

No. 713,289.

Patented Nov. 11, 1902.

H. E. DADE.  
BINDER.

(Application filed Feb. 12, 1901.)

(No Model.)

2 Sheets—Sheet 1.

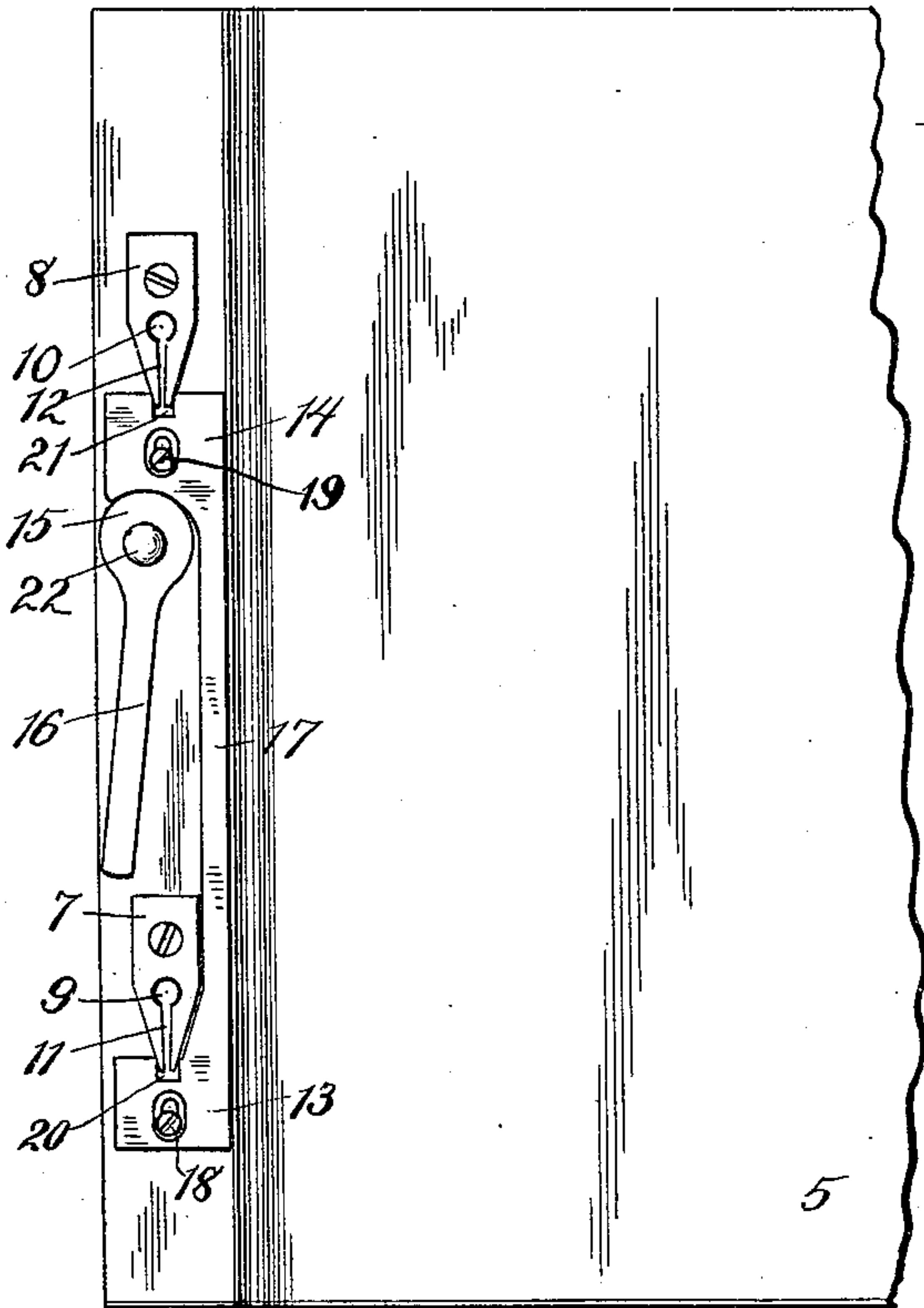


Fig. 1.



Fig. 8.

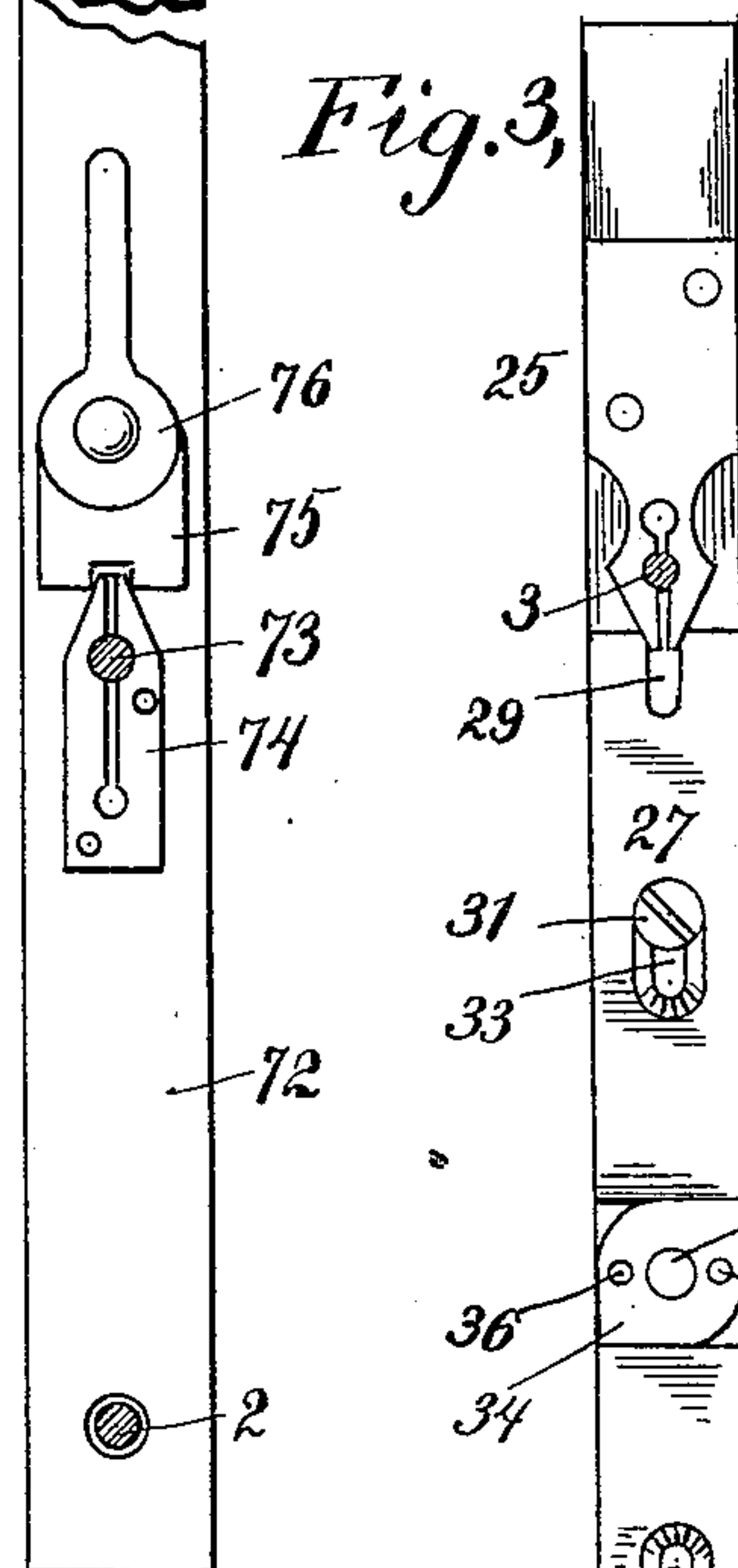
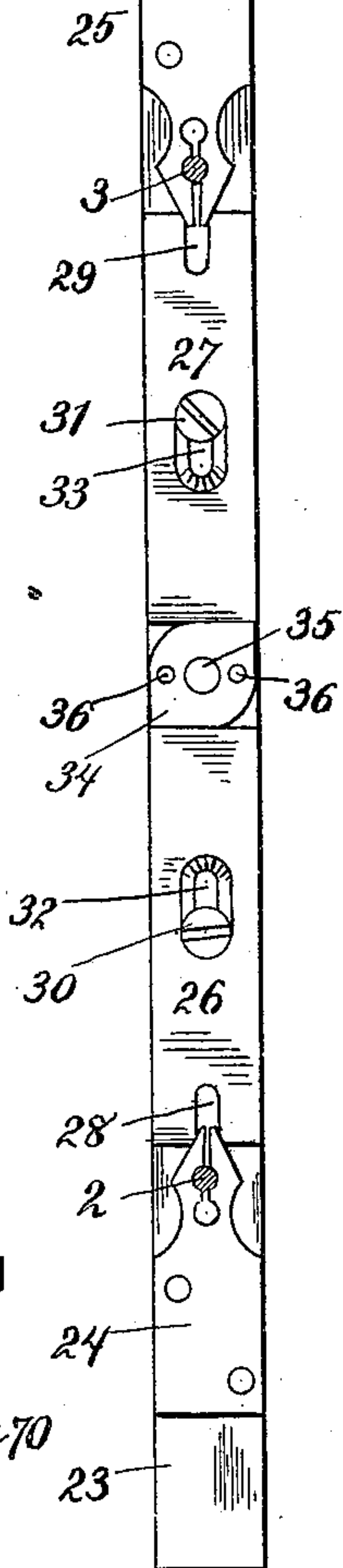
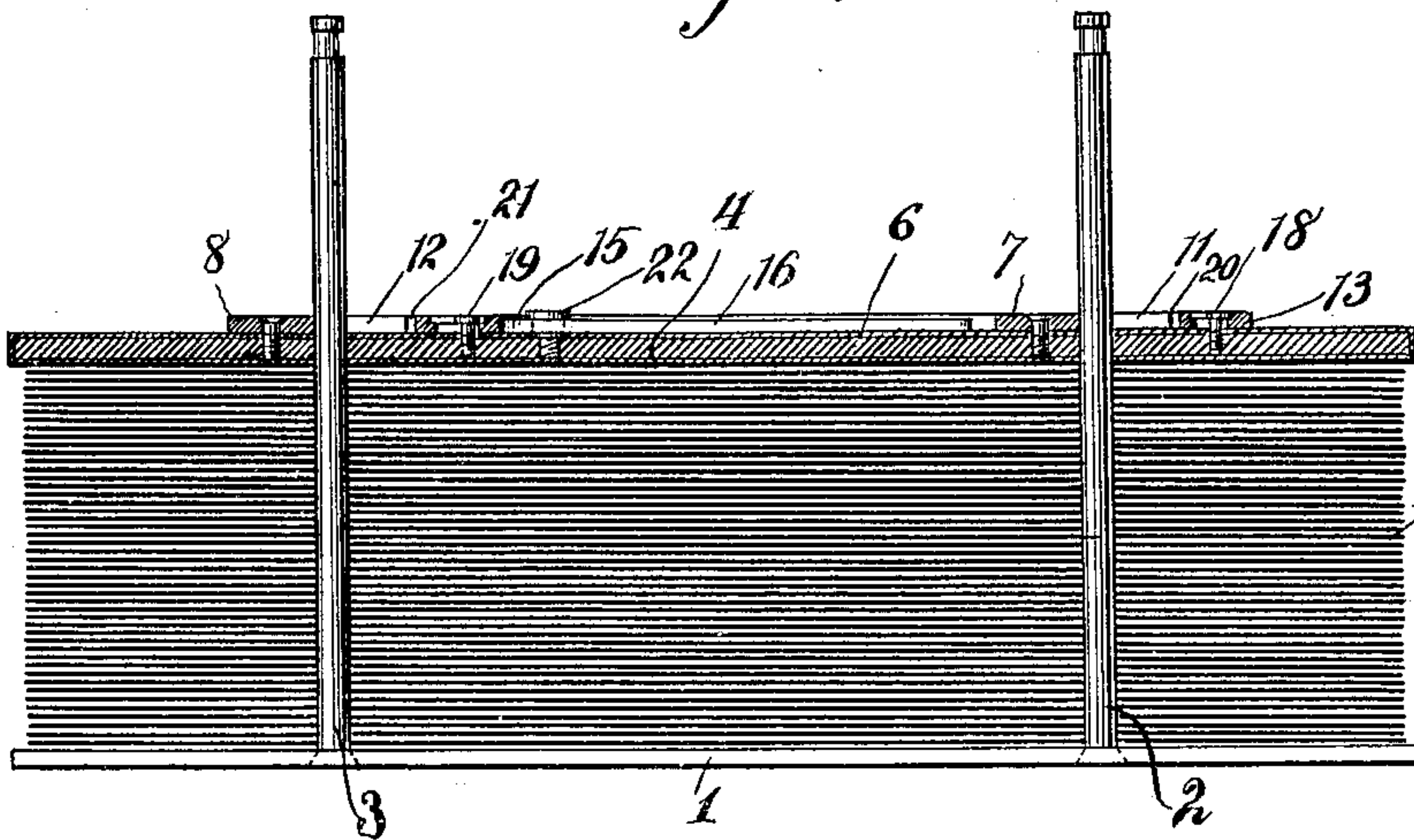


Fig. 3.

Fig. 2.



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2 Sheets—Sheet 2.

Fig. 4,

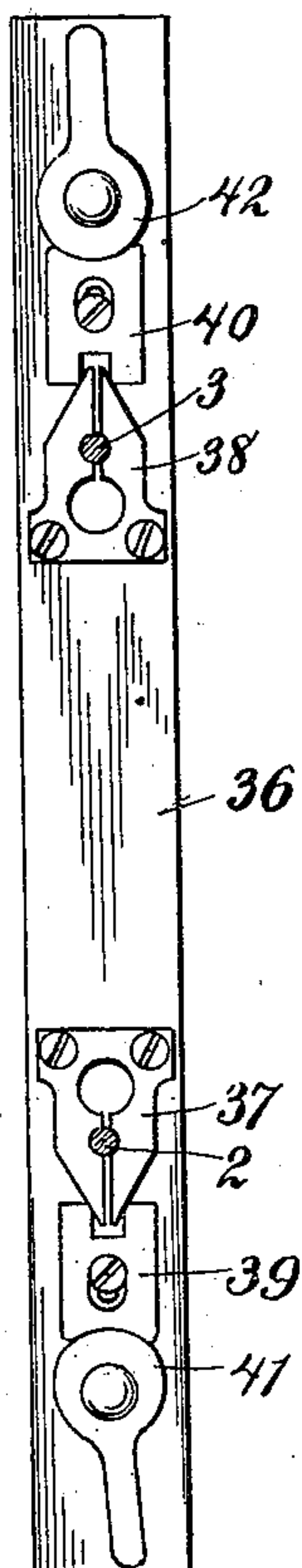


Fig. 6,

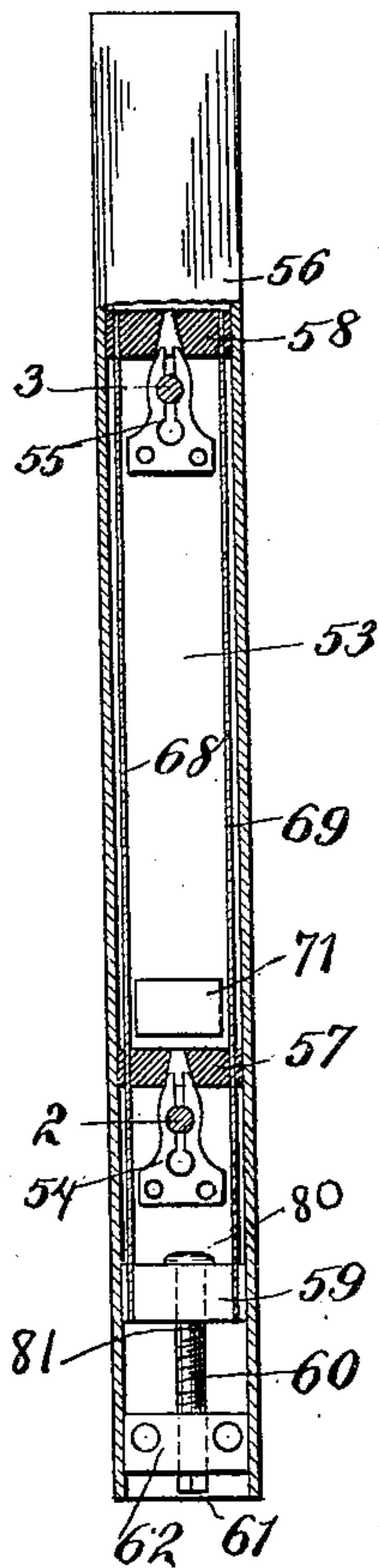


Fig. 5

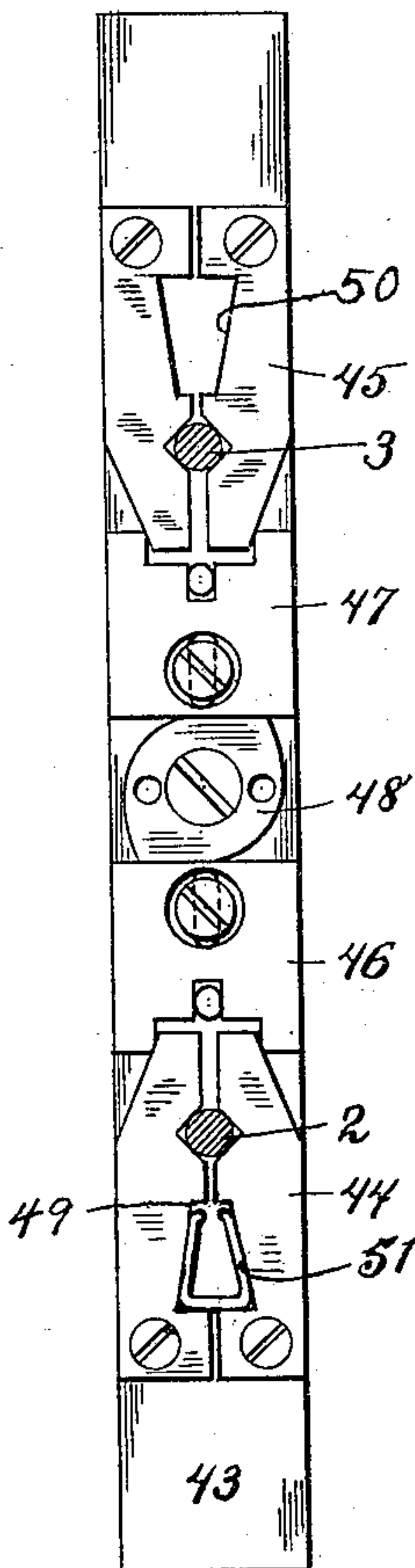
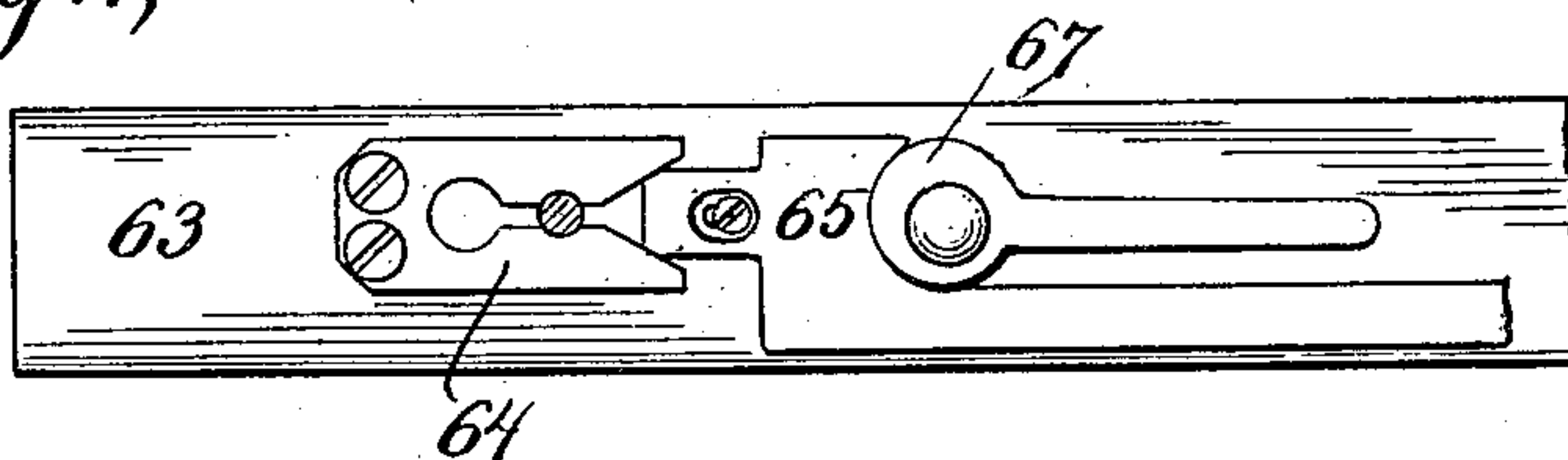


Fig. 7,



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# UNITED STATES PATENT OFFICE.

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## BINDER.

SPECIFICATION forming part of Letters Patent No. 713,289, dated November 11, 1902.

Application filed February 12, 1901. Serial No. 46,997. (No model.)

*To all whom it may concern:*

Be it known that I, HARRY E. DADE, a citizen of the United States, and a resident of Yonkers, Westchester county, State of New York, have invented certain new and useful Improvements in Binders, of which the following is a specification.

This invention relates to binders, and seeks to provide an efficient and inexpensive binder of that class wherein loose sheets are removably held in place on a pair of posts fixed to a lower strip and in which an upper clamping-strip adapted to clamp the sheets down on the lower strip is provided.

The invention consists of the construction hereinafter set forth.

In the accompanying drawings, forming part of this specification, I have illustrated several of the various embodiments of which my invention is susceptible.

Figure 1 is a plan view of the upper or clamping strip in its preferred form and provided with a cover, partly broken away. Fig. 2 is an end elevation of the binder, the upper strip being of the same form as that shown in Fig. 1 and being in central longitudinal section. Figs. 3, 4, 5, and 8 are plan views of modified forms of the upper or clamping strip and showing the posts of the lower strip in section. Fig. 6 is a plan view of another modified form of clamping-strip, partly in section and showing the posts of the lower strip in section; and Fig. 7 is a plan view of one end of another modified form of clamping-strip, the parts being in section.

Referring now to the construction shown in Figs. 1 and 2, the lower strip 1 is provided with two fixed posts 2 and 3, on which slide the strips 4. These strips preferably have covers hinged thereto. 5 is the cover of the upper strip. These strips are generally covered with suitable binding material, such as canvas or leather. 6 is the binding material of the upper or clamping strip 4. The upper strip 4 is preferably of the same length as the lower strip 1 and is provided with apertures through which the posts 2 and 3 pass, as shown. Carried on the clamping-strip 4 are two grippers 7 and 8, separate and distinct from each other and provided with apertures 9 and 10, through which the posts 2 and 3 may freely pass. These grippers 7 and

8 are made of metal in one piece and have slots 11 and 12 extending inward from one end to the apertures 9 and 10, the portions on either side of the slot in each gripper forming a pair of jaws, one on either side of a post, and adapted to move to and from each other in the same plane and parallel with the strip, so as to engage and disengage said post, whereby when the posts are thus engaged by the grippers the clamping-strip 4 will be held securely on said posts. In the preferred form of the grippers the apertures therein through which the posts pass are made slightly larger than the posts, so that the strip 4 may slide freely up and down on the posts when the posts are not engaged by the grippers. This arrangement is embodied in the grippers 7 and 8. Moreover, in these grippers 7 and 8 the jaws are designed to be moved toward each other to engage the posts and when released spring apart to disengage the posts. Thus the jaws tend normally to disengage the posts. Suitable means are employed for controlling the position of the gripper-jaws. In Figs. 1 and 2 these means consist of two gripper-actuators 13 and 14 and an eccentric 15, having a handle 16 for operating the actuators. As shown in these figures, the actuators consist of two metal blocks connected together by the rod 17, the actuators and rod being made of one piece of metal and so that the two actuators may operate simultaneously. The actuators are secured to the strip 4, so as to be capable of moving longitudinally or reciprocating thereon, by counter-sunk screws or rivets 18 and 19 passing through slots in the actuators and fixed to the strip 4. The jaws of the grippers face the same end of the strip 4, and these jaws and the faces of the actuators abutting these jaws are so suitably formed with relation to each other that when the actuators move against the jaws the latter are compressed upon their respective posts. A suitable way to relatively arrange the forms of the contacting faces of the actuators and jaws is shown in Figs. 1 and 2, although other arrangements may be employed besides that specifically shown in said figures. As there shown, the jaws are tapered and the abutting faces of the actuators are provided with recesses 20 and 21, into which the jaws nor-



mally enter a short distance. When the actuators are moved against the jaws, the latter resist the pressure, but are compressed and made to engage their posts. When the  
 5 actuators are released, the jaws spread apart, owing to the springiness of the metal, and so disengage the posts and automatically retract the actuators and free themselves therefrom. The eccentric 15 is rotatably secured to the  
 10 strip 4 by a screw or rivet 22 and works against the actuator 14. When the handle of the eccentric is pushed in toward the rod 17, the gripper-jaws are compressed, and when it is pushed out the gripper-jaws are released.  
 15 The sheets 70 of the binder are provided in the usual manner with apertures through which the posts 2 and 3 pass, and the sheets are arranged between the upper and lower strips.  
 20 In Fig. 3 the clamping-strip 23 has the grippers 24 and 25 secured thereto, these grippers having tapered spring-jaws and operating upon the posts 2 and 3 as do the grippers 7 and 8 in Figs. 1 and 2. The grippers 24  
 25 and 25 have their tapered jaws facing inward and are controlled by the actuators 26 and 27, provided, respectively, with the recesses 28 and 29, into which the jaws of the grippers enter. These actuators slide back and forth  
 30 on the strip 23, being held thereon by the screws 30 and 31 passing through the slots 32 and 33, and are simultaneously moved outward by the eccentric 34 to cause the grippers to engage their posts. This eccentric is  
 35 rotatably secured to the strip 23 by the pin 35 and is provided with holes 36 to receive an actuating-key. When the eccentric 34 is turned in one direction by its key, the grippers engage the posts, and when the eccentric  
 40 is turned in the opposite direction the jaws of the grippers spread slightly apart to disengage the posts and at the same time operate to retract the actuators in the same way as do grippers 7 and 8.  
 45 In Fig. 4 the clamping-strip 36 is provided with grippers 37 and 38, having tapering spring-jaws facing outward and adapted to engage and disengage the posts 2 and 3 in the same way as do the grippers 7 and 8.  
 50 These grippers are controlled by the actuators 39 and 40, which have recesses similar to those of the actuators 13 and 14, into which enter the tapering jaws of the grippers 37 and 38. These actuators are arranged to  
 55 slide backward and forward on the clamping-strip, being held thereon by means of screws passing through slots in the actuators, as shown. The actuators are moved inward against the grippers by the eccentrics 41 and  
 60 42, whose handles project outward, as shown. When the eccentrics are moved in one direction, the grippers are caused to engage the posts, and when they are moved back the grippers disengage the posts and retract the  
 65 actuators in the same way as has already been described.

In Fig. 5 the clamping-strip 43 is provided

with grippers 44 and 45, secured thereto and having tapered jaws facing inward and adapted to engage and disengage the posts 2  
 70 and 3. These grippers are controlled by actuators 46 and 47, which are provided with recesses for the jaws of the grippers and which operate upon the grippers in substantially the same way as is shown in Fig. 3.  
 75 These actuators are operated also by an eccentric 48, designed to be turned by a key and similar to that shown in Fig. 3. The grippers 44 and 45 instead of being made in  
 80 one piece, as are the grippers in the figures already described, are each made in two separate pieces and provided with recesses 49 and 50. A spring 51 fits in the recess 49 of the gripper 44 and has a tendency to spread the  
 85 jaws of the gripper, so as to disengage the post and retract the actuator 46 when the latter has been released from the outward pressure of the eccentric 48. I may employ a spring, such as 51, for each gripper, if desired,  
 90 or I may omit such springs from both grippers altogether, as is done in the case of the gripper 45. When the gripper 45 is released from the pressure of its actuator, the jaws will separate far enough to permit the clamp-  
 95 ing-strip to be freely moved along the post. In Fig. 6 the clamping-strip 53 is provided with grippers 54 and 55, similar to the grippers 7 and 8 in Figs. 1 and 2. Carried on  
 100 the strip 53 and beneath the cover or casing 56 thereof are the actuators 57 and 58, which are connected together by the rods 68 and 69. Near one end of the clamping-strip 53 these rods are connected together by a cross-head  
 105 59, through which loosely passes the screw 60, having a squared end 61 projecting through a threaded hole in the block 62, secured on the strip 53. The screw 60 has a head 80 on one side of the cross-head 59, and has also a pin 81 on the other side thereof.  
 110 The actuators are provided with tapered recesses into which the jaws of the grippers enter. The grippers are made in one piece, as shown, and normally tend to disengage the posts. A key fitted on the end of the screw  
 115 60 is designed to rotate the screw, and thereby move the actuators against the grippers and compress their jaws so as to engage the posts. A reverse movement of the screw causes the grippers to disengage the posts. 71 is a stop  
 120 to limit this reverse movement.

In Fig. 7 the clamping-strip 63 is provided with grippers 64, which normally tend to engage the posts and are pressed outward or separated, so as to disengage the posts, by means of actuators 65, operated by an eccentric 67.  
 125 The grippers 64 have their jaws tapered on their inner sides, so as to form a tapered recess in the gripper, into which recesses the actuators enter to spread the jaws apart. When the grippers are released from  
 130 the pressure of the actuators, they retract the actuators and engage the posts.

In Fig. 8 the clamping-strip 72 is provided with three apertures to receive the three



posts 2, 3, and 73, fixed to the lower strip. The gripper 74, actuator 75, and eccentric 76 are similar in construction and operation to the corresponding parts shown in Fig. 1. In Fig. 8, however, only one gripper, actuator, and eccentric are employed, the gripper operating to engage and disengage the central post 73.

While I have herein shown and described several different embodiments of which my invention is susceptible, it will be understood that the invention is susceptible of being embodied in various other forms. Moreover, various changes in the form and arrangement of parts may be made without departing from the scope of my invention. For example, the form of the recesses in the actuators for the grippers shown in Figs. 1 to 5, inclusive, may be tapered. Such tapered recesses are shown in the actuators in Fig. 6. Where the recesses in the actuators are tapered, it will of course be understood that the grippers themselves need not necessarily have their jaws tapered. Again, if desired, the casing or covering—such as that, for example, shown in Fig. 6—may be employed in connection with any or all of the clamping-strips.

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

1. In a binder the combination of a strip provided with a pair of fixed posts; a clamping-strip; a pair of grippers separate and distinct from each other fixed so as to be bodily immovable on said clamping-strip, each gripper consisting of two spring-jaws arranged to move to and from each other in the same plane and adapted to engage the exterior surface of one of said posts; and means carried by the clamping-strip independent of the posts for causing the gripper-jaws to move to and from each other, whereby the posts may be engaged or disengaged by said grippers.

2. In a binder the combination of a strip provided with a pair of fixed posts; a clamping-strip; a pair of grippers separate and distinct from each other fixed so as to be bodily immovable on said clamping-strip, each gripper consisting of two spring-jaws arranged to move to and from each other in the same plane and adapted to engage the exterior surface of one of said posts, said grippers tending normally to disengage the posts; and sliding means for controlling the gripper-jaws whereby the posts may be engaged or disengaged by said grippers.

3. In a binder the combination of a strip provided with a pair of fixed posts; a clamping-strip; a pair of grippers separate and distinct from each other fixed so as to be bodily immovable on said clamping-strip, each gripper consisting of two spring-jaws arranged to move to and from each other in the same plane and adapted to engage the exterior surface of one of said posts, said grippers tending normally to disengage the posts; and slid-

ing means carried by the clamping-strip for controlling the gripper-jaws whereby the posts may be engaged or disengaged by said grippers.

4. In a binder the combination of a strip provided with a pair of fixed posts; a clamping-strip; a pair of grippers separate and distinct from each other fixed so as to be bodily immovable on said clamping-strip, each gripper consisting of two spring-jaws arranged to move to and from each other in the same plane and adapted to engage one of said posts; and two reciprocating gripper-actuators carried by the clamping-strip.

5. In a binder the combination of a strip provided with a pair of fixed posts; a clamping-strip; a pair of grippers separate and distinct from each other fixed on said clamping-strip, each gripper consisting of two spring-jaws arranged to move to and from each other in the same plane and adapted to engage one of said posts; and two gripper-actuators carried by the clamping-strip and sliding thereon.

6. In a binder the combination of a strip provided with a pair of fixed posts; a clamping-strip; a pair of grippers separate and distinct from each other fixed on said clamping-strip, each gripper consisting of two spring-jaws arranged to move to and from each other in the same plane and adapted to engage one of said posts; and two reciprocating gripper-actuators carried by the clamping-strip, said grippers being so arranged as to resist the pressure of the actuators and having thereby a tendency to retract the actuators and release themselves therefrom.

7. In a binder the combination of a strip provided with a pair of fixed posts; a clamping-strip; a pair of grippers separate and distinct from each other fixed on said clamping-strip, each gripper consisting of two spring-jaws arranged to move to and from each other in the same plane and adapted to engage one of said posts, each gripper having an aperture formed in its jaws through which the post passes, said grippers tending normally to disengage the posts; and two reciprocating gripper-actuators carried by the clamping-strip; and means for operating the actuators.

8. In a binder the combination of a strip provided with a pair of fixed posts; a clamping-strip; a pair of grippers separate and distinct from each other fixed on said clamping-strip, each gripper consisting of two spring-jaws arranged to move to and from each other in the same plane and adapted to engage one of said posts; two gripper-actuators carried by the clamping-strip and sliding thereon, said grippers being so arranged as to resist the pressure of the actuators and having a tendency to retract the actuators and release themselves therefrom, each gripper having an aperture formed in its jaws through which the post passes, and tending normally to disengage its post; and means carried by the clamping-strip for operating the actuators whereby



the posts may be engaged or disengaged by said grippers.

9. In a binder the combination of a strip provided with fixed posts; a clamping-strip; 5 a gripper carried on the clamping-strip for at least one of said posts and consisting of two jaws arranged to move to and from each other in the same plane to engage and disengage said post; and reciprocating means carried by 10 the clamping-strip for operating the gripper-jaws.

10. In a binder the combination of a strip provided with fixed posts; a clamping-strip; a gripper carried on the clamping-strip for at 15 least one of said posts and consisting of two spring-jaws arranged to move to and from each other in the same plane to engage and disengage said post; and reciprocating means carried by the clamping-strip for operating 20 the gripper-jaws.

11. In a binder the combination of a strip provided with a pair of fixed posts; a clamping-strip; sheets secured on the posts and between the strips; a pair of grippers separate and distinct from each other fixed on 25 said clamping-strip, each gripper consisting of two spring-jaws arranged to move to and from each other in the same plane and adapted to engage one of said posts, each gripper having an aperture formed in its jaws through 30 which the post passes, said grippers tending normally to disengage the posts; and reciprocating means carried by the clamping-strip for controlling the gripper-jaws whereby the

post may be engaged or disengaged by said 35 grippers.

12. In a binder the combination of a strip provided with a pair of fixed posts; a clamping-strip; sheets secured on the posts and between the strips; a pair of grippers separate and distinct from each other fixed on 40 said clamping-strip, each gripper consisting of two jaws arranged to move to and from each other in the same plane and adapted to engage one of said posts; and means for controlling the gripper-jaws whereby the posts 45 may be engaged or disengaged by said grippers.

13. In a binder, the combination of a strip provided with fixed posts; a clamping-strip; 50 a gripper carried on the clamping-strip for at least one of said posts and consisting of two tapering spring-jaws apertured to receive the post and arranged to move to and from each other to engage and disengage said post, 55 said jaws tending normally to disengage the post; a reciprocating actuator carried by the clamping-strip having a recess to receive and operate the jaws of the gripper; and means 60 to operate the actuator.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HARRY E. DADE.

Witnesses:

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EDWIN SEGER.