May 15, 1923.

1,455,000

F. H. HARRIS

TEMPORARY OR LOOSE LEAF BINDER

Filed Oct. 27, 1920

Fig. 1.

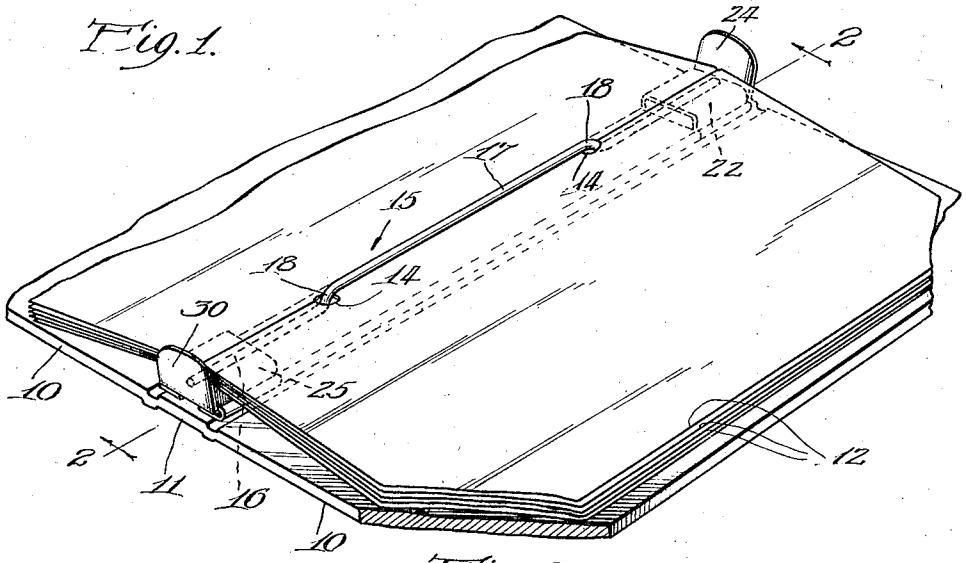



Fig. 2.

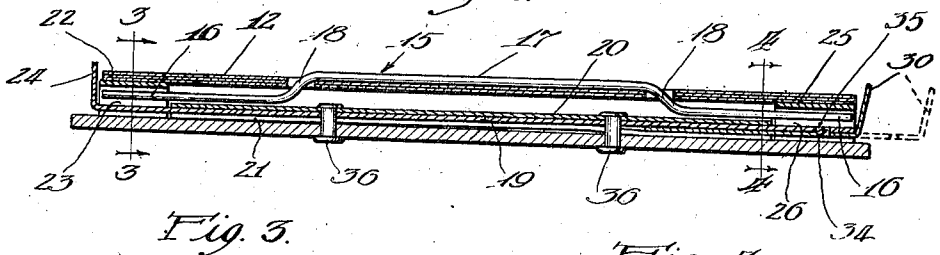
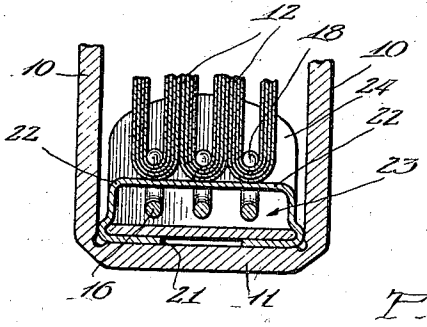



Fig. 3.

Fig. 4.



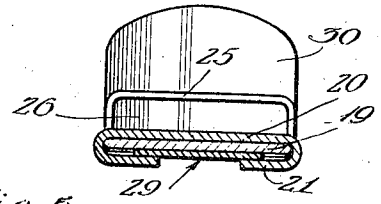
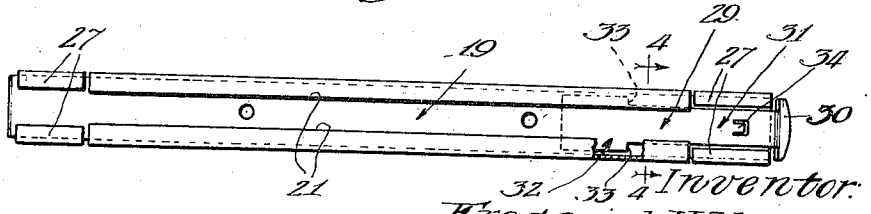




Fig. 5.




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# UNITED STATES PATENT OFFICE.

FREDERICK H. HARRIS, OF CHICAGO, ILLINOIS.

## TEMPORARY OR LOOSE-LEAF BINDER.

Application filed October 27, 1920. Serial No. 419,926.

*To all whom it may concern:*

Be it known that I, FREDERICK H. HARRIS, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Temporary or Loose-Leaf Binders; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in so-called temporary binders, and is adapted to receive and temporarily hold in position sheets of paper which are folded between their side edges to constitute the leaves of a book thus held in the temporary binder, the sheets constituting two leaves being perforated at their folds to receive detachable binding elements of the binder whereby the double leaves thus formed may be readily removed or placed in the binder.

One of the objects of the invention is to provide a simple and economical binder for temporarily binding loose or sewed sheets folded in the form of leaves constructed to permit ready application of the folded sheets to and their removal from the binder structure.

Another object of the invention is to provide a binder structure for this purpose which embraces a retaining rod or wire that is adapted to be suitably held at the backbone of the binder cover and to pass through openings in the folded sheets to hold the sheets in place, combined with means for permitting endwise displacement of said retaining rod or wire to remove the sheets or to apply others thereto.

A further object of the invention is to provide a novel holding device for such retaining rod or wire as to normally hold the latter in place and constructed with locking means whereby said retaining rod or wire may be endwise displaced to release or add sheets to the binder,—the said locking means being suitably supported on the backbone of the binder cover.

The invention consists in the combination and arrangement of the elements shown in the drawings and described in the specification, and is pointed out in the appended claims.

In the drawings:

Figure 1 is a fragmentary perspective view of a temporary binder, in open position, embodying my invention.

Figure 2 is a section thereof on line 2—2 of Figure 1.

Figures 3 and 4 are sections on the respective lines 3—3 and 4—4 of Figure 2.

Figure 5 is a bottom view of the holding means for the retaining rod.

As shown in the drawings 10, 10 designate the covers of the binder flexibly connected to a backbone section 11, and 12, 12 designate the sheets which are intermediately folded to constitute the leaves of the book when attached to said binder, as shown in Figures 1 and 3. The said sheets are pierced along their intermediate portions to form openings 14 to receive a retaining rod or wire 15 which is anchored at its ends to the binder structure in a manner hereinafter described. The said retaining rod or member is offset downwardly at its ends 16 and is straight or of direct formation at its intermediate portion 17, the central and end portions being joined by the offset parts 18 which extend through the openings 14 of the sheets 12 that constitute the leaves of the book when confined in the binder.

19 designates an elongated plate or bar that extends from end to end of the backbone of the cover, and as herein shown, is partially enclosed by a sheet metal member 20, the intermediate portion of which lies over the upper side of the plate or bar 19, and the edge members 21, 21 of which underlap but do not meet each other at the under side of the plate or bar 19.

At one end of said plate or bar 19 is located a loop or socket fitting 22 which is formed by a narrow strip of metal that transversely overlies one end of the plate or bar 19 and is spaced therefrom on the upper side of the bar, to form a socket 23 to receive one of the offset end members of the retaining rod or member 15 in such way that when said rod or member is unrestrained, it may be removed endwise from the socket 23. An upstanding flange 24 on the adjacent end of the plate or bar 19 limits the movement of the retaining rod or member in one direction.

At the other end of said plate or bar is located another socket or loop fitting 25 which is formed of a piece of sheet metal that transversely overlies the adjacent end of said plate or bar and is attached thereto in a manner to form a socket 26 to receive

the other offset end 16 of the retaining rod or member 15.

As herein shown, both of the socket fittings 22 and 25 are fixed to the ends of the plate or bar 19 by means of flanges 27 which are folded down under the marginal portions of said plate or bar 19. They may be fixedly attached thereto in any suitable manner as by being driven on said plate or bar with a driving fit, or brazed or soldered thereto.

Located at the end of the bar or plate 19 adjacent to the socket fitting 25 is a locking device which is so constructed that normally a portion thereof lies across the axis of the adjacent offset portion 16 of the retaining rod or member, and is so arranged with respect to the other parts that said last mentioned portion of the locking device may be displaced endwise of the retaining rod at a distance so that one end of the retaining rod or member 15 may be endwise shifted from the socket 23 whereupon the latter end of the retaining rod or member may be raised above and freed from its holding loop or socket 23, together with the sheets strung thereon, whereby said retaining rod or member and the sheets can, by a reverse endwise movement of the retaining rod or member, remove or detach the other offset end of the retaining rod or member from the loop or socket 26 and thus completely disconnect the retaining rod from its locking means.

The means for thus normally holding the retaining rod or member locked in place, while permitting its detachment together with the sheets strung thereon, as herein shown, is made as follows:

29 designates a sliding locking member that lies beneath the end of the plate or bar 19 adjacent to the loop or socket 26. It is made of sheet metal and is formed at its outer end to provide an upstanding flange 30 which lies across the adjacent offset end 16 of the retaining rod or member 15. The said locking member has sliding engagement with the structure formed by the elements 19 and 20. It is made of such width just inside of its upstanding flange 30, or the part indicated by 31, as to lie between the under-turned flanges or folds 27 of the socket member 25, without contact with the edges of said flanges, as shown in Figure 5. The inner end of said locking member is widened, as indicated at 32, to form on both sides thereof outwardly facing shoulders 33, which are adapted for contact with the inner ends of the adjacent flanges or folds 27 to limit the outward movement of the locking member as best shown in Figure 5.

When the sliding member 31 is in its innermost position, as indicated in full lines in Figures 2 and 5, the flange 30 thereof, and the flange 24 of the bar or plate 19, constitute means to hold the retaining rod or member 15 from endwise movement. The sliding member may be locked to the plate or bar 19 to hold it in its inner position by means of a spur 34 that is adapted to extend into a socket 35 formed in the bar or plate 19, as best indicated in Figure 2. When the said locking member is pulled outwardly to the dotted line position indicated in Figure 2, the flange 30 thereof is spaced a sufficient distance from the end of the offset portion of the retaining rod or member 15, so that the latter and the sheets 12 strung thereon may be moved toward the outwardly displaced flange 30 until the other offset end 16 of the retaining rod or member passes out of the socket 23, whereby the leaves and their retaining rod or member may be disconnected from the other parts of the binder structure.

The said plate or bar 19 with its enclosed member 20 may be and is herein shown as attached to the backbone 11 of the book by rivets 36 which thus retain said parts fixedly on the backbone of the cover.

From the foregoing description it will be understood that the perforated sheets when attached to the binder structure in the manner shown, constitute the leaves of a book which are folded about the retaining rod or member when the covers of the books are closed, and that a leaf or leaves may be added to or abstracted from the binder by proper manipulation of the locking device 31 before described.

It is to be understood that the invention is capable of embodiment in structures specifically differing from that herein shown and described, within the spirit of the broader claims hereto appended. For instance, the overlying sheet metal member 20 that surrounds the bar 19 affords at one end of the binder guides for locking plate or clip, but such guiding means, when the sliding locking plate is employed, may be otherwise constructed.

It will, furthermore, be understood that the upstanding flanges 30 and 24 are so spaced as to engage the side edges of the sheets or leaves and thereby avoid a tearing stress on said sheet or leaves, at the perforations thereof, when the offset 17 of the retaining member extends through the apertures. The sheets to be thus temporarily bound in the binder may be loose individual sheets, or each retaining member or rod (if more than one be employed as shown in Figure 3) may sustain a sewed pamphlet.

I claim as my invention:

1. A temporary or loose leaf sheet binder comprising a supporting bar provided at its ends with inwardly opening sockets, an elongated sheet-retaining member whose

ends are adapted to lie in and be endwise retained by said sockets and a locking member slidable on one end of said bar and having a projection which extends across the open end of the said adjacent socket to lock the retaining member from endwise displacement.

2. A temporary or loose leaf sheet binder comprising a supporting bar provided at its ends with inwardly opening sockets, a sheet-retaining member lying alongside said bar having an intermediate raised offset and having ends adapted to extend through perforations in the sheet, retaining means at the ends of said bar to normally hold said retaining member from axial movement relatively to said bar, one of said retaining means embracing a slidable member having a projection that lies across the path of axial movement of said retaining member.

3. A temporary or loose leaf binder comprising a retaining member having an intermediate raised offset and plain ends adapted to be inserted through apertures in the sheets, a supporting member embracing sockets in which the ends of the retaining member normally lie, and locking means for normally holding the retainer member from endwise movement.

4. A temporary or loose leaf binder comprising, in combination with a support adapted to be fixed to the back bone of a book cover, of sockets at the ends of said support which open inwardly, a sliding member for engagement with said support and provided with a locking flange adapted in one position to close the outer end of one of said sockets, and an elongated sheet-binding member having ends adapted to normally lie in said sockets to lock the member to the support and adapted by endwise movement of the support to be released from the sockets when said locking flange is moved outwardly, and coacting means between said sliding lock and support for locking said flange in its innermost position.

5. A temporary or loose leaf binder comprising a retaining member having offset ends adapted to be inserted through apertures in the leaves, a supporting member embracing sockets in which the ends of the retaining member are adapted to normally lie, locking means for normally holding the retaining member from endwise movement, embracing a slidable member guidingly engaged with said bar and provided with a projection adapted to close the outer end of the adjacent socket, and means to spring-lock said sliding member in place.

6. A temporary or loose leaf binder comprising a supporting bar adapted for attachment to the back bone of a book cover, open ended sockets at the ends of the bar, locking means normally closing the outer end of one of the sockets, constructed to be moved away therefrom in a direction endwise of the bar to open said latter end, and an auxiliary shiftable binder member on which the leaves are adapted to be strung, with the ends thereof normally located in said sockets, said binder member being adapted when the locking member is released for endwise movement to disconnect the binder member and leaves from the supporting bar.

7. A temporary or loose leaf binder comprising, in combination with a support adapted to be fixed to the backbone of a book cover, sockets at the ends of said support which open inwardly, a member for sliding engagement with the support at one end and provided with a flange adapted in one position to close the outer end of the adjacent socket, and a leaf-binding member having ends adapted to normally lie in said sockets to lock the member to the support and adapted, by endwise movement thereof to be released from the support when said sliding lock is moved outwardly.

8. A temporary or loose leaf binder comprising a leaf-retaining member having an intermediate offset and co-axial ends adapted to be inserted through apertures in the leaves, a supporting member embracing sockets in which the ends of the retainer member normally lie and from which said ends are adapted to be removed by axial movement of said member, and locking means associated with one of said sockets to normally hold the retainer member from endwise movement and lock it in place.

9. A temporary or loose leaf binder comprising a leaf-retaining member having offset ends adapted to be inserted through apertures in the leaves, a supporting member embracing sockets in which the ends of the retainer member normally lie and from which said ends are adapted to be removed by axial movement of said member, and locking means associated with one of said sockets to normally hold the retainer member from endwise movement and lock it in place, said locking means embracing an endwise movable slide guidably engaged with said supporting member and provided with a projection adapted to lie in the path of the adjacent end of said sheet-retaining member and by its sliding movement to be moved away therefrom, and means for holding said locking device in its normal locking position.

10. A temporary or loose leaf binder comprising a leaf-retaining member having offset ends adapted to be inserted through apertures in the leaves, a supporting member embracing sockets in which the ends of the retainer member normally lie and from which said ends are adapted to be removed by axial movement of said member,

and locking means associated with one of said sockets to normally hold the retainer member from endwise movement and lock it in place, said locking means embracing an endwise movable slide guidably engaged with said supporting member and provided with a projection adapted to lie in the path of the adjacent end of said sheet-retaining member and by its sliding movement to be moved away therefrom, said sliding locking member being resilient and provided with a spur adapted to enter a locking notch in the support.

In witness whereof I claim the foregoing as my invention, I hereunto append my signature this 26 day of October, 1920.

FREDERICK H. HARRIS.