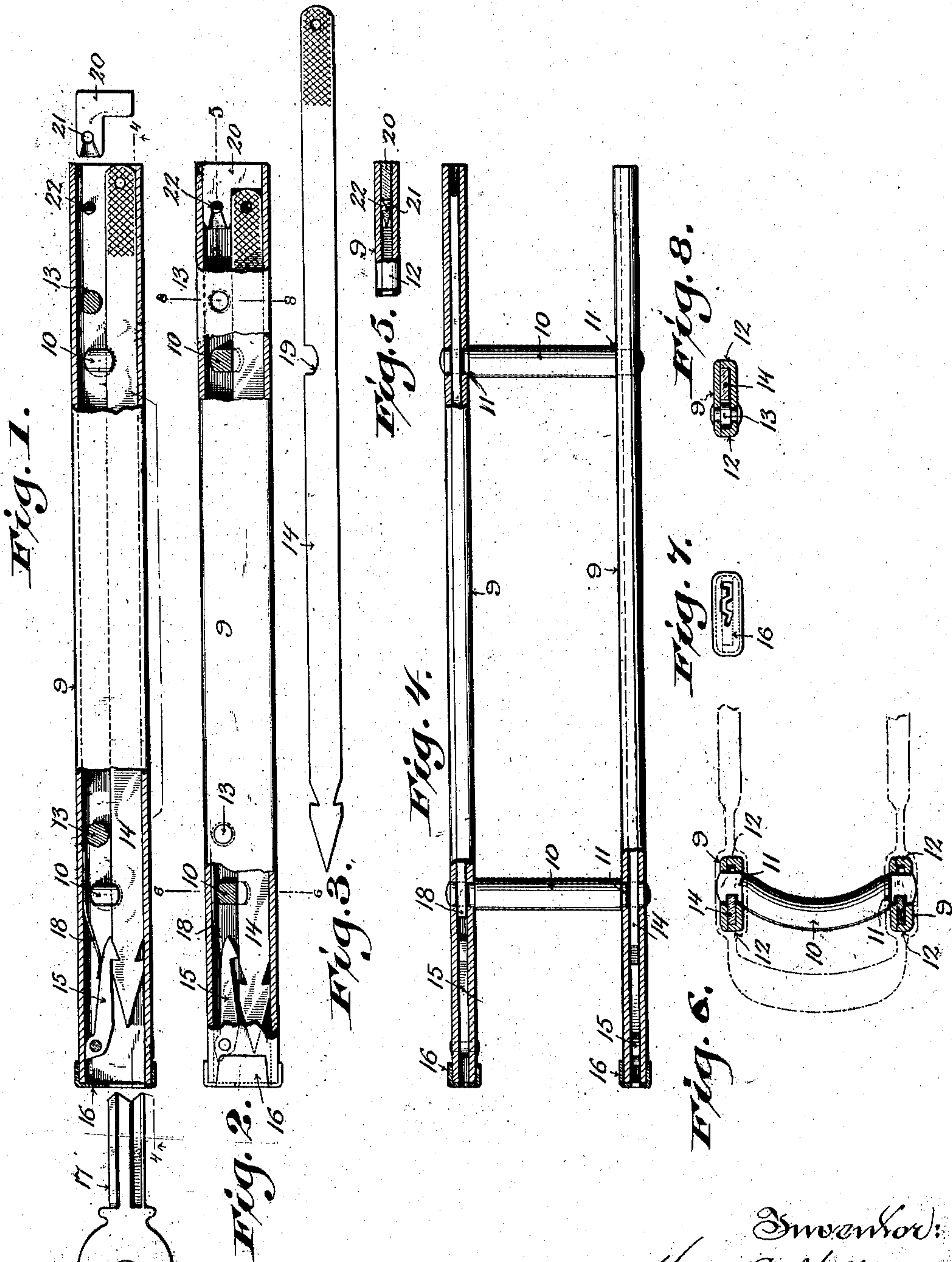


H. C. MILLER.
 LOOSE LEAF BINDER.
 APPLICATION FILED MAR. 2, 1910.

967,537.

Patented Aug. 16, 1910.



May 1910
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UNITED STATES PATENT OFFICE.

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LOOSE-LEAF BINDER.

967,537.

Specification of Letters Patent.

Patented Aug. 16, 1910.

Application filed March 2, 1910. Serial No. 546,930.

To all whom it may concern:

Be it known that I, HENRY C. MILLER, a citizen of the United States, and resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Loose-Leaf Binders; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention consists in what is herein particularly set forth with reference to the accompanying drawings and pointed out in claims of this specification, its object being to provide for economical construction of simple, durable and efficient temporary locking and permanent sealing loose-leaf binders that are especially designed for type-written records, each binder being constructed to permit ready removal and insertion of leaves at either side of same prior to sealing.

Figure 1 of the drawings represents a plan view, partly in horizontal section, of a binder-frame of my improved construction, an unlocking key and a permanent sealing plug being illustrated in the same view detached from said frame; Fig. 2, a similar view illustrating said plug caught in the frame, Fig. 3, a plan view of a post locking slide of slightly different form from the one shown in Figs. 1 and 2; Fig. 4, a rear elevation of the binder-frame partly in section, this view being indicated by line 4—4 in Fig. 1; Fig. 5, a sectional view on the plane indicated by line 5—5 in Fig. 2; Fig. 6, a transverse sectional view of said frame indicated by line 6—6 in Fig. 2, a binder-back and cover being illustrated by dotted lines in this view; Fig. 7, an end elevation of one of the hollow bar members of the binder-frame, and Fig. 8, a transverse sectional view of a fragment of said frame on the plane indicated by line 8—8 in Fig. 2.

Referring by numerals to the drawings 9 indicates each of a pair of hollow flat bar members, and 10 each of the post-members of a loose-leaf binder-frame embodying my improvements, all of said members being preferably made from steel. The bar-members of the frame are apertured at intervals of their length for the engagement of the preferably shouldered and slabbed ends of the post-members, and each post-member is preferably curved between its shoulders 11 that oppose the inner sides of said bar-members. As a matter of detail each bar-member

is preferably composed of two flat pieces one of which has the edges thereof turned inward to form flanges 12 upon which to secure the other piece by means of suitably disposed spacing-rivets 13.

The ends of each post 10 are grooved in a direction longitudinally of the binder for the engagement of locking slides 14 run in the bars 9, each slide being notched for automatic engagement with a spring-controlled latch 15 pivoted in the corresponding bar. As herein shown, each slide is preferably arrow-pointed at one end to facilitate its engagement with a latch regardless of which side of said slide is uppermost when inserted in a bar, the latch being caught back of a barb of the arrow-point of the slide.

The latch-end of each bar is capped by a guide 16 for a key 17 of the "Yale lock" type, and in practice it is intended to indefinitely vary the grooving of the guides and keys in order that a specially fitted key shall be required to retract the latches of each binder.

Pushing insertion of a proper key in each of the bars 9 retracts the opposing latch against resistance of its controlling spring 18, to permit withdrawal of a slide 14 that is also pushed by said key to clear the opposite end of said bar far enough to be grasped by the operator, said slide being preferably roughened upon the sides of its grip-end to facilitate its handling. If both edges of a slide be continuous, back of the latch notches therein, it will be entirely withdrawn from a bar in order to disengage the posts, but as shown in Fig. 3, one edge of a slide may be provided with a notch 19 that will clear one of the posts 10 after the other of said posts has been cleared by the inner end of said slide, thereby permitting the disengagement of said bar from both posts.

Either bar 9 may be detached from the posts 10 to permit of loose record leaves (not shown) being put on or taken off the posts 10, and it being desirable to permanently seal the binder, a sealing-plug 20, similar to the one shown in Figs. 1, 2 and 5 is engaged with each bar 9 in that end of same farthest from the key-guide 16 therewith. Each sealing-plug is a right-angle plate beveled on both sides at one end adjacent to an aperture 21 therein, this aperture being for engagement with a lug 22 in the bar in

which the plug is driven to close an end of same and thereby prevent retraction of the opposing slide, said lug being preferably beveled, as best shown in Fig. 5, to facilitate locking engagement therewith of said sealing-plug. When the sealing takes place the slide 14 is pushed in clear of the latch 15 as shown in Fig. 2, the key-guide cap 16 serving to prevent withdrawal of said slide at that end of the corresponding bar.

I claim:

1. In a loose-leaf binder, a hollow-bar apertured at intervals of its length, posts having detachable engagement with the bar through the apertures therein, a post-engaging slide in said bar longitudinally of the same, and a spring-controlled key-release latch in the aforesaid bar engageable with the slide.

2. In a loose-leaf binder, a pair of hollow bars apertured at intervals of their length, posts having detachable engagement with the bars through the apertures therein, a post-engaging slide in each bar longitudinally of the same, and spring-controlled key-release slide-engaging latches in said bars.

3. In a loose-leaf binder, a hollow bar having a guide at one end thereof for a key of the "Yale lock" type, posts having detachable engagement with the bars, a post-engaging slide in said bar, and a spring-controlled key-release latch in the aforesaid bar engageable with the slide.

4. In a loose-leaf binder, a pair of hollow bars each having a guide at one end thereof for a key of the "Yale lock" type, posts having detachable engagement with the bars, a post-engaging slide in each bar, and spring-controlled key-release slide-engaging latches in said bars.

5. In a loose-leaf binder, a hollow bar that is closed at one end, posts having detachable engagement with the bar, a slide in said bar engaging grooves in the posts longitudinally of the binder, and a slide-opposing sealing-plug insertible in end of the aforesaid bar.

6. In a loose-leaf binder, a hollow bar provided at one end with an inner lug, posts having detachable engagement with the bar, a post-engaging slide in said bar, and a slide-opposing apertured sealing-plug insertible in the aforesaid bar to engage said lug of same, the other end of the bar being closed against withdrawal of the slide.

7. In a loose-leaf binder, a hollow bar having a key-guide cap at one end thereof, posts having detachable engagement with the bar, a slide in said bar engaging grooves in the posts longitudinally of the binder, and a slide-opposing sealing-plug insertible in the other end of the aforesaid bar.

8. In a loose-leaf binder, a pair of hollow bars, posts having detachable engagement with the bars, a slide in each bar engaging grooves in the posts longitudinally of the binder, and a slide-opposing sealing-plug insertible in one end of each bar that is closed at its other end against withdrawal of the slide.

9. In a loose-leaf binder, a hollow bar, posts having detachable engagement with the bar, a post-engaging slide in said bar, a spring-controlled key-release latch in the aforesaid bar normally engageable with the slide, and a slide-opposing sealing-plug insertible in an end of the bar.

10. In a loose-leaf binder, a hollow bar, posts having detachable connection with the bar, an arrow-pointed slide in said bar engaging grooves in the posts longitudinally of the binder, and a spring-controlled key-release latch in the aforesaid bar engageable with the slide back of either barb of its point.

In testimony that I claim the foregoing I have hereunto set my hand at Milwaukee in the county of Milwaukee and State of Wisconsin in the presence of two witnesses.

HENRY C. MILLER.

Witnesses:

ADOLPH G. LOTTER,
FERD KNEYSE, Jr.