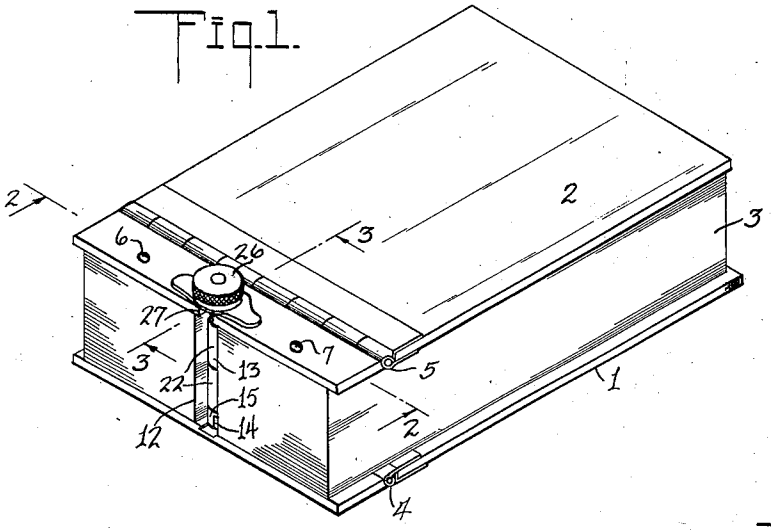
July 20, 1937. W. L. DINSMOOR 2,087,397

LOOSE LEAF BINDER

Filed April 27, 1935

Fig. 1.



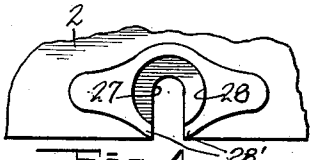


Fig. 4.

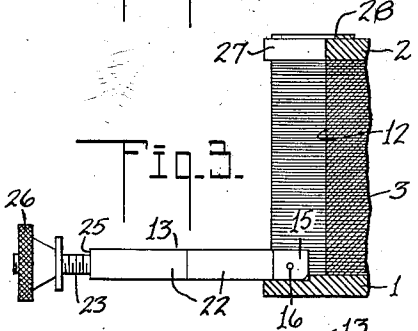


Fig. 3.

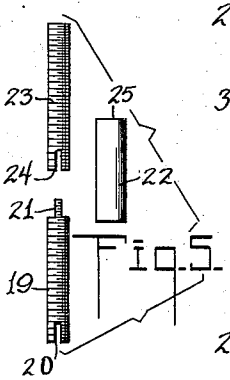


Fig. 5.

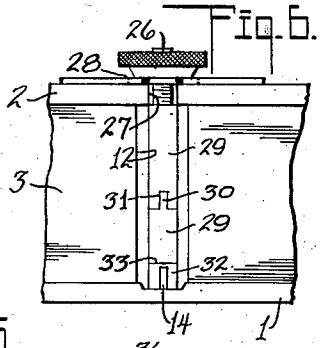


Fig. 6.

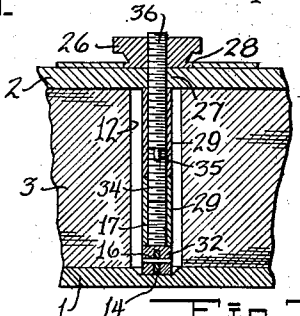


Fig. 7.

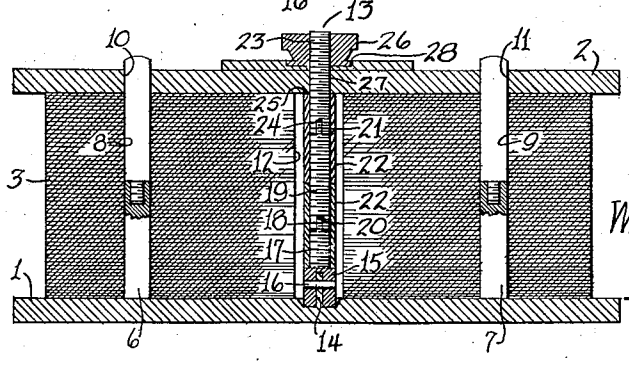


Fig. 2.

INVENTOR.
WINFIELD L. DINSMOOR
BY Munn, Anderson & Liddy
ATTORNEYS.

Patented July 20, 1937 2,087,397

UNITED STATES PATENT OFFICE

2,087,397

LOOSE LEAF BINDER

Winfield L. Dinsmoor, Menlo Park, Calif.

Application April 27, 1935, Serial No. 18,622

4 Claims. (Cl. 129—18)

My invention relates to improvements in loose leaf binders, and it consists of the combinations, constructions and arrangements hereinafter described and claimed.

An object of my invention is to provide an improvement in loose leaf binders in which a non-rotatable and sectional binding screw is used for clamping the two covers of the binder down upon the loose leaves. The binder makes use of the standard sectional binding posts, and these posts are secured to the bottom cover and extend through aligned openings in the loose leaves and in the top cover. My improvement consists in the provision of the non-rotatable and sectional binding screw which is preferably hinged to the bottom cover and is received in aligned recesses in the loose leaves. The top cover has a slot aligned with the recesses in the leaves and the slot opens into a depression in the top cover.

The binding screw carries an adjustable nut that is designed to enter the depression, and when this nut is screwed into place it will hold the binding screw against removal. The sectional binding posts prevent the removal of the leaves while the sectional binding screw clamps the leaves in place so that they are held against lateral movement. The effect is the holding of the loose leaves so securely that the book can be handled in the same manner as a bound book.

The sectional binding screw is designed in a novel manner to prevent its rotation, and I show a slightly modified form of the binding screw which will be fully described hereinafter.

The device is extremely simple in construction, and can be attached to standard leaf binders with but slight alterations being necessary in the latter.

Other objects and advantages will appear in the following specification, and the novel features of the device will be particularly pointed out in the appended claims.

My invention is illustrated in the accompanying drawing forming a part of this application, in which

Figure 1 is an isometric view of the loose leaf binder showing the binding screw operatively connected thereto;

Figure 2 is a section along the line 2—2 of Figure 1;

Figure 3 is a section along the line 3—3 of Figure 1;

Figure 4 is a top plan view of a portion of the top cover;

Figure 5 is a detail view of the parts comprising the binding screw, these parts being shown separated from each other;

Figure 6 is a rear elevation of a modified form of binding screw showing it operatively applied in place; and

Figure 7 is a sectional view of the same modified form of binding screw.

In carrying out my invention I provide a loose leaf binder which has a bottom cover 1, a top cover 2, a plurality of loose leaves disposed between the two covers. The covers 1 and 2 may be of the flexible type, or they may be of the rigid type hinged at 4 and 5 respectively.

In Figure 2 I show a transverse section through the binder, and it will be seen that the bottom cover 1 carries sectional binding posts 6 and 7. These posts extend through aligned openings 8 and 9 in the loose leaves 3. The posts also extend through openings 10 and 11 in the top cover 2. The posts form no part of my invention except insofar as they cooperate with the parts now to be described.

The leaves 3 have recesses in their rear edges forming a groove 12. A sectional binding screw indicated generally at 13 is received in the groove 12. The screw is shown in detail in Figure 2. A projection 14 is carried by the bottom cover 1 and in turn pivotally supports a base portion 15 of the screw. The base 15 is pivoted to the projection or tongue 14 by means of a pin 16 and the base has an integral threaded extension 17 provided with a tongue 18 at its free end.

A screw section 19 has a kerf 20 in its lower end and a tongue 21 at its upper end. The section 19 is placed upon the section 17 so that the kerf 20 receives the tongue 18. A coupling sleeve 22 is now screwed upon the two sections 17 and 19 and will bind them together. The threads in the two sections are so arranged that the sleeve 22 can be screwed from one section to the other readily.

In Figure 5 I have shown the section 19 separated from the section 17, and have also shown the sleeve 22. The binding screw can be lengthened to any desired extent by merely adding additional sections 19 and additional coupling sleeves 22. At the top of the binding screw 13 I mount a screw section 23 which has a kerf 24 for receiving the tongue 21 of the screw section 19, but which is not provided with a tongue on its upper end. The uppermost coupling sleeve 22 is threaded down upon the screw sections 23 and 19 for holding them together, and the top edge 25 of the uppermost coupling sleeve is disposed below the top of the screw section 23, and the exposed portion of the screw section 23 removably receives

a knurled nut 26. The top edge 25 is disposed close to the under surface of the top cover 2.

The top cover 2 has a slot 27, see Figure 4, for receiving the screw section 23, and the top cover also has a recess 28 communicating with the slot, and this recess or depression receives the bottom of the nut 26. It will be noted from Figure 4 that the entrance end of the slot 27 has a pair of raised hook-shaped portions 28', which are defined by the cover and the recess 28, these portions being arranged in confronting relation to practically encircle the base of the nut 26.

In building up the binder the sectional posts 6 and 7 are made of the desired length and then the loose leaves 3 are disposed so that their aligned openings receive the posts. The binding screw 13 is now built up to the length desired, and before the screw is swung into operative position it will assume the position shown in Figure 3. The nut 26 may now be loosened so as to move above the top cover 2, and the nut recess 28, and permit the uppermost portion of the screw section 23 to pass into the slot 27. The nut 26 may now be tightened down into place, and the recess 28 will receive the nut. The wall of the recess will prevent the binding screw 13 from swinging outwardly until the nut 26 again is loosened. The nut 26 may be tightened for clamping the covers 1 and 2 down upon the leaves 3.

It will be noted that the kerfs 20 and 24 cooperating with the tongues 18 and 21, will prevent the binding screw 13 from rotating. The sleeves 22 at the same time will cover the screw sections 17, 19 and 23 with the exception of the portion of the section 23 receiving the nut 26. The nut 26 may be tightened into place more quickly due to the fact that the screw 13 will not rotate and the parts forming the screw 13 will not become loosened so readily due to the fact that the screw sections are prevented from rotation.

In Figures 6 and 7 I show a slightly modified form of the invention. In this form the coupling sleeves 29 are provided with tongues 30, and with recesses 31 that interlock with each other instead of the screw sections interlocking with each other by means of tongues and kerfs. Figure 7 shows the modified form of binding screw in section and the base 32 is pivoted to the projection 14 by means of the pin 16. The base, in addition to carrying the screw section 17, has a shoulder 33. The lowermost sleeve section 29 is screwed down upon the section 17 until it abuts the shoulder 33.

A second screw section 34 is threaded into the top of the lowermost sleeve 29 and is not provided with a kerf in its lower end. The top of the screw section 34 has a kerf 35 by means of which the section is threaded into position until it abuts the top of the section 17. Any number of screw sections 34 and sleeves 29 may be added to make the binding screw of the desired length. The screw sections 34, however, are only provided with kerfs 35 and not with tongues. The top screw section 36 is threaded into the top sleeve section 29 and has a portion projecting above the sleeve section. The nut 26 is threaded down upon this exposed portion and is received in the recess 28 in the manner already described. This form of the device provides a binding screw which will not rotate, and the means for preventing rotation is carried by the sleeves rather than by the screw sections. In all other respects the modified form of the device is the same as the form shown in Figures 1 to 5 inclusive.

The binding posts 6 and 7 prevent the removal of the leaves from the loose leaf binder, while the sectional and non-rotatable binding screw 13 clamps the leaves between the covers and prevents any lateral movement therebetween.

I claim:

1. A non-rotatable and sectional binding screw for loose leaf binders comprising a screw section secured to a binder cover and having a tongue at its free end, a second screw section having a kerf at one end for receiving the tongue of the first section and a tongue at its other end, a third screw section having a kerf for receiving the tongue of the second section, coupling sleeves threaded over the screw sections for fastening them together and for providing a continuous smooth exterior surface, the third screw section having a portion projecting beyond the coupling sleeve, and a nut removably disposed on the exposed screw section.

2. A non-rotatable and sectional binding screw for loose leaf binders comprising a screw section pivotally secured to a binder cover and being movable into parallel relation with the cover and having a tongue at its free end, a second screw section having a kerf at one end for receiving the tongue of the first section and a tongue at its other end, a third screw section having a kerf for receiving the tongue of the second section, coupling sleeves threaded over the screw sections for fastening them together and for providing a continuous smooth exterior surface, the third screw section having a portion projecting beyond the coupling sleeve, and a nut removably disposed on the exposed screw section.

3. A non-rotatable and sectional screw for loose leaf binders comprising a screw section having a tongue, a second screw section having a kerf at one end for receiving the tongue of the first section and a tongue at its other end, a third screw section having a kerf for receiving the tongue of the second section, and coupling sleeves threaded over the screw sections for fastening them together, and for providing a continuous smooth exterior surface.

4. In a loose leaf binder, a pair of covers adapted to receive leaves therebetween, a binding screw pivoted to one of the covers and being swingable from a position parallel with the cover to which it is attached into a slot extending inwardly from the edge of the other cover, the slotted cover having a depression and a raised portion defining a recess communicating with the slot, and a nut mounted on the screw and having its base arranged to enter the recess and be confined therein against lateral slippage by the raised portion substantially surrounding the recess.

WINFIELD L. DINSMOOR.