E. H. ELDER.

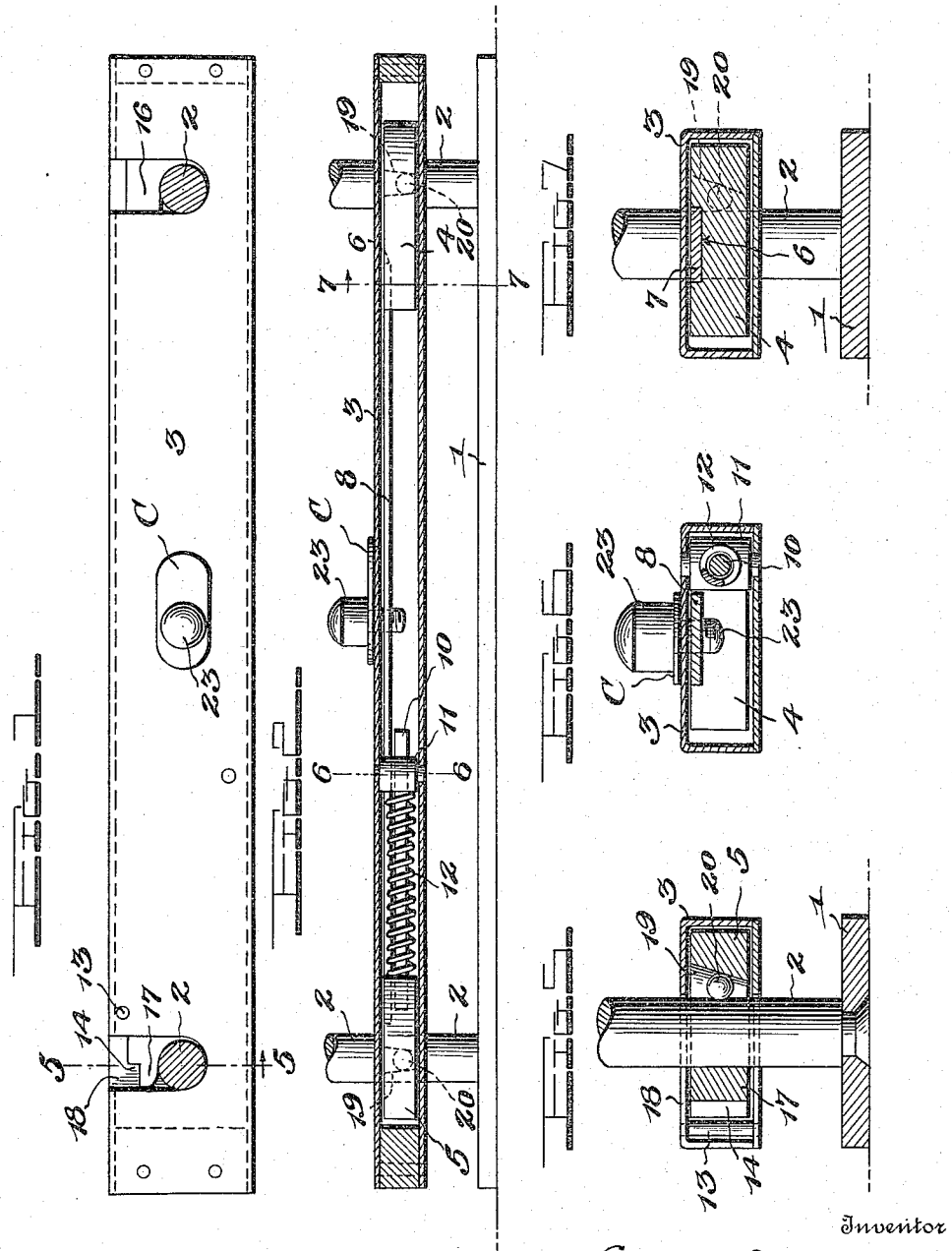
LOOSE LEAF BINDER.

APPLICATION FILED FEB. 8, 1915.

1,163,601.

Patented Dec. 7, 1915.

2 SHEETS—SHEET 1.



Witnesses

M. I. Longden

Inventor

Edward H. Elder

By F. W. Lucas

Attorney

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

E. H. ELDER.

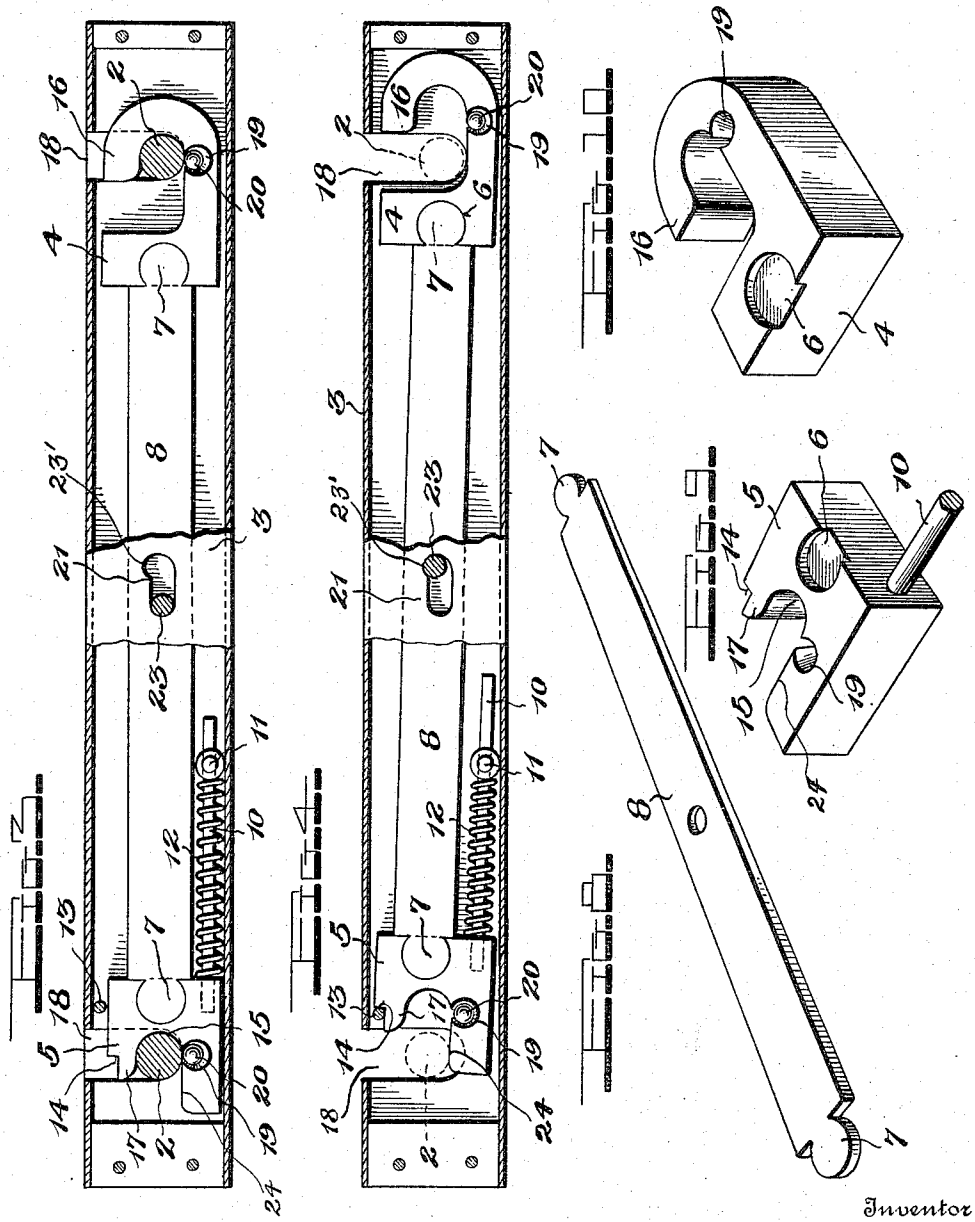
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M. I. Loughlin

Inventor

Edward H. Elder

By

Attorney

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

EDWARD H. ELDER, OF CHICOPEE FALLS, MASSACHUSETTS, ASSIGNOR TO NATIONAL BLANK BOOK COMPANY, OF HOLYOKE, MASSACHUSETTS, A COPARTNERSHIP.

LOOSE-LEAF BINDER.

1,163,601. Specification of Letters Patent. Patented Dec. 7, 1915.

Application filed February 8, 1915. Serial No. 6,757.

To all whom it may concern:

Be it known that I, EDWARD H. ELDER, a citizen of the United States, residing at the city of Chicopee Falls, county of Hampden, State of Massachusetts, have invented certain new and useful Improvements in Loose-Leaf Binders; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to certain new and useful improvements in loose leaf binders and relates more particularly to loose leaf binders of the post type, and the primary object of the invention is to provide a binder in which the locking means for the top or movable member is positively held retracted or in unlocked position so that the top bar may be removed for the purpose of adding to or taking leaves from the posts.

A further object of the invention is to provide a lock of the type set forth in which the release of the locking means is automatic *i. e.* by moving same against the post so as to thereby cause same to instantaneously return to locking position.

A still further object of the invention is to provide locking means which when in operative position prevents the top bar from being raised away from the bound sheets but still permits the top bar to be moved down on top of the bound sheets.

Further and other objects of the invention will be later set forth and mainfested in the course of the following description.

In the drawings: Figure 1 is a top plan view of the invention, the posts being shown in section; Fig. 2 is a central longitudinal vertical sectional view of Fig. 1; Fig. 3 is a horizontal sectional view of Fig. 1 showing the parts in locked position; Fig. 4 is a view similar to Fig. 3 showing the parts in unlocked position and positively held in such position; Fig. 5 is a section on the line 5—5 of Fig. 1; Fig. 6 is a section on the line 6—6 of Fig. 2; Fig. 7 is a section on the line 7—7 of Fig. 2; Fig. 8 is a detail perspective view of the connecting bar for the latch blocks; Fig. 9 is a detail perspective view of one of the latch blocks; and Fig. 10 is a detail perspective view of the other latch block.

In accordance with the present invention the base plate 1 has the usual posts 2 projecting therefrom. The top bar is formed of a casing 3 in which a pair of sliding latch blocks 4 and 5 operate, the latch blocks having mortises 6 in which are secured the ends 7 of a thin connecting bar 8. The top bar is shown in the drawings, as spaced from the base plate 1, in which position it will be disposed when leaves are placed over the posts 2 and between the base plate and top bar. The latch block 5 has extending therefrom at or near the extreme portion of one side, a rod 10 slidable in a rotary post 11 and being surrounded by a coil spring 12 which abuts the post 11 and adjacent end of the block 5. A locking pin 13 is secured to the casing and is adapted to engage a shoulder 14 formed on the block 5, the latter having a U-shaped cut-out part 15 to receive the adjacent post 2. The block 4 has a hook-shaped part 16 which engages over the adjacent post 2, the part 16 and the finger 17 of block 5 closing the entrance slots or gates 18 of the casing 3 so as to prevent the posts 2 from moving through the slots. Each of the blocks is formed with a transverse channel 19 which latter is of C-shape in cross section and tapered, and receive loosely therein balls 20.

The balls, as is apparent from Fig. 5, enable the top bar to be moved down on the posts 2, but prevent upward movement of the top bar relative to the posts. The connecting bar 8 has an operating knob 23 secured thereto, the latter having its shank slidably received within a slot 21 formed in the top of the casing 3, and having a laterally extended end 23′.

In operation, when the operator grasps the knob 23 and moves same in the slot 21 from the position shown in Fig. 3 to that shown in Fig. 4, the finger 17 will be moved out of engagement with its post 2, whereupon the spring 12 will be compressed and will thrust the bar 8 to one side, thus causing the shoulder 14 to engage the locking pin 13 in a manner depicted in Fig. 4 of the drawings. This thrust movement of the bar 8 causes the end 24 thereof to project beyond the inner end of the entrance slot 18 of casing 3 as shown in Fig. 4, so that when the posts are again caused to project into the slots 18, the post adjacent block 5, will strike against this end 24 and move shoulder 14 out of engagement with the locking pin 13, whereupon the spring 12 will automatically restore the parts to locked position. The lat-

erally extended end 23′ of slot 21 affords a means of locking the blocks of the top bar in open position in addition to parts 13 and 14 and either or both can be used. A dust cap C is preferably used to cover the slot 21 and moves with the knob 23. The balls 20 contact the posts 2 and are freely movable in the inclined slots 19 and therefore will prevent upward movement of the top bar by a wedging action, but will permit downward movement of the bar, so that, after locking of the top bar, the knob must be manipulated, as hereinabove described, to enable disengagement of the top bar from the posts. Instead of balls I can use rollers free to move in the same manner.

What is claimed is:

1. In combination with the binder posts, a top bar having gates to receive the posts, slidable and resilient means associated with the bar to close the gates, devices for operating the gate closing means to open position, inter-engaging elements carried by said bar and slidable means for holding the gate closing means in open position, and means on the gate closing means to automatically release the latter to allow it to return to locking position upon contact of one of the posts with said slidable means.

2. In combination with the binder posts, a casing, a slidable and rocking element comprising a bar and retaining blocks carried by the ends of said bar, means for tensioning said element in its movements, manually operable means for effecting the movements of said element, and engaging abutments carried by said casing and element to positively lock the latter in retracted position.

3. In combination with the binder posts, a casing, a slidable and rocking element comprising a bar and retaining blocks carried by the ends of said bar, manually operable means for effecting the movements of said element, interengaging means borne by the casing and element to positively lock the latter in retracted position, and spring means acting on said element eccentric of its longitudinal axis for rocking the element so as to cause locking of the latter in retracted position and for sliding the element to retain the posts.

4. In combination with the binder posts, and a top bar having gates in which the posts are received, a slidable and rockable element composed of a bar and blocks having parts to close the gates, spring means to tension the element to normally hold both blocks in gate closing positions and to rock said bar upon sliding thereof against the resiliency of said spring means, means to engage said element when rocked to lock it with both blocks in position with the gates open and with an edge of one of said blocks extending beyond the inner wall of one of said gates whereby when the posts are introduced within said gates one of said posts will strike said edge to disengage the locking means and restore the parts to normal positions with the posts barred.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD H. ELDER.

Witnesses:
Z. D. B. HALLETT,
L. V. FIFE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."