

R. J. COPELAND & A. E. CHATTERSON.
LOOSE LEAF BINDER.

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945,916.

Patented Jan. 11, 1910.

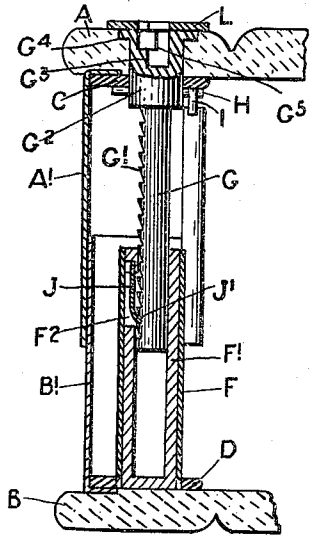
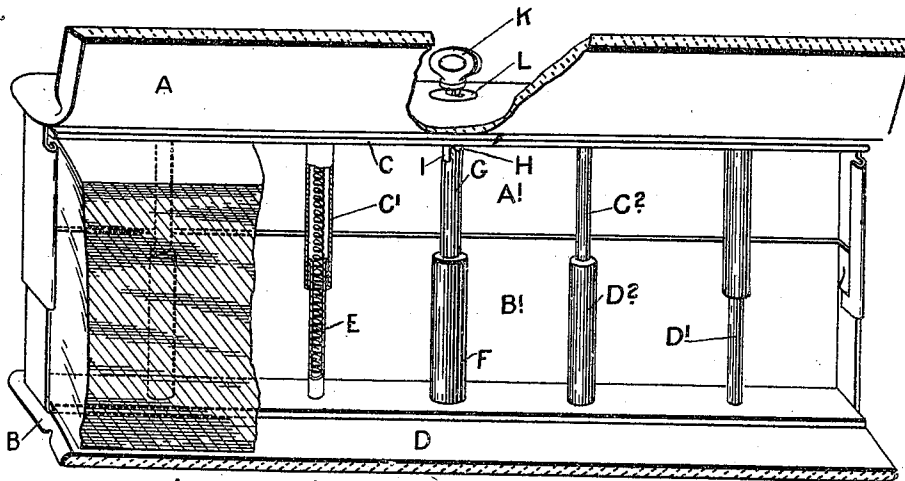


FIG. 2.

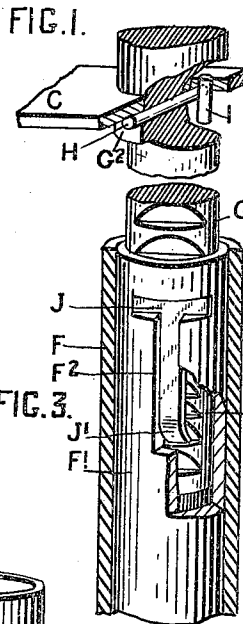


FIG. 3.

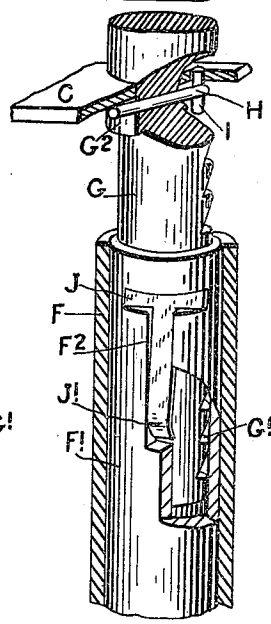


FIG. 4.

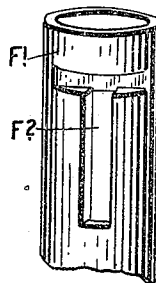


FIG. 5.

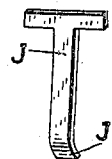


FIG. 6.

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UNITED STATES PATENT OFFICE.

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LOOSE-LEAF BINDER.

945,916.

Specification of Letters Patent. Patented Jan. 11, 1910.

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To all whom it may concern:

Be it known that we, ROBERT JAMES COPELAND and ALBERT EDWY CHATTERSON, both of the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Loose-Leaf Binders, of which the following is the specification.

Our invention relates to improvements in locks for loose leaf binders, and the object of the invention is to devise a simple, cheap and effective lock for loose leaf binders, which is not liable to get out of order and it consists essentially of a socket in the lower member of the binder, a round post turnably secured in the upper end of the binder and provided with a key hole at the top and having a ratchet-shaped tooth rack, a sleeve fitting over the post and provided with a slot, a pawl held in the slot, so as to engage with the rack, the parts being otherwise constructed and arranged in detail as hereinafter more particularly explained.

Figure 1, is a perspective view of a binder showing the cover mostly broken away and in section, exhibiting the position and general arrangement of our improved lock. Fig. 2, is an enlarged sectional detail of the lock and binder. Fig. 3, is a view of portion of a lock showing the pawl engaging with the rack on the post. Fig. 4, is a view showing the post turned, so that the pawl is free from engagement with the rack. Fig. 5, is a detail of the sleeve in which the pawl fits. Fig. 6, is a detail of the pawl.

In the drawings like letters of reference indicate corresponding parts in each figure.

A is the upper member and B the lower member of a loose leaf binder, the major portion of the cover being broken away and only the binder portion being disclosed in the drawing.

A' is a depending back plate attached to the upper portion and B' the back plate attached to the lower portion, one of which slides inside of the other.

C is a longitudinal plate secured underneath the upper member A and having attached thereto the sockets C' and posts C².

D is a longitudinal plate secured to the lower member B of the binder and provided with the posts and sockets D' and D² which co-act with the sockets C' and post C² respectively.

E is the ordinary spiral spring located in

the sockets and designed to force the top and bottom of the binder apart, such spiral spring being shown in Fig. 1.

Thus far the construction is of the ordinary type used in binders of this class.

F is a central socket secured in the longitudinal plate D and provided with a supplemental sleeve F' having a T-shaped recess F², the depending portion of which extends through the sleeve F'.

G is a post having a ratchet-shaped rack G', the inclined portion of each tooth being lowermost as indicated. The post G has an enlargement G² at the upper end, which is provided with a key socket G³ and a flanged top G⁴.

H is a pin, which extends through the enlargement G² and which serves with the flange G⁴ to hold the post securely in the upper member of the binder.

I is a stop pin, which depends from the plate C in the path of the pin H as it turns.

J is a T-shaped pawl, the upper horizontal portion of which fits in the upper portion of the recess F² and the lower end of which has an inward turn J'.

K is the key, which is provided with the usual web.

L is the escutcheon plate secured to the top of the member A opposite the post G and provided with the usual slot for a key. The socket G³ is provided with a recess and shoulders G⁵ against which the web of the key abuts when it is turned, so as to turn the post G.

Having now described the principal parts involved in our invention we shall briefly describe its operation and utility. By inserting the key K into the top of the post G hereinbefore described and turning the key the post may be turned around from the position shown in Figs. 2 and 3 into the position shown in Fig. 4, so that the pawl J passes out from the ratchet teeth when the two members of the binder will spring apart. In this position the web of the key will have passed from underneath its receiving slot and thereby the key will be held within the escutcheon plate L. When it is desired to contract the binder again the key may be given a half turn in the reverse direction, so as to bring the rack of the post G into engagement with the pawl again or it may be removed before the reverse operation takes place as it is not necessary to have the key

in for the purpose of locking the binder. The key is actually required for unlocking only. By pressing down on the member A the teeth of the rack post G will pass the
5 pawl in its descent and such pawl will lock each tooth as it descends, thereby holding the two members of the binder together. It is also pointed out that the pawl J when once placed in position is permanently secured in
10 place and consequently there is no liability of the co-acting parts failing to operate.

What we claim as our invention is:

1. In a loose leaf binder, the combination
15 with the upper member and lower member and connections, of a lock comprising a socket secured to the lower member, a supplemental socket located therein provided with a T-shaped recess, a post turnably secured in the upper member and provided with
20 ratchet teeth, a T-shaped pawl held in a recess in the supplemental socket and pro-

vided with a bent end, and means for turning the post, so as to release the pawl from the ratchet as and for the purpose specified.

2. In a loose leaf binder, the combination 25 with the upper member and lower member and connections, of a lock comprising a socket secured to the lower member, of a T-shaped recess formed therein, a post turnably secured in the upper member and provided with ratchet teeth and a T-shaped
30 pawl held in the recess in the supplemental socket and provided with a bent end, means for turning the post, and means for holding the pawl within the recess, as and for the
35 purpose specified.

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