

W. S. PROUDFIT & W. H. EDWARDS.

LOOSE LEAF BINDER.

APPLICATION FILED MAY 27, 1915.

1,262,840.

Patented Apr. 16, 1918.

2 SHEETS—SHEET 1.

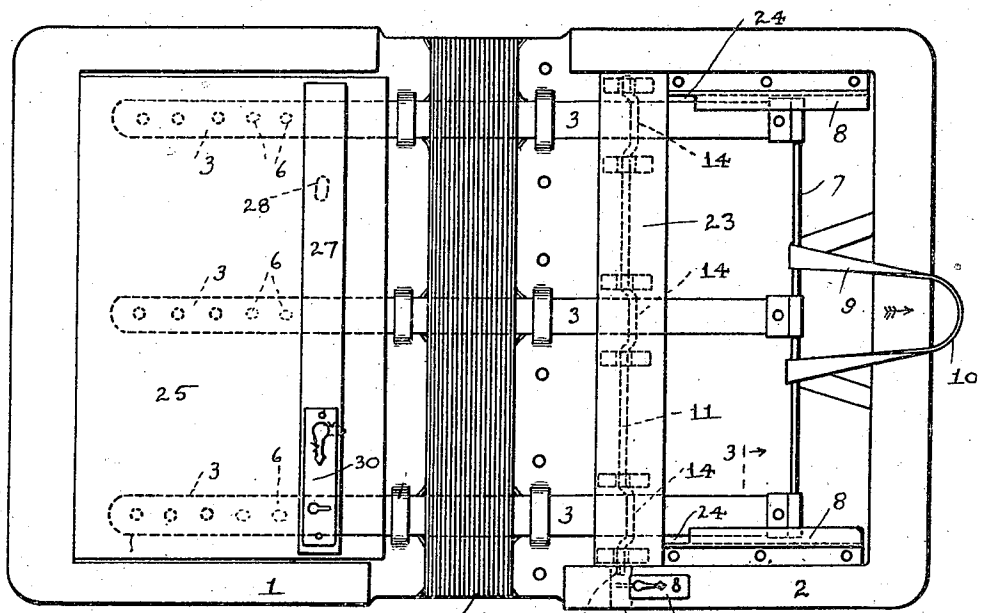


Fig. 1.

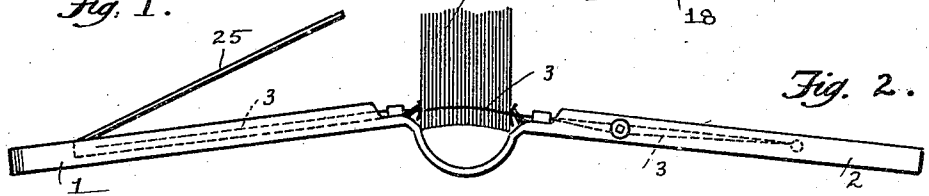


Fig. 2.

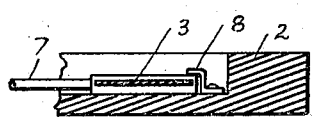


Fig. 3.

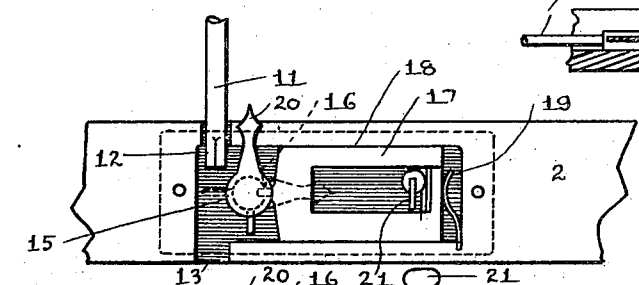


Fig. 4.

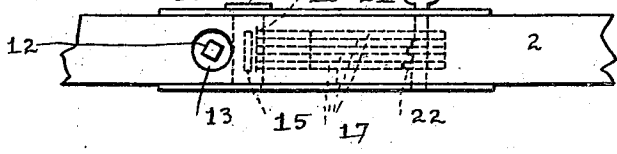


Fig. 5.

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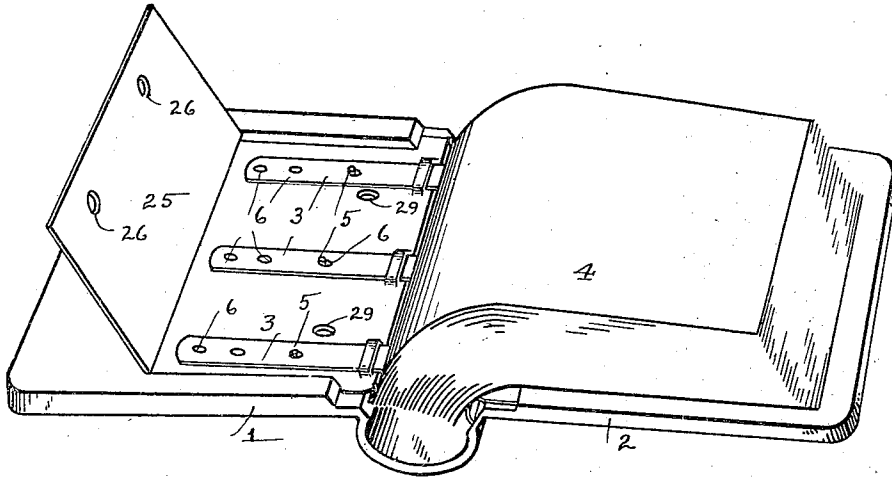


Fig. 6.

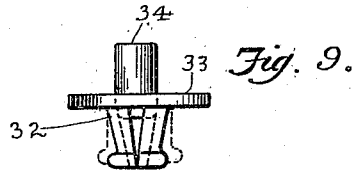


Fig. 9.

Fig. 7.

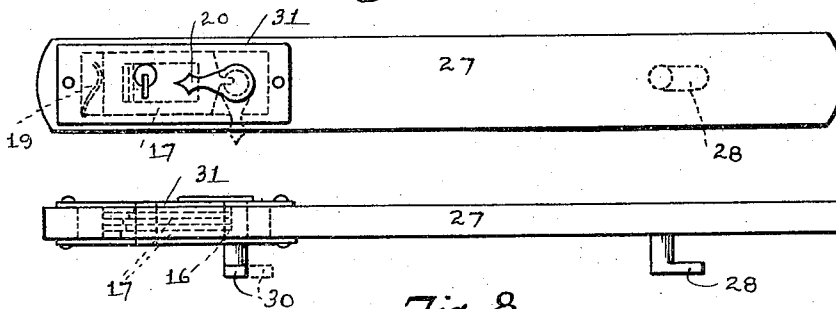


Fig. 8.

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UNITED STATES PATENT OFFICE.

WILLIAM S. PROUDFIT AND WILLIAM H. EDWARDS, OF GRAND RAPIDS, MICHIGAN.

LOOSE-LEAF BINDER.

1,262,840.

Specification of Letters Patent.

Patented Apr. 16, 1918.

Application filed May 27, 1915. Serial No. 30,790.

To all whom it may concern:

Be it known that we, WILLIAM S. PROUDFIT and WILLIAM H. EDWARDS, citizens of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, jointly have invented new and useful Improvements in Loose-Leaf Binders, of which the following is a specification.

The present invention relates to loose-leaf binders; and its object is generally, to provide an improved device of that character; and more particularly, such a device having improved adjusting means; and further, such a device having improved locking means.

These and any other objects appearing hereinafter are attained by, and the invention finds preferable embodiments in, the structures hereinafter described and illustrated by the accompanying drawings, in which:—

Figure 1 is a plan view of the inside of the opened covers of a loose-leaf binder, containing leaves;

Fig. 2 is an end view of the same;

Fig. 3 is a detail cross-section view taken on line 3—3 of Fig. 1;

Fig. 4 is a detail plan view of means for locking the closure of a key-hole;

Fig. 5 is a side view of the same;

Fig. 6 is a view in perspective of such loose-leaf binder, showing the open locking lid on the left-hand cover;

Fig. 7 is a plan view of a bar for locking said lid shut;

Fig. 8 is an edgewise view of the same; and

Fig. 9 is a side view of a rivet for permanently fastening the lid shut.

In the embodiment of our invention chosen for illustration by the drawings and for detailed description herein, the covers 1 and 2 are connected by flexible leaf-holding members which are preferably resilient, as the flat steel springs 3, engaging the rear or binding edge of the leaves 4.

The leaf-holding members are secured to one cover 1, as by its lugs 5 adapted to engage in any one of a series of holes 6 in such members. These members are attached at their other ends to a cross bar 7 whose ends slide in guides 8 on the said cover 2, and may be drawn outwardly—toward the outer end of such cover—by a strap 9 fastened to such cover and in looped relation to said members as by being looped slidably around

the cross bar. When this strap is pulled by its middle portion 10 in the direction of the arrow in Fig. 1, the effect of the pulling force on said member is augmented as in a cord and pulley. Means for holding the leaf-holding members in the position in which they have been adjusted (as by the strap) are provided, and as shown in the views such means comprises a cam shaft 11 rotatable by a suitable key applied to its squared end 12 through a key-hole 13 in the edge of the cover 2. This shaft may be thus turned to bring its eccentric cams 14 into clamping engagement with said members to securely hold them against the cover.

The key-hole is closed by a suitable locking closure to prevent tampering with the cam shaft by unauthorized persons. As shown in the views, such closure 15 is pivoted on the cover 2 so as to swing across the key-hole (into the position shown in dotted lines in Fig. 4) and thus close the same against the insertion of the cam shaft's key. This closure has a keeper slot 16 into which the tumblers 17 of a lock 18 are pressed by a spring 19 when the slot is in key-hole closing registration with the tumblers. The tumblers are withdrawn from such slot, in order that the closures may be turned by its pointer handle 20 to the position shown in solid lines in Fig. 4 and thus open the keyhole 13, by a suitable key 21, having a stepped portion 22 (as indicated in Fig. 5) engaging the several tumblers.

A covering bar 23 extending over the cam shaft and in its longitudinal direction, prevents the turning of the cam shaft otherwise than by its key. The guides 8 have adjacent the covering bar, gaps 24 through which the crossbar's ends are adapted to pass for the more convenient attachment of the leaf-holding members thereto, whenever desirable.

The other cover 1 is provided with means to prevent tampering with the adjusted position of the leaf-holding members on the means (the lugs 5) whereby they are held in such position on said cover. As shown in the views, such preventing means comprises a lid 25 adapted to cover said lugs and having apertures 26, and also a locking bar 27, for the lid. This locking bar has a hook member 28 adapted to be inserted into one of said apertures and to holdingly engage in a registering keeper 29 in the cover 1; and has also a movable second hook member 30

adapted to be inserted into the other aperture and into the other keeper 29 and to be moved (by rotating it a quarter turn to the position shown in solid lines in Fig. 8) to holdingly engage in such keeper. A suitable lock 31 carried by the locking bar and similar to that shown in Figs. 4 and 5 serves to hold the rotatable member 30 in its locking position. To permanently lock the lid shut, a hollow split rivet 32 having a flange portion 33 engaging outside the lid is inserted into one of the apertures 26 and the keeper 29 registering therewith, and is thereupon expanded to the condition shown in dotted lines in Fig. 9 into holding engagement with the keeper. This expanding is done by driving in the plug 34 contained in the hollow rivet.

Parts of lock 31 which are similar to those of lock 18 are numbered correspondingly on the drawings, and therefore such parts need not be described further.

The invention being intended to be defined solely by the claims, is not to be limited by details of construction shown or described.

We claim:—

1. In a device of the character described; a pair of covers; a flexible leaf-holding member connecting the covers and having a part around which a strap is adapted to be looped; a strap in looped relation to said part, and attached to one cover and adapted to draw said member outwardly; and means for holding said member in adjusted position on said cover.

2. In a device of the character described; a pair of covers; flexible leaf-holding members connecting the covers; a cross bar to which said members are attached; a strap for drawing the cross bar along one cover away from its binding edge, and slidably looped around the cross bar; and means for holding said members in adjusted position on said cover.

3. In a device of the character described; a pair of covers; flexible leaf-holding members connecting the covers; a movable cross bar to which said members are attached; guides on one cover for guiding the respective ends of the cross bar and having a gap through which the cross bar's end is adapted to pass; and means for holding said members in adjusted position on said cover.

4. In a device of the character described; a pair of covers; a leaf-holding member connecting the covers and adjustable on a cover;

means for holding said member in adjusted position on said cover and rotatable by a key; means for locking said rotatable means against the application of the key thereto; and a covering bar extending over said rotatable means and in its longitudinal direction, and adapted to prevent the turning thereof otherwise than by its said key.

5. In a device of the character described; a pair of covers, one of which has keepers; a leaf-holding member connecting the covers; means carried by said cover for holding said member in adjusted position; a lid on said cover adapted to cover said means and having apertures; a locking bar for the lid having a member adapted to be inserted into a said aperture and to holdingly engage in a said keeper, and having also a movable second member adapted to be inserted into the other aperture and into the other keeper and to be moved to holdingly engage in such keeper; and a lock for locking the last-mentioned member in such holding position.

6. In a device of the character described; a pair of covers, one of which has a keeper; a leaf-holding member connecting the covers; means carried by said cover for holding said member on said cover; a lid on said cover adapted to cover said means and having an aperture; and a split rivet adapted to be inserted into the aperture and the keeper and thereupon expanded into holding engagement with the keeper to permanently fasten the lid shut.

7. In a device of the character described; a pair of covers; one of which has a keeper; a leaf-holding member connecting the covers; means carried by said cover for holding said member on said cover; a lid on said cover adapted to cover said means and having an aperture; and a hollow rivet containing an expanding plug and adapted to be inserted into the aperture and the keeper and thereupon expanded into holding engagement with the keeper by driving in the plug, to permanently fasten the lid shut.

In testimony whereof we have hereunto set our hands in presence of subscribing witnesses.

WILLIAM S. PROUDFIT.
WILLIAM H. EDWARDS.

Witnesses:

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HENRIETTA K. VANDER MYDE.