March 17, 1936. A. M. BARRETT 2,034,171

TEMPORARY BINDER

Original Filed Sept. 11, 1931

Fig. 1.

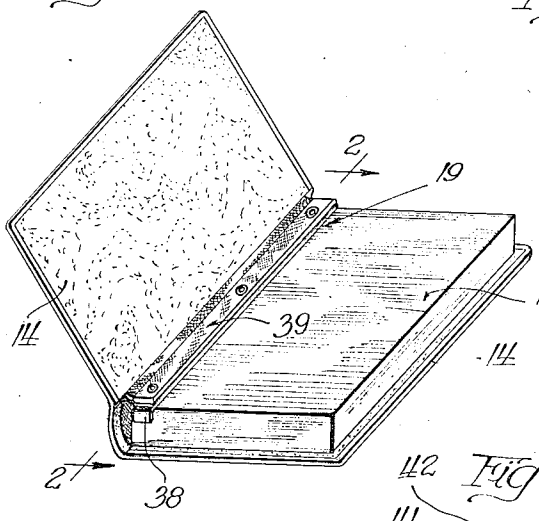


Fig. 2.

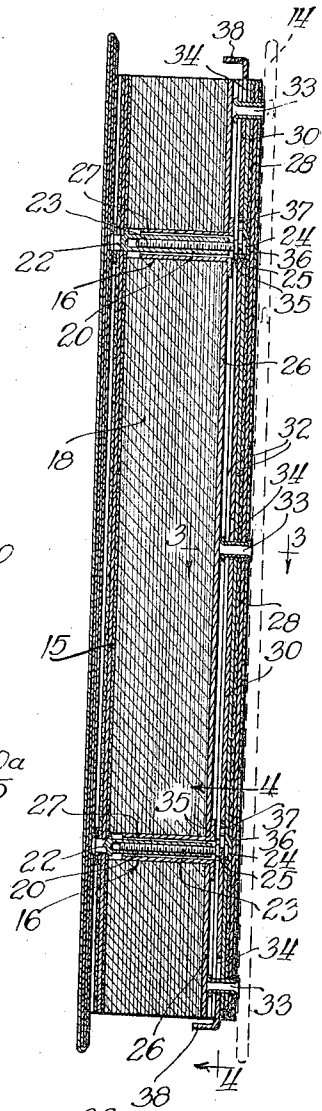


Fig. 7.

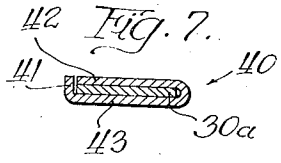


Fig. 3.

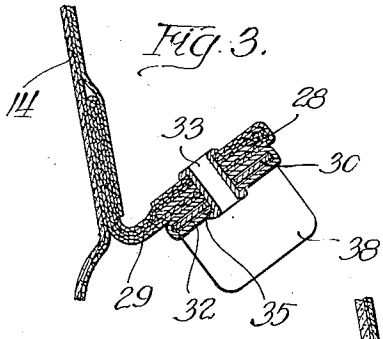


Fig. 8.

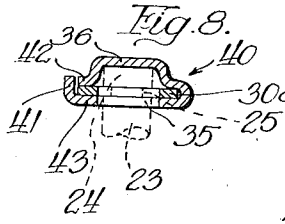
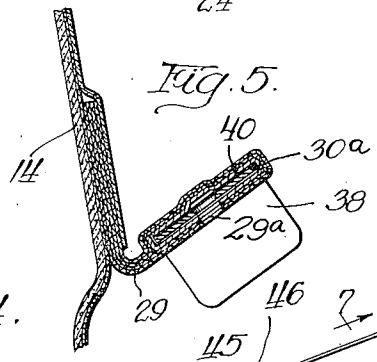


Fig. 5.



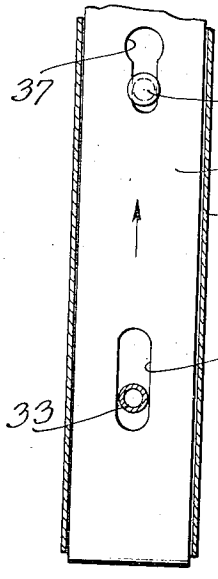


Fig. 4.

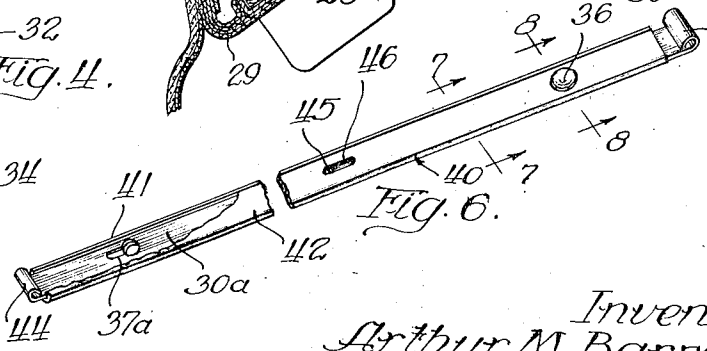


Fig. 6.

Inventor:
Arthur M. Barrett.
By Broun, Jackson, Boettcher & Dienner
Attys.

Patented Mar. 17, 1936 2,034,171

UNITED STATES PATENT OFFICE

2,034,171

TEMPORARY BINDER

Arthur M. Barrett, Winnetka, Ill., assignor to The Barrett Bindery Company, Chicago, Ill., a corporation of Illinois

Application September 11, 1931, Serial No. 562,209
Renewed June 24, 1933

3 Claims. (Cl. 129—8)

My invention relates to temporary binders and is more particularly concerned with a new and improved locking means for retaining loose leaves or paper sheets which are assembled within the binders.

The main object of the present invention is to provide a binder having adjustable paper-holding means, with a new and novel locking means therefor, said means being so arranged and constructed as to add to the appearance and utility of the binder and having certain inherent mechanical advantages rendering the binder more convenient for use as will be hereinafter set forth.

The following specific description, refers to a preferred embodiment of my invention and to several modifications thereof, reference being had to the accompanying drawing.

In the drawing:—

Figure 1 is a perspective view of a preferred form of binder embodying my invention;

Figure 2 is a cross-sectional view taken substantially along the plane of line 2—2 of Figure 1;

Figure 3 is an enlarged cross-sectional view taken substantially along the plane of line 3—3 in Figure 2 and representing the locking means in unlocked position, the binder cover being inclined in some such position as indicated in Figure 1;

Figure 4 is another enlarged cross-sectional view taken substantially along the line 4—4 in Figure 2, to illustrate the pin and slot connections for the operating bar;

Figure 5 is an enlarged cross-sectional view of a modified form of locking means also illustrating an alternative structure for fastening the same to the cover, the section here being taken transversely of the locking means at a point where a post is adapted to enter the same;

Figure 6 is a perspective view of the modified form of locking mechanism partly broken away to illustrate one of the slots in the operating bar; and

Figures 7 and 8 are cross-sectional views on enlarged scale taken substantially along the planes of lines 7—7 and 8—8, respectively, of Figure 6.

Referring now to Figures 1 to 4, the binder comprises, generally, a cover 14, a bar 15 connected with and carried by the cover, posts 16 secured to said bar and adapted for receiving and holding suitably perforated paper sheets or loose leaves 18 and a locking unit 19 releasably cooperating with said posts to retain the paper sheets thereon. The posts 16 are of well known construction and comprise an internally threaded sleeve 20 riveted at 22 to bar 15, and having a threaded stud 23 screwed thereinto which provides for adjustment when necessary for accommodating a larger number of paper sheets than could otherwise be kept in the binder. If no adjustments were possible the number of sheets that could be accommodated would then be determined by the length of posts 16. The threaded stud is provided with an enlarged head 24 having a peripheral groove 25 therein for cooperation with the locking unit 19 as will hereinafter appear. Bar 15 is hingedly secured to the cover, preferably by the cover fabric, or in any other suitable manner as may be convenient to allow pivotal or swinging movement of the posts when the binder is opened or closed for use.

A second bar 26 is placed upon the stack of paper sheets at the opposite side thereof from said first bar, and likewise contains apertures for permitting the same to pass over the free ends of the posts 16. Bar 26, however, is provided with sleeves 27 which are secured thereto coincident with said apertures, the purpose of the sleeves being to cover the posts and the threaded studs so as to guard the paper from possible engagement with the threads of the studs to eliminate tearing and to snugly fit into the openings in the stack of sheets, which are normally larger than the post diameters, to prevent lateral shifting of the paper sheets relative to each other.

Referring now more specifically to the locking unit 19, the same comprises a bar 28, hingedly connected with the binder cover by means of the cover fabric or by any other suitable means such as a fabric member 29, and a latch bar 30 for releasably cooperating with the posts 16. The latch bar is slidably carried by the binder cover in any suitable way, preferably by mounting it within a suitably formed sleeve 32, the latter being fastened to bar 28 by means of eyelets 33. The latch bar is thus adapted to be moved up or down, i. e. lengthwise of the sheets, and its length is such that its ends extend a short distance beyond the ends of the sleeve and the top and bottom margins of the sheets, as shown in Fig. 2, so that, as hereinafter described, it is shiftable by an endwise push into either its locking or its unlocking position. In the arrangement illustrated the latch bar is provided with slots 34 through which the eyelets project, the length of the slots determining the movement of the latch bar relative to its retaining sleeve 32. Openings 35 are provided in one wall of the sleeve 32 through which the heads 24 of the studs extend. Clearance for

the studs is provided by embossing the other wall of the sleeve outwardly opposite the openings **35** as shown at **36**. The embossing and stamping out of the openings is performed while the stock for forming the sleeve is still flat, the stock being thereafter manipulated into the final shape as best illustrated in cross-section in Figure 3. The amount of clearance provided for the studs may be varied to suit, but in the present form of locking unit the distance between the inner face of the embossed portion and the center line of the sleeve opening is made substantially equal to the distance from the outer face of the stud head to the center of the peripheral groove. This assures the engagement of the latch bar with said peripheral groove in the manner hereinafter to be described. By so embossing the sleeve, it provides a convenient construction for opening and closing the binder when sheets are to be removed or replaced, since the operator need not waste time in hunting or trying to place the posts in a position to obtain the above referred to registry. The holding unit is merely placed over the posts and held abuttingly thereagainst for a moment until the latch bar is operated to lock the paper upon the posts.

The latch bar **30** is provided with keyhole slots **37** so disposed as to have the enlarged portions thereof in registry with the openings **35** of the sleeve when the bar is in one position to allow the insertion of the heads of the studs. Movement of the bar to its other position will cause the narrow portion of the slots **37** to engage the peripheral grooves **25** of the heads, thereby locking the paper sheets into the book or binder upon the paper-holding posts.

The latch bar of the present construction is provided at its ends with ears or tabs **38** which provide convenient finger-pieces to take the end thrust when the latch bar is operated. By turning these tabs down so that they overlie the adjacent margins of the sheets they are out of the way of the cover. Since, as has been said, the latch bar is slightly longer than the sleeve and the sheets, it may be moved endwise in one direction or the other, either by a downward push on the upper tab, or by an upward push on the lower tab, depending on its original position. Preferably the keyhole slots **37** are so disposed that unlocking is effected by a downward push and locking by an upward push. The eyelets **33** and slots **34** are preferably of such dimensions that they function to limit the lengthwise movement of the bar, and prevent the tabs from striking the edges of the paper sheets. Thus, the tabs are always disposed in spaced relation to the sheets to also prevent the same from striking or scraping the sheets while the book is in use and the pages are being turned.

This form of locking unit presents a perfectly smooth surface as at **39** (Figure 1) to the rear face of the cover adjacent said units which eliminates wear and injury to the cover from continued use, as contrasted with existent binders wherein the release of the sheets is accomplished by operating means disposed centrally of the locking units and in a position adjacent the cover where it is bound to cause damage or bulging of the binder cover. Also as the ends of the latch bar are always exposed at the top and bottom of the binder, they are readily accessible for locking or unlocking purposes. Another advantage of the push-to-open and push-to-close type of latch bar is as follows. The sleeve carrying such bar can be made of spring material, or may, in any other suitable manner, be made to grip the latch bar tightly to prevent displacement of the latter and accidental loosening and dislocation of the sheets from within the binder. And yet, the bar is easily operable with practically no exertion on the part of the operator and with facility by merely pushing one or the other of the tabs to move the bar into latching or unlatching position.

In Figure 5, a locking unit is illustrated which is of somewhat simpler construction from that of the above described form, and also, of reduced thickness. Here, the bar **28** of the preceding form has been eliminated and sleeve **32** is directly enclosed by the cover fabric **29**, or other suitable attachment means, for hingedly connecting the locking unit with the cover. In this form a latch bar **30***a* substantially similar to bar **30** may be utilized, and in this instance, the fabric **29** has only one wall thereof perforated as at **29***a* concentrically with openings **35** in the sleeve so that the posts **16** may pass therethrough and into the sleeve openings to be engaged by the locking unit.

In the modified construction illustrated in Figures 5, 6, 7 and 8, a sleeve **40** is utilized which is manipulated out of flat stock by providing an upstanding edge **41** as a guide for the latch bar **30***a*, and by overlapping the remainder of the stock as best illustrated in cross-section in Figure 7, to form the completed sleeve. Although any suitable material may be used for this sleeve, I prefer to use a spring material and to normally form the sleeve with the upper wall thereof as a continuation of the lower wall which is carried around as best indicated in Figure 7. The upper wall **42** is bent slightly inwardly towards the lower wall **43**. When the latch bar **30***a* is then inserted between the aforesaid two walls a clamp action is obtained to frictionally hold the latch bar in whatever position it may be made to occupy. This guards against accidental unlocking of the latching bar from the paper-holding means or posts **16**. This sleeve is likewise provided with openings **35**, which are located in wall **43**, and with embossed portions **36** contained in the wall **42** and in alignment with openings **35** for the same purpose as hereinbefore set forth. In Figure 8, one of the posts **16** is illustrated in dotted lines. The latch bar **30***a* is provided with keyhole slots **37***a* and the ends of the bar are beaded as at **44**, in place of the tabs **38** of the preceding form for latching and unlatching the bar. A projection **45**, formed out of the bar material, rides in a longitudinal slot **46** in the sleeve whereby endwise movement of said bar is limited.

From the foregoing description it is seen that the binders of my construction are provided with efficient paper-holding means composed of few and inexpensive parts which are easily manufactured and assembled at low cost.

It is to be understood that changes and variations may be made in the various forms hereinbefore described without departing from the metes and bounds of the present invention. Therefore, I do not intend to be strictly limited to the specific structures disclosed and described, but only insofar as the appended claims are so limited.

What I claim is:—

1. The combination with a loose leaf binder having a cover and contents-holding posts secured thereto, of a locking unit for holding the contents upon said posts comprising a sleeve having openings therein for the reception of the heads of said posts and a slidable latch bar carried within the sleeve and adapted for engage-

ment with and disengagement from said heads, said bar having downturned ends disposed adjacent the contents of said binder whereby the bar may be operably manipulated into and out of latching engagement with said posts, and cooperable means connected with said sleeve and said bar respectively, for limiting the movements of the latter to prevent the downturned ends thereof from striking the contents of the binder, one of said cooperative means comprising means for fastening said sleeve to said cover.

2. The combination with a loose leaf binder having a cover and contents-holding posts secured thereto, of a locking unit for holding the contents upon said posts comprising a sleeve and a slidable bar operable lengthwise within said sleeve to lockingly engage and disengage said posts, said sleeve comprising a lower wall having an upstanding edge disposed along one edge thereof to guide said bar, and an upper wall connected with the other edge of said lower wall for guiding said bar, said upper wall having frictional contact with said bar to hold the same in locking engagement with said posts.

3. In combination with a loose leaf binder having a pair of cover members and contents-holding posts secured to one of the cover members, of a locking unit for holding the contents upon said posts comprising a sleeve having openings therein for the reception of said posts, and a slidable locking bar carried within the sleeve for engaging and disengaging said posts and having slots therein, a hinge member fastened to the other of said cover members, means for securing the sleeve to said hinge member and projecting through said locking bar slots to limit endwise movement of said bar relative to the sleeve, and means at the ends of the bar and rigid therewith for operably manipulating said bar into and out of locking engagement with said posts.

ARTHUR M. BARRETT.