

L. E. HELLER.
BINDER.

APPLICATION FILED SEPT. 27, 1909.

962,568.

Patented June 28, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

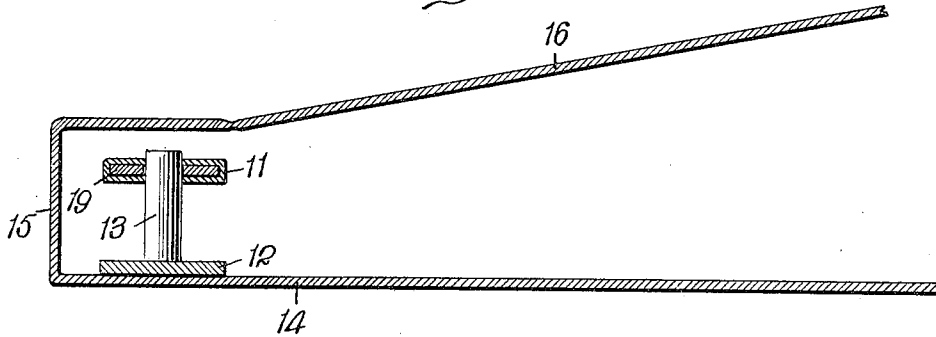


Fig. 2.

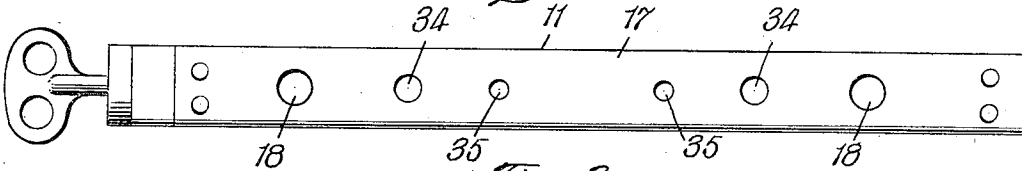


Fig. 3.

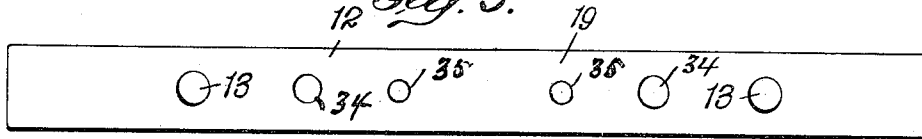


Fig. 4.

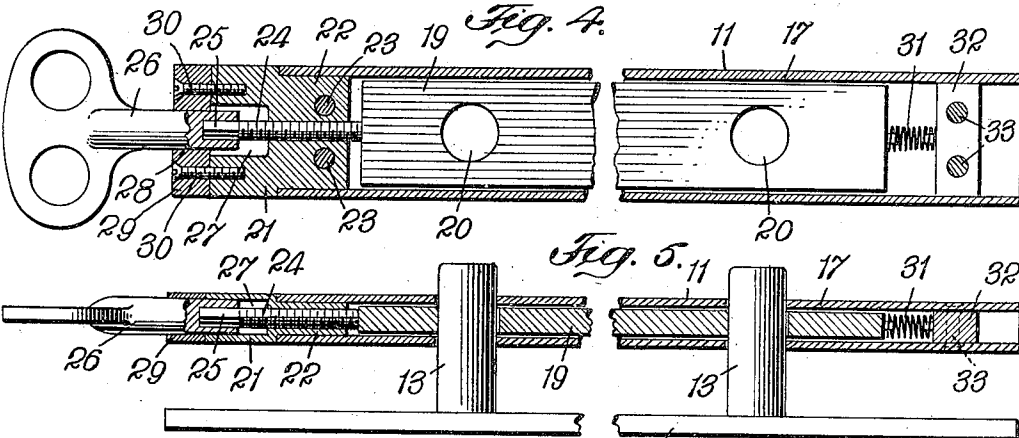


Fig. 5.

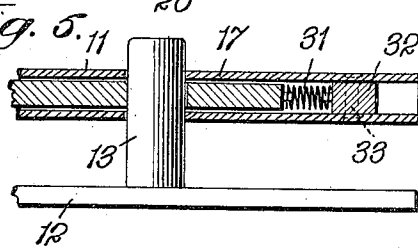
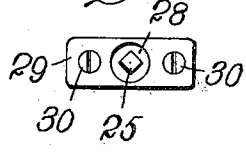


Fig. 6.



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2 SHEETS—SHEET 2.

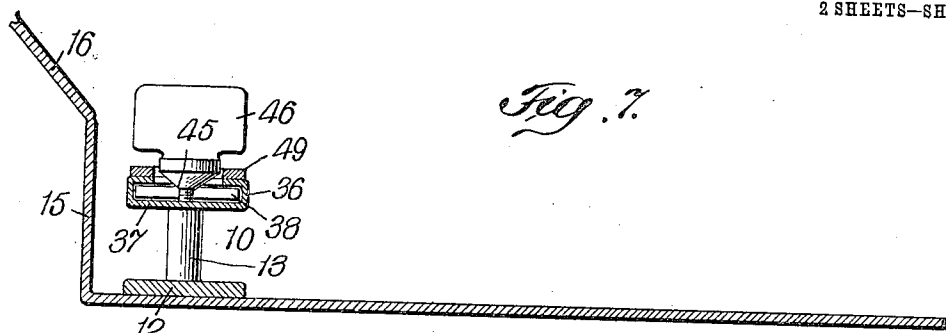


Fig. 7.

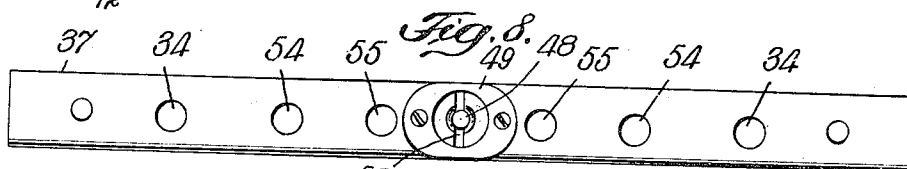


Fig. 8.

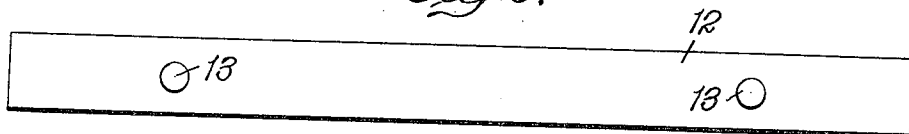


Fig. 9.

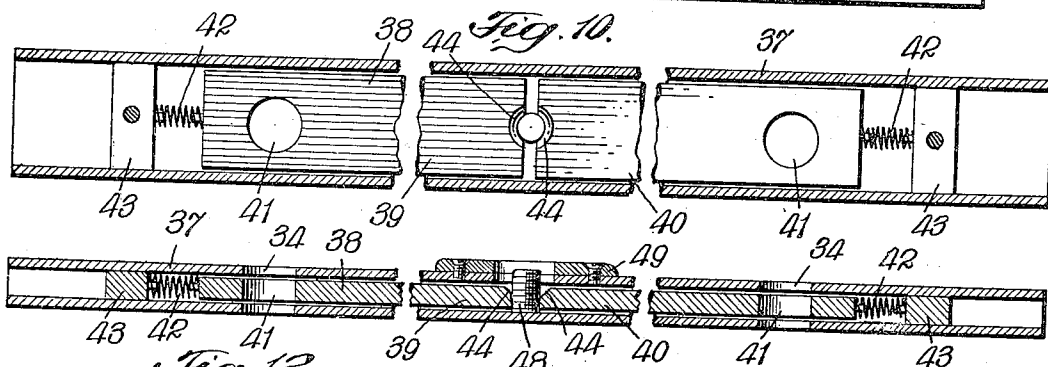


Fig. 10.

Fig. 12.

Fig. 11.

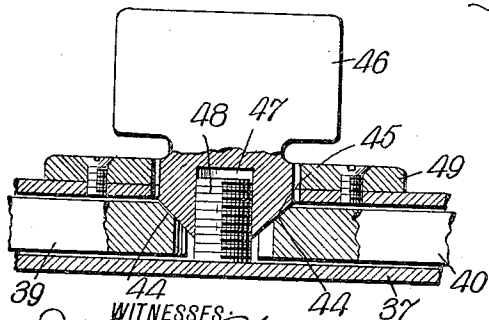


Fig. 14.

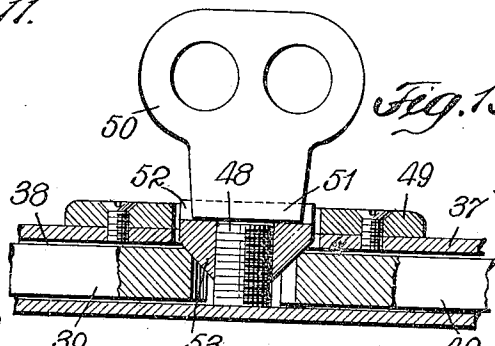


Fig. 13.

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UNITED STATES PATENT OFFICE.

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BINDER.

962,568.

Specification of Letters Patent. Patented June 28, 1910.

Application filed September 27, 1909. Serial No. 519,825.

To all whom it may concern:

Be it known that I, LOUIS E. HELLER, a citizen of the United States, and a resident of New York, county and State of New York, have invented certain new and useful Improvements in Binders, of which the following is a full, clear, and exact description.

This invention relates more particularly to binders in which a number of loose leaves may be temporarily or permanently bound in book form.

The primary object of the invention is to provide simple and efficient means whereby a number of loose leaves may be slipped over and may be made to engage a part of one member or element of a binder, and the said leaves rigidly and detachably held by a second member having means as a part thereof to lock and hold the same to the other member.

Another object of the invention is to provide simple and efficient locking means forming a part of a book in which loose leaves may be held in book form.

A further object of the invention is to provide a simple and efficient locking member having relatively movable locking means adapted to engage another member of the binder, and which locking means requires the manual operation of an independent device before the locking element or member can be held to or removed from the other member.

With these and other objects in view, the invention will be hereinafter more particularly described with reference to the accompanying drawings, which form a part of this specification, and will then be pointed out in the claims at the end of the description.

In the drawings, Figure 1 is a section of one form of device embodying my invention, showing the same held within the cover of a book. Fig. 2 is a detail plan view of the locking element or member of the binder. Fig. 3 is a detail plan view of the holding or supporting member of the binder. Fig. 4 is a sectional plan view, partly broken away, of the locking member. Fig. 5 is a longitudinal section, partly in elevation and partly broken away, of the binding means removed from the cover. Fig. 6 is an end elevation of the locking member or element. Fig. 7 is a sectional view of a different form of locking means. Fig. 8 is a detail plan view of the locking member shown in Fig. 7. Fig. 9 is a detail plan of the holding mem-

ber. Fig. 10 is an enlarged sectional plan view, partly broken away, of the locking member. Fig. 11 is a longitudinal section through the locking member. Fig. 12 is an enlarged fragmentary section, showing how the locking member may be removably held to the holding member. Fig. 13 shows a slightly different form of locking means from that shown in Fig. 12; and Fig. 14 is a detail view of one element of the locking means of the detachable member.

The binder comprises a holding member 10 adapted to receive the loose sheets to be bound, and a locking or detachable member 11 both of which may be variously constructed. As shown the member 10 has a bar-like part 12 from which project the posts 13, and said bar 12 may be fastened to the back 14 of a cover 15, the latter being provided with a part 16 which may be thrown back as is usual with books of various kinds.

The locking member or element 11 has a bar-like tubular body portion 17 and is provided with apertures 18 spaced apart to correspond with the position of the posts 13 so that said body portion 17 may be slipped over said posts above the base or body 12 of the holding member 10 and above the leaves or sheets to be bound. A relatively movable element or locking device 19 is slidingly held in the body portion 17, and this device 19 is provided with openings or apertures 20 which are adapted to fit over the posts 13 and to be brought into alignment with the openings 18 of the body portion 17, and said element 19 is adapted when moved lengthwise within the body 17 to cause the side edges of the openings to engage the posts 13 in such a way as to hold the body 17 rigidly to the posts 13.

To move the member or device 19 within the body portion, I provide a post or block 21 having a part 22 to fit into one end of the tubular body 17 and fastened thereto by means of rivets 23 or otherwise, and in said block is a threaded opening which is engaged by a screw or element 24. This screw 24 has its inner end adapted to engage one end of the relatively movable slide or device 19 and its other end is made square or otherwise, as at 25, for the reception of the end of the key 26 by which the said screw 24 may be rotated in either direction. The block 21 is recessed at 27 to permit the shank of the key 26 to engage the screw 24,

and said key is guided in an opening 28 in a plate 29, the latter being secured to the block 21 by screws 30. When the key 26 is rotated to force the screw 24 inward it will impart a similar movement to the device or locking element 19 to cause the edges of the opening 20 to engage the posts 13 with sufficient force to hold the locking member rigidly and removably to said posts. The device 19 is normally forced in the opposite direction by a spring 31, one end of which engages the end of the device 19 opposite that of the screw 24 and the other end is held against a rigid block 32, which is held by rivets 33 or otherwise adjacent to one end of the tubular member 17, the said spring serving to normally force the slide or device 19 to a released position by causing the openings 20 to be brought into alinement with the posts 13 so that the latter will not be locked to the member 19, in which case the locking member 11 may be readily removed from the holding member 10.

The loose leaves with the usual holes for filing purposes are placed over the posts 13 after the member 11 has been removed and the said leaves are then bound to the base portion 12 of member 10 by placing the member 11 over the posts 13 and by means of the key 26 rotating the screw 14 so as to force the locking member or slide 19 into engagement with the posts, the removal of the member 11 for the removal or placing over the posts of other leaves being accomplished as already described.

The binder may be used for binding different sizes of sheets or leaves and for this purpose, I provide a locking member 11 which may be provided with openings 34 to receive similarly positioned posts of the holding member, and there may be additional openings 35 for still differently positioned posts on the holding member. The locking element 19 is also provided with openings therethrough corresponding to the position of the openings 34 and 35 when the binder is to be used for different sizes and kinds of leaves, the locking of the member to the posts being secured in the same manner as already described.

In Figs. 7 to 12 the holding member is substantially the same as already described and the locking member 36 has its body portion 37 bar-like and tubular and movable in said member is a slide or locking device 38. This device 38 comprises two parts 39 and 40, each of which has a hole or opening 41 adapted to pass over the posts 13 of the holding member, and normally forcing the parts 39 and 40 toward each other are the springs 42, which are interposed between the outer ends of the parts 39 and 40 and rigid blocks 43 located within the tubular body 37. The inner ends of the members 39 and 40 are provided with a beveled or cam

surface 44 which is adapted to be engaged by the beveled or tapered end 45 of the key or element 46. This key 46 has a threaded opening 47 which is adapted to engage a threaded post 48 so that when the key 46 is rotated in one direction, as for example, downward, the beveled end will force the members 39 and 40 apart causing the edges of the openings 41 to lock the member to the posts 13, and when said key is rotated in the opposite direction, the springs 42 will force the members 39 and 40 inward to a releasing position. The post 48 is secured to the body 37 substantially centrally thereof and secured to one face of the body portion 37 is a plate 49 for strengthening purposes, and said plate may also be made to serve as a guide for the key. By this means a two-part locking device may be provided in the locking member instead of a one part element as shown in Figs. 1 to 6.

Fig. 13 shows a construction substantially similar to that shown in Figs. 7 to 12 except that the key or operating means is made in two parts. As shown the handle portion 50 has its end 51 adapted to engage a slot 52 in the cam or beveled part 53, the latter engaging the threaded post 48 as already described and serving when forced downward to spread apart the members 39 and 40 of the locking device 38. In this construction, the cam part 53 may remain as a part of the locking member without having the entire part projecting beyond the plate 49. In this construction there may be a plurality of openings 54 and 55 arranged in pairs and corresponding in position to posts on the holding member so that the said devices may be adapted for different sizes and forms of loose leaves.

From the foregoing it will be seen that a simple and efficient temporary binder is provided for loose leaves; that simple means is provided whereby a member may be positively locked in such a way as to hold the leaves properly to the holding member; that said device is adapted for use in connection with different sizes and forms of leaves, and that said binder may be readily made and assembled.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:—

1. In a device of the class described, a casing, a locking member slidably arranged within said casing, a coiled spring interposed between one end of said locking member and a bar located near the end of said casing, a member provided with a reduced portion extending within said casing, a screw adapted to pass through the central portion of said member and engage said sliding member, the member which extends within the casing being provided with a recessed portion to accommodate a member for

rotating said screw, and a plate partially covering said recessed portion.

2. In a device of the class described, a casing, a locking member slidably mounted in said casing, a bar extending transversely of said casing at a point near one end thereof, a spring interposed between said bar and said locking member, a hollow member provided with a reduced portion adapted to extend within said casing, a screw adapted to pass through the central portion of said hollow member and engage the locking member, said hollow member being provided with a cut-away portion, and a plate adapted to partially cover said cut-away portion.

3. In a device of the class described, a casing, a spring pressed locking member slidably held within said casing, a hollow member having a portion extending within said casing, means carried by said hollow member for actuating said locking member, and a key supporting device secured to said hollow member.

This specification signed and witnessed this 22d day of September A. D. 1909.

LOUIS E. HELLER.

Witnesses:

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M. DINNHAUPT.