

T. BRAZIL-DINEEN.
 LOOSE LEAF BINDER.
 APPLICATION FILED DEC. 15, 1909.

957,649.

Patented May 10, 1910.

Fig. 1

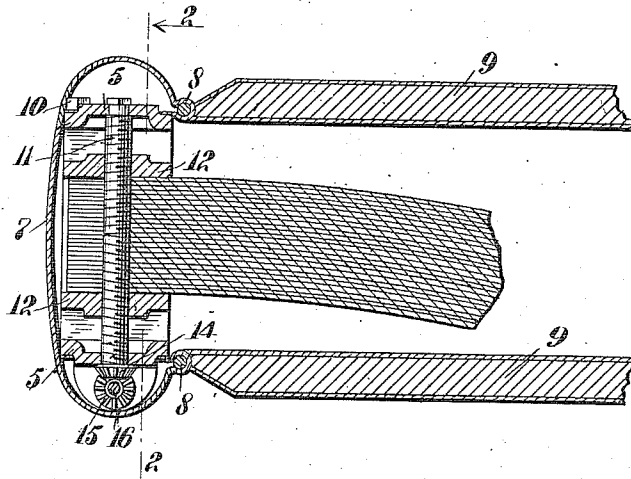


Fig. 2

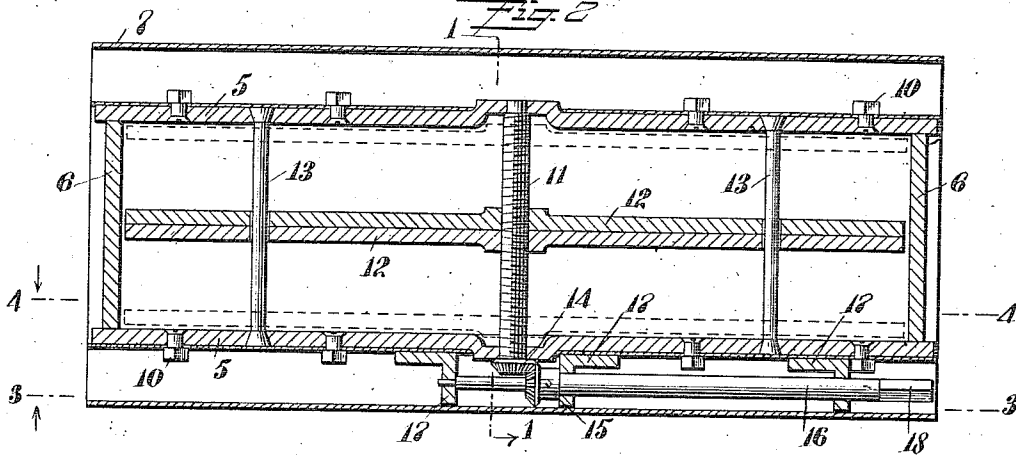


Fig. 3

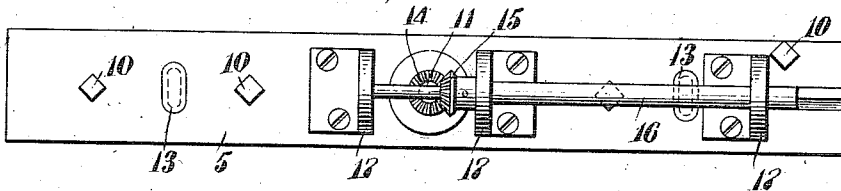
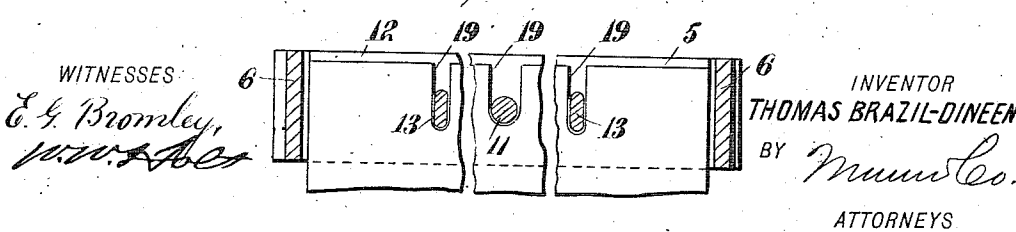


Fig. 4



UNITED STATES PATENT OFFICE.

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LOOSE-LEAF BINDER.

957,649.

Specification of Letters Patent.

Patented May 10, 1910.

Application filed December 15, 1909. Serial No. 533,315.

To all whom it may concern:

Be it known that I, THOMAS BRAZIL-DINEEN, a subject of the King of Great Britain, and a resident of Milson's Point, North Sydney, New South Wales, Australia, have invented a new and Improved Loose-Leaf Binder, of which the following is a full, clear, and exact description.

The invention is an improvement in loose leaf binders such as embody a box case or frame, with leaf-binding plates relatively movable to and from each other between the opposite walls of the case.

The object of the invention is to provide an operating mechanism for the binding plates, which is arranged so as not to diminish the capacity of the case or frame or be injured when the clamping plates are fully moved apart, and which extends longitudinally of the case or frame to one end thereof at a point conveniently accessible for operation.

Reference may be made to the accompanying drawings forming part of this specification, in which similar reference characters indicate corresponding parts in all the views.

Figure 1 is a section on the line 1—1 of Fig. 2, showing my improved loose leaf binder as applied to a ledger; Fig. 2 is a section of the same on the line 2—2 of Fig. 1; Fig. 3 is a section of the binder on the line 3—3 of Fig. 2, and Fig. 4 is a section of the same on the line 4—4 of Fig. 2, showing the manner in which the leaves are positioned between the leaf-binding plates.

In carrying out my invention I provide a box case or frame comprising sides 5, 5, and ends 6, 6, securely fastened together, the case being arranged in the back 7 of a ledger, the said back being constructed of sheet metal or any other suitable material and secured to the sides by extending the metal or other covering to form the hinges 8, joining the back to the side covers 9, 9, and fastening the same to the outer faces of the sides 5 by bolts or other equivalent devices 10. Arranged in any suitable position of the case or frame and journaled in both sides 5, 5, is a screw or screws similar to 11 having right-hand and left-hand threads re-

spectively formed on its opposite end portions, each thread being in engagement with one of the two opposed leaf-binding plates 12, the said plates being of a suitable length and depth to move easily inside the case and are slidably guided on guide-bars 13, the opposite ends of each guide bar being riveted or otherwise fastened in the sides 5.

One end of the screw 11 is extended to the outside of the case, where it is shown to have a bevel pinion 14 in mesh with a like pinion 15 secured to an operating shaft 16, the operating shaft being journaled in brackets 17 secured to the adjacent side of the case and extended to one end of the ledger back, where it is provided with an angular or other suitably shaped key-engaging portion 18. The screw 11 and guide-bars 13 are arranged to engage or fit into notches or slots 19 formed in the edges of the leaves before the latter are placed in position to be secured between the binding plates. By turning the shaft 16 with a suitable key the binding plates may be caused to simultaneously approach or recede from each other, whereby the leaves are clamped or released.

It is obvious that other forms of gearing, such as, spiral or worm gearing might be used for operatively connecting the actuating shaft with the binding screw or screws, and that more than one binding screw may be used according to the size of the leaves to be bound, and that the binder may be otherwise modified within the scope of the invention as defined in the annexed claims.

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

1. The combination in a loose leaf binder, of a box case, leaf binding plates arranged within the case, a screw journaled in the case and having right and left-hand threaded end portions in respective engagement with the plates, and an operating shaft extending to one end of the case at the outside thereof and operatively connected to the screw.

2. The combination in a loose leaf binder, of a box case, leaf-binding plates arranged within the case, a screw journaled in the case, having right and left hand threaded

end portions in respective engagement with the plates, book covers having a back extending around the case, and an operating shaft extending to one end of the case at the
5 outside thereof and operatively connected to the screw and inclosed by and between the book back and the box case.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS BRAZIL-DINEEN.

Witnesses:

W. HERBERT FRIEND,
C. E. JONES.