No. 722,061. PATENTED MAR. 3, 1903.

J. A. WALDO, Jr.

DEVICE FOR FASTENING LOOSE LEAF BOOKS.

APPLICATION FILED NOV. 7, 1902.

NO MODEL.

Fig. 1.

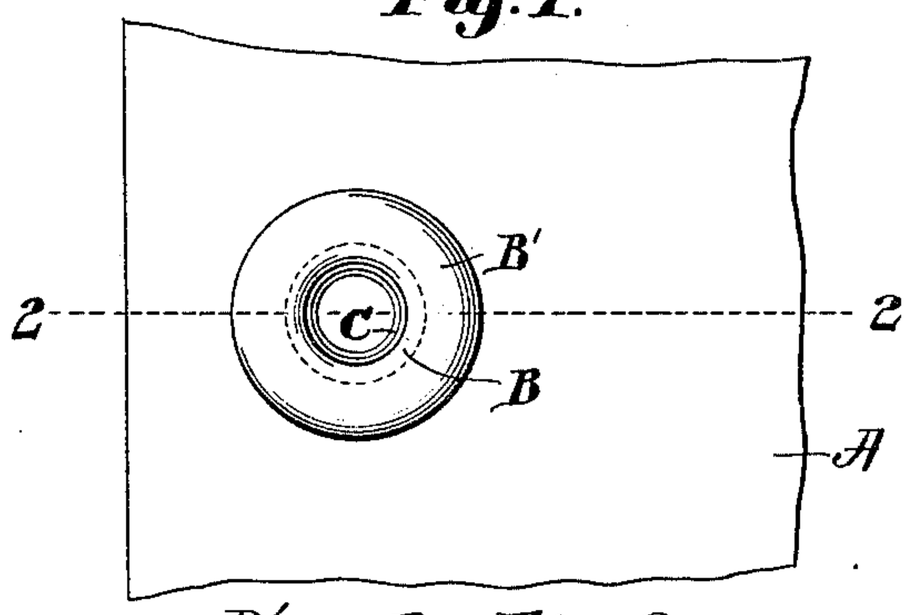


Fig. 2.

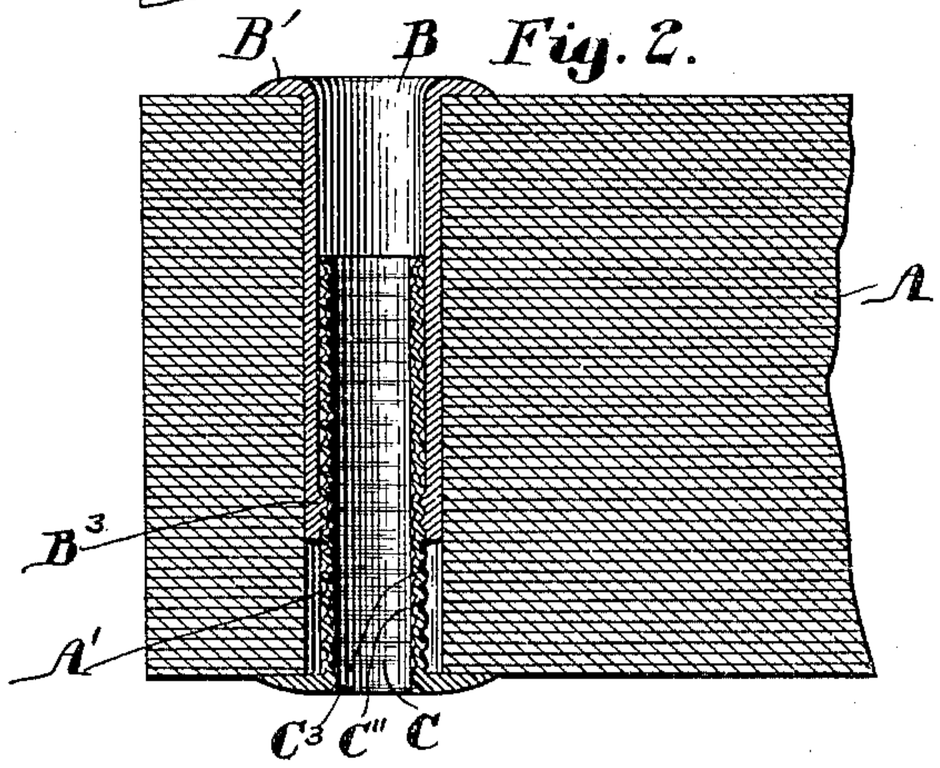


Fig. 3.

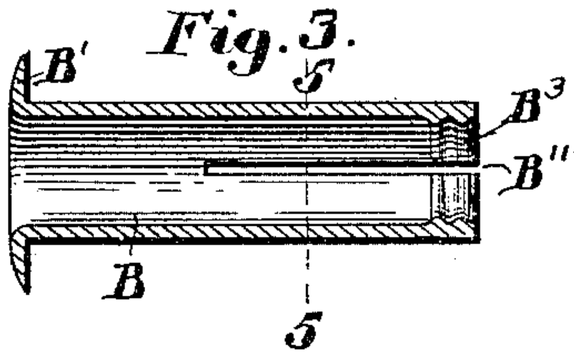


Fig. 4.

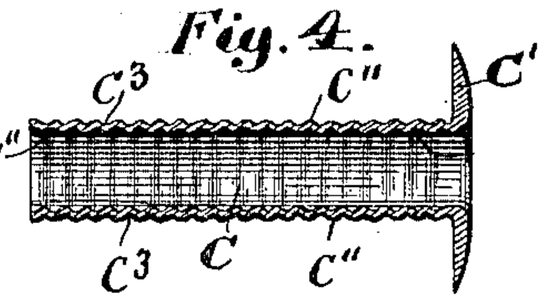


Fig. 5.

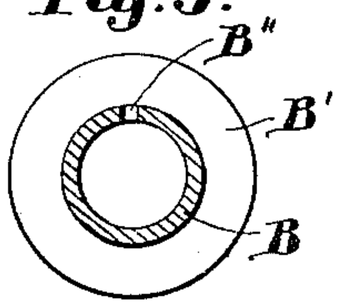
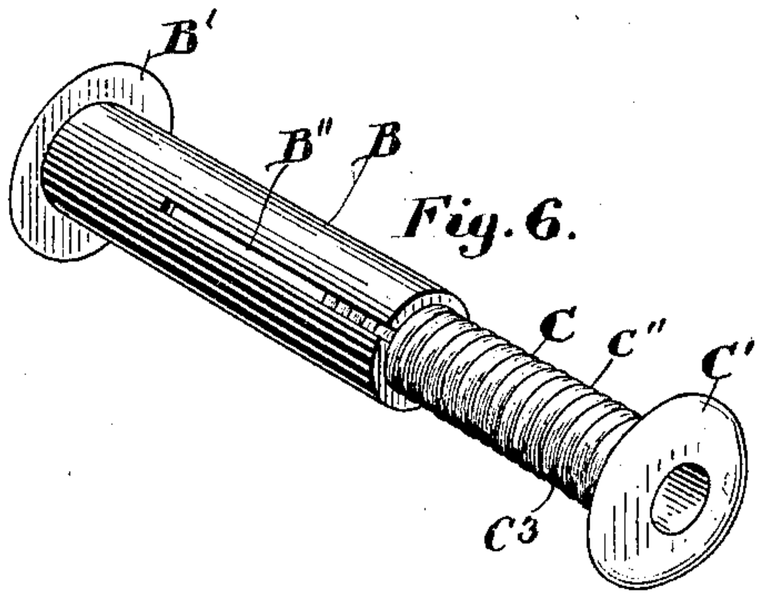


Fig. 6.



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UNITED STATES PATENT OFFICE.

JOHN A. WALDO, JR., OF READING, MASSACHUSETTS.

DEVICE FOR FASTENING LOOSE-LEAF BOOKS.

SPECIFICATION forming part of Letters Patent No. 722,061, dated March 3, 1903.

Application filed November 7, 1902. Serial No. 130,378. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. WALDO, Jr., a citizen of the United States, and a resident of Reading, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Devices for Fastening Loose-Leaf Books, of which the following is a specification.

This invention relates to a device for fastening loose-leaf books, and is designed as an improvement upon a device of this character for which Letters Patent of the United States were granted to me September 2, 1902, as No. 708,102.

The object of the present invention is in a ready, simple, thoroughly feasible, practical, and positive manner to effect the assemblage of loose pages and their easy separation when desired; furthermore, to obviate the employment of a key or other implement to effect disconnection of the members of the device either when additional pages are to be included or others are to be removed.

With the above and other objects in view, as will appear as the nature of the invention is better understood, the same consists in the novel construction and combination of parts of a device for fastening loose-leaf books, as will be hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which like characters of reference indicate corresponding parts, there is illustrated one form of embodiment of the invention capable of carrying the same into practical operation, it being understood that the elements therein exhibited may be varied or changed as to the shape, proportion, and exact manner of assemblage without departing from the spirit thereof.

In the drawings, Figure 1 is a side elevation of a portion of a loose-leaf book provided with my improved fastening device, the figure being shown as enlarged. Fig. 2 is a cross-section on the line 2 2 shown in Fig. 1. Fig. 3 is a detail longitudinal section of the outer slitted member of the fastening device. Fig. 4 is a similar longitudinal section of the inner corrugated member of the fastening device. Fig. 5 is a cross-section on the line 5 5 shown in Fig. 3, and Fig. 6 is a perspective view of the fastening device.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

In the drawings, Figs. 1 and 2, A A represent series of leaves of a loose-bound book, pamphlet, index, record, &c., adapted to be fastened together by my improved device.

My present improvement consists of a pair of peculiarly-constructed open-ended telescopic tubes B and C, one adapted to receive the other when in use, as will hereinafter be more fully shown and described. The said telescopic tubes are provided, respectively, at their outer ends with outwardly-extending flanges B′ C′, as shown. In my above-mentioned patent the telescopic tubes were made smooth to enable one to slide loosely within the other, and they were secured to the loose leaves after being put through perforations in the latter by means of a tying-string. In my present invention I dispense with such tying-string and provide the telescopic tubes with a locking device, by means of which the two members may be locked together in any desired position relative to the thickness of the combined leaves of the book, and for such purpose I make on the exterior of the inner tube C a series of annular projections C″ C″ and intervening annular grooves C^3 C^3, as shown in Figs. 2, 4, and 6. The outer tube B is made longitudinally slitted from its lower end upward, as shown at B″ in Figs. 3, 5, and 6, such slit terminating at a proper distance from the flange B′, as shown in Figs. 3 and 6, and by this arrangement the slitted portion of the outer tube B is rendered outwardly expansive and yielding. On the interior of the lower slitted portion of the outer tube B is made one or more inwardly-projecting ribs B^3, adapted to interlock in any one of the grooves C^3 on the tube C, as shown in Figs. 2 and 3.

The tubular portion of the two members of the device is of the same diameter throughout, and the annular projections and grooves of the inner member C extend from end to end thereof. By this arrangement when the member C is inserted within the member B its terminal projections and grooves will immediately engage with the ribs B^3 upon the member B, thus rendering the member C operative throughout its entire length for holding loose leaves assembled. The en-

gagement between the ribs B^3 and the projections C'' and grooves C^3 of the member C is such that while being thoroughly effective and positive for holding a plurality of leaves assembled the parts of the device may be readily disconnected when it is desired to include additional leaves or to remove others.

A' is a perforation through the loose leaves A A, into which the telescopic tubes B C are inserted when it is desired to attach the leaves together.

In using the device for binding the loose leaves together I insert the telescopic tubes B C from opposite ends through the perforation A' in the leaves A and in such a manner that the shank of the tube C is made to enter the shank of the slitted expansive tube B. The tubes are then pressed together from opposite sides until the flanges B' C' come in contact with the top and bottom sides of the book, as shown in Fig. 2, and in such position the ridges B^3 on the internal portion of the yielding outer tube B are caused to be held interlocked with the grooves on the exterior of the inner tube C, as shown in Figs. 2 and 6, thus holding the leaves bound together.

If it is desired to detach the tubes from the book for the purpose of either removing some of the leaves or adding others, it is only necessary to grasp the flanges B' C' of the tubes B C, or either one of them, and by pulling outward on such flanges or flange the tubes may be disconnected and again locked together after the leaves have been adjusted or a portion thereof removed or added.

The length of the telescopic tubes may be varied according to the maximum and minimum thickness of the loose-bound books, &c., that are to be fastened.

What I wish to secure by Letters Patent and claim is—

A device of the class described comprising a pair of hollow cylindrical tubes, the inner one being provided throughout its length with peripheral projections and depressions, and the outer one being longitudinally slitted for a portion of its length and having at the outer terminal of the slitted portion inwardly-extending ribs to interlock with the projections and depressions of the inner member, the coaction between the parts being such that while operating positively to hold a series of leaves assembled, they may, upon outward pull being applied to them, be separated, substantially as and for the purpose specified.

In testimony whereof I have affixed my signature in presence of two witnesses.

JOHN A. WALDO, JR.

Witnesses:
ALBAN ANDRÉN,
CHARLES H. SMITH.