No. 897,878. PATENTED SEPT. 8, 1908.

C. B. COOK.

LOOSE LEAF BINDER.

APPLICATION FILED APR. 19, 1906.

3 SHEETS—SHEET 1.

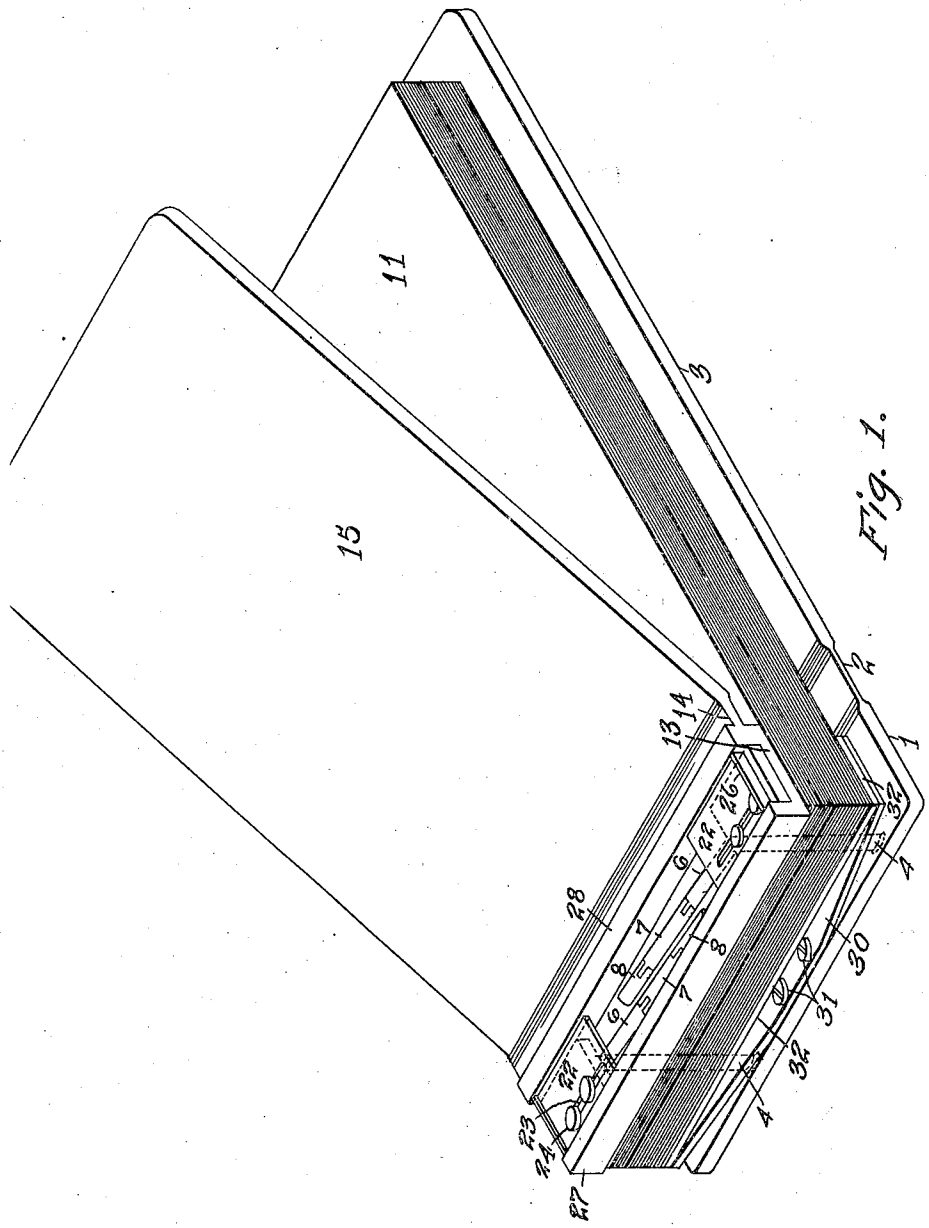


Fig. 1.

Witnesses
John C. Kopf
Kittie Frankfort

Inventor
Charles B Cook
By Attorney
R B Stickney

No. 897,878. PATENTED SEPT. 8, 1908.

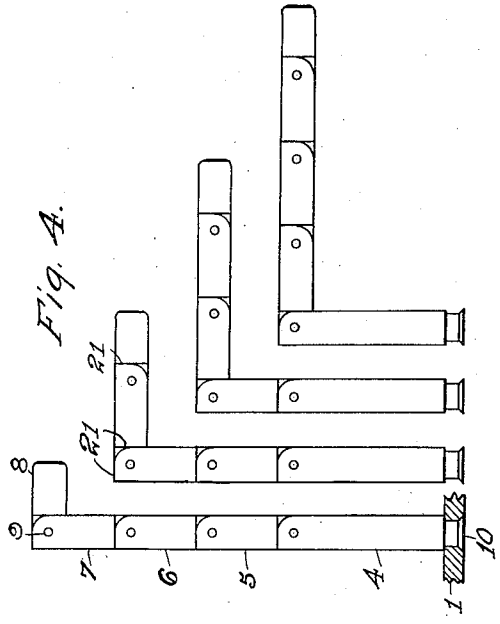
C. B. COOK.

LOOSE LEAF BINDER.

APPLICATION FILED APR. 19, 1906.

3 SHEETS—SHEET 2.

Fig. 4.



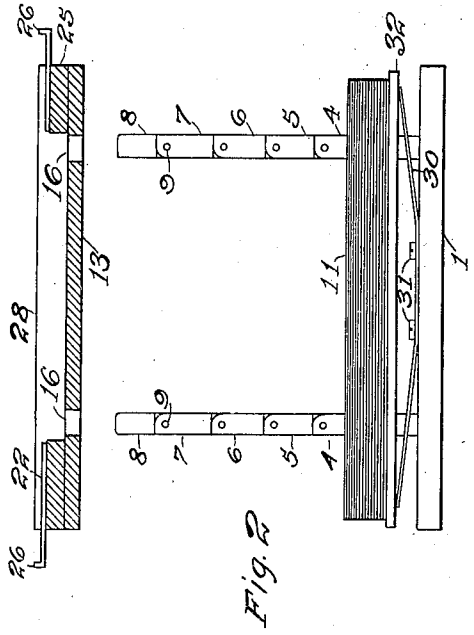
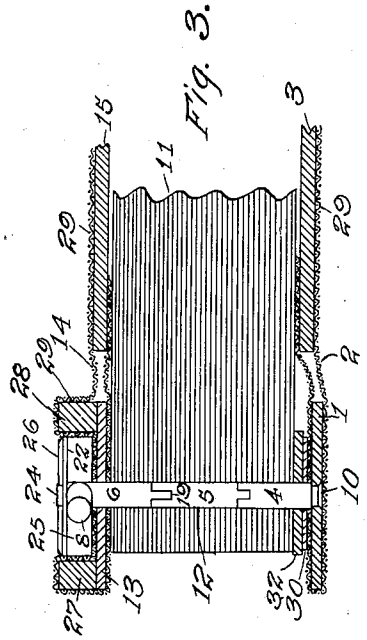


Fig. 2.

Fig. 3.



Witnesses

John C. Kopf

Kittie Frankfort

Inventor

Charles B. Cook

By Attorney

B. B. Stickney

No. 897,878. PATENTED SEPT. 8, 1908.

C. B. COOK.

LOOSE LEAF BINDER.

APPLICATION FILED APR. 19, 1906.

3 SHEETS—SHEET 3.

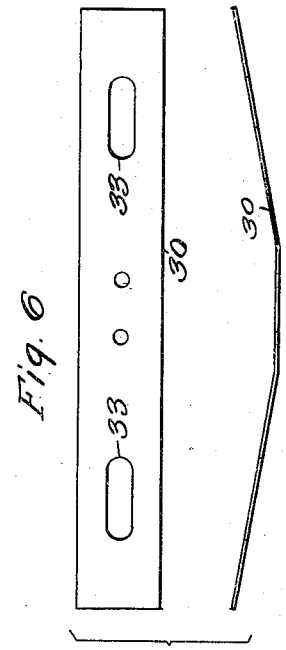


Fig. 6.

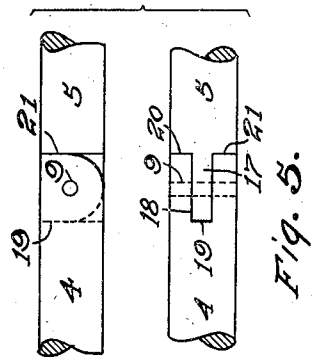


Fig. 5.

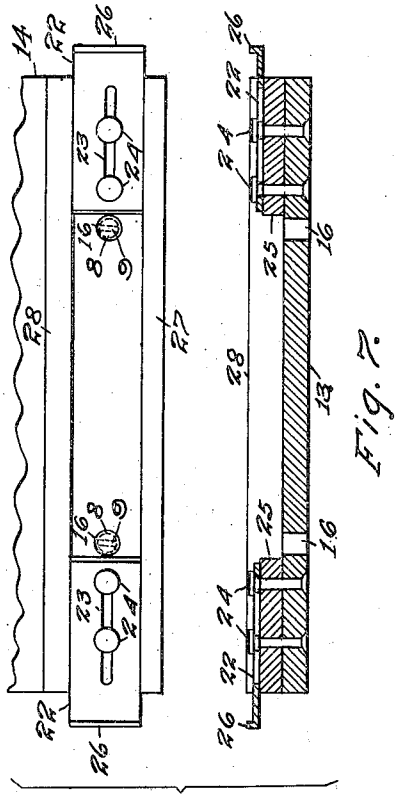


Fig. 7.

Witnesses.
John C. Kopf
Kittie Frankfort.

Inventor
Charles B. Cook
By his Attorney
A. B. Stickney

UNITED STATES PATENT OFFICE.

CHARLES B. COOK, OF HARTFORD, CONNECTICUT.

LOOSE-LEAF BINDER.

No. 897,878. Specification of Letters Patent. Patented Sept. 8, 1908.

Application filed April 19, 1906. Serial No. 312,583.

To all whom it may concern:

Be it known that I, CHARLES B. COOK, a citizen of the United States, residing in Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Loose-Leaf Binders, of which the following is a specification.

This invention relates to loose-leaf books in which perforated leaves to any desired number may be bound together by passing binding posts through the perforations and then securing the leaves by keepers or locks which are usually releasable so as to permit removal of any leaf. Such books or binders are usually provided with long binding posts which accommodate a maximum number of leaves. These posts are objectionable because they project up from the binder, and thereby render it impracticable to use the binder with its front cover lying down upon the desk. Hence the use of both sides of the bound sheets for writing purposes is prevented. Another objection consists in the necessity of transferring the written sheets to a permanent binder from time to time.

The object of my invention is to avoid the projection of the posts above the front cover of the binder, and in fact to construct the binder so that all of the locking or securing parts shall be below the top surface of the binder, so that the same may be laid either side up upon the desk and used freely in either way, writing on either side of the sheets, without inconvenience and without liability of marring the desk. I also aim to take up as little as possible of the side edges of the sheets for binding purposes thus leaving a maximum number of the sheets available for writing upon.

In carrying out my invention, I employ posts which are flexible or foldable so that they may be used up to any desired height for engaging the sheets, while the top unused portions of the posts are folded over and down upon the cover of the binder out of the way. These posts are preferably in the form of a series of sections hinged together endwise, and shoulders are provided at each hinge to prevent the sections from being swung past the proper vertical position, and the shoulders upon the posts coöperate in such a manner as to hold the leaves firmly against displacement.

In the preferred form of the invention, a depression is provided in the front cover in which the unused top ends of the posts may lie side by side, and locks or keepers are also provided in said depression for holding down the recumbent portions of the posts and firmly holding the leaves together. Where the sections of the posts are each of considerable length there may sometimes be surplus room between the front and back covers which would be an objection only when the leaf perforations are formed of open slots; and in order to prevent such leaves from being detached accidentally, I provide a yielding device for always pressing the leaves together, said yielding device being preferably between the back cover and the bottom of the pile of leaves.

Other features and advantages will hereinafter appear.

By means of my invention, the binder in which the leaves are originally placed may conveniently be used for a permanent binder, thus avoiding the trouble of changing, and also cutting off the expense of permanent binders.

In the accompanying drawings, Figure 1 is a perspective view of a binder embodying one form of my improvements. Fig. 2 shows the front cover detached, and a pile of leaves impaled upon the posts carried by the base or rear cover of the binder. Fig. 3 is a sectional elevation showing the binder about half full of leaves firmly bound between the covers. Fig. 4 is a diagram illustrating the different lengths of posts which may be brought into use to accommodate different numbers of sheets; the post sections which are in use being shown in vertical positions, while those out of use are shown horizontally. Fig. 5 shows the preferred form of hinge-joint between the post-sections. Fig. 6 shows plan and edge view of one form of auxiliary spring used for holding the leaves together, especially when the latter are provided with open slots to fit upon the posts. Fig. 7 shows plan and sectional elevation of the left hand portion of the front book cover up through which the binding posts rise, the keepers or locks being shown as having been drawn out to release the folded over post-sections to permit the cover to be lifted off.

The binder comprises a base 1 to which is attached by a flexible connection 2 a back or bottom cover 3. From the base rise cylindrical impaling posts each comprising a bot-

tom section 4, and one or more top sections as 5, 6, 7, 8, said sections all hinged together endwise at 9. The base 1 may be a metal plate, and the bottom section 4 may be riveted thereto as seen at 10. The leaves 11 having the usual perforations 12 are impaled upon the posts and confined by a cap plate 13 having a flexible connection 14 to the front cover 15 of the binder. The posts extend up through perforations 16 in said plate 13, and the top portions of the posts are folded down on said plate, Figs. 1 and 3, where they are out of the way, thereby permitting the book to be laid conveniently upon its front cover, so that the leaves may be written upon both sides if desired. The lower sections 4 of the two posts stand rigid because they are riveted to the base 1, and shoulders are provided at the hinges, so as to conduce to the rigidity of the posts when extended as at Fig. 2. At each hinge one post is preferably formed with a tenon 17, and the other with a corresponding mortise 18 so as to leave abutting shoulders at 19, 20 and 21, Fig. 5. These shoulders prevent the posts from being folded back beyond the vertical position. Since there are three pairs of abutting shoulders at each hinge, a strong post is produced, without necessity of flanges or projections, so that each post at Fig. 2 forms practically a single unbroken stable or substantially rigid body, such as is desirable for impaling purposes. It will be noticed that the left hand post at Fig. 2 can be bent only towards the right, while the other post can be bent only towards the left, and hence it results, no matter how many leaves are impaled upon the posts, edgewise displacement of the leaves is rendered impossible, since one post prevents movement of the leaves to the right, and the other post prevents movement of the leaves to the left, while each post is fixed against movement in all other directions.

The hinges 9 all of which are preferably parallel, may be slightly skewed as indicated at Fig. 7, so as to enable the top-sections of the posts to lie down alongside of each other, Fig. 1. Keepers 22 one for each post serve the double purpose of holding down the recumbent post portions and securing the front and back covers of the binder together. Each keeper or button may be in the form of a plate having a longitudinal slot 23, through which pass rivets 24 which hold the blocks 25 down upon the plate 13. Each keeper has a lip 26 for convenience in sliding the same in and out. Normally as at Fig. 1, these keepers overlie the adjoining recumbent post sections, and hence lock the latter down as well as holding the front and back covers together. When it is desired to take out or put in leaves, the keepers are drawn out, Fig. 7, and the posts are raised, and the plate 13 with its attached cover 15 drawn off the posts Fig. 2, thus releasing the leaves 11, and also permitting other leaves to be added whereupon the plate 13 and cover 15 may be replaced, the posts thrown over and the keepers pushed in.

In the preferred form of the invention, guard bars 27, 28 are placed along the edges of the plate 13 and secured thereto; and the cover cloth 29, Fig. 3 incases said bars as well as the plate 13. Said bars may be of such a height that all of the posts and locking devices may lie normally below the same or at least may not project above the guard bars, whereby scratching of the desk is prevented when the book is laid upon its front cover. In other words, the front cover has a channel or depression formed between the bars 27, 28, in which are contained the recumbent portions of the posts as well as the keepers; and it is obvious that the cover may be otherwise provided with a depression for this purpose. The topmost sections or impaling tips 8 of the posts may be shorter than the other sections as illustrated, so long as they can conveniently be bent over to secure the binder covers together.

In some cases, an auxiliary binding device may be employed between the base 1 and the front cover plate 13, preferably in the form of a spring, for binding the leaves tightly at all times especially where leaves have open slots instead of closed perforations. One form of spring 30 is seen in the drawings, and consists of a thin metal plate secured at its middle by screws 31 upon the base 1, and extending at both ends upwardly and outwardly to bear up against the ends of a plate 32 upon which the perforated ends of the leaves 11 rest, whereby the leaves are pressed up firmly against the cover plate 13, and hence are not liable to become loosened in handling the binder. Said spring may have slots 33 through which the posts pass. This and other forms of springs may be otherwise used between the binding covers for the purpose of holding the leaves together. Since the binder will accommodate either a small or large number of leaves, it is obvious that it is unnecessary to transfer them to a permanent binder, since the illustrated structure may be used for either permanent or temporary binder.

Variations may be resorted to within the scope of the invention and portions of the improvements may be used without others.

Having thus described my invention, I claim:

1. A loose-leaf binder comprising a base and a pair of substantially rigid impaling posts thereon, each post consisting of sections hinged together end to end, and the sections being shouldered to prevent movement beyond an upright position; the shoulders being upon the outer side of each post so that the posts can bend only towards each other, the pivots upon one post being slightly skewed relatively to those upon the other, so

as to permit the upper portions of the posts to lie side by side when bent over.

2. A loose-leaf binder comprising a base, a pair of substantially rigid impaling posts thereon, each post consisting of a series of sections hinged end to end, a cover through which the posts rise, and a pair of keepers movable upon said cover for locking the upper portions of the posts down thereon.

3. A loose-leaf binder comprising a base, a pair of posts thereon, each post consisting of sections hinged together end to end, and the sections being shouldered to prevent movement beyond an upright position; the shoulders being upon the outer side of each post so that the posts can bend only towards each other, the pivots upon one post being slightly skewed relatively to those upon the other, so as to permit the upper portions of the posts to lie side by side when bent over, a cover having a depression and having perforations in said depression to receive said posts, the latter when bent over being received in said depression, and keepers in said depression to slide over the depressed portions of the posts to lock them down.

4. A loose-leaf binder comprising a base, a pair of substantially rigid impaling binder posts erected thereon, and each consisting of sections hinged end to end, a cover having a depression and having perforations in said depression through which said posts rise, the posts being movable upon their hinges so as to lie down in said depression, and releasable means for holding down the unused sections of the posts; said releasable means being received in said depression so that no parts thereof project above the top surface of the cover, whereby scratching or marring of the desk is avoided.

5. A loose-leaf binder comprising a base, substantially rigid impaling posts erected thereon, a detachable cover through which the posts rise, each post comprising sections jointed together to fold down upon said cover, means coöperating with the posts for locking the cover upon the posts, and a yielding device for pressing the sheets together.

6. A loose-leaf binder comprising a base, a pair of substantially rigid impaling posts erected thereon, each post consisting of sections hinged together, a detachable cover, means coöperating with the posts for locking the cover down upon the sheets, a spring upon the base, and a plate pressed by said spring up against the leaves to bind them together.

7. A loose-leaf binder comprising a base, a cover, and a pair of substantially rigid impaling posts, each comprising a bottom section fixed to the base, an impaling tip, and intervening sections, all the sections hinged together end to end, said cover having openings therethrough, whereby it may be impaled upon said posts, and the latter being foldable at any of their joints down upon the cover, and means to coöperate with the folded over sections of the posts for locking said cover in place.

8. A loose-leaf binder comprising a base, a cover, and a pair of substantially rigid impaling posts, each comprising a bottom section fixed to the base, an impaling tip, and intervening sections, all the sections hinged together end to end, said cover having openings therethrough whereby it may be impaled upon said posts, and the latter being foldable at any of their joints down upon the cover, means to lock the cover to the posts, and yielding means provided upon the base to press the impaled leaves up against the cover.

9. A loose-leaf binder comprising a base, a pair of substantially rigid impaling posts, each comprising a bottom section fixed upon the base, an impaling tip, and intervening sections, said sections hinged end to end, a cover having perforations therethrough, whereby it may be impaled upon said posts, the upper sections of the latter being foldable down upon the cover, means coöperating with said posts to lock the cover in place, and means to press the impaled sheets up against the cover.

CHAS. B. COOK.

Witnesses:
EDW. J. MANNING,
EDWIN C. SMITH.