

E. H. ELDER.
 LOOSE LEAF BINDER.
 APPLICATION FILED DEC. 20, 1910.

1,005,422.

Patented Oct. 10, 1911.

Fig. 1.

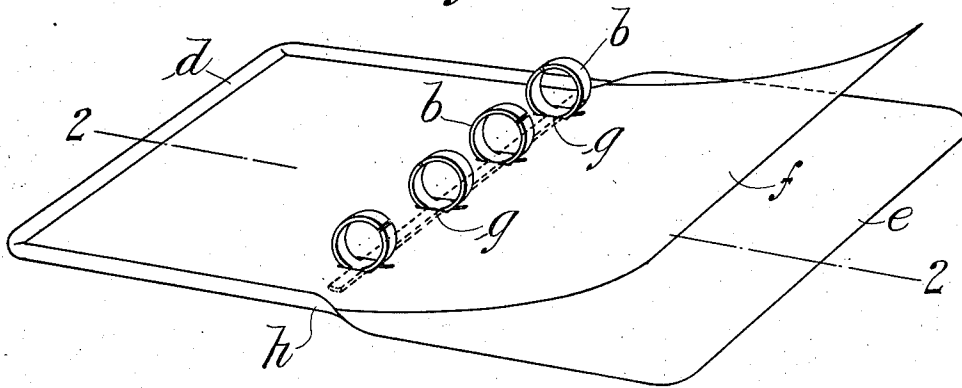


Fig. 2.

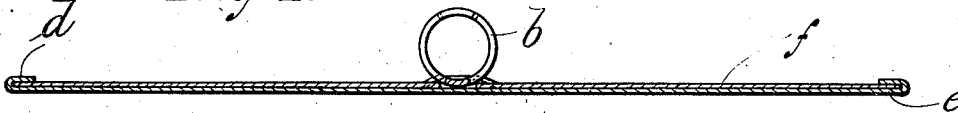


Fig. 3.

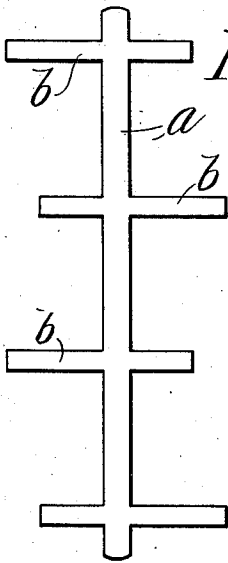


Fig. 4.

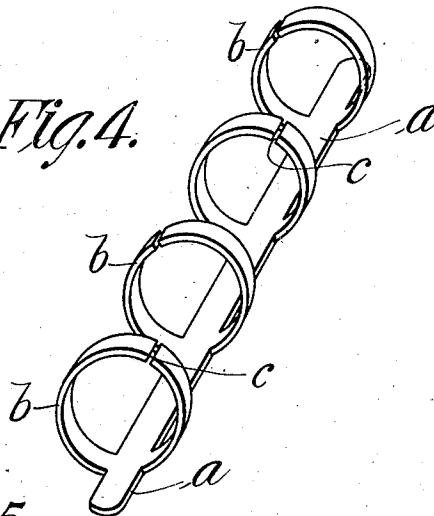
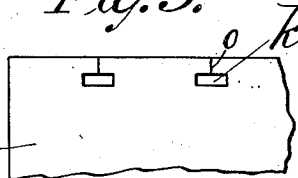


Fig. 5.



WITNESSES:

H. L. Sprague

Harry M. Bowen

INVENTOR.

Edward H. Elder

BY

Chapman & Co.
 ATTORNEY.

UNITED STATES PATENT OFFICE.

EDWARD H. ELDER, OF CHICOPEE FALLS, MASSACHUSETTS, ASSIGNOR TO THE NATIONAL BLANK BOOK COMPANY, OF HOLYOKE, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

LOOSE-LEAF BINDER.

1,005,422.

Specification of Letters Patent.

Patented Oct. 10, 1911.

Application filed December 20, 1910. Serial No. 598,396.

To all whom it may concern:

Be it known that I, EDWARD H. ELDER, a citizen of the United States of America, residing at Chicopee Falls, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Loose-Leaf Binders, of which the following is a specification.

This invention relates to loose leaf binders and particularly to the construction of a binder for small books, such as notebooks and the like, the invention being fully set forth in the following specification and clearly illustrated in the accompanying drawings, in which,—

Figure 1 is a perspective view of a book cover, open flat, showing on one side certain of the constituent members thereof in separated relation and showing the manner of applying the sheet-retaining element to said cover. Fig. 2 is a cross sectional view of the binder in its completed form, the plane of the section being about on line 2—2, Fig. 1. Fig. 3 is a plan view of the metal blank from which the sheet-retaining element of the binder is constructed. Fig. 4 is an isometric view of the sheet-retaining element as made from the blank shown in Fig. 3, this view being on a somewhat enlarged scale. Fig. 5 shows a portion of a sheet of paper having properly spaced holes punched therein to adapt the sheet to be fitted onto, and retained by, the sheet-retaining element of the binder.

As heretofore generally constructed, in books of this class, the sheet-retaining element of the binder has been made of metal and has comprised a back portion having rings or loops thereon to receive the sheets, which back portion has been secured to the inner surface of the cover by means of various fastening devices.

By means of the present invention, this sheet-retaining element of the binder, instead of being secured by some mechanical fastening device to the binder cover, is built into the cover structure in the process of manufacture of the latter, whereby a much more cheaply constructed binder may be made and one also which has a far neater appearance and which is also very much stronger and permits the folding back and forth of the cover along the hinge line without the same danger of breaking the cover

as when this element is mechanically fastened to it; or, as when the cover is creased at the hinge-line to permit the attachment of said element thereto.

Referring to the drawing, the sheet receiving element of the binder is shown, as stated, in its complete form in Fig. 4, and it consists in a strip of metal *a* having suitably spaced rings or loops *b* thereon. Preferably, this sheet-retaining element is made from the blank shown in Fig. 3 in which the same letters of reference have been applied to the back *a* and to the parts which, when bent up into circular form, constitute the ring or loops *b*. This part of the structure is made from a one-piece blank in the manner described solely as a matter of convenience and economy, as it might just as well be made of separate pieces, that is to say with a back *a* in one piece and with the loops or rings *b* soldered or otherwise rigidly attached thereto.

It will be observed that as made from the blank it would be undesirable to have the ends *c* of the rings *b* all fall in the same line longitudinally of the structure, for the reason that when a sheet of paper has been applied to the rings in the well known manner, if the open parts of the rings were all located in the same plane the sheet might become detached from the rings by being pulled through, or by slipping through the space between the ends of the rings. Therefore, when the blank shown in Fig. 3 is punched out, the parts thereof from which the rings *b* are formed, are made with alternating long and short members on the same side of the back *a* to the end that when formed into the rings *b*, as shown in Fig. 4, the meeting ends *c* of the different rings on the back will not all fall in the same plane; that is to say, these open spaces between the ends will be staggered.

In applying the sheet-retaining element to the covers *d* and *e* of a book, as shown in Fig. 1, the lining *f* of the cover is perforated, as shown at *g*, in such way that it may be passed over the rings *b* by slipping these rings through said perforation, said lining *f* and the sheet-retaining device then being properly positioned on the exterior member of the cover, as shown in Fig. 1, whereupon the borders of the lining and cover are folded one over the other after glue has been applied to the contiguous surfaces thereof,

whereby the adhesion of the lining and the outer cover portion may permanently position the sheet-receiving element in its proper place relative to the folding line *h* of the cover. Sheets of paper to be applied to the rings *b* are perforated along one edge thereof, as indicated by *k*, Fig. 5, the sheet being indicated by *m*, there being a slit *o* extending from each perforation through the border of the sheet.

In a binder made as described herein, only the metal rings *b* are visible when the book is open, and the sheet-retaining device, instead of being applied to the cover with a mechanical device of some kind and by a separate operation, is bound into the covers during the manufacture of the latter, and requires no more time than is necessary to

simply put it in position. It thus makes a very neat book in appearance and one in which the cost of manufacture is quite materially reduced.

What I claim, is:—

A leaf-retaining device, for loose leaf binders, consisting of a single blank of sheet material cut to provide a straight strip forming a back piece, and a plurality of alternately long and short arms projected from the side edges of said strip and struck up into split-ring form, with the slits or openings for the various rings arranged in staggered order.

EDWARD H. ELDER.

Witnesses:

WM. H. CHAPIN,
HARRY W. BOWEN.