

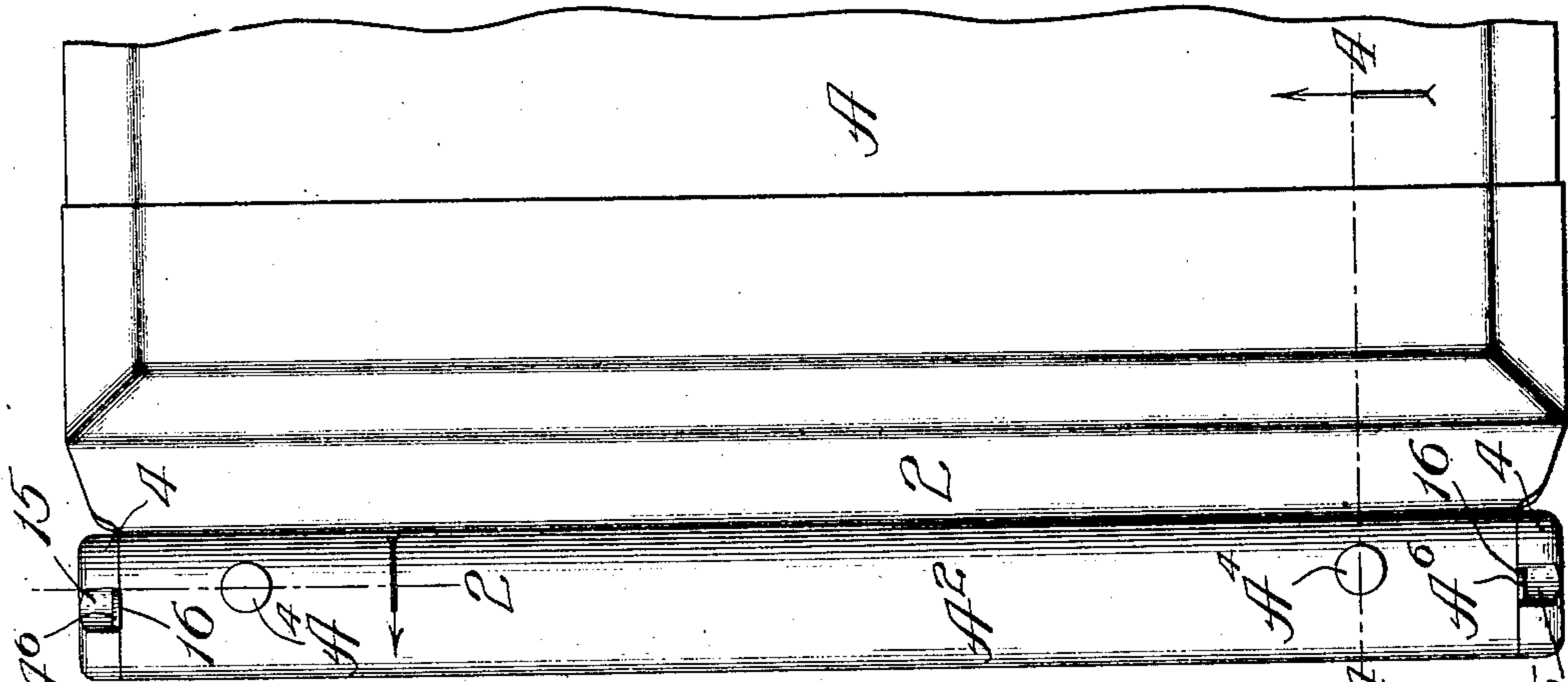
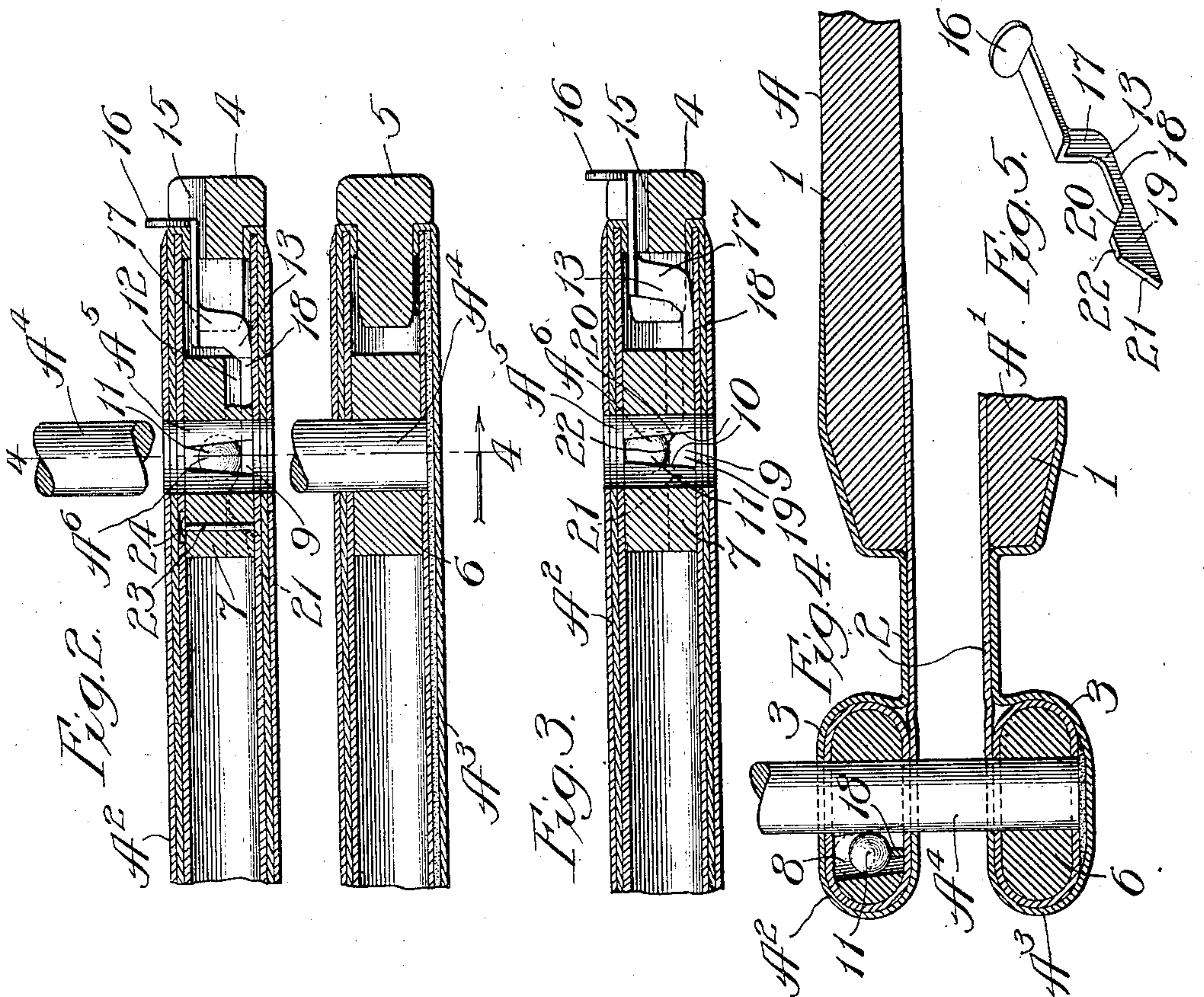
H. S. JONES.

BINDER.

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917,610.

Patented Apr. 6, 1909.



Witnesses:

John Enders  
Chas. H. Buell

Fig. 1.

Inventor:

Harry S. Jones.

By *Dunsmuir, Lee, Crittenden & Miles,*  
Attys.



# UNITED STATES PATENT OFFICE.

HARRY S. JONES, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO WILLIAM GIFFORD JONES, OF CHICAGO, ILLINOIS.

## BINDER.

No. 917,610.

Specification of Letters Patent.

Patented April 6, 1909.

Application filed November 27, 1908. Serial No. 464,581.

*To all whom it may concern:*

Be it known that I, HARRY S. JONES, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Binders, of which the following is a specification.

My invention relates particularly to loose-leaf binders; and my primary object is to provide an improved construction of binder adapted for use as a transfer binder, or for analogous purposes, and having improved means for locking the clamping-bar of the upper, or movable, cover to the binding-posts of the binder.

The invention is illustrated in its preferred embodiment in the accompanying drawing, in which—

Figure 1 represents a broken plan view of a transfer binder constructed in accordance with my invention; Fig. 2, a broken sectional view taken, as indicated, at line 2 of Fig. 1 and showing the binder in a locked condition; Fig. 3, a similar sectional view showing the upper clamping-bar shown in Fig. 2, with a locking-device in the non-locking position; Fig. 4, a broken sectional view taken, as indicated, at line 4 of Fig. 1; and Fig. 5, a perspective view of a releasing-device employed.

In the construction illustrated, A, A<sup>1</sup> represent the upper and lower covers of a loose-leaf binder, having attached thereto, respectively, tubular clamping members A<sup>2</sup>, A<sup>3</sup>; A<sup>4</sup>, binding-posts rigidly connected with the lower clamping-member A<sup>3</sup> and extending through perforations A<sup>5</sup> with which the upper clamping-member is provided near its ends; and A<sup>6</sup>, locking-devices connected with the upper clamping-member A<sup>2</sup> and co-acting with the binding-posts A<sup>4</sup>. The covers may be constructed in any desirable manner. Ordinarily they comprise boards 1 (card-board or wood) joined by flexible connections 2 to the tubular clamping-bars. The flexible connections usually comprise bindings 3 which may be of leather, incasing the tubular clamping-bars and having their margins connected with the boards, or cover-sections, 1. The ends of the upper tubular clamping-bar are fitted with plugs, or caps, 4; and the ends of the lower tubular clamping-bar are fitted with similar plugs 5. The lower clamping-bar is provided internally near its ends with plugs 6, through which the

lower ends of the posts A<sup>4</sup> extend. In practice, the binding-posts A<sup>4</sup> are of sectional construction, so that they may be made of any desired height.

The manner of forming each locking-device A<sup>6</sup> is preferably as follows: The upper tubular clamping-member A<sup>2</sup> is fitted near its ends, adjacent to the end-plugs 4, with inner plugs 7, through which the perforations A<sup>5</sup> for the binding-posts pass. Adjacent to the perforations A<sup>5</sup> in the plugs 7 are slightly-inclined channels, or bores, 8, which intersect the post-receiving perforations A<sup>5</sup>, so as to form tapering slots 9 along the line of intersection, as shown in Fig. 3. The slots 9 are bounded by upwardly-converging walls 10, as shown in Fig. 3, and the inclination of the bores 8 is rearwardly and upwardly, as shown in Fig. 4. The bores 7 serve as runways for gravity-lock balls 11 adapted to project through the slots 9 and engage the binding-posts A<sup>4</sup>. In the lower walls of the plugs 7 are cut longitudinal slots 12 which serve to receive the wedge-portions of slides 13 adapted to move beneath the balls 11 and release them from engagement with the posts A<sup>4</sup>. Each slide 13 preferably comprises a horizontally-disposed shank passing through a slot 15 in the upper portion of the corresponding plug 4; a thumb-piece 16 connected with the outer end of said shank; a downwardly-turned offset 17 located inside the plug 4; and a horizontal stem 18 which rests on the bottom wall of the tubular-member A<sup>2</sup> and extends into the slot 12, where it is equipped at its upper edge with a wedge 19 having beveled surfaces 20, 21 and a flattened apex affording a horizontal surface 22. The slide 13 normally occupies the position shown in Fig. 2, in which position the wedge 19 is located at the inner side of or beyond the ball 11. This corresponds with the locking position, the ball 11, in this position, being in locking engagement with the binding-posts A<sup>4</sup>. In this position the upturned thumb-piece 16 lies adjacent to the extremity of the tubular member A<sup>2</sup>. When the slide is moved outwardly by applying the thumb to the thumb-piece 16, the thumb-piece moves to a position substantially flush with the outer end of the plug 4, as shown in Fig. 3. In this movement the beveled surface 20 moves beneath the ball 11 and forces the same up the inclined runway 8, releasing the ball



from binding engagement with the post. When the slide is at the outer end of its perforation the ball rests upon the horizontal surface 22 of the wedge. In practice, it is  
 5 advantageous to make the inner plugs 7 with a somewhat loose fit, so that they may be readily entered in the tubular member A<sup>2</sup>, where they are secured in place by rivets 23, whose heads 24 pass freely through per-  
 10 forations in the upper wall of the member A<sup>2</sup> and whose lower ends are riveted to the lower wall of said tubular member.

From the foregoing description it will be understood that when the slides 13 are in the  
 15 position shown in Figs. 1 and 2, the balls 12 are permitted to drop to the lower ends of the bores 8 and protrude somewhat through the slots 9 into the post-receiving perforations A<sup>5</sup> of the upper clamping-member,  
 20 where they lockingly engage the binding-posts extending through said perforations A<sup>5</sup>. When the slides are moved outwardly, the wedges serve to elevate the balls 11 in the manner illustrated in Fig. 3, thereby re-  
 25 leasing the balls from locking engagement with the binding-posts, and permitting the upper clamping-member to be raised with relation to the binding-posts.

In assembling the parts, the plugs 7 are  
 30 slipped into the tubular-member A<sup>2</sup> after the balls have been entered in the bores 8. The slides are then entered, the beveled surfaces 21 enabling the wedges to pass beneath the balls; the plugs 7 are then riveted in posi-  
 35 tion and the end-plugs 4 are then forced into position and secured in a desirable manner.

From the illustrations and descriptions given it will be at once appreciated that my  
 40 improved construction provides an exceedingly simple and effective locking-device, and that the resulting binder construction is neat in appearance and handy in operation. The parts of the locking-devices are all  
 45 housed within the upper tubular clamping-member A<sup>2</sup>, except the small protruding thumb-pieces 16, which may be nickel-plated.

The foregoing detailed description has  
 50 been given for clearness of understanding only, and no undue limitation is to be understood therefrom.

What I regard as new, and desire to secure by Letters Patent, is—

55 1. In a binder, the combination with a binding-post and a clamping-member having a perforation receiving said post, of a locking-device comprising a gravity-lock member engaging said post, and a slide having a  
 60 beveled surface adapted to ride beneath said gravity-lock member and effect release thereof from binding engagement with said post.

2. In a binder, the combination with a  
 65 lower clamping-member equipped with bind-

ing-posts rising therefrom and an upper tubular clamping-member provided with post-receiving perforations, of a member within said tubular clamping-member provided with a housing for a gravity-lock ball, a  
 70 gravity-lock ball contained therein, and a releasing-device engaging said ball and provided with a thumb-piece protruding from said tubular clamping-member.

3. In a binder, the combination with a  
 75 lower clamping-member equipped with binding-posts rising therefrom and an upper tubular clamping-member provided with post-receiving perforations, of a plug within said tubular clamping-member provided with a  
 80 ball runway, a ball in said runway adapted to engage the adjacent binding-post, and a ball-actuating slide within said tubular clamping-member equipped with an actuating-shank protruding from said tubular  
 85 clamping-member and provided with a thumb-piece.

4. In a binder, the combination with a binding-post and a tubular clamping-member having a perforation receiving said post,  
 90 of a locking-device comprising a gravity-lock member engaging said post, and a slide having a beveled surface adapted to ride beneath said gravity-lock member and having a shank protruding from the end of said  
 95 tubular clamping-member, and an end-plug fitted in the end of said tubular clamping-member and having a passage therethrough for said shank.

5. In a binder, the combination with a  
 100 lower clamping-member equipped with a binding-post rising therefrom and an upper tubular clamping-member provided with post-receiving perforations, of a plug within said tubular clamping-member provided  
 105 with a post-receiving perforation and adjacent thereto with an inclined ball-receiving bore intersecting said last-named perforation, a ball within said bore engaging the corresponding post, a ball-releasing means  
 110 located within said tubular clamping-member and having an operating shank protruding from said tubular clamping-member.

6. In a binder, the combination with a binding-post and a tubular clamping-member  
 115 having a perforation receiving said post, of a locking-device comprising a gravity-lock ball engaging said post, a slide having a beveled surface adapted to ride beneath said gravity-lock ball and effect release thereof  
 120 from binding engagement with said post, said slide having an offset portion carrying a shank protruding from the end of said tubular clamping-member and having an upturned thumb-piece, and an end-plug  
 125 fitted in said tubular clamping-member and having a slot in its upper portion receiving said shank.

7. In a binder, the combination with a  
 130 lower clamping-member equipped with bind-



ing-posts and an upper tubular clamping-member provided with post-receiving perforations, of a pair of locking-devices contained within said tubular clamping-member, each locking-device comprising an internal member provided with a ball runway adjacent to a binding-post, a ball in said runway, and a longitudinal slide located at the outer side of the binding-post and having a wedge-portion adapted to move beneath the adjacent ball and equipped with an actuating-shank projecting from the end of said tubular clamping-member, for the purpose set forth.

8. In a binder, the combination with a binding-post and a tubular clamping-member having a perforation receiving said post, of a locking-device comprising a gravity-lock ball located within said tubular clamping-member and engaging said post, a slide having an actuating-shank projecting from the end of said tubular clamping-member and equipped with a thumb-piece lying adjacent

to the end of said tubular clamping-member, a wedge carried by the inner end of said slide and located at the inner side of said ball, and an end-plug fitted in said tubular clamping-member and having a slot permitting outward movement of said slide.

9. In a binder, the combination with a binding-post and a tubular clamping-member having a perforation receiving said post, of a locking-device comprising a plug within said tubular clamping-member provided with a ball runway and with a longitudinal slot intersecting said runway, a slide having a wedge-portion movable in said slot, a gravity-lock ball above said slide, and actuating-means connected with said slide and protruding from said tubular clamping-member.

HARRY S. JONES.

In presence of—

A. U. THORIEN,  
R. A. SCHAEFER.