A. BENSON.

LOOSE LEAF BINDER.

APPLICATION FILED NOV. 7, 1908.

945,681. Patented Jan. 4, 1910.

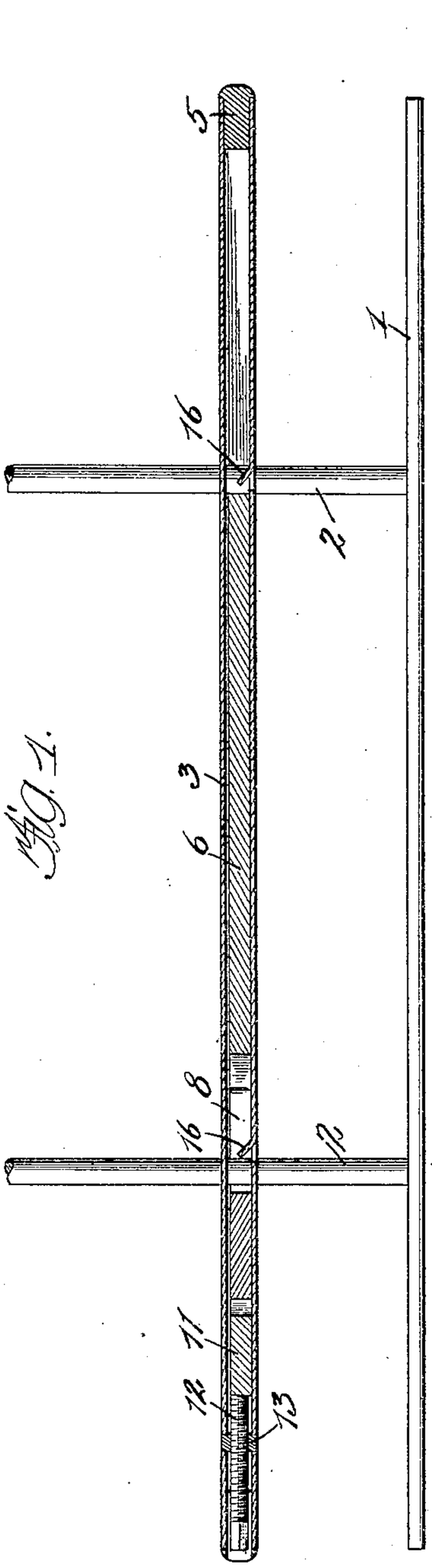

Fig. 1.

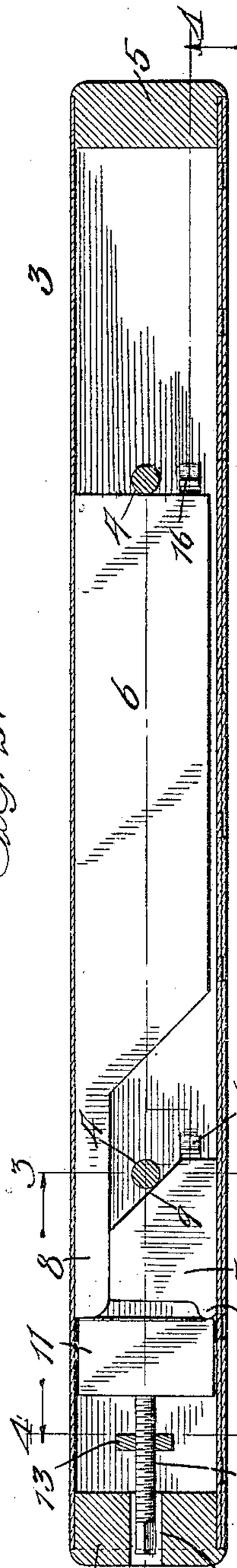

Fig. 2.

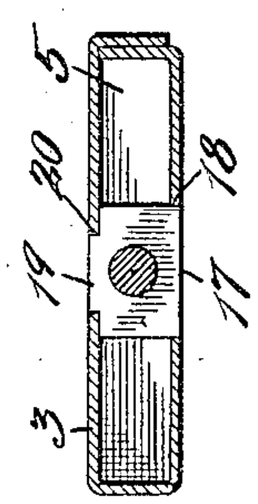

Fig. 4.

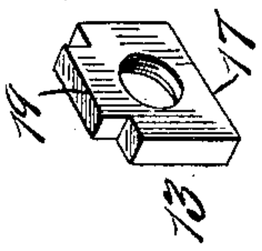

Fig. 5.

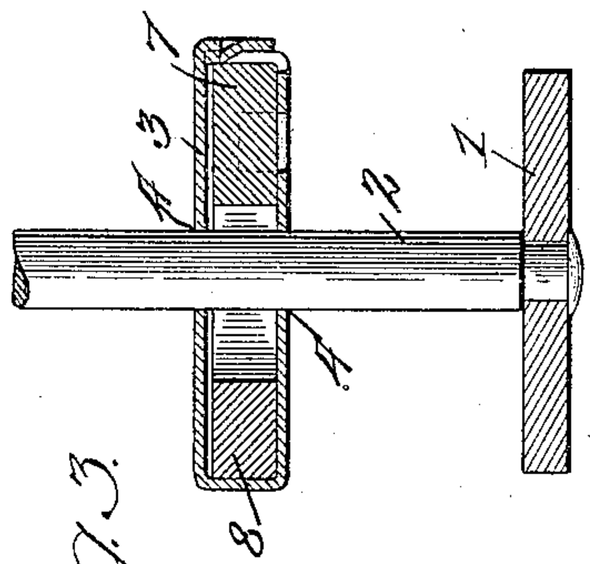

Fig. 3.

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UNITED STATES PATENT OFFICE.

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LOOSE-LEAF BINDER.

945,681. Specification of Letters Patent. Patented Jan. 4, 1910.

Application filed November 7, 1908. Serial No. 461,443.

To all whom it may concern:

Be it known that I, ANDREW BENSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Loose-Leaf Binders, of which the following is a specification.

This invention relates to the class of loose leaf binders which are commonly known as post binders.

The object of the invention is to provide a simple and effective locking mechanism for binders of this class, which may be operated from the end of the binder.

In the accompanying drawings Figure 1 is a section taken substantially upon the plane of dotted line 1 1 of Fig. 2, and showing a binder embodying the features of my invention. Fig. 2 is a sectional view of the movable side member illustrating the locking mechanism. Figs. 3 and 4 are sections on dotted lines 3 3 and 4 4, respectively, of Fig. 2. Fig. 5 is a perspective view of the fixed part or nut with which the operating screw is engaged.

The embodiment selected for illustration comprises a base plate 1 to which a plurality of leaf-engaging posts 2 is rigidly secured. Upon said posts is slidably mounted a clamping member 3, said member being herein shown as formed from sheet metal. It is tubular, and relatively thin and flat. 4 indicates the openings through which the posts 2 extend freely. The ends of the clamping member 3 may be closed in any suitable way, as, for example, by means of caps or plugs 5.

The locking mechanism comprises two post-engaging members 6 and 7. The member 6 is relatively long, being adapted at one end to engage one of the posts 2 and being of a length sufficient to extend from said post past the other post. As herein shown, the body portion of the locking member 6 is of substantially the same width as the interior width of the side member 3 so as to be held against lateral displacement by the walls of said member 3. The member 6 is herein shown as reduced in width at its end 8 opposite to the clamping end so as to enable it to pass between the other post and the adjacent wall of the clamping member 3.

The post-engaging member 7 has an inclined edge 9 arranged to be pressed against the adjacent post 2. Said clamping member is of a width sufficient nearly to fill the space between the adjacent reduced end 8 of the member 6 and the adjacent edge wall of the side member 3, in order to be confined against displacement. The end of the member 7 opposite to its operating end is provided with a projection 10. The opposite ends of a bar 11 bear against the projection 10 of the post-engaging member 7 and the adjacent end 8 of the post-engaging member 6. Pressure is exerted upon the middle portion of the bar 11 to force the members 6 and 7 tightly against the posts 2, by means of a screw 12 mounted in a bearing or nut 13, one end of said screw bearing against the bar 11 and the other end extending into an opening 14 in the adjacent end cap 5 and being squared for engagement by a key 15. The bar 11 preferably is of sufficient width to be incapable of turning or displacement in the side member 3 should the screw 12 be withdrawn or rotated a considerable distance away from said bar.

Any suitable means may be used to prevent the members 6 and 7 from moving longitudinally far enough to obstruct the openings 4 when the clamping member 3 is removed from the posts 2. I have herein shown tangs 16 struck up from one of the side walls of the clamping member 3 in position to limit the movement of the locking members 6 and 7.

As shown in Figs. 4 and 5, one edge 17 of the nut 13 lies within a correspondingly shaped opening 18 in the side member 3. The opposite edge of the nut 13 is reduced to form a lug 19 which lies within an opening 20 in the side member 3 and is riveted in said opening to secure the nut in place. It will be seen that said nut is securely held in place against the severe pressure exerted upon it by the screw during the locking operation.

In operation, the side member 3 is slid

upon the posts 2 into position against the sheets strung upon said posts, the member 3 being pressed down firmly upon the sheets so as to clamp them between the parts 1 and 3. The screw 12 is now rotated to force the members 6 and 7 against the posts 2, the frictional engagement between the posts 2 and the members 6 and 7 being sufficient to hold the side member 3 in the desired position.

It will be noted that the pressure exerted by the screw 12 is transmitted equally to the members 6 and 7. Furthermore, pressure is exerted upon the members 6 and 7 independently, whereby each is moved into clamping engagement with its post notwithstanding the latter may have become somewhat marred or bent. The screw 12 may be said to have a three-point bearing against the post-engaging members 6 and 7 the bearing points being the projection 10, the reduced end 8, and the point contacted by the inner end of the screw. The locking arrangement shown obviates the necessity for extreme accuracy in manufacture, as the bar 11 is at liberty to assume a slightly inclined position in order to bear firmly upon the projection 10 and the reduced end 8 of the locking member 6.

I have omitted illustration of the covers of the book and the usual leather covering for the members 1 and 3, as my invention does not relate thereto.

I would have it understood that I wish not to be limited to the details of construction herein shown and described, for various modifications will occur to persons skilled in the art.

I claim as my invention:

1. A binder comprising two posts, two independently movable members each adapted to engage one of said posts, and means for moving said members in the same direction into engagement with said posts.

2. A binder comprising two posts; two independently movable members, each adapted to engage one of said posts, one of said members extending from a point near its post to a point near the other member; and means for moving said members in the same direction into engagement with said posts.

3. A binder comprising two posts; two independently movable members each adapted to engage one of said posts, one of said members extending from a point near its post past the other post; and means engaging adjacent portions of said members for moving said members into engagement with said posts.

4. A binder comprising two posts; two independently movable members each adapted to engage one of said posts, one of said members extending from a point near its post past the other post; and means engaging adjacent portions of said members for moving said members in the same direction into engagement with said posts.

5. A binder comprising two posts; a side member movably mounted on said posts; and a lock for said side member comprising two members mounted in said side member and movable longitudinally thereof, each adapted to engage one of said posts, one of said side members extending from a point near its post past the other post, the other member having an inclined surface arranged to engage its post; and means for moving said members into engagement with said posts.

6. A binder comprising two posts; a side member slidably mounted on said posts; and a lock for said side member comprising two members mounted in said side member and movable longitudinally thereof, each being adapted to engage one of said posts, the body of one of said post-engaging members being substantially of the same width as the interior width of said side member and extending from a point near its post past the other post, and being reduced in width to pass said post; and means for moving said members into engagement with said posts.

7. A binder comprising two posts; a side member slidably mounted on said posts; and a lock for said side member comprising two members mounted in said side member and movable longitudinally thereof, each being adapted to engage one of said posts, one of said post-engaging members extending from a point near its post past the other post, and means for moving said members into engagement with said posts, comprising a part extending from one of said post-engaging members to the other, and means for applying pressure to said part.

8. A binder comprising two posts; a side member slidably mounted on said posts; and a lock for said side member comprising two members mounted in said side member and movable longitudinally thereof, each being adapted to engage one of said posts, one of said post-engaging members extending from a point near its post past the other post, and a screw having a three-point bearing against said post-engaging members.

9. A binder comprising two posts; two independently movable members each adapted to engage one of said posts; an equalizing bar extending from one of said members to the other and means for exerting pressure upon said bar to move said members into engagement with said posts.

10. A binder comprising two posts; two independently movable members each adapted to engage one of said posts; and a screw having a three-point bearing against said members and arranged to move said members in the same direction into locking position.

11. A binder comprising two posts; a side member slidably mounted on said posts, and a locking mechanism in said side member for locking the latter upon said posts, said locking mechanism comprising a screw and a stationary nut for said screw, said nut being substantially rectangular, one edge of said nut lying within an opening in one wall of said side member and the opposite edge of said nut having a lug thereon, which lug lies within an opening in the opposite wall of said side member.

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