No. 851,096. PATENTED APR. 23, 1907.

W. H. KREHBIEL.

LOOSE LEAF BINDER.

APPLICATION FILED AUG. 2, 1905.

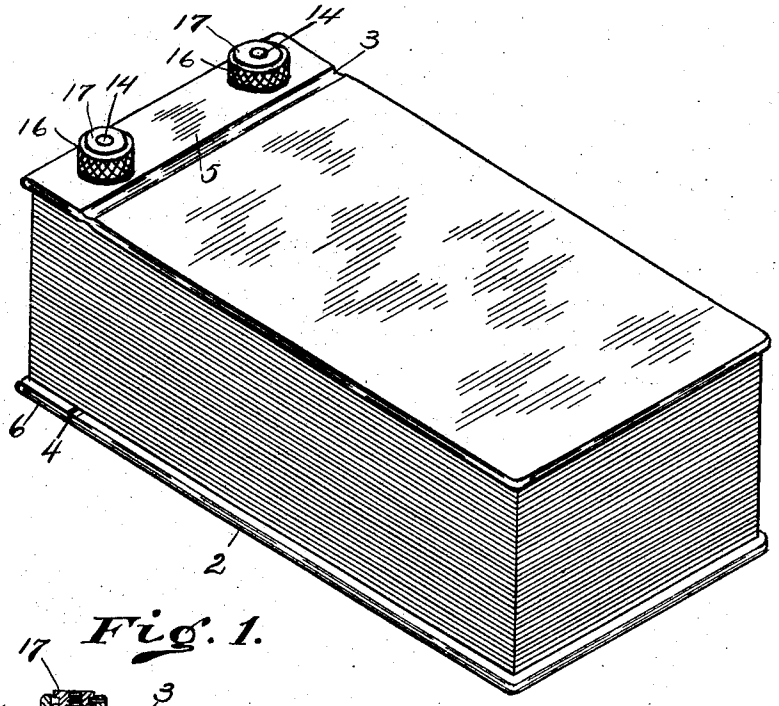


Fig. 1.

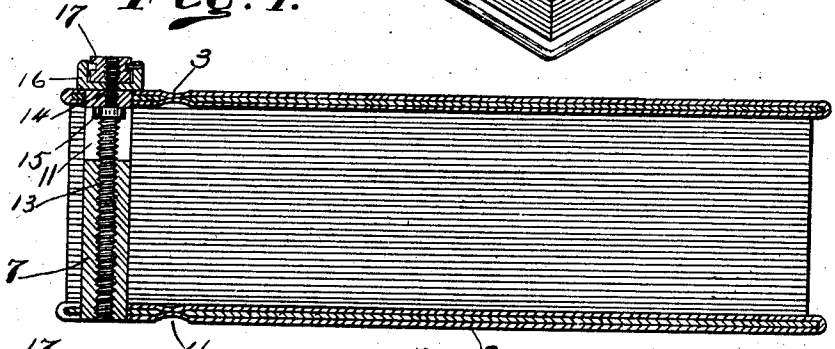


Fig. 2.

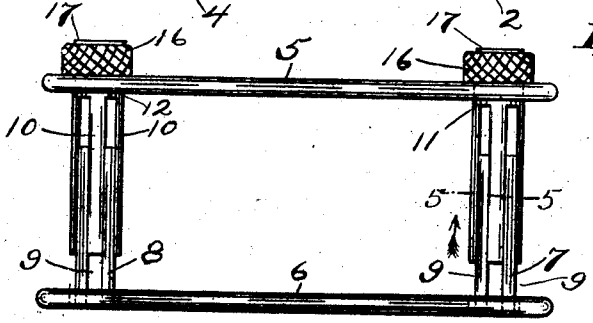


Fig. 3.

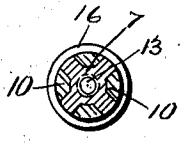


Fig. 5.

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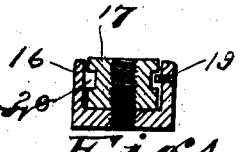


Fig. 4.

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LOOSE-LEAF BINDER.

No. 851,096. Specification of Letters Patent. Patented April 23 9 7.

Application filed August 2, 1905. Serial No. 272,376.

To all whom it may concern:

Be it known that I, WILBUR H. KREHBIEL, a citizen of the United States, residing in Cincinnati, county of Hamilton, and State of Ohio, have invented certain new and useful Improvements in Loose-Leaf Binders, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to temporary binders for binding together any desired number of loose leaves between temporary covers, so that additional leaves may be added, or leaves in use removed as desired, and the whole bound together in a compact package for convenient use. In such binders, it is usual to provide a suitable top and bottom cover with telescoping posts secured to the covers, so that proper adjustment may be had, and to provide leaves with perforations at the inner edge to slide over the permanent upright posts or tubes, which are usually mounted on the bottom cover. Extension posts are provided in order to extend the height of the package, and these posts are usually secured to the top cover and lock in the lower tube in various ways, so that when the top cover is removed to insert or remove the leaves, the extension posts are also removed, and all of the leaves of the package which lie above the bottom posts are thereby released and the perforations of these leaves very readily get out of alinement, so that when the binder is again secured, time is lost in arranging the loose sheets, and these leaves are frequently torn, or damaged, at the perforations in inserting the extension posts. As it is customary in the older constructions for one post to telescope within the other, the extension posts are not of the same diameter in cross section as the binding posts, so that the leaves to be bound—in which the perforations at the edge must necessarily be of a diameter to fit over the larger posts—do not fit snugly over the extension posts and the edges of the leaves bound are very apt to get out of alinement.

It is the purpose of my present invention to obviate these difficulties, and it consists of that certain novel arrangement of parts to be hereinafter pointed out and claimed, whereby when the top cover is removed, the extension posts may be left in position extending through all of the leaves in the package to serve as a guide in replacing the leaves, and in which the extension posts shall be of the same diameter as the binding posts.

In the drawings, Figure 1 is a perspective view of my improved binder. Fig. 2 is a longitudinal section through one of the binding posts. Fig. 3 is an end elevation with the leaves removed. Fig. 4 is a central vertical section of the nut or head for the extension posts. Fig. 5 is a cross section of one of the binding and extension posts taken on line 5—5 of Fig. 3.

1 and 2 represent the top and bottom covers of the binder, connected by flexible strips 3, 4 with the binding strips 5, 6 so as to permit the covers to open back in the usual way. To the lower binding strip, (and the binding strips are usually strips of metal suitably covered) are secured by solder, or otherwise, the upright binding posts 7 and 8. These posts are formed with longitudinal grooves 9, 9 to receive the legs 10, 10 of the extension posts 11, 12, the binding posts and extension posts being of the same diameter so that they can slide together while presenting the same diameter throughout. The binding posts 7, 8 are screw-threaded to receive the screw 13, the upper portion 14 of which is of less diameter than the lower portion, leaving a shoulder 15 which rests on the lower face of the solid portion of the extension post, the smaller portion of the screw passing through the unthreaded aperture in the center of the extension post and above the binding strip 5 sufficiently far to receive the retaining head. These retaining heads are made up of a pair of nuts 16, 17. The outer nut 16 is flanged and holds in the recess thus formed the inner nut 17, so that the top faces of the two nuts are almost flush. The nut 17 is held in position by the pin 19 in the flanged wall of the nut 16, which takes into an annular groove 20 in the nut 17. The groove 20 is considerably wider than would be required to hold the pin 19 in the groove, in order that there may be some play or relative motion between the nuts 16 and 17, so that the screw threads on the two nuts may jam or lock together when one nut is turned, while the other is held in fixed position on the screw, for the purpose hereinafter described.

The outer nut 16 is milled on its periphery, so that it can be readily turned and both nuts are screw-threaded to correspond with the upper portion 14 of the screw 13, and as long as the two nuts are loose from

each other they can both be screwed on or unscrewed from the screw 14 by grasping the milled portion of the nut 16. As soon as the nuts reach the head of the extension post, however, if the inner nut is held in position by pressing the finger on its upper face, a slight turn to the outer nut will lock the two together and jam the screw threads so that the two nuts will be locked to the screw and the further turning of the nuts will turn the screw 13 and extend or retract the extension post with reference to the binding post, and the binding strips will tightly clamp the leaves in the binder, or the binding strips will be released as the nuts are turned in either direction.

In order to insert additional leaves in the binder, the operator first loosens nut 17 from the nut 16 by a slight turn, holding the inner nut 17 by pressure on its upper face. Then he unscrews from the screw 14 both nuts, and the upper binding strip is released, allowing the top cover to be removed, and such leaves as may be necessary to be inserted or removed, the extension post remaining in position to serve as a guide for the leaves. The cover is then replaced, and the nuts screwed down together. Then as described, the two nuts are locked together, and the screw then turns advancing or retracting the extension posts as may be required.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. In a loose leaf binder, a pair of binding strips, binding posts secured to one of the strips, extension posts to slide upon the binding posts, with screws threaded into the binding posts, and a pair of nuts mounted on said screws with means for locking the nuts to the screws whereby the screws may be rotated, substantially as described.

2. In a loose leaf binder, a pair of binding strips, binding posts secured to one of the strips, said binding posts having longitudinal grooves, extension posts provided with tongues to fit within said grooves, with screws threaded into the binding posts, and a pair of nuts mounted on each screw, whereby when the nuts are locked together, the screw may be rotated, substantially as described.

3. In a loose leaf binder, screw threaded retaining heads and screws upon which they are mounted for binding together the covers, said heads comprising a pair of nuts, one flanged to embrace the periphery of the other, with means for securing the two nuts loosely together, substantially as described.

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