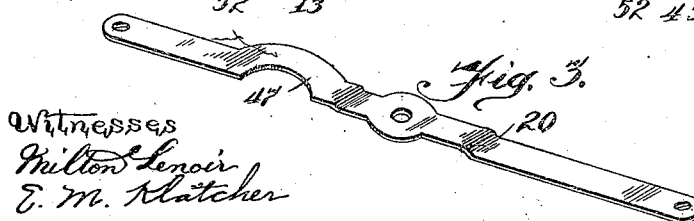
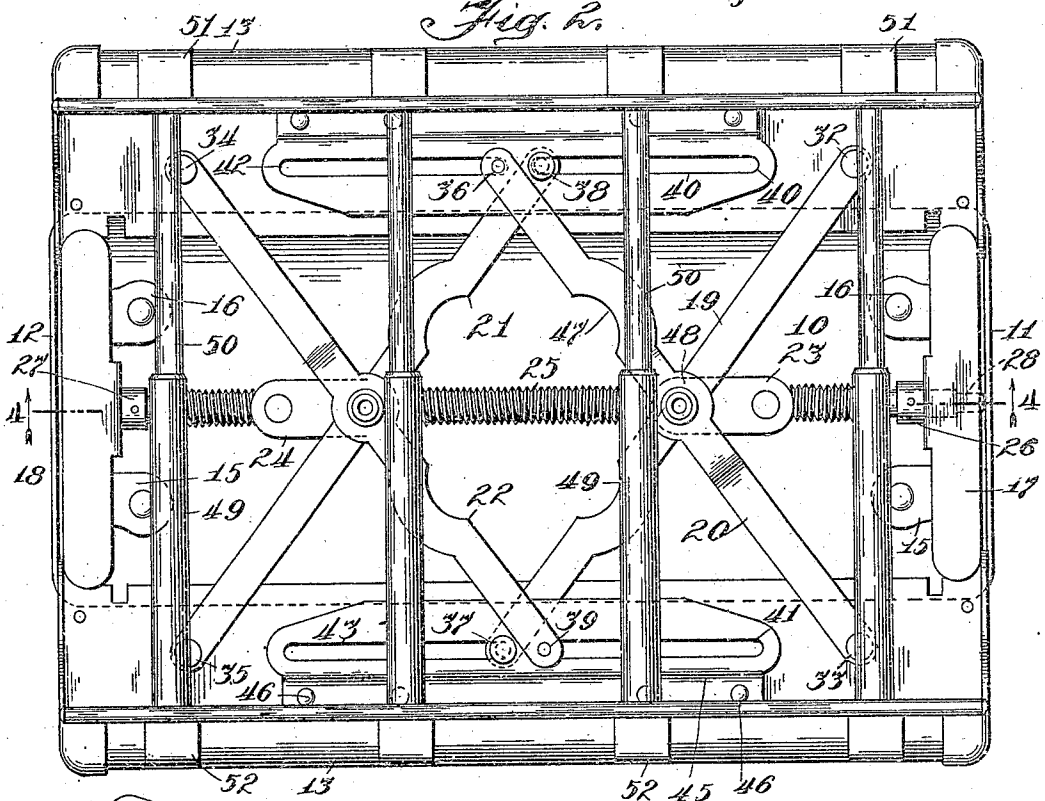
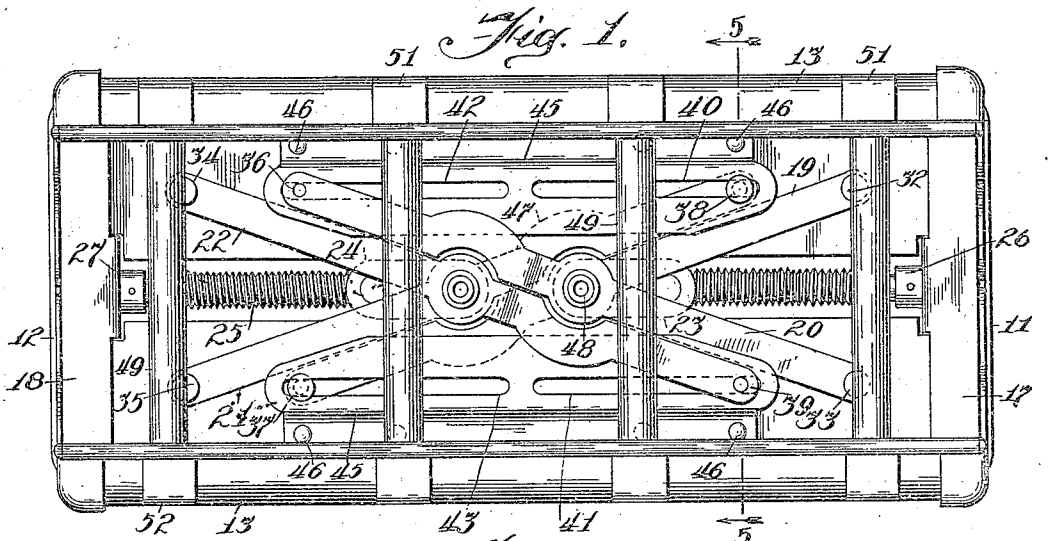


J. C. DAWSON.
 LOOSE LEAF BINDER.
 APPLICATION FILED JAN. 14, 1910.

958,099.

Patented May 17, 1910.

2 SHEETS—SHEET 1.



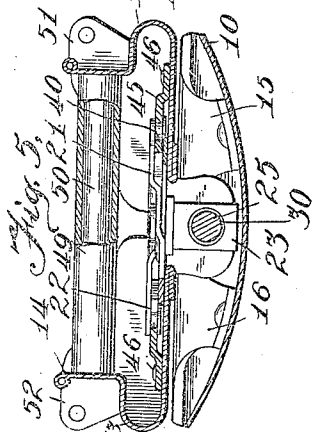
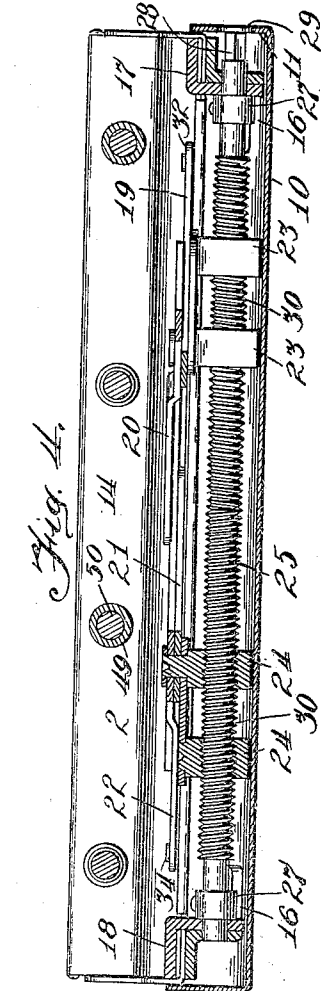
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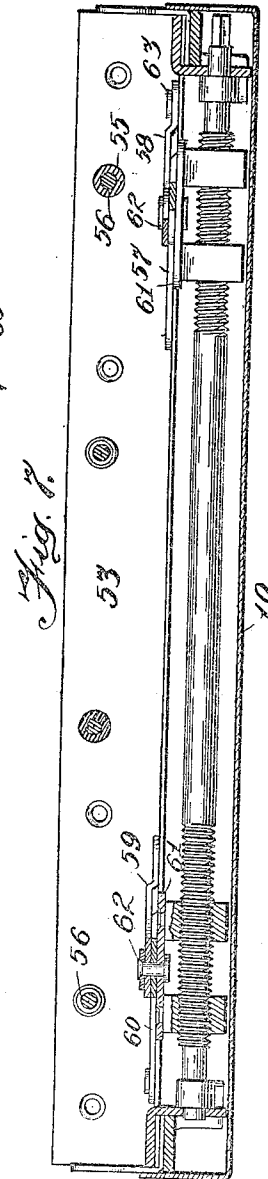
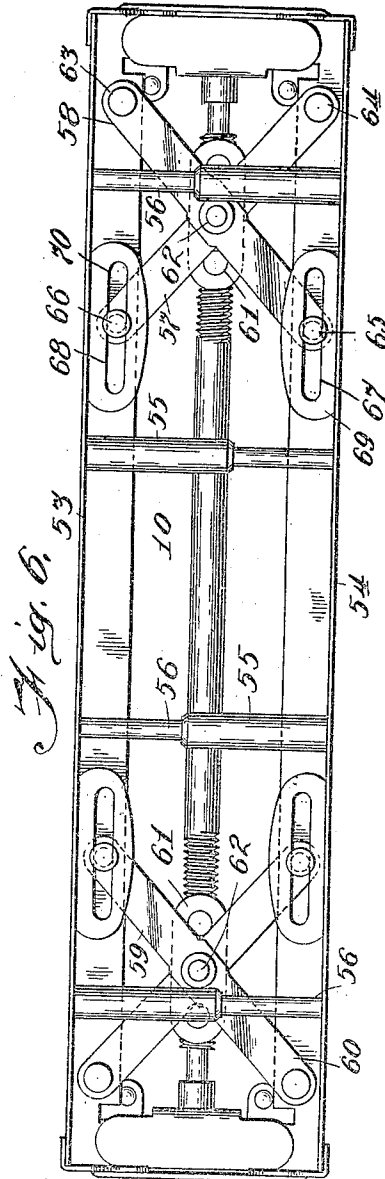
958,099.

Patented May 17, 1910.

2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

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LOOSE-LEAF BINDER.

958,099.

Specification of Letters Patent.

Patented May 17, 1910.

Application filed January 14, 1910. Serial No. 538,105.

To all whom it may concern:

Be it known that I, JAMES C. DAWSON, a citizen of the United States, and resident of Webster Groves, county of St. Louis, and State of Missouri, have invented a certain new and useful Improvement in Loose-Leaf Binders, of which the following is a specification and which is illustrated in the accompanying drawings, forming a part thereof.

The invention relates to that type of loose leaf binders which are expansible, comprising a back plate and reciprocable side or clamping plates, the latter carrying leaf-holding telescoping posts and being actuated by crossed levers.

The invention relates to the arrangement of the levers, and consists in a structure such as is hereinafter described, preferred forms of the invention being shown in the accompanying drawings, in which—

Figure 1 is a plan view of the binder mechanism when closed; Fig. 2 is a similar view, showing the binder expanded; Fig. 3 is a detail of one of the lever arms; Fig. 4 is a detail longitudinal view of the binder taken on the line 4—4 of Fig. 2; Fig. 5 is a transverse section on the line 5—5 of Fig. 1; Fig. 6 is a plan view of the binder showing a modified form of construction; and Fig. 7 is a central longitudinal section of the binder illustrated in Fig. 6.

Referring to Figs. 1 to 5, the central or back plate is shown at 10 and, as is usual in this type of binders, has upturned end flanges 11, 12. The side plates 13, 14 are, generally speaking, L-shaped in cross-section, the upright member being, however, bowed outwardly at its lower end for the purposes of accommodating the elements for attaching the actuating levers, affording increased strength and providing for the attachment of the hinge lugs so that they do not project beyond the outer line of the binder frame. The foot members of these side plates lie within the back plate and the latter is provided with filler blocks 15, 16, adjacent its ends upon which these parts of the side plates have a bearing; retaining plates 17, 18, being attached to the filler blocks and extending over the instanding leaves or flanges of the side plates and with the filler blocks forming ways therefor.

Two pairs of crossed levers 19, 20, and 21, 22, are pivoted, respectively, upon nuts 23, 24, threaded upon the rod 25 journaled in

apertured blocks 26, 27, secured to the inner face of the back plate 10 and upon its longitudinal median line. The threads engaging the two nuts are preferably oppositely directed, thereby causing the nuts to travel in opposite directions when the rod is rotated. One end of the rod is squared, as shown at 28, for the reception of a key (not shown), and the adjacent end flange 11 is provided with a key-hole 29. Preferably the nuts 23, 24 are double, as shown, the two elements being united by a tie-plate 30, 31, thereby providing a long bearing on the rod without material increase in weight. The two pairs of crossed levers are alike. Each lever has one of its ends attached to the instanding leaf, as shown at 32, 33, 34 and 35. The opposite end of each lever carries a stud, as shown at 36, 37, 38, 39, these studs running in slots 40, 41, 42 and 43 formed in plates 44, 45, attached one to the inner face of the instanding leaf of each of the side plates, as by means of rivets 46. The plates 44, 45 are off-set upwardly to provide space for the ends of one pair of levers, as 19 and 20, and for the heads of the studs of the other pair of levers, as 21, 22, as plainly shown in Fig. 5. The slots 40, 41, 42 and 43 are parallel with the rod 25 and are in line with the pivots 32 and 34 and 33 and 35, respectively. The two pairs of levers overlap, those of each pair engaging the remoter ends of the plates 44 and 45. Each lever is recessed, as shown at 47, to accommodate the hubs, as 48, of the levers of the other pair, when the binder is closed. The sheet-holding posts are as numerous as may be desired and are telescopic in form, each comprising a tubular member 49, and a solid or entering member 50, the two members being fixed in the upstanding leaves of the side plates in any preferred manner.

There are shown in the drawings only the metal parts of the binder, the covering for these metal parts and the side plates of the binder being omitted. Hinge lugs are shown at 51, 52, to which the cover plates or boards may be attached. The binder as thus described is capable by reason of the overlapping of the two pairs of crossed levers of a wide range of expansive movement relative to its length.

The modification illustrated in Figs. 6 and 7 is somewhat simpler and less expensive, but lacks the last-named advantage which is

inherent in the other form. There are present the back plate 10 and the controlling rod 25 mounted thereon, as in the other form of construction. The side plates 53 and 54 have flat upstanding leaves, to the outer face of which a facing may be secured by suitable means. The telescoping sheet-holding posts 55, 56, are seated firmly in these flattened sides and are as numerous as may be desired.

10 The side members of the binder are secured to the back by means of crossed levers, preferably two pairs, as 57 and 58, 59 and 60, being employed, each pair being located adjacent one end of the binder, its members mounted upon a nut 61 running on the rod 25 by means of a common pivot 62. Each of the crossed levers is attached to one of the side plates by a fixed pivot, as 63, 64, its opposite end carrying a stud, as 65, 66, running in a slot, as 67, 68, in a plate, as 69, 70, secured to the side member of the binder. The threaded portions of the rod upon which the nuts 61 run, are oppositely directed, and when the rod is turned, all the levers are swung upon their fixed pivots to either expand or contract the binder.

I claim as my invention:—

1. In a loose leaf binder, in combination, a back plate, a pair of opposed clamping plates, a threaded rod journaled on the back plate, a nut running on the rod, a pair of

levers pivoted upon the nut, each of the levers having one of its ends united to one of the side plates by a fixed pivot and its other end in sliding pivotal engagement with the other side plate.

2. In a loose leaf binder, in combination, a back plate, a pair of opposed clamping plates, a threaded rod journaled on the back plate, nuts running on the rod, two pairs of levers, the members of each pair being mounted on a common pivot carried by one of the nuts, each lever having one of its ends secured to one of the side plates and its other end in sliding pivotal engagement with the other side plate.

3. In a loose leaf binder, in combination, a back plate, a pair of opposed clamping plates, a threaded rod journaled on the back plate, nuts running on the rod, two pairs of levers, the members of each pair being mounted on a common pivot carried by one of the nuts, each lever having one of its ends secured to one of the side plates and its other end in sliding pivotal engagement with the other side plate, the ends of the levers of each pair overlapping the levers of the other pair.

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