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No. 814,492. PATENTED MAR. 6, 1906.

W. M. WHEILDON.

LOOSE LEAF BINDER.

APPLICATION FILED SEPT. 27, 1905.

Fig. 1

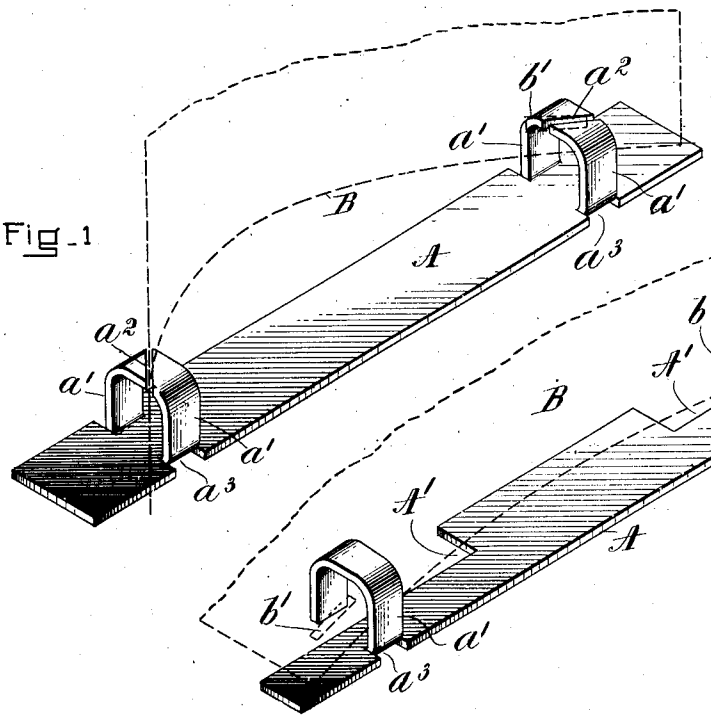


Fig. 2.

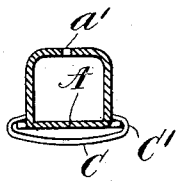


Fig. 4.

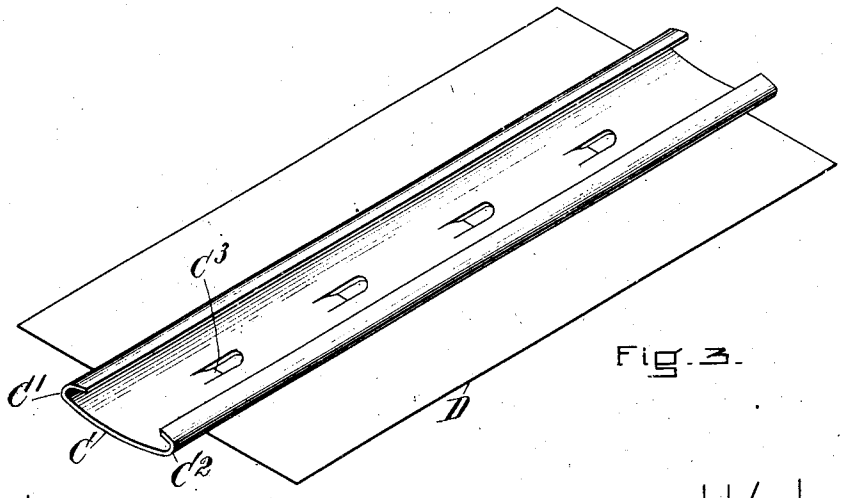


Fig. 3.

WITNESSES

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UNITED STATES PATENT OFFICE.

WILLIAM MAXWELL WHEILDON, OF BOSTON, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO DIMOCK WILBERT SUTHERLAND, OF BOSTON, MASSACHUSETTS.

LOOSE-LEAF BINDER.

No. 814,492. Specification of Letters Patent. Patented March 6, 1906.

Application filed September 27, 1905. Serial No. 280,262.

To all whom it may concern:

Be it known that I, WILLIAM MAXWELL WHEILDON, a citizen of the United States, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Loose-Leaf Binders, of which the following is a specification.

My invention relates to the construction of loose-leaf binders for loose-leaf ledgers, memorandum-books, and the like; and it consists in sundry improvements herein to be described.

In the drawings hereto annexed, Figure 1 is a perspective view of a loose-leaf binder and supporting-bar. Fig. 2 is a modification of the construction shown in Fig. 1. Fig. 3 shows in perspective a retaining-clip for the binder. Fig. 4 shows in cross-section the retaining-clip and binder assembled.

A preferred form of binder is illustrated in Fig. 1, and this consists of a flat bar A, of sheet-metal, from which are cut and bent upward the integral fingers a', which are arched over so as to nearly but not quite meet each other above the bar A. The fingers a' are in process of cutting the blank from which the binder is made cut with beveled ends, so that when these ends are approached in the act of bending up the fingers a' there remains between their opposed extremities a diagonal open slot a^2. The fingers a' are made of generous width, so that the diagonal slot a^2 shall occupy a considerable portion of the width of the top of the binder, measured transversely of the bar A. The sheets B are provided with slots b', these slots being spaced apart to correspond with the distance between the pairs of fingers a', measured lengthwise of the bar or back-plate A. In order to insert the sheet B, it is bent so as to be inserted between the fingers a' a' of both pairs until the slots b' in the paper come opposite to the fingers a', when the sheet is allowed to straighten itself, and thus to intersect the slots or spaces a^2, in which position it cannot be withdrawn from the binder unless it is torn.

Any desired number of sheets may be attached to the binder in the manner described, and any sheet, whether at the end or in the middle of a series, may be withdrawn or inserted at will.

Another form of binder is shown in Fig. 2, wherein the blank is cut to form a back-plate A, as before, but only a single finger a', where in the instance shown in Fig. 1 there was a pair. In Fig. 2 finger a' is cut of sufficient length to extend when arched up across and down, so that its free end lies, preferably, a little below the plane of the top surface of the back-plate A, which is cut away, as at A', to permit the depression of the free ends of the fingers a'. The sheet B is introduced into the binder in this case by being slipped under the free ends of the fingers a', so that the slots b' may embrace the fingers. Obviously the binder-plate made in this form will permit the insertion of loose leaves only at one side of the mass of leaves or their removal in similar manner.

In Fig. 3 I show the clip wherewith a binder-plate or back may be attached, if desired, and secured between protective covers. The clip consists of a channel of sheet metal, which may be slightly rounded at the central portion C, the sides C' C^2 being curved over to form the channel. Points C^3 may, if desired, be struck out of the central portion to facilitate attachment of the channel-plate to a cover, as D.

By reference to Fig. 4 the manner in which the binder-plates are secured to the clip is made clear. The back-plate A is cut in at the sides at a^3, so that when the fingers a' are bent upward the edge of the back-plate A extends a little beyond the outer surface of the fingers a'. Thus, as shown in Fig. 4, when the plate A, which is made of such size as to fit the clip or channel C C', is slid into said clip endwise the edges of the bar or plate A are engaged by the inturned edges C' C^2 of the clip and are retained thereby, the fingers a' projecting above the clip, so as to facilitate the turning and handling of the leaves B held by the binder.

Either of the forms shown in Figs. 1 and 2 may be used with a retaining-clip such as shown in Fig. 3.

The loose-leaf binder above described provides in a single integral structure a simple and effective binder from which all the structural and operative complications incident to articulated and reciprocally-movable parts are eliminated. The gist of the improvement, whether embodied in the form shown in Fig. 1 or embodied in the form shown in Fig. 2, consists in the plate having a rigid arch se-

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cured thereto and preferably integral therewith, the said arch bent so as to form a nearly but not quite closed loop, the adjacent terminals of the loop being so carried past each other or overlapped that the terminals guard each other, so that a flat leaf cannot escape from retention by the loop. In other words, a leaf must be bent out of its normal plane in order either to be inserted in or removed from the binder. Thus in Fig. 1 the terminals of the loop directly above the plate A approach but do not touch each other and are beveled, so that a flat leaf can find neither entrance nor exit, the beveling of the terminals of the loop affording the simple retaining means. In Fig. 2 also the loop or arch is bent downward on the open side, so that it terminates well below the plane of the upper surface of the back-plate, and in this form also the terminals of the nearly-closed loop reciprocally guard each other to prevent the escape of a flat leaf.

What I claim, and desire to secure by Letters Patent, is—

1. A loose-leaf binder consisting of a plate having a leaf-holding arch portion rigid therewith, bent so as nearly but not quite to form a closed loop, the adjacent terminals of the loop reciprocally guarding each other to prevent the escape of a flat leaf therefrom.

2. A loose-leaf binder, consisting of a plate having fingers rigid therewith, bent upward and inward so as nearly but not quite to meet above the plate, the adjacent terminals of the fingers reciprocally guarding each other to prevent the escape of a flat leaf therefrom.

3. A loose-leaf binder consisting of a plate having fingers rigid therewith, bent upward and inward so as nearly but not quite to meet above the plate, the adjacent terminals of the fingers being beveled, to form an open slot angularly transverse to the center line of the plate.

Signed by me at Boston, Massachusetts, this 22d day of September, 1905.

WILLIAM MAXWELL WHEILDON.

Witnesses:

ODIN ROBERTS,

JOSEPH T. BRENNAN.