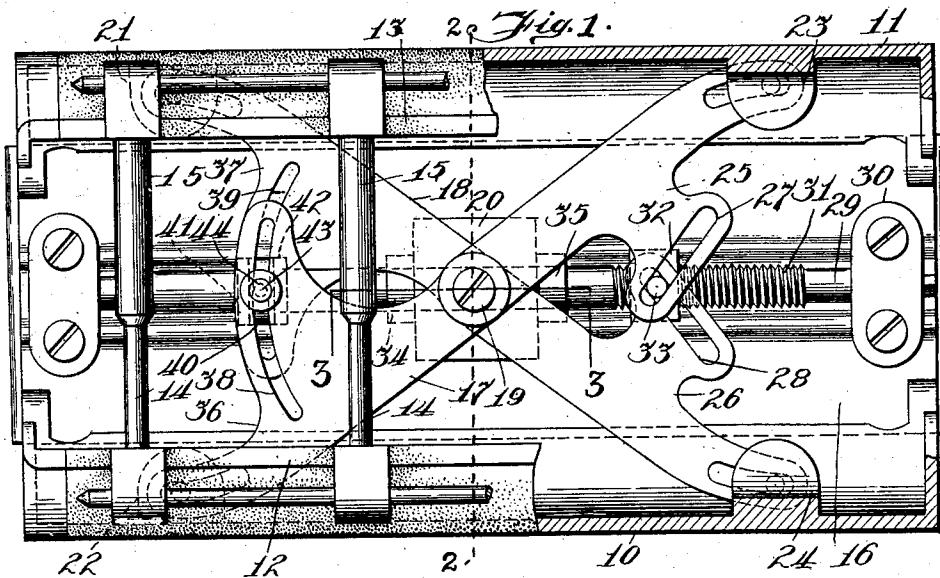
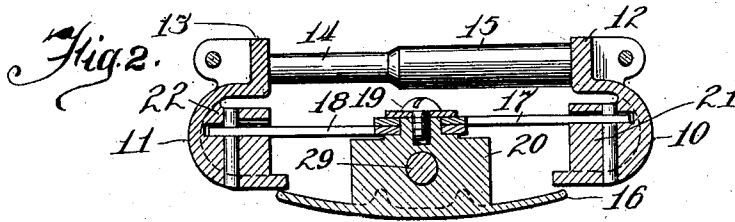


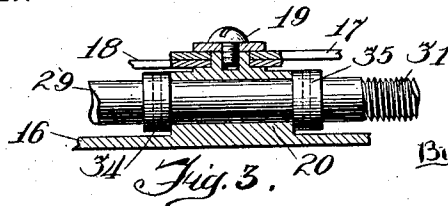
J. C. DAWSON.
LOOSE LEAF BINDER.
APPLICATION FILED AUG. 11, 1909.

992,550.

Patented May 16, 1911.



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UNITED STATES PATENT OFFICE.

JAMES C. DAWSON, OF WEBSTER GROVES, MISSOURI, ASSIGNOR TO SIEBER & TRUSSELL MANUFACTURING CO., A CORPORATION OF MISSOURI.

LOOSE-LEAF BINDER.

992,550.

Specification of Letters Patent.

Patented May 16, 1911.

Application filed August 11, 1909. Serial No. 512,382.

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 certain new and useful Improvements in Loose-Leaf Binders, of which the following is a specification, and which are illustrated in the accompanying drawings, forming a part thereof.

This invention relates to that class of binders for loose sheets which comprises a pair of side plates carrying telescoping sheet-holding prongs, and mechanism for moving the plates toward and away from each other.

The object of the invention is to simplify and generally improve upon the construction of devices of this character; and it consists of the mechanism hereinafter described, and which is illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of the binder, some of the parts being broken away; Fig. 2 is a sectional detail on the line 2—2 of Fig. 1; and Fig. 3 is a sectional detail on the line 3—3 of Fig. 1.

The side plates are represented at 10, 11, as being outwardly-bowed and having upstanding flanges 12, 13, carrying the telescoping post members 14, 15. The intermediate or back member of the binder is shown at 16. A pair of crossed levers 17, 18, are pivoted at 19 to a block 20 formed at the center of the inner face of the intermediate member 16. Each end of each of the levers 17, 18, is in sliding pivotal engagement with the two side plates 10, 11, as shown at 21, 22, 23, 24. Each of the levers is provided with a lateral extension or wing 25, 26, these extensions being at adjacent ends of the levers and overlapping, and each being provided with an oblique cam slot 27, 28, the two cam slots intersecting. The screw-rod for controlling the levers is shown at 29, and is journaled in the block 20 and in bearings at at least one end of the back 16, the cap for such bearings being shown at 30. A portion of the rod 29 is threaded, as shown at 31, and on this threaded portion is mounted a nut 32, carrying a stud 33, which engages the two cam slots 27, 28. The rod 29 is suitably anchored against longitudinal movement, as shown such anchorage comprises a pair of collars 34, 35,

fixed upon the shaft at opposite sides of the block 20.

In the preferred form of construction means are provided for restricting to the rod 29 and to the levers 17, 18, the strains incident to the pressure of the stud 33 upon the walls of the cam slots 27, 28. This is accomplished by forming upon the levers 17, 18, adjacent the ends opposite to those carrying the wings 25, 26, a pair of wings 36, 37, which overlap and in which are formed concentric slots 38, 39, following a curve struck from the center of the pivot 19 the walls of these slots forming abutments or shoulders. A collar 40, mounted loosely on the shaft 29, between collars 41, 42, carries a stud 43 which engages the shoulders provided by these slots, the stud preferably being provided with an anti-friction roller 44. The face of the collar 40 from which the stud projects may be flattened to bear against the under faces of the wings 36, 37, to prevent rotation. This feature of the device may be worked out in various ways, it being only essential that there be coöperating shoulders upon the levers and rod which are in sliding engagement.

The rotation of the shaft 29 by means of a key (not shown) applied to its squared end, shifts the nut 32, and the coöperation of the stud 33 with the cams 27, 28, causes the levers 17, 18, to swing upon their pivots 19, thereby effecting the opening or closing of the binder by moving the side plates outwardly or inwardly.

In the construction illustrated, the collars 34, 35, may be dispensed with as the reaction is upon the levers themselves through the shaft and the collar 40.

I claim as my invention—

1. In a loose leaf binder, in combination, a pair of side plates, an intermediate plate, a threaded rod journaled on the intermediate member, a pair of crossed levers pivoted on the intermediate member and having their ends in sliding pivotal engagement with both side plates, each lever having a lateral extension adjacent one end, such two extensions overlapping and having intersecting cam slots, a nut running on the threaded portion of the shaft and having a stud engaged with both cam slots, a collar on the shaft at the opposite side of the pivots of the levers from the nut and secured against longitudinal movement, and shoulders on

the levers concentric with the pivot and engaging the collar whereby longitudinal strains due to the movement of the nut are carried by the levers and the shaft.

- 5 2. In a loose leaf binder, in combination, a pair of side plates, an intermediate plate, a threaded rod journaled on the intermediate member, a pair of crossed levers pivoted on the intermediate member and having their
10 ends in sliding pivotal engagement with both side plates, each lever having a lateral extension adjacent one end, such two extensions overlapping and having intersecting cam slots, a nut running on the threaded

portion of the shaft and having a stud en- 15
gaged with both cam slots, a sleeve rotatably mounted on the shaft on the opposite side of the pivot from the nut and locked against longitudinal movement and being provided with an upstanding stud, the levers having 20
slots concentric with the pivot and engaging the stud whereby longitudinal strains due to the movement of the nut are carried by the levers and the shaft.

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Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
