

A. T. WARNE.
FITTING FOR LOOSE LEAF BOOKS.
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970,582.

Patented Sept. 20, 1910.

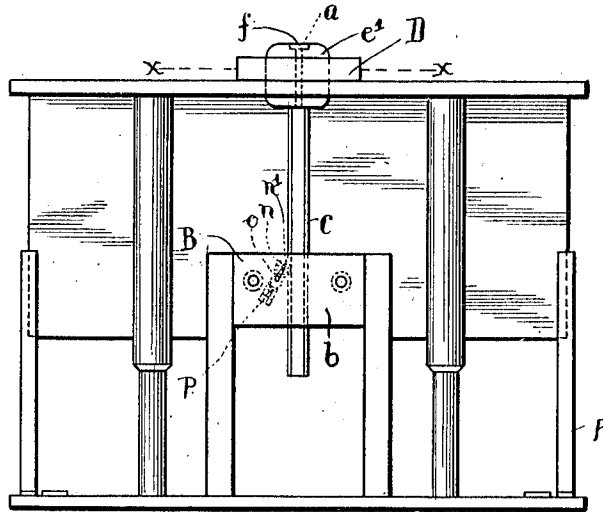


Fig. 1.

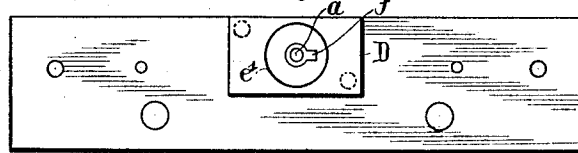


Fig. 2.

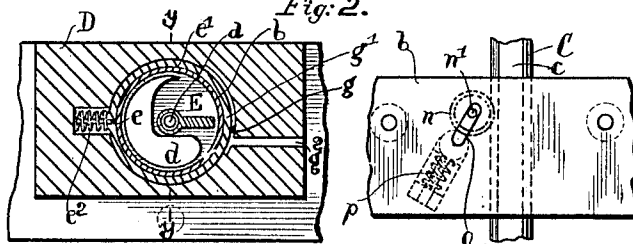


Fig. 3.

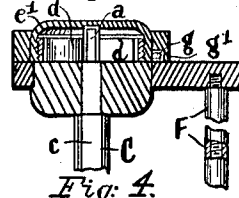


Fig. 4.

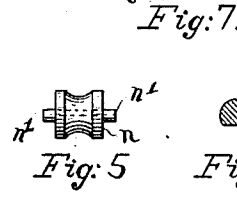


Fig. 5.

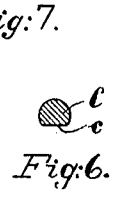


Fig. 6.

Witnesses:-

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By his Attorney

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UNITED STATES PATENT OFFICE.

ALBERT THOMAS WARNE, OF LEYTONSTONE, ENGLAND, ASSIGNOR TO SPICER BROTHERS LIMITED, OF LONDON, ENGLAND, A COMPANY INCORPORATED.

FITTING FOR LOOSE-LEAF BOOKS.

970,582.

Specification of Letters Patent. Patented Sept. 20, 1910.

Application filed December 9, 1907. Serial No. 475,736.

To all whom it may concern:

Be it known that I, ALBERT THOMAS WARNE, engineer, a subject of the King of England, residing at 5 Cowley road, Leytonstone, in the county of Essex, England, have invented certain new and useful Improvements in Fittings for Loose-Leaf Books, (for which I have applied for a patent in England and which application is dated December 13, 1906, No. 28,439,) of which the following is a specification.

This invention relates to a fitting for loose leaf books such as ledgers, order books, pattern books and the like. The said invention is illustrated in the accompanying drawings in which:

Figure 1 is an elevation and Fig. 2 is a plan. Fig. 3 is a horizontal section of the locking device taken on the line "x-x," Fig. 1, shown on an enlarged scale. Fig. 4 is a sectional elevation taken on line "y-y" Fig. 3, the key being removed. Fig. 5 is an elevation on an enlarged scale of the roller hereinafter referred to and Fig. 6 is a horizontal section of the locking post. Fig. 7 is an enlarged detail view showing the parts for preventing withdrawal of the rod.

A ledger or the like embodying this invention is made in two parts. In one part of the volume, say the bottom tray A is fixed a lock B adapted automatically to retain in place the locking rod. This rod C is made flattened along one side, (see *c* Figs. 4 and 6) so that in cross section it will present the shape of a segment of a circle. The locking rod is so held in the top of the volume as to be capable of rotation therein but not of longitudinal movement with reference thereto. The outer surface of the volume carries any suitable means for permitting the rod C to be turned when required. A convenient arrangement is the following. The top of the rod forms the pin *a* for a bored key; see Figs. 1, 2, 3, and 4. It is surrounded by a ring *b* within which a loose cam *d* of crescent shape is arranged Fig. 3. Cam *d* has a pin *e* entering a recess in the ring *b*. The ring *b* is rigidly secured to the rod C and may have an external screw thread. The cap *e*¹ is internally screw threaded; it has a key-hole *f* and a recess for the reception of the stud *e* on the cam *d*; it also serves as cover for the locking parts. A casing D surrounds the parts just referred to and in said casing is provided a pin *e*² surrounded

by a spring and having a tendency to pass into the recess of the cap *e*¹. When moving inward it pushes against pin *e* on the cam *d*. The pin *g* on the outside of the cover *e*¹ moves in a guide groove *g*¹ in the casing D thereby limiting the motion of the rod C. This pin *g* may screw into the cap or cover *e*¹ and have a nick. The head of the screw is reached by inserting a screw driver into the aperture *g*² when the parts are turned. The pin *g* having been removed it will be possible to unscrew the cap or cover *e*¹, allowing access to the cam and other parts. The arrangement is such that when the key E is inserted and turned it drives the cam *d* outward, and the pin *e* then pushes pin *e*² out of the way; further movement of the key then rotates rod C by the ring *b*, freeing the rod from lock B as will presently appear. The locking rod extends into the lock B (Fig. 1) hereinabove mentioned. This lock consists of a roller *n* (Figs. 1 and 5) having journals *n*¹, *n*¹ which move in oblique slots *o* that in the front *b* of lock B is seen in Fig. 1, and there is a similar one on the opposite side. A spring pin *p* tends to force the roller toward the locking rod C in the oblique slots *o*; when moving downward against the spring pin *p*, it moves away from the locking rod C. When the flat side *c* of the rod C is turned toward the roller *n* no action between the roller and the rod takes place, but when the round side of the rod is presented to the roller *n* the latter permits downward or inward movement of the rod but not motion upward.

In some cases a sectional post F not extending to the outside or upper surface of the volume may be provided in addition to the locking rod and placed in front of it (Fig. 4). This also may press upon a follower bar if such be used or directly upon the leaves if preferred. The use of this sectional rod will permit greater variation of the number of leaves the volume is capable of receiving.

The operation of this invention is as follows: The key is inserted into the key hole *f*. The key is turned until the bit engages with the narrow end of the crescent shaped cam *d*. Rotation of the key being continued, the cam is driven back against the inner wall of the ring *b*, the pin *e* enters the hole in the cap or cover *e*¹ and presses back the spring pin *e*² in the recess in the fixed cas-

ing D. By the rotation the flat side *c* of the rod is presented to the roller *n* and the volume will spring open. Rotation is now stopped owing to the stud *g* having reached the end of the guide groove *g*¹. Leaves may now be inserted or removed. To close the volume, the key is turned in the opposite direction. This brings the bit into contact with the broad end of cam *d* causes the rod C to be turned in the opposite direction and its round side to come into contact with the roller *n* the cam *d* being at the proper time forced inward by the spring pin *e*². If the top of the volume is now depressed in the well known manner the leaves will be secured as is readily understood.

Claims:

1. A locking device for loose leaf books having two covers and extensible binding pins consisting of a rotatable rod flattened at

one side, a roller in contact with the rod for locking the same, a spring for pressing the roller against the rod, guides for the roller arranged obliquely to the rod, and means for rotating the rod.

2. A locking device for loose leaf books having two covers and extensible binding pins consisting of a rotatable rod flattened at one side, a roller in contact with the rod for locking the same, guides for the roller arranged obliquely to the rod and a spring for pressing the roller against the rod, combined with a key-operated lock for the rod.

In testimony whereof I have hereunto set my hand in the presence of two witnesses.

ALBERT THOMAS WARNE.

Witnesses:

BERNHARD DUKES,
JAMES G. LINTON.