April 5, 1927. 1,623,283

W. J. STEENROD

LOCKING MECHANISM FOR LOOSE LEAF BINDERS

Filed Sept. 23, 1926

Fig. 1.

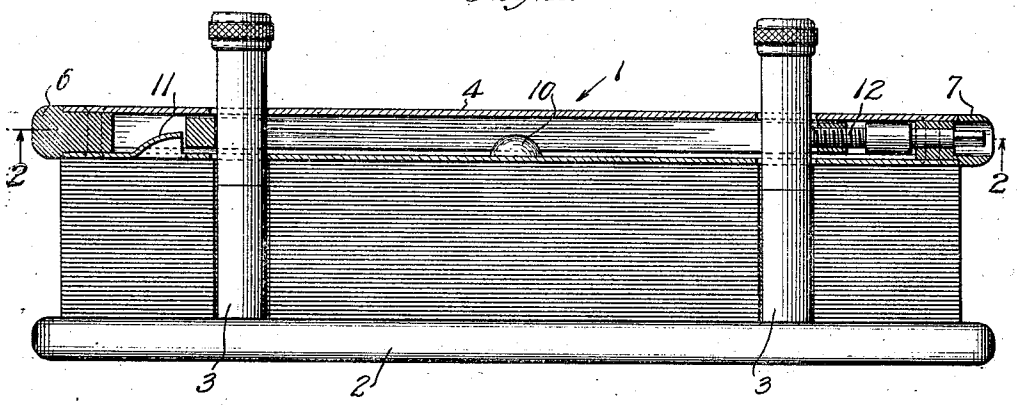


Fig. 2.

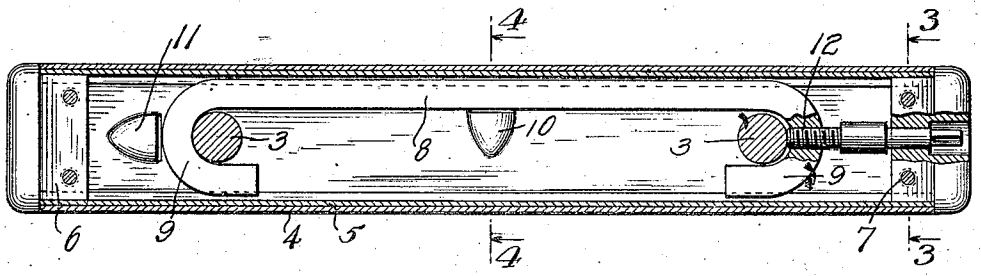


Fig. 3.

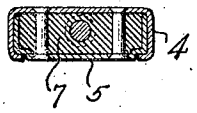


Fig. 4.

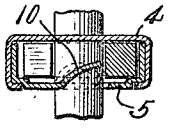
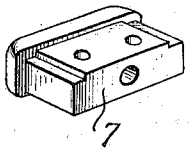


Fig. 5.



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UNITED STATES PATENT OFFICE.

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LOCKING MECHANISM FOR LOOSE-LEAF BINDERS.

Application filed September 23, 1926. Serial No. 137,228.

My invention relates to locking mechanism devised for use in what are termed end-lock post binders, consisting of a pair of covers severally hinged to post bars, one of the bars being equipped with fixed cylindrical posts adapted to engage the orificed sheets which the binder is designed to receive, and the other of which is a removable bar, orificed to engage the posts and arranged to house a locking mechanism, operable at one end of the bar, which locking mechanism is arranged to lock such removable bar and associated cover to the posts. Locking mechanisms for binders which in general mode of operation and construction are similar to that hereinafter described are known in the art, and the object of my present invention is to provide an improved specific form of locking mechanism which by reason of its novel construction shall be particularly efficient and sturdy, simple in construction and little liable to derangement, and which can be manufactured at a minimum cost. With this object in view I have designed and invented my novel, improved locking mechanism, the essential elements of my invention being more particularly pointed out in the appended claims.

In the drawing, Figure 1 is a longitudinal section through the bars of a post binder in which my invention is embodied, the section being taken in a plane passing axially through the posts; Fig. 2 is a section through the removable post bar in a plane indicated by the dotted line 2—2 of Fig. 1; Figs. 3 and 4 are cross-sections of such bar in planes indicated by the lines 3—3 and 4—4, respectively, of Fig. 2; and Fig. 5 is a perspective view of an end block providing a seat for the locking screw.

Like reference characters indicate like parts in all the figures of the drawing.

It will be understood that the binder covers (not shown) are hinged in any known or suitable manner to the sides of the upper removable post bar 1, and the lower post bar 2,—the positions mentioned having reference to the position of the parts as shown in Figure 1,—the lower post bar carrying the posts 3 secured to them in any suitable manner and the upper post bar being hollow and orificed to loosely engage the posts, and arranged to house the locking mechanism. As shown, the upper post bar is composed of two telescoping plates 4 and 5 which when assembled form a flat hollow casing rectangular in cross-section, one end of which is closed by a solid end block 6, and the other by an orificed beak 7.

Within this casing is arranged a lock bar 8, which is rectangular in cross-section and of such dimension as to be loosely received within the casing, and is formed with semi-circular end hooks or bends 9—9, the inner faces of which are formed on approximately the same radius as the posts 3. An inwardly extending lip 10 near the center of the post bar member 5, and a similar lip 11 adjacent the outer side of the end bend of the lock bar 8 nearest the end block 6 serve to loosely position the lock bar within the casing.

At the bend of the lock bar nearest the end block 7, such bar is formed with a threaded orifice arranged to engage the threaded end of the locking screw 12 which is rotatably seated in the end block 7 at the inner side of the latter, and which has at its outer end a squared end disposed within a recess on the outer side of the block, this squared end being designed to be engaged by a turning key by which the locking screw may be rotated.

When the locking screw 12 is retracted to outermost position, out of engagement with the adjacent post, the loose engagement of the post bar 1 with the posts permits the post bar to be shifted on the posts, or removed therefrom if desired. By turning the locking screw the posts are drawn towards each other by coaction of the lock bar and locking screw to grip against the inner faces of the orifices of the post bar and thus clamp the bar and associated parts to the posts.

The heavy and rigid square construction of the lock bar, presenting on the inside of the end hooks a semi-cylindrical face of approximately the curvature of the posts, has in practice been found to afford a particularly efficient clamping or locking action, and the strong and sturdy construction of the parts renders the locking more durable than any known to me, while simple and economical to manufacture and exceedingly desirable from a manufacturing standpoint.

I claim:

1. In a binder having a post bar equipped with a pair of posts fixed thereto and a hollow orificed removable post bar, locking mechanism housed within said removable

bar including a rigid lock bar having semi-circular hooks at its opposite ends arranged to engage said posts, and a locking screw disposed longitudinally of said removable post bar at one end thereof and making screw-threaded engagement with said lock bar at the center of its adjacent hook.

2. In a binder having a post bar equipped with a pair of posts fixed thereto and a hollow orificed removable post bar oblong in cross-section, locking mechanism housed within said removable bar including a rigid lock bar which is rectangular in cross-section and arranged to fit loosely between the top and bottom of said casing, said lock bar being formed with semi-circular hooks at its opposite ends arranged to engage said posts, and a locking screw disposed longitudinally of said removable post bar at one end thereof and making screw-threaded engagement with said lock bar at the center of its adjacent hook.

3. A loose-leaf binder locking mechanism according to claim 2 in which said hollow post bar includes a pair of telescoping sheet-metal members, one of which is formed with struck-up guide lips adjacent the central inner face of the lock bar and a struck-up guide lip adjacent the outer face of the hook of such bar remote from the locking screw.

In testimony whereof, I have subscribed my name.

WILLIAM J. STEENROD.