in one automatic operation.

In using my improved loose-leaf binder, the numbered or otherwise identified sheets 18 are first fed on to the rings 12 and the rings are then snapped through the notches 10 of the latch plate 6 under the grooves 8 and 9. Finally rivets or the like are secured through the holes 15 and corresponding holes in the backing plate 17 and the cover 17' to complete the assembly. It will be appreciated that there is thus provided a loose-leaf binder which can be made simply and at low cost and in which the sheets 18 cannot be removed from the rings 12 without tearing, nor the rings 12 from the latch plate 6. Furthermore, the assembly of the book can be effected manually by unskilled labor with no need for special or expensive equipment.

Fig. 5 illustrates a specific embodiment of the invention as applied to the production of a loose-leaf binder for use as a check book. As shown, the individual leaves 18 include the check blanks 30 which are detachable, along line 31, from the stub portion 32 of the book. The latter are provided with holes having solid margins around the same. It will be seen that the pages or sheets 18 lie flat in the book over the entire surface thereof, thus facilitating writing thereupon and particularly facilitating the entry of data or

records upon the stub portion of the sheets. After the checks 30 have been detached from the stubs, the latter form a permanently bound record which cannot be removed from the binder.

While an embodiment of the invention has been shown and described in some detail in order to illustrate the application of the principles thereof, it will be understood that the invention may be otherwise embodied without departing from such principles, the scope and spirit of the invention being in conformity with the following claim.

What is claimed is:

In a ring book binder in combination, an elongated latch member formed with transverse marginal recesses and a groove along each of its longitudinal edges intersecting said recesses, a backing plate facing the underside of said latch member to overlie said grooves, said latch member and said backing plate being permanently secured to each other, a plurality of open ring members terminating in transverse leg portions pointing in opposite directions, each of said rings being fitted into a respective one of said marginal recesses and said leg portions being held in said grooves whereby said rings cannot be removed from said latch member without damage thereto.

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The following references are of record in the file of this patent:

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