F. E. CAUFIELD, JR.

LOOSE LEAF BINDER.

APPLICATION FILED MAY 10, 1915.

1,185,873.

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Fig. 1.

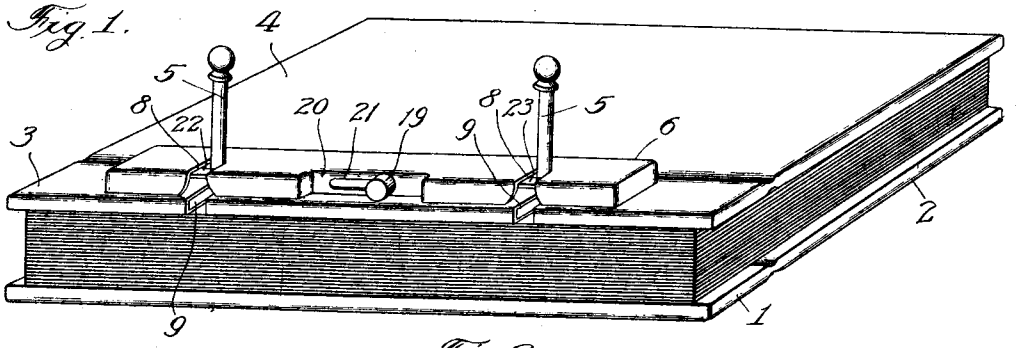


Fig. 2.

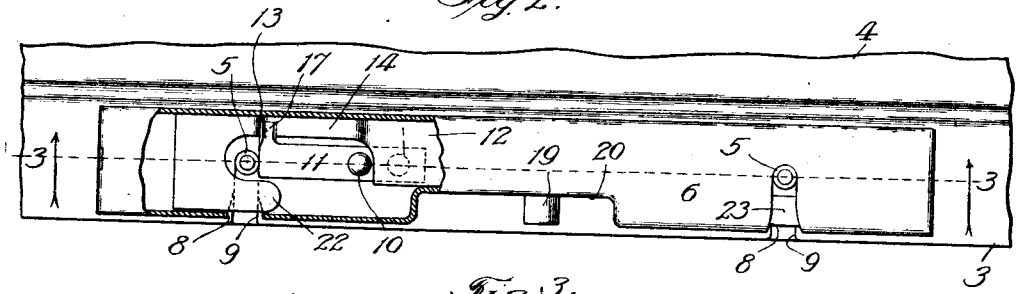


Fig. 3.

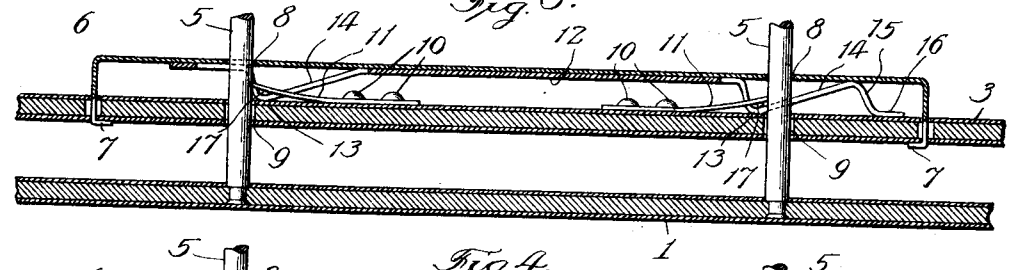


Fig. 4.

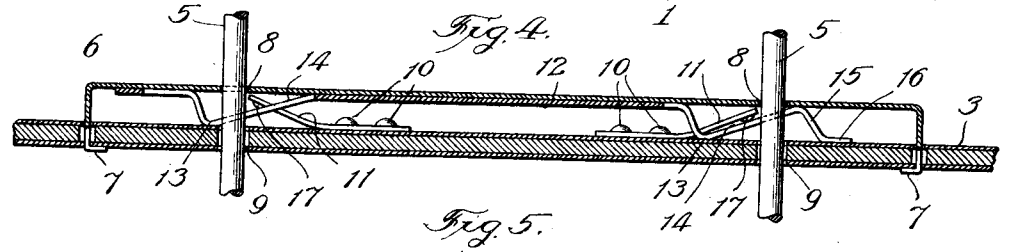
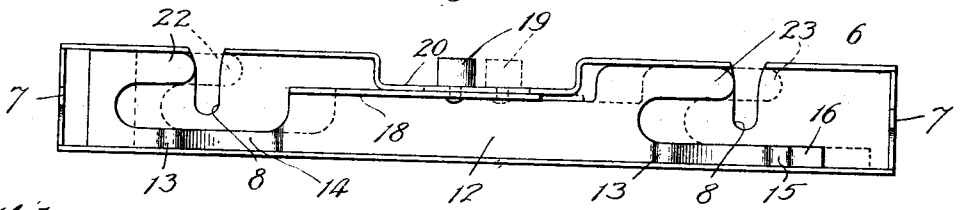


Fig. 5.



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UNITED STATES PATENT OFFICE.

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LOOSE-LEAF BINDER.

1,185,873. Specification of Letters Patent. Patented June 6, 1916.

Application filed May 10, 1915. Serial No. 27,174.

To all whom it may concern:

Be it known that I, FRANK E. CAUFIELD, Jr., a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Loose-Leaf Binders, of which the following is a description, reference being had to the accompanying drawings, forming a part of this specification, in which corresponding numerals of reference in the different figures indicate like parts.

The object of my invention is to provide a simple, cheap and effective loose leaf binder having binding members and means adapted to grip or clamp intervening binding-posts so as to secure said binding members firmly together and also to permit a ready release and adjustment of the gripping means. A further object is to provide means in addition to those employed for gripping the posts, which shall be so constructed as to detachably lock said posts into engagement with one of the binding members so that a single movement may serve to release both said gripping and locking means and thereby permit the complete removal of one of the binding members from the posts. Again it is my purpose to so construct the casing and the means directly employed for actuating the locking mechanism, that said actuating means may be protected from accidental release;—all of which is hereinafter more particularly described and definitely pointed out in the claims.

In the drawings, Figure 1, is a perspective view of a device embodying the features of my invention as it would appear when in use. Fig. 2 is a plan view of the removable binding member, together with the casing and locking devices inclosed therein, a portion of said casing being broken away to show the interior, Fig. 3, is a vertical section of the binding member and casing taken upon the line 3—3, Fig. 2, viewed in the direction of the arrow there shown, said view representing the parts in normal or locked position, respectively, Fig. 4 is a like view showing the movable parts in reversed position, and Fig. 5 is a bottom view of the lock-case as it would appear when removed from the binding member.

Referring to the drawings, 1, indicates an ordinary binding member attached in the usual way to a cover element 2, while 3, designates a counterpart or detachable binding member secured in like manner to a cover element 4. The member 1, is provided with the usual binding posts 5, 5, rigidly attached thereto in a well known way.

Permanently attached to the removable binding member 3, is a lock-casing, generally designated by 6, which is preferably stamped or formed from sheet-metal and attached to the binding member 3, by means of clips or prongs 7, passed through the latter and bent as shown in Figs. 3 and 4. Both the casing 6 and the binding member 3 are provided with notches 8 and 9 respectively, extending inwardly from the rear and in registration with each other as well as with the posts 5, the inner extremities of said notches being coincident with the corresponding faces of said posts. The purpose of their construction is to enable the member 3, when the gripping and locking members which secure it to the posts are released as hereinafter described, to be withdrawn from the posts in a plane at right angles to that of the posts, instead of requiring it to be lifted upwardly as would be the case if bores were substituted for the notches.

The body of the binding element 3, consists of a flat piece of metal having the usual covering as indicated in Figs. 3 and 4. Attached to said body by means of rivets 10, are flat springs 11, 11, which are disposed with their free ends pointing in opposite directions with respect to each other and slightly overlapping the edges of the respective notches 9, so that when the posts 5 are inserted within the notches, the free ends of said springs will be caused to contact with, and grip the posts, as shown in Figs. 2 and 3, so as to clamp the binding member against upward movement, while leaving it free to be moved downwardly against the leaves to be bound. For the purpose of manipulating the springs to permit or prevent their gripping action, as well as to lock the posts within or release them from the notches 9, the following described means is provided. Loosely fitted within the casing 6 is a combined locking and releasing member generally designated by 12, which is formed from sheet metal. The main body portion of the part 12 is adapted to rest loosely beneath and against the top wall of the casing and is provided with narrowed portions which are bent downwardly so as

to rest against the part 3, as shown at 13, 13, respectively, the normal, or locking position of said contacts being in transverse planes close to the inner faces of the posts as more clearly shown in Figs. 3 and 5, from whence said narrowed portions are inclined upwardly as shown at 14, 14, until they again contact with the top wall of the casing. Inasmuch as the springs 11 are reversed as described, and are intended to be acted upon simultaneously by means of the inclines, as hereinafter explained, it is obvious that said inclines should be so disposed as to cause such simultaneous action. A reference to Fig. 3 will show that while the points of contact 13 are in transverse planes between the posts, the entire incline at the left hand is arranged to extend from the adjacent post upwardly toward the middle, but the incline at the right extends from the inner face of its post, upwardly and outwardly past the post toward the right hand end of the casing. In order to properly support the right hand incline, I prefer to again bend the narrowed portion downwardly as shown at 15, Figs. 3, 4 and 5, so as to permit the end portion 16, to rest upon the part 3. It will be noted that each of the springs 11, is provided at its free end with a lateral extension or finger 17, rounded, as shown, upon its under face, which is adapted to extend over and to be engaged by the inclined part 14 adjacent to the spring. These tongues are so adjusted with respect to the inclined members, that when the parts are in the respective normal positions shown in Fig. 3, the end of each spring will be in the gripping or frictional contact with a binder-post; but when the slide member 12, is reversed, as shown in Fig. 4, the tongues 17, will be lifted through the action of the inclines or cams 14, passing beneath, so as to free the ends of the springs from gripping engagement with the posts.

Upon one edge of the part 12, is formed a depending flange 18, Fig. 5, to which is rigidly attached a knob or operating button 19. An inward offset 20, is formed in the rear wall of the casing and the flange 18, is in contact with the wall of said offset portion as better shown in Fig. 5. A slot 21, Fig. 1, is formed in the wall of said offset portion through which the stem of the button is passed. By means of this construction the operating button is prevented from extending upwardly, where articles laid upon the book might be brought into contact with it to cause accidental displacement, while the depth of the recess of the offset is sufficient to provide against like interference from the rear, the edge of the part 3 serving as an ample shield therefor as will be apparent by reference to Fig. 2.

In addition to the spring controlling function of the slide 12, it is also intended to actuate locking members to lock the part 3, to the posts. For this purpose, two locking fingers 22, and 23, are formed integrally with the slide 12, both extending toward the right, but commencing at different points;—the former from the left-hand end and the latter from the middle or body portion. Said fingers are correspondingly adjusted with reference to the notches 8, so that when the slide is in its normal position, as shown in Figs. 1 and 2, both will pass the notches and act to lock the posts 5, therein, and when reversed, said notches will be unobstructed. At such time the springs 11, will have been released from gripping contact with the posts and hence the upper binding member may be removed by merely drawing it forward. This feature is especially advantageous in connection with the sectional posts which are usually provided with knobs at the upper ends.

Having thus described my invention, I claim:

1. A loose-leaf binder comprising, in combination, counterpart binding members, one of which is adjustable, intervening binding-posts rigidly attached to the other of said members, spring actuated gripping means attached to said adjustable member for normally gripping said posts, a casing attached to said adjustable binding member, a slide therein having its body parallel to the plane of said adjustable member, said slide having inclined portions arranged at an angle to said plane, means for causing an engagement between said inclined portions and said gripping means to release the latter, when said slide is in an abnormal position, a flange or bent portion upon the body of said slide, the same being arranged substantially at right angles to the plane of said body, an operating member attached to said flange, said operating member being extended horizontally through a slot in said casing, the latter being provided with an inward offset to receive and shield said operating member.

2. A loose-leaf binder comprising, in combination, counterpart binding members, one of which is adjustable, intervening binding-posts, yielding gripping means attached to said adjustable member for normally gripping said posts, a casing secured to said adjustable member, a slide thereon having its body immediately beneath the upper wall of said casing, said slide having inclined portions extending from the upper wall of said casing into contact with said adjustable binding member, means upon said gripping means for engaging said inclined portions respectively, a downwardly bent portion upon the body of said slide, an operating button attached thereto, the stem of said button extending horizontally through a

slot in said casing, which latter is provided with an inward offset to receive and guard said button.

3. A loose-leaf binder comprising, in combination, counterpart binding members, one of which is adjustable, binding posts, yielding gripping means upon said adjustable member, for gripping said posts to hold said adjustable member against outward movement, a casing attached to said adjustable member, said casing being formed with an inwardly extended offset in its rear wall, a slide within said casing having its body located immediately beneath the upper wall thereof, said slide having inclined portions in operative proximity respectively to said gripping means, said inclined portions being arranged in parallel planes oblique to the plane of the binding member, means in connection with said gripping means for engaging said inclined planes, and an actuating button located in said casing offset and in operative connection with said slide for actuating the latter.

4. A loose-leaf binder, comprising, in combination, counterpart binding members, one of which is adjustable, binding-posts, means upon said adjustable member for normally gripping said posts, a casing upon said adjustable member, said casing and member being provided with registering notches for the reception of said posts, said casing also having an inward offset in its rear wall to receive and guard an actuating button, a slide within said casing, provided with means for actuating said gripping means and also with means for locking said posts within said notches and an actuating button located within said offset and in operative connection with said slide.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses, this eighth day of May, 1915.

FRANK E. CAUFIELD, JR.

Witnesses:
DAVID H. FLETCHER,
JENNIE L. FISKE.