No. 754,070. PATENTED MAR. 8, 1904.

L. A. JONES.

BINDER FRAME.

APPLICATION FILED JUNE 24, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

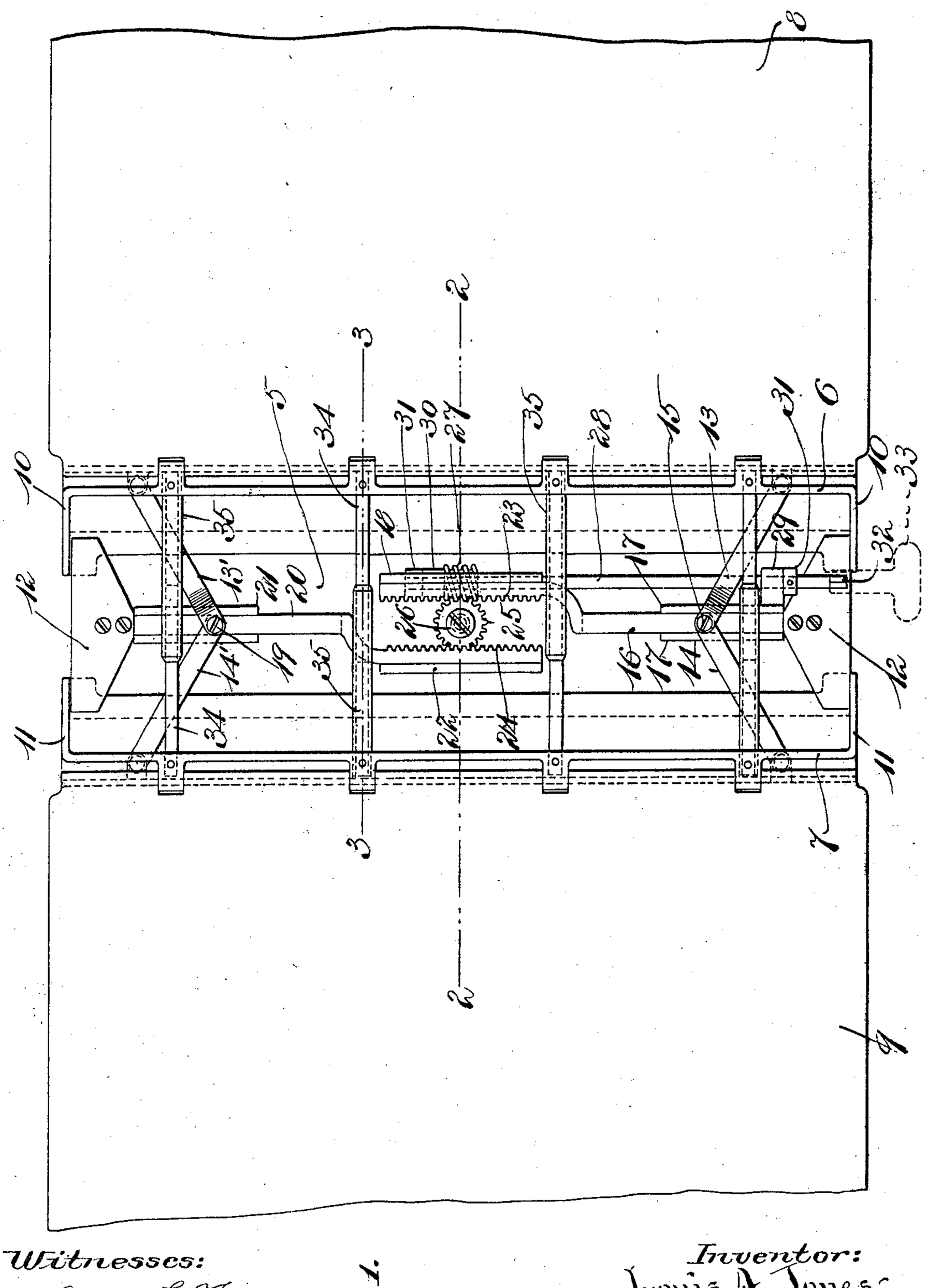

Fig. 1.

Witnesses:
Sydney E. Taft.
Franklin E. Low.

Inventor:
Louis A. Jones.
by his Attorney, Charles S. Fooding.

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NO MODEL. 2 SHEETS—SHEET 2.

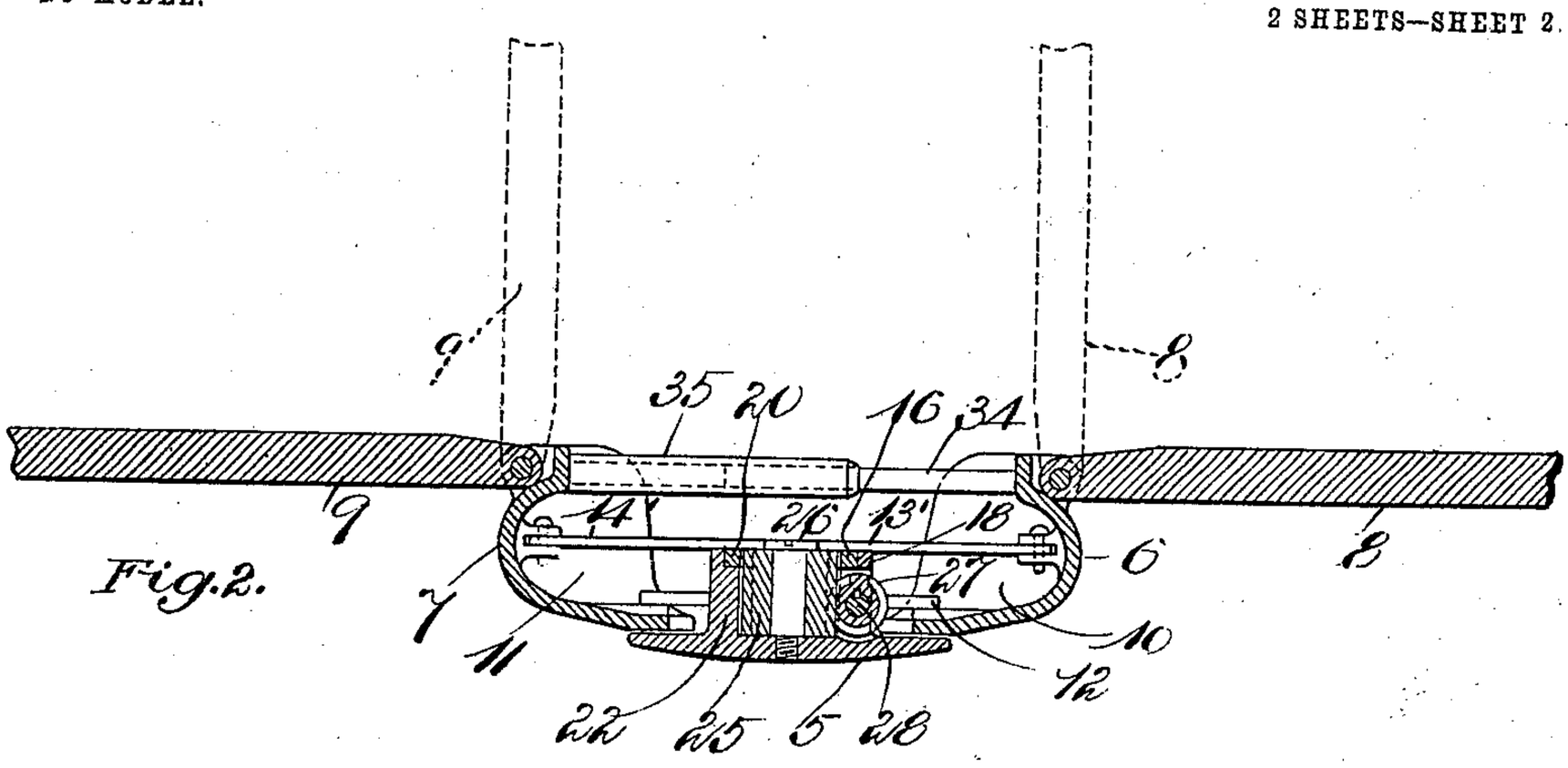

Fig. 2.

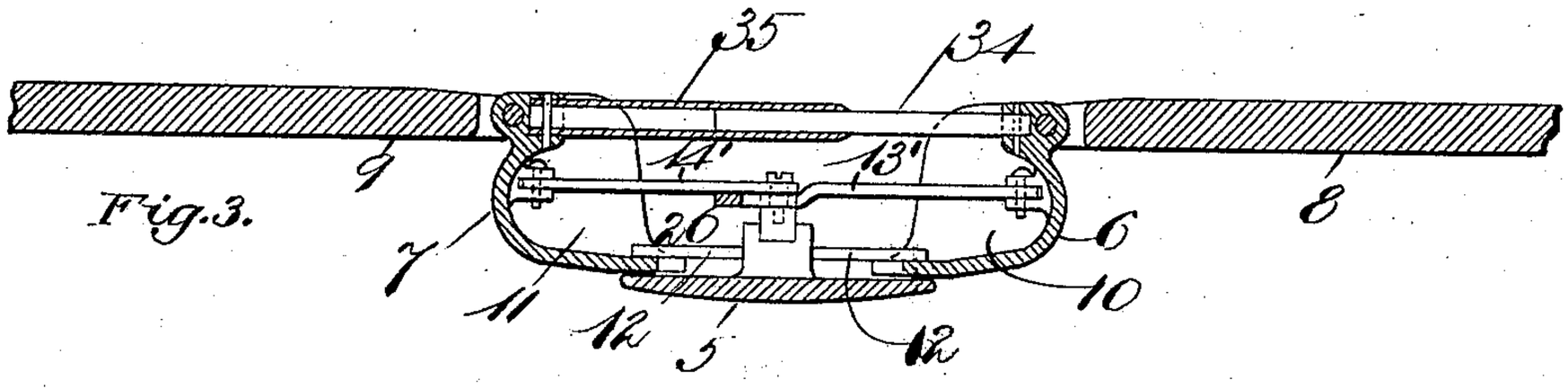

Fig. 3.

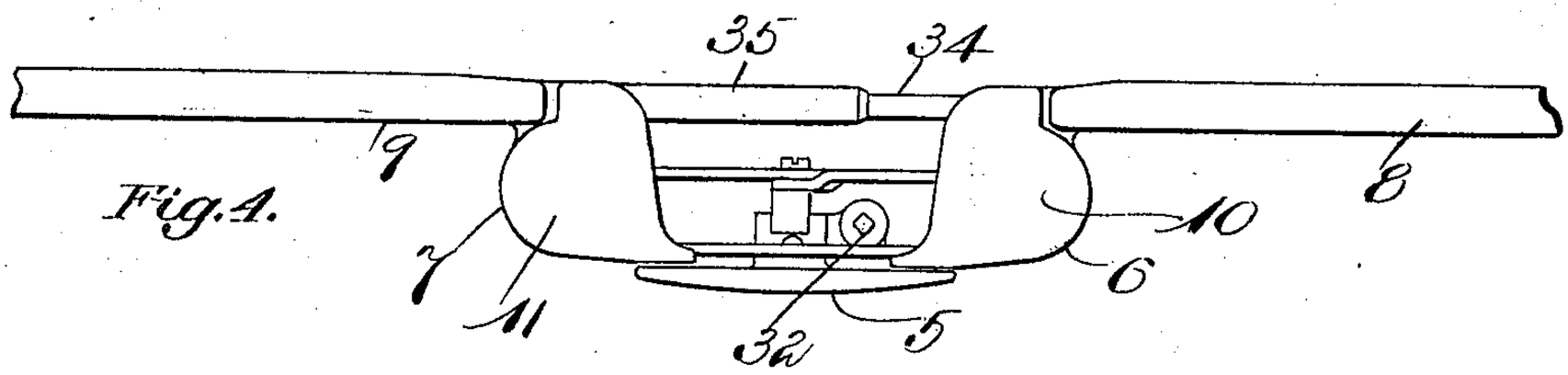

Fig. 4.

Witnesses:

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Inventor:

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No. 754,070. Patented March 8, 1904.

UNITED STATES PATENT OFFICE.

LOUIS A. JONES, OF CAMBRIDGE, MASSACHUSETTS, ASSIGNOR TO FLORENCE NIGHTINGALE TAIT, OF MELROSE, MASSACHUSETTS.

BINDER-FRAME.

SPECIFICATION forming part of Letters Patent No. 754,070, dated March 8, 1904.

Application filed June 24, 1903. Serial No. 162,869. (No model.)

To all whom it may concern:

Be it known that I, LOUIS A. JONES, a citizen of the United States, residing at Cambridge, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Binder-Frames, of which the following is a specification.

The object of this invention is to provide a strong, simple, and easily-adjustable binder-frame for binding together the loose leaves of ledgers and the like.

The invention consists in the combination and arrangement of parts set forth in the following specification, and particularly pointed out in the claims thereof.

Referring to the drawings, Figure 1 is a plan view of a binder-frame constructed in accordance with my invention, together with a portion of two cover-sections, the same being shown open. Fig. 2 is a transverse section taken on line 2 2 of Fig. 1. Fig. 3 is a transverse section taken on line 3 3 of Fig. 1. Fig. 4 is an end elevation.

Like numerals refer to like parts throughout the several views of the drawings.

In the drawings, 5 is a back-plate.

6 and 7 are cover-plates to which the covers 8 and 9, respectively, are fastened. The cover-plates 6 and 7 extend throughout the entire length of the back-plate 5 and are provided with end flanges 10 10 and 11 11, respectively. Said cover-plates are preferably L-shaped in cross-section and are constructed to slide laterally upon said back-plate 5, being guided in ways provided by plates 12 12, fast to the inside and at opposite ends of the back-plate 5. The guide-plates 12 are fastened to the back-plate 5 adjacent to the inner faces of the end flanges 10 10 and 11 11, thus preventing longitudinal movement of the cover-plates 6 and 7.

The cover-plates 6 and 7 are moved simultaneously toward or away from each other by links 13 13′ and 14 14′. The links 13 13′ are pivotally connected at their outer ends to the cover-plate 6, and the links 14 14′ at their outer ends are pivotally connected to the cover-plate 7. One pair of links 13 14 is pivotally connected at 15 to a slide 16, said slide being constructed to slide in ways 17 18, integral with the back-plate 5. The inner ends of the other pair of links 13′ 14′ are pivoted at 19 to a slide 20, guided in ways 21 22, integral with the back-plate 5.

The slides 16 and 20 have rack-teeth 23 and 24, respectively, cut therein and meshing into a pinion 25, journaled to rotate upon a stud 26, fast to the back-plate 5. The pinion 25 is rotated by a worm-gear 27, fast to a rod 28, journaled to rotate in bearings 29 and 30, integral with the back-plate 5. The rod 28 is guarded against longitudinal movement by collars 31 31, fast thereto, and is provided with a square end 32, which fits a key 33, by means of which the rod 28 and worm-gear 27 are rotated, thus rotating the pinion 25 and imparting a simultaneous longitudinal movement to the rack-slides 16 and 20 in opposite directions. As the said slides 16 and 20 are moved, as hereinbefore described, longitudinally of the back-plate 5 simultaneously in opposite directions the links 13 and 14 and 13′ 14′ will move the cover-plates 6 and 7 toward or away from each other.

The cover-plates 6 and 7 are provided with posts 34 34, fast thereto and projecting into tubes 35 35, and to these tubes and posts the leaves of the ledger (not shown) are attached. As the cover-plates 6 and 7 are moved toward or away from each other, as hereinbefore described, the posts 34 34 slide in the tubes 35 35. It will thus be seen that by rotating the rod 28 by means of the key 33 the distance between the two cover-plates 6 and 7 and between the covers 8 and 9 will be increased or diminished, as may be desired, to accommodate and hold firmly bound together varying numbers of leaves. It will also be seen that when the cover-plates have been adjusted to the desired distance one from the other in the manner hereinbefore set forth said cover-plates will be locked against displacement by the worm-gear 27, which prevents the pinion 25 from being rotated by longitudinal pressure upon the rack-slides 16 and 20.

Having thus described my invention, what I claim, and desire by Letters Patent to secure, is—

1. A binder-frame comprising a back-plate, cover-plates constructed to slide laterally thereon, two racks constructed to slide longitudinally of said back-plate, links pivotally connected at opposite ends thereof, respectively, to said cover-plates and to said racks, and a pinion meshing at opposite sides thereof into said racks.

2. A binder-frame comprising a back-plate, cover-plates constructed to slide laterally thereon, two racks constructed to slide longitudinally of said back-plate, links pivotally connected at opposite ends thereof, respectively, to said cover-plates and to said racks, a pinion meshing at opposite sides thereof into said racks, and means to rotate said pinion from one end of said back-plate.

3. A binder-frame comprising a back-plate, cover-plates constructed to slide laterally thereon, two racks constructed to slide longitudinally of said back-plate, links pivotally connected at opposite ends thereof, respectively, to said cover-plates and to said racks, a pinion meshing at opposite sides thereof into said racks, and a worm-gear meshing into said pinion.

4. A binder-frame comprising a back-plate, cover-plates constructed to slide laterally thereon, two racks constructed to slide longitudinally of said back-plate, links pivotally connected at opposite ends thereof, respectively, to said cover-plates and to said racks, a pinion meshing at opposite sides thereof into said racks, a rotatable rod extending longitudinally of said back-plate, and a worm-gear fast to said rod and meshing into said pinion.

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

LOUIS A. JONES.

Witnesses:
CHARLES S. GOODING,
ANNIE J. DAILEY.