Nov. 7, 1939. P. O. UNGER ET AL 2,178,767

LOOSE LEAF BINDER

Filed April 2, 1937 2 Sheets-Sheet 1

Fig. 1

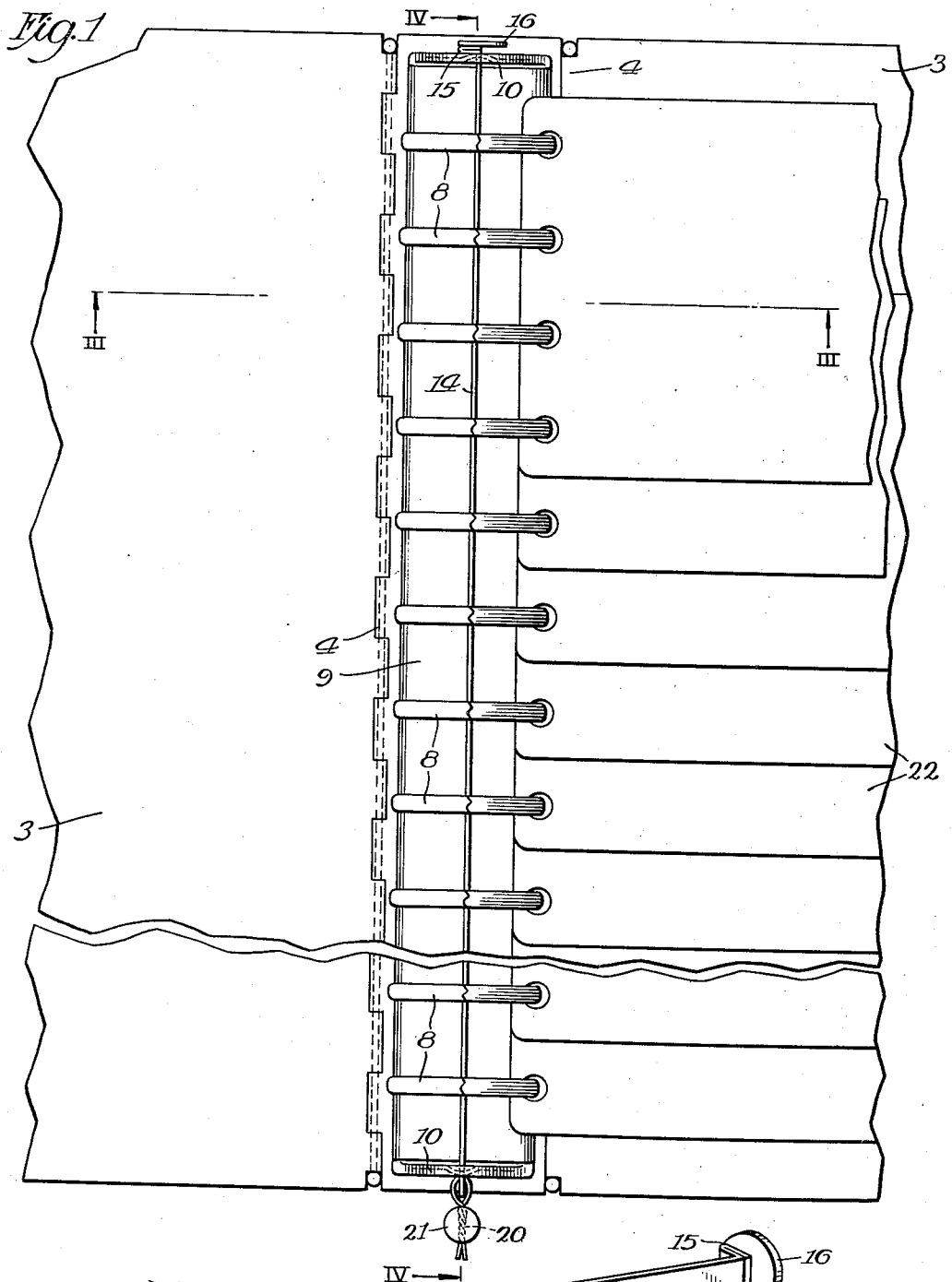
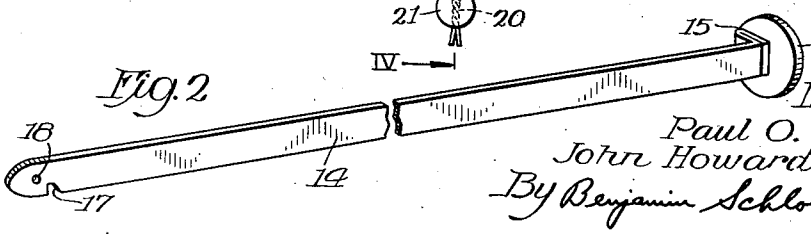


Fig. 2



Inventors
Paul O. Unger
John Howard Talmage
By Benjamin Schlosser Atty.

Nov. 7, 1939. P. O. UNGER ET AL 2,178,767

LOOSE LEAF BINDER

Filed April 2, 1937 2 Sheets-Sheet 2

Fig. 3

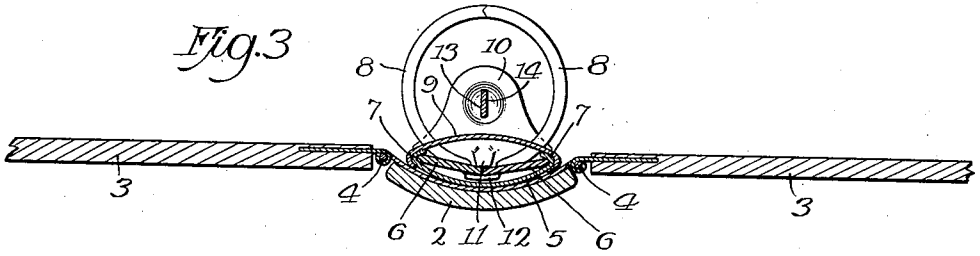


Fig. 4

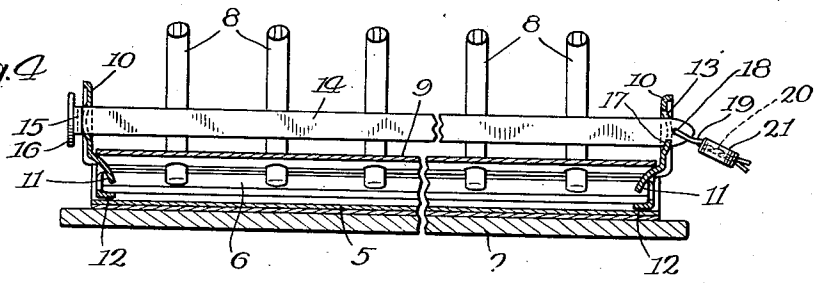


Fig. 5

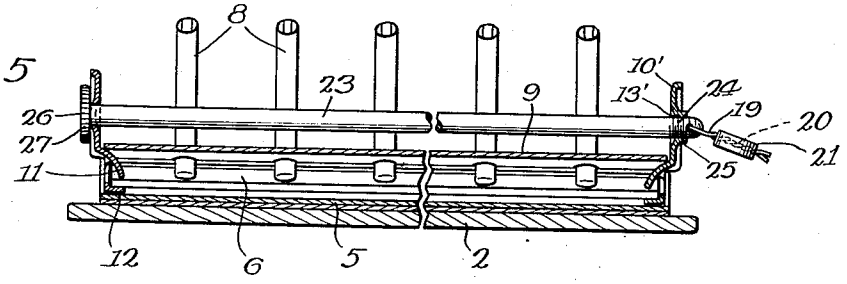
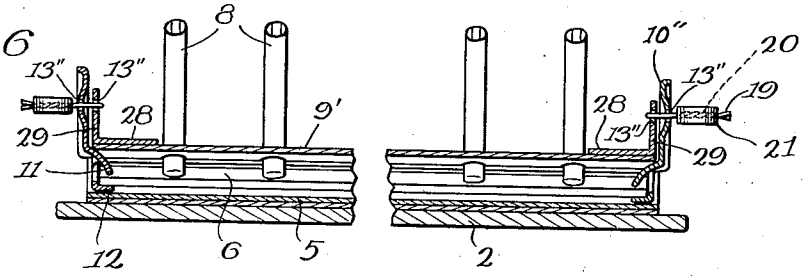


Fig. 6



Inventors:
Paul O. Unger
John Howard Talmage
By Benjamin Schlosser
Atty.

Patented Nov. 7, 1939 2,178,767

UNITED STATES PATENT OFFICE

2,178,767

LOOSE LEAF BINDER

Paul O. Unger, Elmhurst, and John Howard Talmage, Chicago, Ill., assignors to Wilson-Jones Company, Chicago, Ill., a corporation of Massachusetts

Application April 2, 1937, Serial No. 134,486

6 Claims. (Cl. 129—24)

This invention relates to loose leaf binders and more particularly to a seal for permitting reference to the contents of a loose leaf binder while preventing unauthorized insertion of sheets into the binder.

Visible ring binders are quite often used in connection with permanent registration lists of voters. The binders are retained in the court house during most of the year and are sent to the various precincts at election time so that the election clerks can refer to the list to ascertain whether any individual is registered and is therefore entitled to vote. It is important that no sheets be surreptitiously inserted into the binder so as to permit illegal votes to be cast in any election.

It is an object of this invention to provide a simple and efficient means for sealing a loose leaf binder to prevent unauthorized insertion of sheets into the binder which will not prevent ready reference to the sheets in the binder. Other objects of this invention will become apparent upon reference to the following description, taken in conjunction with the accompanying drawings, in which

Figure 1 is a fragmentary plan view of a loose leaf binder illustrating one embodiment of the invention;

Figure 2 is a perspective detail view of the sealing means shown in Figure 1;

Figure 3 is a cross sectional view taken along the line III—III of Figure 1 with the sheets removed;

Figure 4 is a longitudinal sectional view taken along the line IV—IV of Figure 1 with the sheets removed;

Figure 5 is a view similar to Figure 4 showing another embodiment of the invention; and

Figure 6 is a view similar to Figure 4 showing another embodiment of the invention.

In the drawings, the reference numeral 2 indicates a back member to which a pair of cover members 3 are hinged, as indicated at 4. Although the hinges illustrated are metal, it will be understood that the covers may be hinged to the back member in any suitable manner. A metal spring back 5 is secured to the back member 2 in any suitable manner. A pair of toggle plates 6 is mounted in the spring back with the outer edges of the toggle plates abutting the edges 7 of the spring back. Each toggle plate has secured to it a plurality of sheet retaining ring sections 8 which engage the ends of opposite ring sections to form closed rings when the toggle plates are in the position illustrated in Figures 1 and 3. A cover plate 9 is positioned over the toggle plates 6 with its outer edges embracing the edges of the spring back.

A trigger 10 is secured to each end of the ring metal. Each trigger is provided with a lip 11 projecting inwardly so as to engage the upper surface of the toggle plates and to depress them to close the ring members 8 when the triggers are pressed inwardly. Each trigger 10 is provided with a boosting lip 12 which is preferably integral with the trigger and is bent from the lower edge of the trigger to project under the ends of the toggle plates 6, as shown in Figure 4. When the mechanism is in the position illustrated in Figure 3, a small outward force applied against the upper portion of either trigger will cause the lip 12 to lift the toggle plates 6 and thereby move the ring sections to open position.

Each trigger is provided with an aperture 13 through which a rod 14 may be inserted. The rod is preferably formed of metal, but any non-stretchable material may be used. The rod 14 has a flange 15 at one end thereof, and an enlarged head 16 is permanently secured to the flange in any suitable manner. The opposite end of the rod 14 is provided with a notch 17 adapted to engage one edge of the trigger adjacent the aperture 13 when the triggers are in the position shown in Figure 4 to help retain the ring metal in closed position. A small aperture 18 is positioned near the notch 17 so that the aperture 18 lies just outside the trigger 10 when the rod 14 is in the position indicated in Figure 4.

A wire 19 is threaded through the aperture and is twisted as indicated at 20, Figure 1. The twisted ends 20 of the wire 19 are sealed with a frangible seal 21. As can be seen from an inspection of Figure 4, the enlarged end 16 and the wire 19 absolutely prevent outward movement of the triggers 10. Accordingly it is impossible to open the ring members 8 unless the wire 19 is first removed from the rod. It is obvious that the rod 14 must fit the apertures 13 snugly to prevent the wire 19 from being forced into the aperture 13 a distance sufficient to permit movement of the triggers. The seal 21 or the wire 19 must be broken before the wire can be removed. The seal 21 is preferably a conventional form of metal seal, but it may be formed of paper or any other material.

After the wire 19 has been removed, the rod 14 is lifted to disengage the notch 17 from the edge of the aperture 13 and either trigger 10 is pressed outwardly to open the ring sections 8 so sheets 22 may be inserted in the binder. The

notch 17 protects the wire 19 from any outward force accidentally applied to either trigger.

The embodiment of the invention illustrated in Figure 5 is the same as that illustrated in Figures 1 to 4, except that a round rod 23 is substituted for the flat rod 14. The end of the rod having the aperture 18 is threaded, as indicated at 24, and the inner surface of the trigger 10' around the edge of the aperture 13' is similarly threaded, as indicated at 25, so that triggers may be maintained in upright position without any strain on the wire 19. The edge of the enlarged end 26 is knurled, as indicated at 27, to facilitate rotation of the rod 23. The rod 23 must be screwed out of engagement with the aperture 13' before the triggers can be moved to ring opening position.

In the embodiment of the invention illustrated in Figure 6, a bracket 28 is secured in any suitable manner to each end of the cover plate 9' so as to provide an upstanding flange 29 adjacent the trigger 10''. The flanges 29 and the triggers 10'' are provided with apertures 13'' so that a wire 19 may be threaded through said apertures and secured by the seal 21.

Although the invention has been described with particular reference to voters permanent registration systems, it will be understood that the invention is applicable to any type of loose leaf binder wherever it is desired to seal the binder against tampering without preventing reference to the contents of the binder. A few preferred embodiments of the invention have been described in considerable detail. However it will be understood that the description is illustrative, rather than restrictive, as many details may be modified or changed without departing from the spirit or scope of the invention. Accordingly, we do not desire to be restricted to the exact structure described, except as limited by the appended claims.

We claim:

1. In a loose leaf binder, a plurality of divided ring members, a pair of upstanding triggers operatively connected to said ring members so as to move outwardly whenever said ring members are opened, and means connected directly to said triggers for sealing said triggers against outward movement.

2. In a loose leaf binder, a plurality of divided ring members, a pair of upstanding triggers operatively connected to said ring members, said triggers being pivoted to move outwardly when said ring members are opened, a rod connected to both of said triggers, and a frangible seal secured to said rod and adapted to prevent said outward movement of said triggers without destruction of said seal.

3. In a loose leaf binder, a pair of toggle plates, a plurality of ring sections mounted on said toggle plates, a pair of triggers operatively connected to said toggle plates so as to move whenever said toggle plates are moved, said triggers being operable to open said ring sections, an unstretchable member engaging said triggers, and a seal on said unstretchable member, said seal preventing movement of said triggers to ring opening position without destruction of said seal.

4. In a loose leaf binder, a plurality of divided ring members, a pair of upstanding triggers operable to open and close said ring members, a rod connected to said triggers, an enlargement at one end of said rod, and sealing means at the other end of said rod, said sealing means being effective to prevent opening of said ring members without destruction of said sealing means.

5. In a loose leaf binder, a plurality of divided ring members, a pair of upstanding triggers pivoted to move outwardly when said ring members are opened, each of said triggers being apertured, a rod passing through said apertures, said rod having an enlarged head at one end and a notch adjacent the opposite end adapted to engage the edge of one of said apertures to hold said triggers in upstanding position, and sealing means on said rod to prevent outward movement of said triggers without destruction of said seal.

6. In a loose leaf binder, a plurality of divided ring members, a pair of upstanding triggers adapted to move when said ring members are opened, a cover plate, a bracket fixed to said cover plate adjacent each of said triggers, and a seal connecting each of said triggers and its adjacent bracket, said seals preventing the movement of said ring members to open position without destruction of said seals.

PAUL O. UNGER.
JOHN HOWARD TALMAGE.