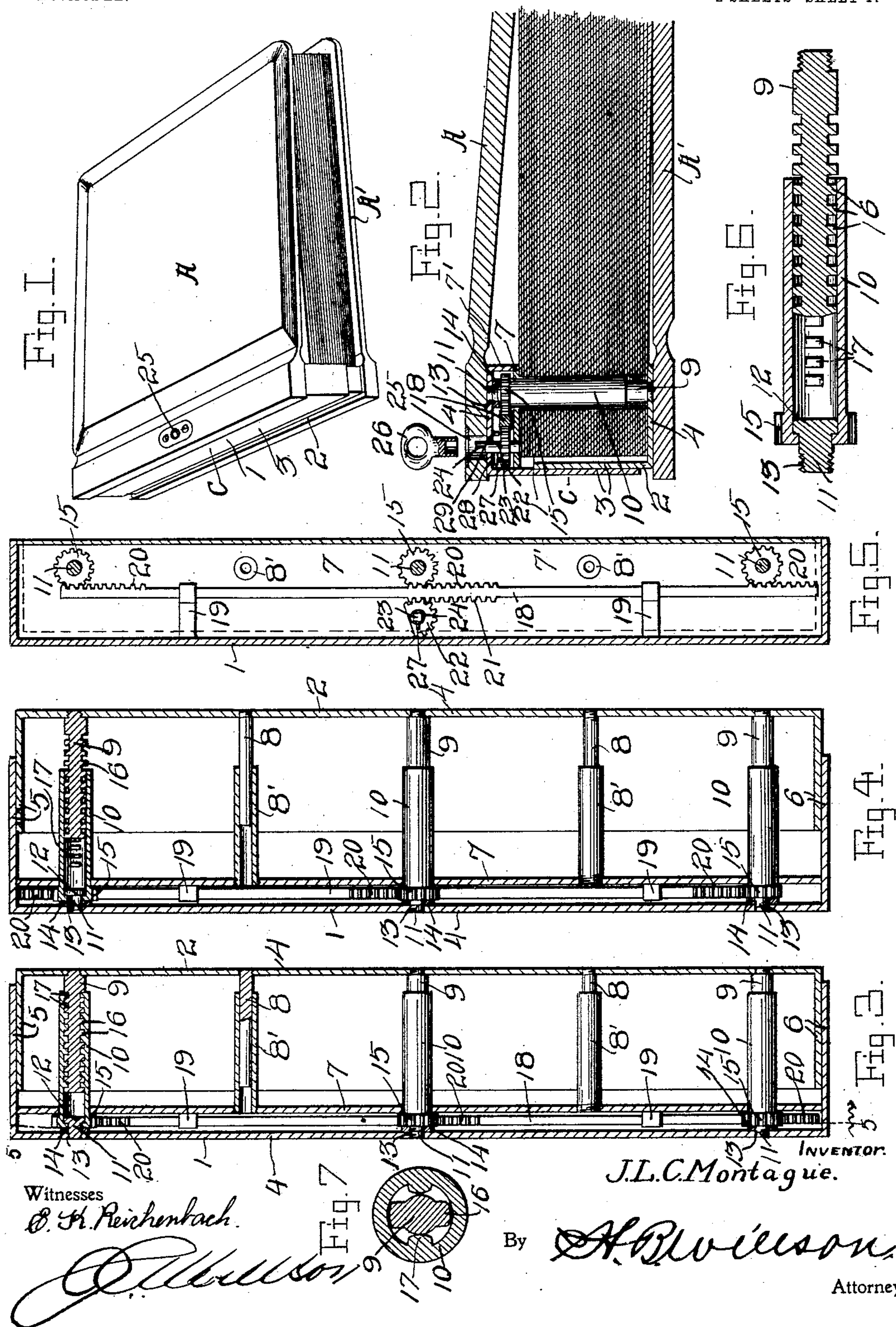


PATENTED JAN. 26, 1904.

APPLICATION FILED AUG. 10, 1903.

NO. MODEL.

2 SHEETS—SHEET 1.



No. 750,676.

PATENTED JAN. 26, 1904.

J. L. C. MONTAGUE.
TEMPORARY BINDER.

APPLICATION FILED AUG. 10, 1903.

NO MODEL.

2 SHEETS—SHEET 2.

Fig. 1.

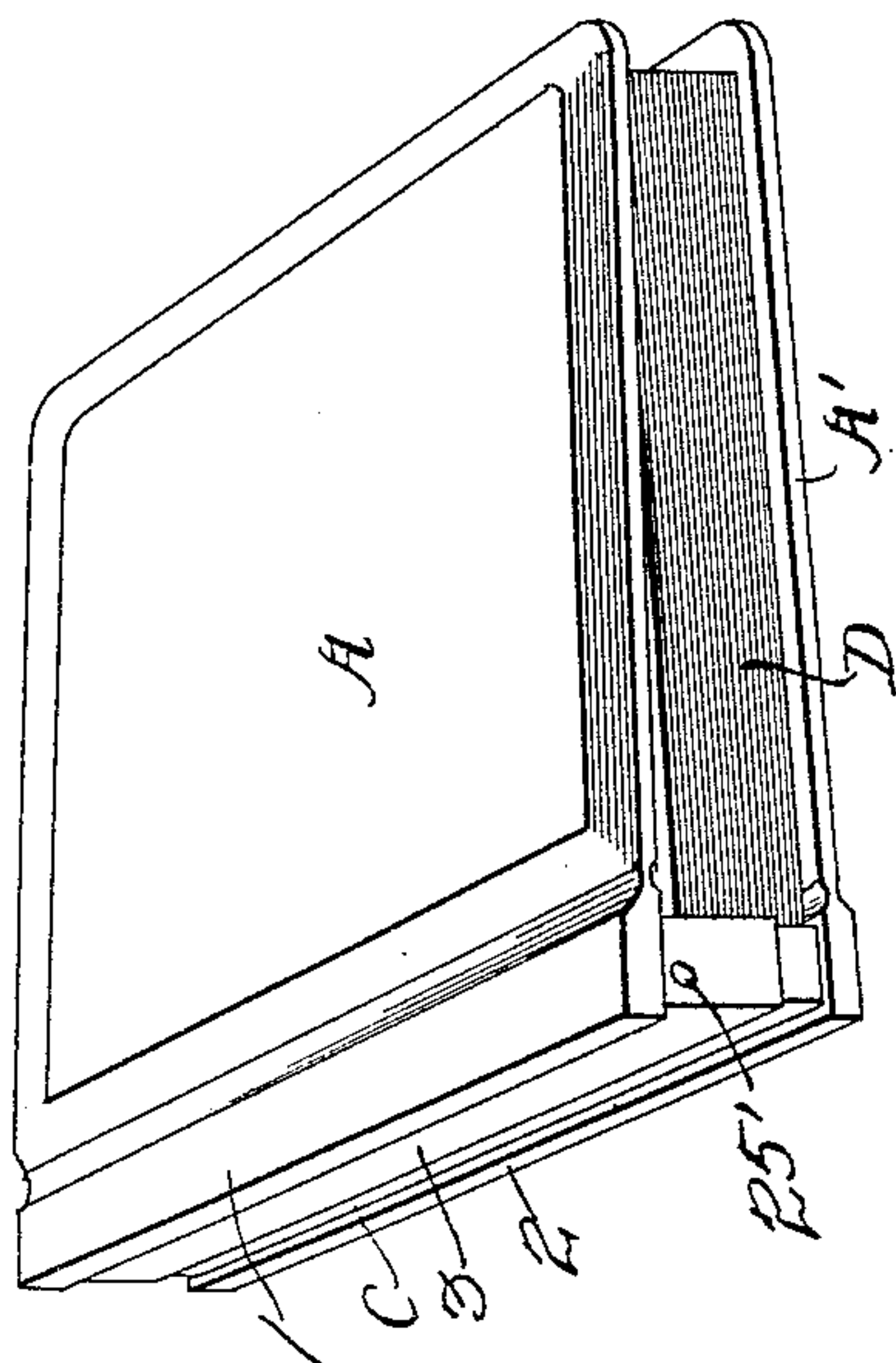


Fig. 2.

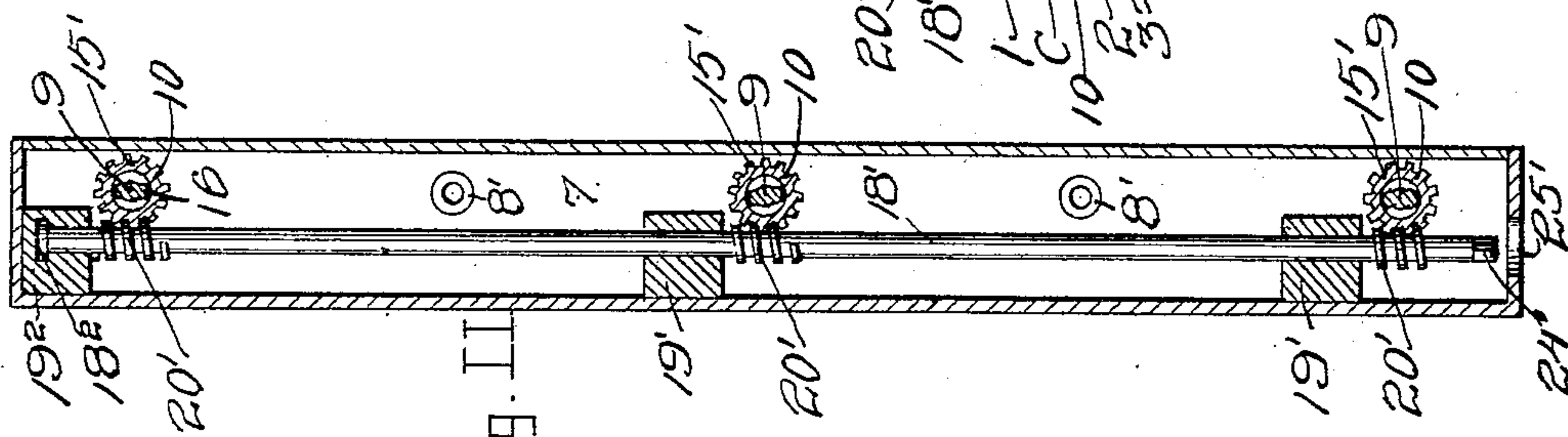
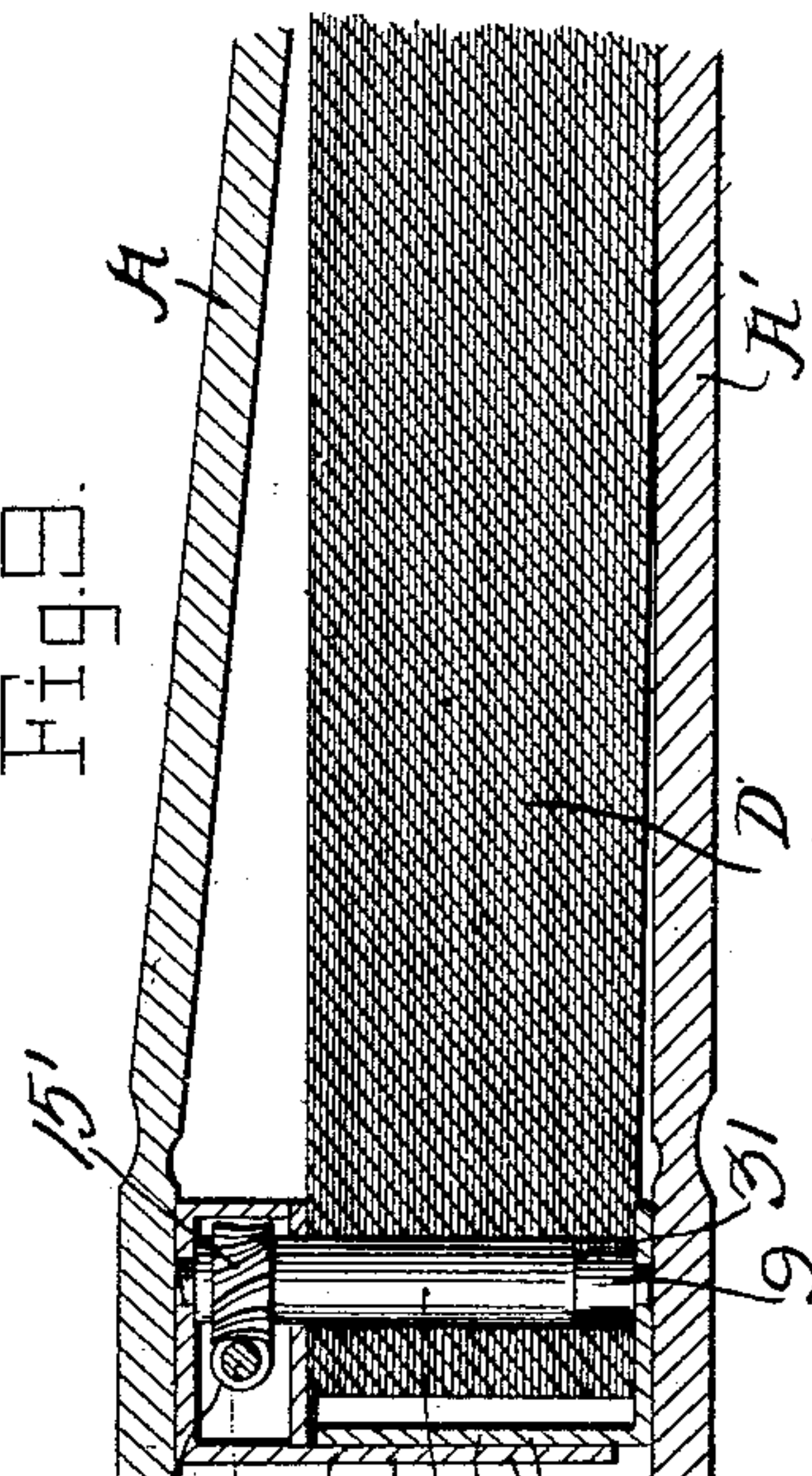


Fig. 4.

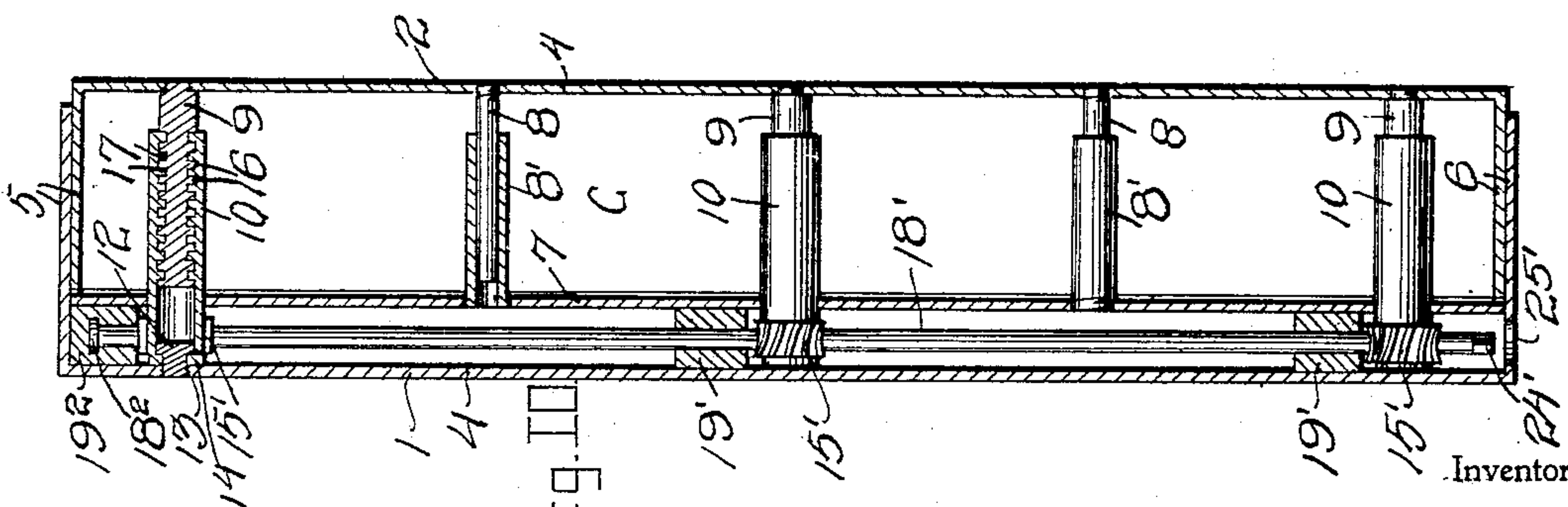


Fig. 5.

Witnesses

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JOHN LYLE CAMPBELL MONTAGUE, OF CHRISTIANSBURG, VIRGINIA.

TEMPORARY BINDER.

SPECIFICATION forming part of Letters Patent No. 750,676, dated January 26, 1904.

Application filed August 10, 1903. Serial No. 168,993. (No model.)

To all whom it may concern:

Be it known that I, JOHN LYLE CAMPBELL MONTAGUE, a citizen of the United States, residing at Christiansburg, in the county of Montgomery and State of Virginia, have invented certain new and useful Improvements in Temporary Binders; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in temporary binders of that class known as "loose-leaf" ledgers; and its object is to provide a book and binder of this character which will be simple in construction, durable in use, efficient in operation, and comparatively inexpensive to manufacture.

With this and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is perspective view of the complete ledger. Fig. 2 is a central cross-sectional view through the same. Fig. 3 is a longitudinal sectional view through the back-binding-frame sections, showing the same locked. Fig. 4 is a similar view showing the binding-frame sections both unlocked and extended. Fig. 5 is a longitudinal sectional view taken at right angles to Figs. 3 and 4, its plane being indicated by the line 5 5 of Fig. 3. Fig. 6 is a detail longitudinal sectional view through one of the locking posts and sleeves, showing the same unlocked. Fig. 7 is a detail cross-sectional view of the same, taken on the line 7 7 of Fig. 6. Fig. 8 is a perspective view of a modified form of loose-leaf ledger. Fig. 9 is a cross-sectional view through the same. Fig. 10 is a longitudinal sectional view through the back-binding-frame sections of the ledger shown in Fig. 8. Fig. 11 is a longitudinal sectional view through the same, taken at right angles to Fig. 10.

Referring more particularly to Figs. 1 to 7 of the drawings, A A' represent the side pieces which constitute the front and back

covers of the book, and C the back, the latter comprising binding-frame sections 1 and 2, constructed to slide and telescope one within the other, and each of said sections consisting of a back 3, a side 4, and top and bottom end pieces 5 6. The outer sections 1 also has a partition 7 spaced from its side 4 by a strip or partition 7'. Guide-stems 8, fixed to the side 4 of section 2, slide in guide-sleeves 8', fixed to the partition 7 of section 1, and guide said sections in their movements. The leaf or sheet holding and locking devices comprise a series of locking-posts 9, fixed to the side 4 of section 2, and a series of locking-sleeves 10, in which said posts 9 telescope. Each sleeve 10 is swiveled to rotate on a stub-shaft 11, being for this purpose provided with an opening at its outer end to receive a head 12 upon the inner end of the shaft 11, the outer end of which is threaded, as shown at 13, to fit within a threaded opening in the side 4 of section 1. If so desired, instead of threading the parts 8, 8', 9, and 11 to the binding-frame sections 1 and 2 they may be riveted or otherwise fixed to said sections. Washers 14 are placed on the shaft 11 between the side 4 of section 1 and the inner ends of the sleeves 10, which ends of the sleeves are provided with pinions 15. The posts 9 and sleeves 10 are provided with teeth 16 and 17 at diametrically opposite points, which are thrown into and out of locking engagement by a quarter-revolution of the sleeves upon the posts. In order to turn the sleeves 10 simultaneously to lock or unlock the same from the posts, a rack-bar 18 is provided and is mounted to slide in guides 19 in the space or chamber formed between the partition 7 and the side 4 of section 1. The rack-teeth 20 on the bar 18 engage the pinions 15 to rotate the sleeves 10 when the rack-bar is reciprocated. The movement of the rack-bar in one direction locks the posts and sleeves together, while a reverse movement of the rack-bar unlocks them. In order to operate the rack-bar, the same is provided with a series of teeth 21, with which meshes a pinion 22. This pinion is carried by a stem or shaft 23, journaled in the partition 7 and the side 4 of section 1 and disposed in line with a key-hole 25 in the front cover A. The outer end

of said shaft, which projects into said keyhole, is provided with a polygonal end 24, which is adapted to be engaged by a similar-shaped socket on a key 26 in order to enable the pin-
 5 ion 22 to be turned and the rack-bar to be moved in one direction or the other to lock or unlock the fastening members 9 and 10. The movement of the rack-bar in both directions is limited by a pin 27, projecting from the
 10 shaft 23 and adapted in its opposite movement to engage stop-pins 28 29, fixed to the side 4 of the binder frame or section 1.

The operation will be readily understood from the foregoing description, taken in con-
 15 nection with the accompanying drawings.

In the embodiment of the invention as illustrated in Figs. 8 to 11, inclusive, a shaft 18' is substituted for the rack-bar 18, and worm-teeth 20' are provided upon said shaft to en-
 20 gage worm-gears 15' on the sleeves 10. The shaft 18' is swiveled at its upper end, as shown at 18², in a block 19² and is journaled in bearings 19', as shown. When the shaft 18' is turned in one direction or the other, the worm-
 25 teeth 20' will rotate the worm-gears 15' to lock or unlock the fastening members 9 and 10, as will be readily understood. One end of the shaft 18' is made polygonal, as shown at 24', and is disposed in line with a keyhole 25' in
 30 the lower end 6 of the section 1 for the application of key 26, by means of which the shaft is turned.

In either construction when the teeth 16 and 17 are disengaged the binding-frame sections
 35 composing the back C may be slipped apart for the application of the leaves D, which have eyes or openings 31, through which the said posts and sleeves are passed to bind the leaves between the covers. When, on the other hand,
 40 the teeth 16 are locked, a longitudinal movement of the bar 18 or a rotary-movement shaft 18' in the proper direction will unlock them, allowing the sections to be slipped apart for
 45 the removal or insertion of one or more of the leaves.

While in the drawings I have illustrated three sets of the fastening or locking members 9 and 10, it will be understood that any de-
 50 sired number may be employed, and, if so desired, similar locking devices may be provided between the ends of the binding-frame sections. By providing the locking members ad-
 55 jacent to the ends of the book in addition to the one in the center it will be seen that a very strong and durable book is provided, and all tendency of the leaves when the book is full to rise up at the center is overcome.

Various changes in the form, proportion, and the minor details of construction may be
 60 resorted to without departing from the prin-

ciple or sacrificing any of the advantages of this invention.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the inven-
 65 tion will be readily understood without requiring a more extended explanation.

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

1. In a temporary binder, the combination of side pieces, stub-shafts secured to one of said side pieces, locking members connecting said side pieces and adapted to be coupled or uncoupled by a rotary movement of one of said
 70 members, said rotary members being swiveled upon said stub-shafts and provided with gears, and an operating member for rotating said gears, substantially as described.

2. In a temporary binder, the combination
 80 of side pieces, headed stub-shafts secured to one of said side pieces, locking members connecting said side pieces and adapted to be coupled or uncoupled by a rotary movement of one of said members with respect to the
 85 other, said rotary members being swiveled upon said stub-shafts and being provided with gears, an operating member for rotating said gears, and means for operating said member, substantially as described.

3. In a temporary binder, the combination of side pieces headed stub-shafts secured to one of said side pieces, locking members connecting said side pieces and adapted to be coupled or uncoupled by a rotary movement
 90 of one of said members with respect to the other, said rotary members being swiveled upon said stub-shafts and being provided with gears, a rack-bar for rotating said gears, and means for reciprocating said rack-bar, sub-
 95 stantially as described.

4. In a temporary binder, the combination of side pieces, headed stub-shafts secured to one of said side pieces, locking members connecting said side pieces and adapted to be
 100 coupled or uncoupled by a rotary movement of one of said members with respect to the other, said rotary members being swiveled upon said stub-shafts and being provided with gears, a rack-bar for rotating said gears, a
 105 key-shaft, and a gear upon said key-shaft adapted to actuate said rack-bar, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing wit-
 115 nesses.

JOHN LYLE CAMPBELL MONTAGUE.

Witnesses:

R. M. CHARLTON,
 H. D. WADE.