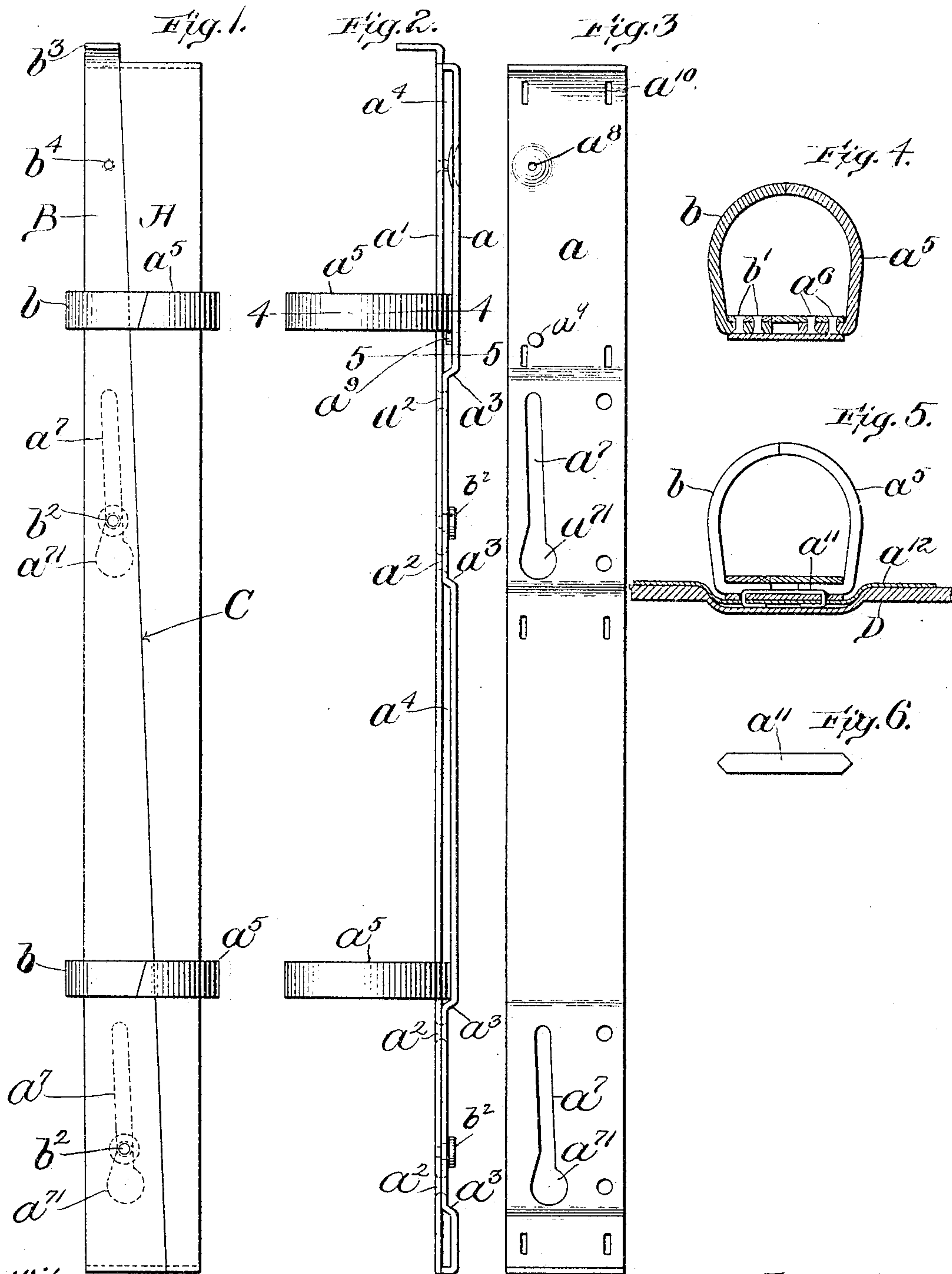


H. H. HILL.  
BOOK CONSTRUCTION.  
APPLICATION FILED JUNE 18, 1904.



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## BOOK CONSTRUCTION.

SPECIFICATION forming part of Letters Patent No. 782,247, dated February 14, 1905.

Application filed June 18, 1904. Serial No. 213,127.

*To all whom it may concern:*

Be it known that I, HORACE H. HILL, a citizen of the United States, and a resident of Somerville, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Book Construction, of which the following is a specification.

My invention relates to book construction, and particularly to so-called "loose-leaf" ledgers and the like of that class which embodies a leaf-holder comprising slides or plates carrying hooks, the latter being adapted to be thrown together to form leaf-engaging loops by relative movement of the slides in one direction and apart to open the loops for the removal or insertion of the leaves by relative movement of the slides in the opposite direction.

Many loose-leaf ledgers of the class referred to have projections or joints on the leaf-holder with which the leaves are liable to become entangled, so as to be unevenly held, or by which they are likely to be torn or otherwise injured. Another disadvantage has been that the leaf-holder has in many cases comprised a comparatively large number of parts and was therefore more or less complicated and expensive in construction.

The object of my invention is to provide a leaf-holder for loose-leaf ledgers which will be free of joints or projections with which the leaves would be liable to entangle and by which they might be injured.

It is also the object of my invention to provide a holder for the leaves which can be made so as to comprise practically but two parts, as well as to otherwise improve the construction of leaf-holders for ledgers of this class.

My improved leaf-holder comprises a wedge-shaped fixed member which carries one or more leaf-engaging hooks, a movable member in the form of a wedge-shaped slide fitting against the side of the wedge-shaped fixed member and carrying one or more hooks for cooperating with the hook or hooks of the fixed member to form leaf-engaging loops. In the best form of my invention one of said

members carries a stud engaging a slot in the other member, which slot is parallel with the diagonal joint created between the two members, so that relative movement of the members does not open the joint. Also in the best form of my invention the stud is headed, so as to overlie the edges of the slot, and the latter is shaped like a buttonhole to permit the studs to be engaged therewith or removed therefrom. A latch is also provided for locking the slide in its closed position, as well as means to prevent accidental disengagement of stud and slot.

In the accompanying drawings, Figure 1 is a plan view of the leaf-holder of my improved loose-leaf ledger. Fig. 2 is a side view of the leaf-holder shown in Fig. 1. Fig. 3 is a plan view of the bottom plate of the fixed member. Fig. 4 is a section on line 4 4 of Fig. 2. Fig. 5 is a section on line 5 5 of Fig. 2. Fig. 6 is a view showing the strip from which is formed the fastening-staple hereinafter described.

As herein shown, the leaf-holder of my improved loose-leaf ledger comprises but two main parts—a fixed member A, shaped to be fastened to the cover of a book, and a slide B, movably connected with the fixed member. The fixed member A comprises a bottom plate *a* and a top plate *a'*, fastened together by rivets *a''* or in any other desirable manner. The top plate *a'* is a flat wedge-shaped piece, while the bottom plate *a* is a rectangular strip stepped, as at *a''*, so as to leave spaces or slots *a'* between the top and bottom plates. Projecting from the slots *a'* are two leaf-engaging hooks *a''*, fastened by rivets *a'''*, Fig. 4, to the top strip *a'*. These hooks *a''* cooperate with opposed hooks *b* on slide B to form leaf-engaging loops, said loops being closed when slide B occupies one position and open for the removal or insertion of leaves when slide B is shifted from that position. The hooks *b* are fastened at their inner ends to the under side of slide B by rivets *b'*.

Slide B carries a pair of headed button-like studs *b''*, projecting from its under side through two buttonhole-slots *a'*, formed in



plate  $a$  of the fixed member. Slots  $a^7$  are parallel with the more or less diagonal joint C between slide B and fixed member A, so that endwise movement of slide B does not open that joint, but maintains it closed, and the leaves of the book are thereby prevented from entering between the two members. At the same time endwise movement of slide B not only shifts hooks  $b$  relatively to hooks  $a^5$  in a direction lengthwise of the holder, but also shifts said hooks  $b$  toward and from the hooks  $a^5$  in a direction crosswise of the holder.

Slide B is made at one end with a lateral extension  $b^3$  to serve as a handle, by which said slide can be conveniently shifted. Slide B also carries a stud  $b^4$ , projecting from its under side, which when the slide occupies its innermost or closed position engages with a socket  $a^8$ , provided on bottom plate  $a$ , and thereby locks slide B in that position against accidental displacement. When the slide is to be freed and shifted outwardly to open the leaf-engaging loops, its handle end is sprung away from the fixed member far enough to disengage stud  $b^4$  from socket  $a^8$ , and when returning it to its innermost position to close the leaf-engaging loops stud  $b^4$  slides into socket  $a^8$  without requiring the attention of the operator.

By making the two members wedge-shaped, so that they are separated by a diagonal joint C, this joint crosses the edges of the leaves and makes it difficult for the edge of a leaf to enter said joint. It is also advantageous to have the slide B move in a direction parallel with joint C, as shown, since by such construction the joint is not opened by the movements of the slide, and the edges of the leaves are thereby always excluded.

In order to prevent the button-like studs  $b^2$  from passing out through the enlarged ends  $a^{11}$  of the buttonhole-slots  $a^7$ , stop  $a^9$  is provided on the bottom plate  $a$ , which engages the inner end of one of the hooks  $b$  and stops the inward movement of slide B before studs  $b^2$  reach enlargements  $a^{11}$ .

The fixed member A may be fastened to the cover of the book in any desired manner; but I have herein shown the bottom plate  $a$  as made with slots  $a^{10}$  arranged in pairs, through which are inserted the ends of staples  $a^{11}$ , which are also passed through a canvas strip  $a^{12}$  and clenched. This strip  $a^{12}$  is then cemented or otherwise suitably fastened to the cover D at the hinge of the latter.

The object of the buttonhole shape of the slots is to permit the two members of the holder to be completed separately and then assembled by passing the button-like studs through the enlarged ends of the slots, shifting the two members endwise relatively until stop  $a^9$  engages the inner end of the hook  $b$ ,

with which it coöperates, and then bending the two members apart and lifting the stop over the inner end of the hook into its normal position at the other side of the hook. Also should it be necessary or desirable to take the holder apart this can be accomplished by manipulating the two members in a reverse fashion.

What I claim is —

1. A leaf-holder of the class described, comprising a wedge-shaped member provided with leaf-engaging hooks, a wedge-shaped slide provided with leaf-engaging hooks to coöperate with those of the member to form loops and means connecting the slide to the member with provision for movement of the slide in a direction parallel with the diagonal joint between the slide and member.

2. A leaf-holder of the class described, comprising a wedge-shaped fixed member adapted to be fastened to the cover of a book and provided with leaf-engaging hooks; a wedge-shaped slide provided with leaf-engaging hooks to coöperate with those of the fixed member to form loops; a button-like stud carried by the slide, and a buttonhole-slot on the fixed member engaged by the stud to join the slide to the fixed member with provision for movement of the slide in a direction parallel with the diagonal joint between the slide and fixed member.

3. A leaf-holder of the class described, comprising a wedge-shaped member provided with leaf-engaging hooks; a wedge-shaped slide provided with leaf-engaging hooks to coöperate with those of the member to form loops; means connecting the slide with the member with provision for movement of the slide in a direction parallel with the diagonal joint between the slide and member, and a latch for detachably locking the slide in its closed position against accidental displacement.

4. A leaf-holder of the class described, comprising a wedge-shaped fixed member adapted to be fastened to the cover of a book and provided with leaf-engaging hooks, a wedge-shaped slide provided with leaf-engaging hooks to coöperate with those of the fixed member to form loops; a button-like stud carried by the slide; and a buttonhole-slot on the fixed member engaged by the stud to join the slide to the fixed member with provision for movement of the slide in a direction parallel with the diagonal joint between the slide and fixed member, and a stop for limiting the inward movement of the slide and normally preventing the studs disengaging from the buttonhole-slots.

5. A leaf-holder of the class described comprising two relatively movable members arranged one alongside the other, each carrying one or more leaf-engaging hooks, and means

connecting said members with provision for limited relative movement and for effecting a relative diagonal movement between the two members when the latter are shifted relatively.

- 5 6. A leaf-holder of the class described comprising two relatively movable members arranged one alongside the other with an intervening diagonal joint, and each carrying one or more leaf-engaging hooks, and means con-

necting said members with provision for limited relative movement parallel with said diagonal joint to open and close the hooks.

Signed by me at Boston this 16th day of June, 1904.

HORACE H. HILL.

Witnesses:

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