E. H. ELDER.

LOOSE LEAF RETAINING BACK FOR BOOKS.

APPLICATION FILED MAR. 25, 1912.

1,068,993.

Patented July 29, 1913.

Fig. 1.

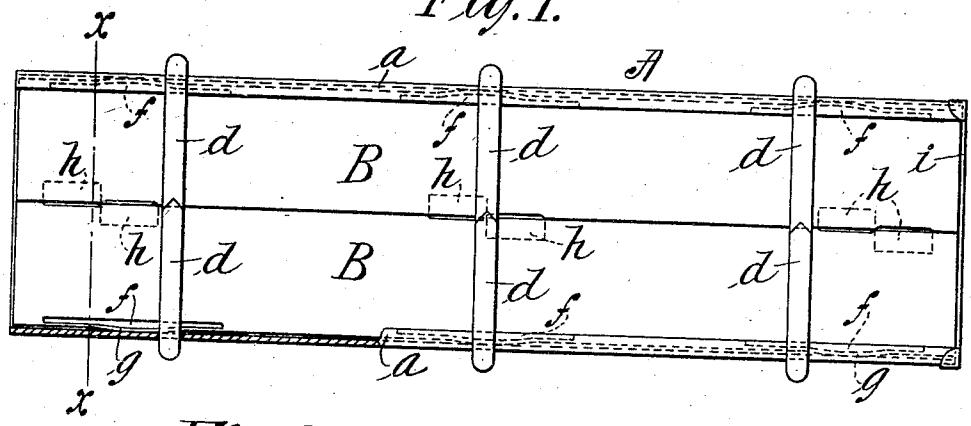


Fig. 2.

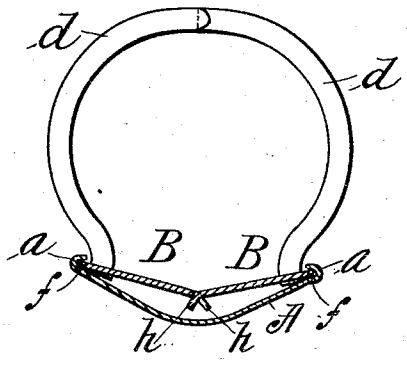


Fig. 3.

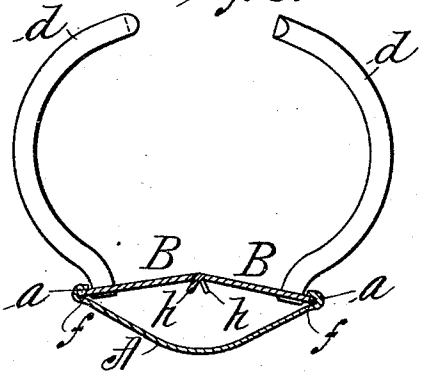
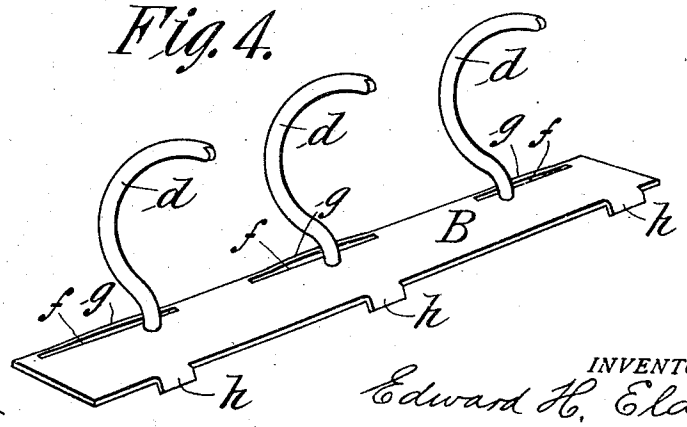


Fig. 4.



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UNITED STATES PATENT OFFICE.

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

LOOSE-LEAF-RETAINING BACK FOR BOOKS.

1,068,993. Specification of Letters Patent. Patented July 29, 1913.

Application filed March 25, 1912. Serial No. 685,931.

To all whom it may concern:

Be it known that I, EDWARD H. ELDER, a citizen of the United States of America, and resident of Chicopee, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Loose-Leaf-Retaining Backs for Books, of which the following is a full, clear, and exact description.

This invention relates to improvements in the construction of the retaining back which is bound in or forms a part of a book and with which back the leaves having perforations near their edges may be detachably connected.

In backs of the class to which this invention pertains are comprised a curved back plate, a pair of thin plate-like bars having toggle like relations engaged and tiltable relatively to the back plate, and carrying coöperative hook shaped leaf engaging prongs, and spring means for retaining the plate-like prong carrying bars in position in their backwardly or forwardly swung relations and temporarily holding the leaf engaging prongs closed together or separated from each other.

The object of the present invention is to improve, simplify, cheapen and render more durable, and less liable to derangement, leaf retaining backs for books, than have been those of the same general class hereinabove referred to. And the invention consists in the particular and specific combination of parts and the construction of certain of the parts all substantially as hereinafter described in conjunction with the accompanying drawings and set forth in the claim.

In the drawings:—Figure 1 is a plan view of the inner side of the retaining back for a book, a marginal portion of the back plate being broken away for clearer illustration. Figs. 2 and 3 are cross sectional views on line *x*—*x*, Fig. 1, showing the leaf retaining prongs in their closed and opened positions respectively. Fig. 4 is a perspective view showing one of the duplicate prong carrying plate-like bars comprised in the device.

In the drawings, A represents the concavo-convex back plate having its opposite portions return bent forming opposed inwardly opening longitudinally extending through shaped edges *a a;* and B B represent a pair of thin metal bars or plates carrying coöperative leaf retaining prongs *d d* arranged, when closed together, to form a more or less nearly circular loop as common in devices of this kind. It is to be particularly noted that the plate like bars B B have the slits *f f* along their lengths and adjacent their edges, and the metal at the outer margin of each slit is outwardly displaced and rendered slightly angular to the general length of such edge, as shown at *g* in the drawings. The said portions *g g* of the plate-like bars transversely displaced outside of the slits *f* constitute spring edges for the plates; and in assemblage of the parts the so formed edge portions of the plates are engaged against the internal walls of the opposite trough shaped portions *a* of the back plate, the plates being adapted to rock from their points of outer edge engagement and they have their inner edges in hinge-like engagement with each other, so in a sense to have the nature of toggles. The engagement of the plates at their abutted inner edges by the provision of angularly turned lips *h h* which overlap the plates, by edgewise contact one with another serves as stops for keeping the plates in their proper relations so that the hook like prongs *d d* will match with each other. When the plate-like bars B B are swung from their inner angular relations, Fig. 2, to their outer angular relations, Fig. 3, or vice versa, they, on coming to a straight line between the trough-like edges *a a* of the back, necessarily cause a crowding action transversely of themselves, necessitating the compression or contraction of their spring edges so that the "dead center" may be passed.

The entire device, as to be perceived from the drawings, essentially consists only of the metallic back A and the duplicated prong carrying plate-like bars B B unitary with or comprised in which are the spring reactive means for securing the above stated effect, although usually the back is equipped with end caps, one of which is indicated at *i* in Fig. 1.

I claim:—

In a loose-leaf retaining-back for a book, a concavo-convex back plate having its opposite portions return bent forming opposed inwardly opening trough shaped edges, a pair of metal plates, carrying coöperative

leaf retaining prongs, and slitted along their lengths adjacent their outer edges, and having the metal at the outer margins of the slits outwardly displaced to impart spring reactive capabilities to the plates, such so formed edge portions of the plates being engaged against the internal walls of opposite trough shaped portions of the back-plate, and said plates being adapted to rock from their points of outer edge engagement and having their inner edges in hinge-like engagement with each other.

Signed by me at Springfield, Mass., in presence of two subscribing witnesses.

EDWARD H. ELDER.

Witnesses:
G. R. DRISCOLL,
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."