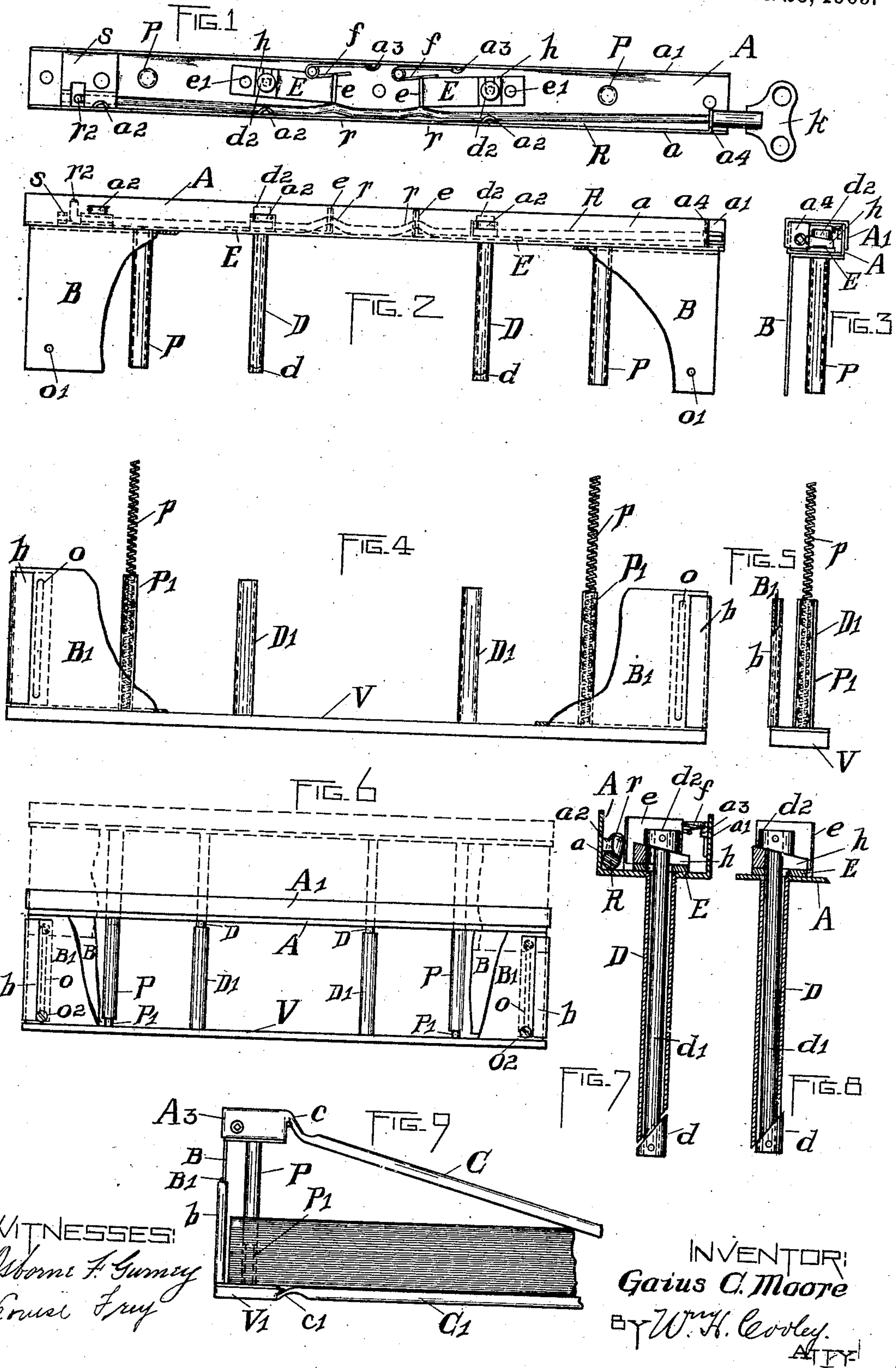


G. C. MOORE.
 LOOSE LEAF BINDER.
 APPLICATION FILED FEB. 2, 1909.

944,894.

Patented Dec. 28, 1909.



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LOOSE-LEAF BINDER.

944,894.

Specification of Letters Patent.

Patented Dec. 28, 1909.

Application filed February 2, 1909. Serial No. 475,574.

To all whom it may concern:

Be it known that I, GAIUS C. MOORE, a citizen of the United States, and a resident of Rochester, in the county of Monroe and State of New York, have invented a new and Improved Loose-Leaf Binder, of which the following is a specification.

The object of my present invention is to provide an expansible loose leaf binder with telescoping posts in which the inner members of the telescoping posts may be firmly clamped to the outer ones at any desired points of relative longitudinal adjustment between such posts.

My invention consists in providing the inner member of a cooperating pair of telescoping impaling posts with a clamping extension or terminal slidably joined to the main body of such inner members on a plane oblique to the axis of such inner member and I also provide means, preferably under the control of a suitable key actuated mechanism, for moving the clamping terminal slidably on the inner member in such a way as to force the terminal and such inner member eccentrically apart and thereby also outwardly against the wall of the outer member.

The accompanying drawings illustrating a loose leaf binder made in accordance with my present invention are as follows:—

Figure 1 is a plan view of the key controlled mechanism for actuating the clamping means. Fig. 2 is a back view of the upper section of the binder and shows in dotted lines part of the clamping mechanism in such view and in this figure a part of the back plate is also removed to show the location of the impaling posts. Fig. 3 is an end view, as seen from the right, of the parts seen in Fig. 2, but with the clamping plate covered. Fig. 4 is a view similar to Fig. 2 of the lower portion of the binder frame and the parts therein are drawn in vertical alinement with the cooperating parts of that part of the binder frame seen in Fig. 2. Fig. 5 is an end view, as seen from the right of the parts as seen in Fig. 4, with portions broken away to more clearly indicate the internal arrangement of the parts. Fig. 6 shows in full lines the parts seen in Figs. 2 and 4 cooperatively positioned together and in closed position and in this figure there is seen in dotted lines the upper portion of the

binder frame partially removed to extend the binder upwardly. Fig. 7 is a vertical sectional view of one of the posts D of Fig. 2 and its actuating mechanism and with the clamping extension shown in inoperative position, while Fig. 8 shows the clamping mechanism and the clamping extension as having been moved to the operative position in a view similar to Fig. 7. Fig. 9 shows a side view of the assembled binder partially extended and with cover leaves attached to the binder frame.

Similar letters refer to similar parts throughout the several views.

Referring to the drawings:—A is the channel bar and A¹ a similar channel bar adapted to form a cover for the channel bar A. The right hand end of the channel bar A has a portion α^1 of the side wall α bent inwardly and perforated to form a bearing for the right hand end of the rod R. The left hand end of this rod R is bent upwardly, as seen at r^2 , such bent-up portion extending through a slot therefor in the plate s in which is formed a bearing for the left hand end of the rod R, such plate s being riveted to the bottom of the channel bar A and the turned-up portion r^2 operating to prevent longitudinal movement of such rod R.

Inwardly bent loops α^2 in the side wall α of the channel bar A serve to hold the rod R down in place and prevent its rising or springing upwardly when turned in the manner to be explained, the left hand one of such loops α^2 operating to more firmly hold in position the plate s . Similar loops α^3 are formed in the side wall α^1 of the channel bar A to hold the springs f , the free ends of which engage the up-turned ends e of the levers E pivotally secured at e^1 to the bottom of the channel bar A. Bends r are formed in the rod R adapted to engage the up-turned ends e of the levers E and force them forwardly and toward the side wall α^1 , when such rod R is turned by means of the key k against the action of the springs f , which operate normally to hold the inner ends of the levers E against the rod R and at the bends r therein, when turned up and in the in-operative position indicated in Figs. 1 and 7.

On the levers E are secured the beveled blocks or cams h slotted to receive the upper

ends of the rods d^1 and on the upper ends of such rods d^1 are secured the cam heads d^2 , which coöperating with the cam blocks h , when the rod R is turned to force the levers
 5 E to their operative positions, serve to raise the rods d^1 to their uppermost and operative positions as indicated in Fig. 8. On the lower ends of the rods d^1 are secured the beveled terminals d which coöperating with
 10 the beveled ends of the tubes D, within which the rods d^1 work and slide, serve to force the terminals d to the positions indicated in Fig. 8 relative to the tubes D and therefore operate to clamp such tubes D in any de-
 15 sired position of longitudinal adjustment within the tubes D^1 .

The tubes D are carried by and rigidly secured to the channel bar A and to this channel bar A are similarly secured the tubes
 20 P which engage over the tubes P^1 secured within the plate V and containing the spiral springs p which engage against the closed upper ends of the tubes P and operate there-
 25 fore to force the plates A and V relatively apart. The tubes D^1 are also secured in the plates V in alinement with the tubes D. The plates A and A^1 when properly secured together are bound within the member A^3 as seen in Fig. 9 to which is flexibly united
 30 at c the cover member C, and the plate V is similarly bound in the member V^1 to which, at c^1 , there is flexibly united the cover mem-
 35 ber C^1 . To the member A^3 and the channel bar A therein, there is secured the back plate B, the ends of which engage within the turned-over ends b of the back plate B^1 which in turn is secured to the member V^1 and the plate V therein. The movement rel-
 40 atively apart of the plates B and B^1 may be limited by screws o^2 threaded into holes o^1 therefor in the plate B and working through suitable slots o therefor in the ends b of the plate B^1 .

In using my binder the parts are assem-
 45 bled first as indicated in Figs. 1, 2 and 4 and thereafter as indicated in Figs. 6 and 9, but not until the desired number of leaves have been inserted over the posts P^1 and D^1 , suitable openings of course being provided
 50 in the leaves to engage over such posts, and the upper section of the binder is forced down to the desired point against the action of the springs p and clamped there by turning the rod R by means of the key k which
 55 may be provided to engage over the right hand end of the rod R for turning the same. The turning of the rod R operates, in the manner already fully described, to force eccentrically apart, but longitudinally to-
 60 gether the terminal pieces d and the tubes D within the tubes D^1 to clamp the tubes D^1

and D together at any desired point of their relative longitudinal adjustment.

From the foregoing description of the construction and method of using my binder, 65 it is believed that the operation thereof is sufficiently clear to call for no further explanation.

What I claim is:—

1. In a loose leaf binder, two binder plates 70 carrying a plurality of coöperatively telescoping and extensible tubular impaling posts, one of such impaling posts comprising a tubular member and a member conformed to slide longitudinally therein and having 75 on the end engaging within such tubular member an extension connected therewith and slidable relatively thereon in a plane oblique to the axis thereof; a rod secured to such extension, extending through and be- 80 yond such inner member and provided with a head; a plate pivoted to and movable on the binder plate carrying such inner member, such pivoted plate and such head carry-
 85 ing coöperating portions adapted, on the movement of such plate, to actuate such rod to force the extension secured thereto and such inner member obliquely and ec-
 90 centrically apart and against the wall of the surrounding tubular member and means for operating such pivoted plate.

2. In a loose leaf binder, two binder plates carrying a plurality of coöperatively tele-
 95 scoping and extensible tubular impaling posts, one of such impaling posts comprising a tubular member and a member conformed to slide longitudinally therein and having on the end engaging within such tubular member an extension connected therewith and slidable relatively thereon in a plane 100 oblique to the axis thereof; a rod secured to such extension, extending through and beyond such inner member and provided with a head; a plate pivoted to and movable on the binder plate carrying such inner member, 105 such pivoted plate and such head carrying coöperating portions adapted, on the movement of such plate, to actuate such rod to force the extension secured thereto and such inner member obliquely and eccentrically 110 apart and against the wall of the surrounding tubular member and means for operat-
 115 ing such pivoted plate, two of such extensible impaling posts comprising inner and outer tubular members having springs located in the inner tubular members for forcing such members and the binder plates carrying the same apart.

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Witnesses:

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