No. 721,099. PATENTED FEB. 17, 1903.

I. H. SISSON.

TEMPORARY OR LOOSE LEAF BINDER.

APPLICATION FILED JUNE 14, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

FIG. 2.

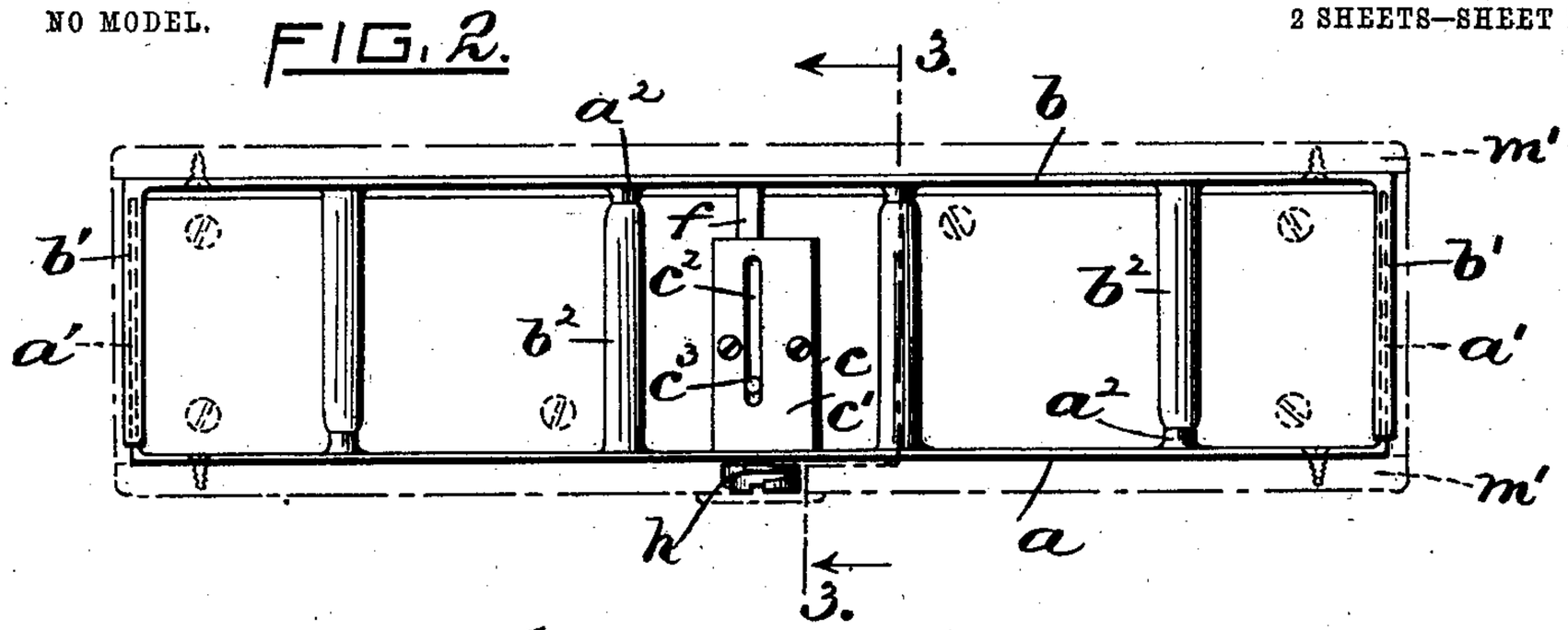
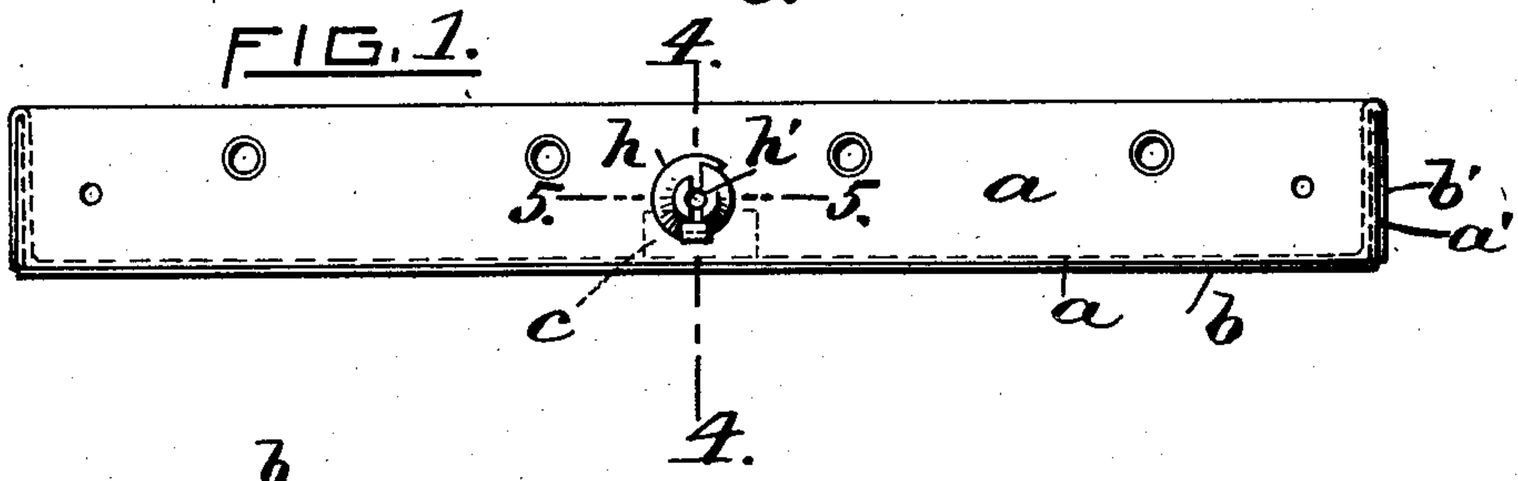


FIG. 1.



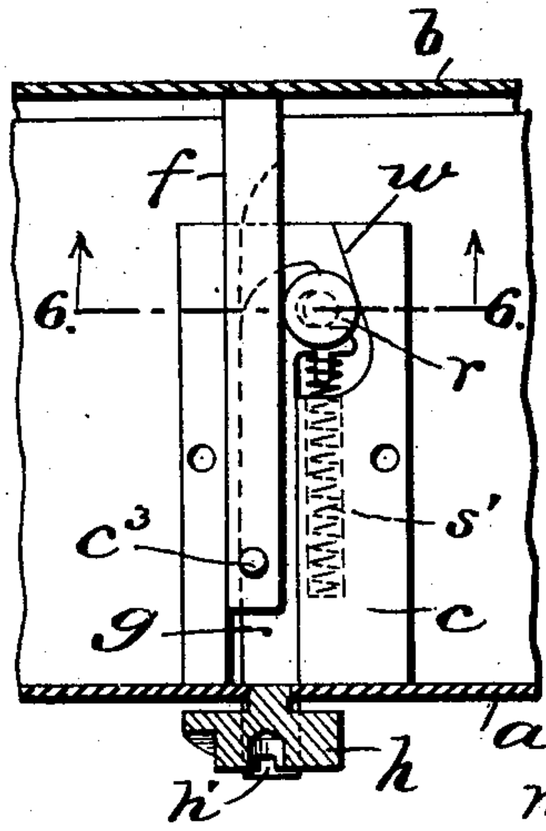


FIG. 5.

FIG. 6.

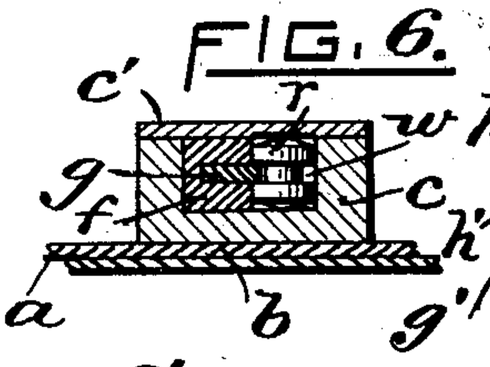
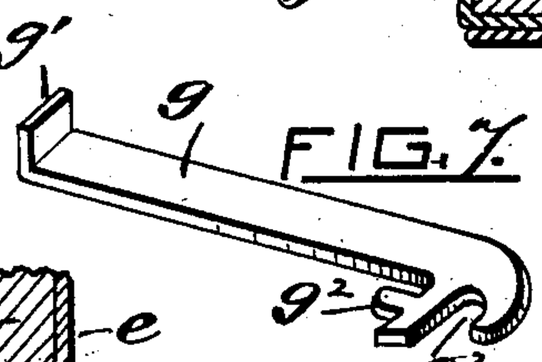


FIG. 4.

FIG. 7.



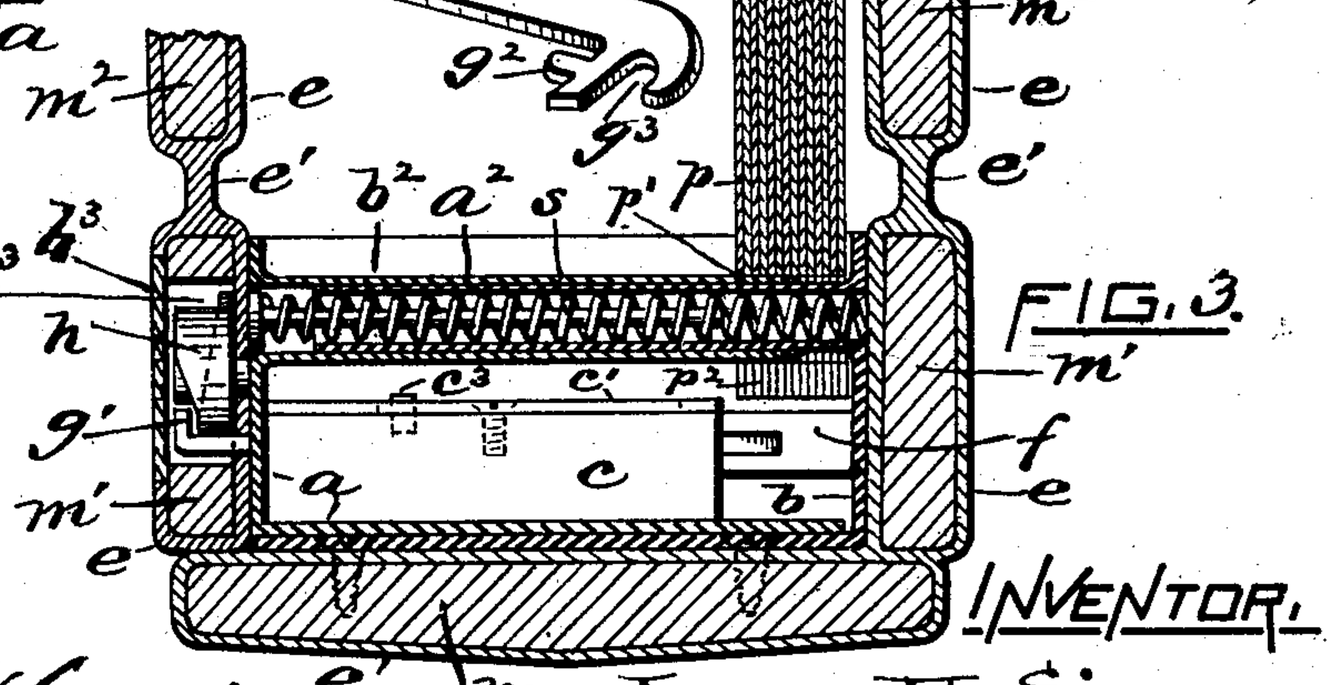


FIG. 3.

WITNESSES.

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APPLICATION FILED JUNE 14, 1902.

NO MODEL. 2 SHEETS—SHEET 2.

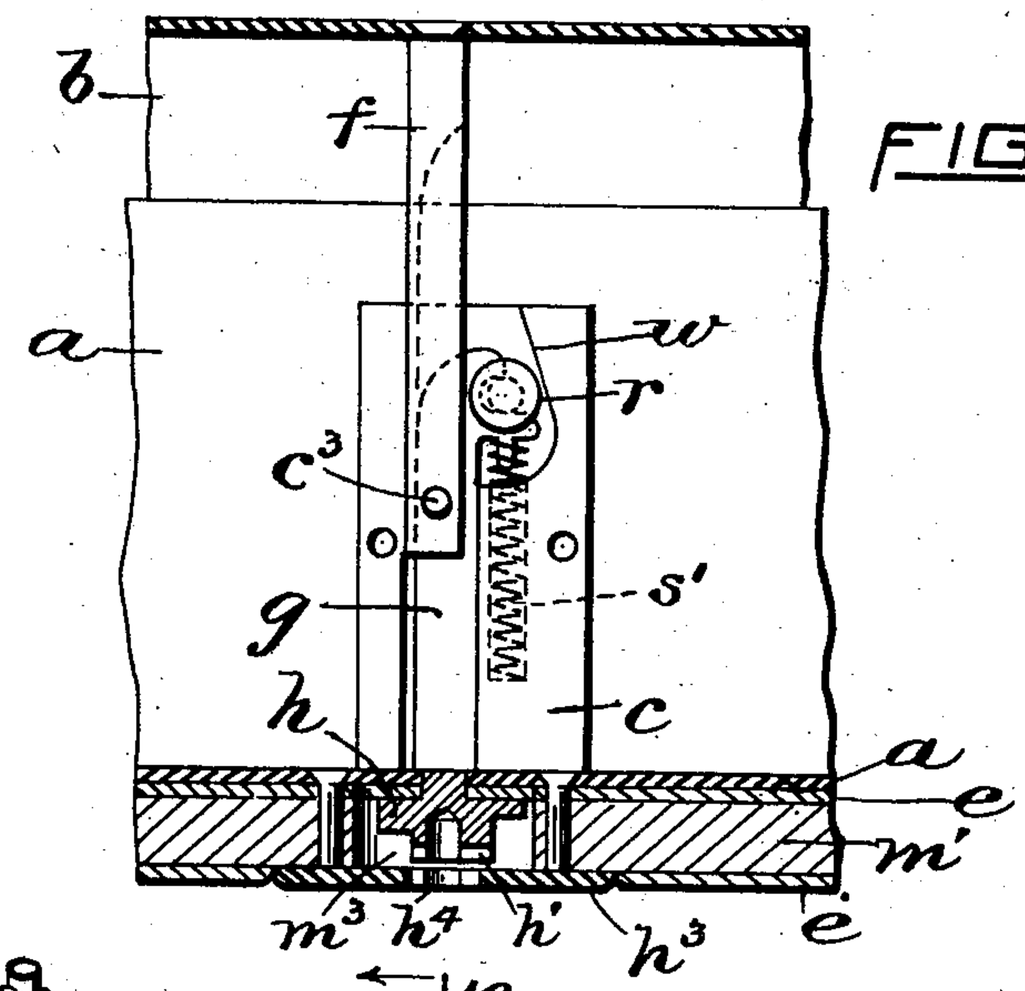


FIG. 8.

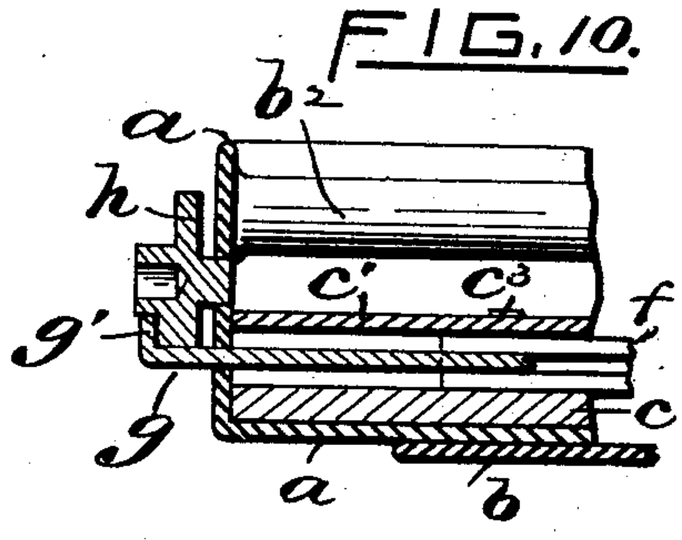


FIG. 10.

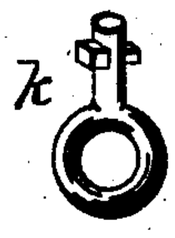
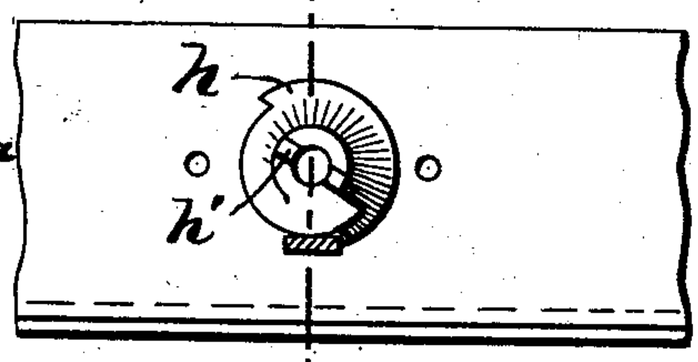


FIG. 9.



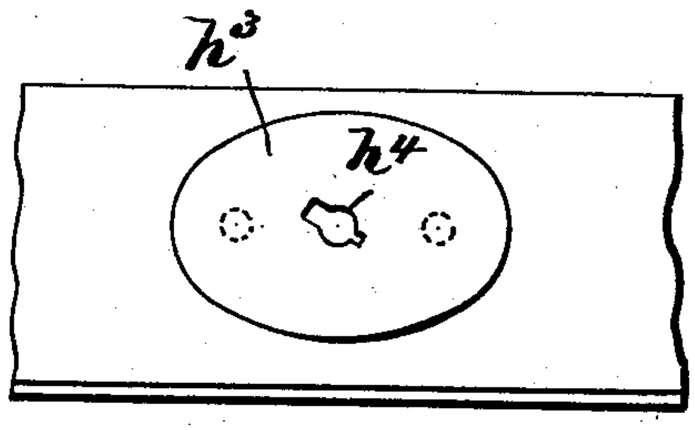


FIG. 9.

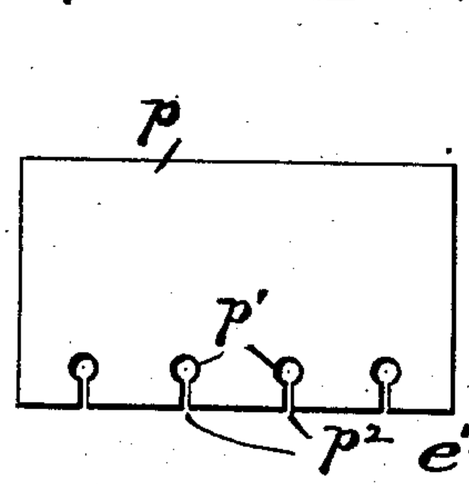


FIG. 13.

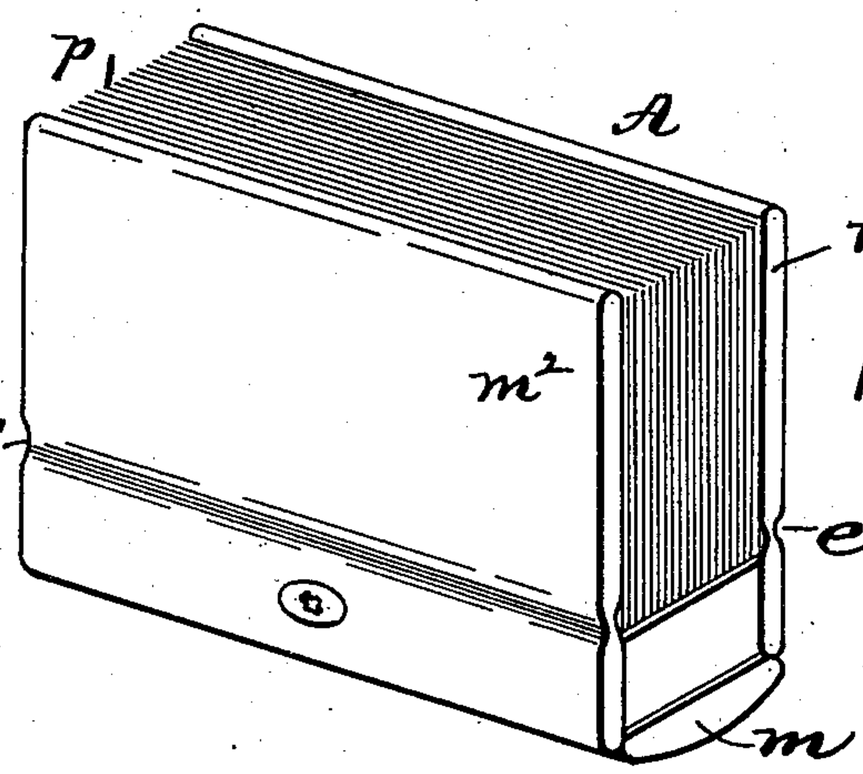


FIG. 11.

FIG. 12.

WITNESSES.

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UNITED STATES PATENT OFFICE.

ISAAC H. SISSON, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO THE J. C. HALL COMPANY, OF PROVIDENCE, RHODE ISLAND, A CORPORATION OF RHODE ISLAND.

TEMPORARY OR LOOSE-LEAF BINDER.

SPECIFICATION forming part of Letters Patent No. 721,099, dated February 17, 1903.

Application filed June 14, 1902. Serial No. 111,640. (No model.)

To all whom it may concern:

Be it known that I, ISAAC H. SISSON, a citizen of the United States of America, and a resident of the city and county of Providence, in the State of Rhode Island, have invented certain new and useful Improvements in Temporary or Loose-Leaf Binders, of which the following is a specification.

My invention relates to "temporary" binders, so called; and it consists, essentially, in the combination of a two-part telescoping frame, transversely-arranged spring-pressed telescoping pins or leaf-holders, a self-locking device secured to said frame having a member thereof in normal frictional engagement therewith and capable of independent movement, and a key-actuated cam or wedge operatively connected with the locking member, whereby the latter may be retracted for the purpose of opening or expanding the binder, all as will be more fully hereinafter set forth and claimed.

In binders of the class forming the subject of my invention it is desirable that the mechanism employed consist of as few parts as possible, thereby reducing the cost and weight of the binder and increasing its efficiency.

The object I have in view is to produce a binder having the following advantages: It possesses greater holding capacity, it is simple in construction and in the manner of its operation, it can be opened and closed or expanded and contracted with greater facility and rapidity, it is not liable to become inoperative, it has no clips or ratchets, and, finally, it possesses a finer degree of adjustment than binders of this type heretofore devised.

In the accompanying two sheets of drawings, Figure 1 represents a side elevation of my improved temporary-binder frame, the backing and flexible covering being omitted. Fig. 2 is a corresponding plan view, the frame being fully closed or contracted. Fig. 3 is an enlarged transverse section taken substantially on line 3 3 of Fig. 2 and also showing portions of the backing and covering. Fig. 4 is an enlarged cross-section taken on line 4 4 of Fig. 1. Fig. 5 is an enlarged horizontal section taken on line 5 5 of Fig. 1. Fig. 6 is a transverse section taken on line 6 6 of Fig. 5. Fig. 7 is a perspective view of one of the members of the locking device. Fig. 8 is a horizontal sectional view corresponding with Fig. 5, but showing the frame unlocked and partially separated. Fig. 9 is a partial front elevation corresponding with Fig. 8, portions of the casing being omitted. Fig. 9^a is a perspective view of the key. Fig. 10 is a partial cross-section taken on line 10 10 of Fig. 9. Fig. 11 is a partial front view of the frame. Fig. 12 is a perspective view of the frame complete with covers, back, and leaves; and Fig. 13 represents, in reduced scale, one of the leaves adapted to be used in the binder.

The binder-frame proper consists of the two laterally-separable telescoping members a and b, having telescoping pins or leaf-holders a^2 b^2 secured thereto. Each frame member is made of suitable sheet metal cut to the desired form and size and bent to an L shape and having upturned ends, the construction being such that when superposed and reversely arranged, substantially as shown in Figs. 2 and 4, the members form a rectangular-shaped frame, the ends a' of one piece being adapted to slide in the grooved or recessed ends b' of the other. (See Fig. 2.) The said leaf-holders are hollow and are provided with interior springs s, the function of the springs being to force the frame members apart when unlocked.

The locking or securing device is mounted in the lower portion of the frame below the leaf-holders. A longitudinally-grooved block c is secured to the base of member a. The inner end of one side of said groove is receseed or enlarged and provided with a beveled or wedge-shaped surface w. (See Fig. 5.) To the other frame member b is secured a bar f, slidably seated and guided in the grooved portion of said block c. The bar f is grooved longitudinally along its inner edge to receive the thin locking member g. This latter passes through the front side of member a and is upturned at its outer end to form a lip g'. Its opposite end is enlarged and has a recess g^3, in which a locking-roll r is revolubly mounted. A helical spring s' is seated in the block c and bears against the inner end portion of mem-

ber g, a short stem g^2 serving to maintain the spring in position laterally.

It will be seen, referring to Fig. 5, that the roll r is interposed between and bears frictionally against the adjacent sides or faces of the said bar f and the beveled surface w, the spring s' serving to force the locking member g and its roll ahead or inwardly, thereby keeping the frame normally locked by reason of the wedge action of the roll against the adjacent surfaces f w, as before stated.

In order to provide means for quickly releasing or unlocking the binder, I employ a revoluble cam or wedge h, arranged to coact with the said locking-bar g, the inner end of the cam being mounted in a hole or bearing formed in the front side of the frame member a. The bar g passes through the frame below the cam, its outer or lip portion g' extending in front of and being in engagement with the cam's face, as clearly shown. The form of the cam is such that upon turning it a partial revolution in the proper direction the bar g will be retracted a corresponding degree, thereby forcibly withdrawing the roll r from the surface w and unlocking the binder. (See Fig. 8.) A reversal of the operation frees the cam from the bar and allows the spring s' to advance the bar and roll to the normal or locked position. The cam may be rotated or actuated by means of a removable key k, (shown in Fig. 9^a,) the same having an end adapted to engage a slotted recess h', formed in the outer end of the cam.

The foregoing constitute the mechanical features of my invention. In order, however, to arrange the frame, &c., into a practical book or cover form, the back and two outer sides are provided with stiffening members m m' m', respectively. (See Fig. 3.) These may be covered with leather or other suitable material e capable of being finished or ornamented, as desired. The two covers proper, m^2, may be similarly covered and joined to the side members m' by a flexible joint e' in any well-known or usual manner.

The thickness of the front side stiffening member is substantially the same as that of the cam h, a hole m^3 being formed in said side member to freely receive the cam. If desired, a fixed key-plate or escutcheon h^3 may be used, the same concealing the hole m^3 and having an opening h^4, through which the key is inserted to actuate the cam.

I would add that the block c is provided with a removable cover c', having a slotted opening c^2 therein, in which a pin c^3, secured to the slidable bar f, is adapted to move whenever the binder is manipulated to receive or withdraw leaves therefrom. The slot and pin also serve to limit the lateral expansible movement of the binder.

In a book or ledger A embodying my invention the two frame members and the telescoping leaf-holders may be readily expanded or contracted, as desired, after turning the cam h to retract the locking-bar g and its roll. (See corresponding positions in Figs. 8 and 10.) The leaves p (shown in reduced scale in Fig. 13) are provided with a series of holes p', adapted to register with and fit the leaf-holders. Each hole communicates with a slotted opening p^2, extending therefrom to the lower edge of the leaf or sheet. After the adjustment of the binder has been made and the leaves added to or removed from the binder, as desired, the cam is turned in the opposite direction and the key withdrawn, the spring s' at the same time automatically advancing the bar g and wedging the roll r between the adjacent surfaces f and w, thus locking the binder and completing the operation.

I claim as my invention and desire to secure by United States Letters Patent—

1. In a temporary binder or binding-case for removable leaves, the combination with a telescoping frame having cover members connected therewith and telescoping leaf-holding pins secured to said frame, of a locking device comprising transversely-disposed guide members secured to said frame, one of said members having an inclined or wedging portion, an endwise-movable locking-bar slidably mounted between the said guide members, a roll carried by said locking-bar arranged to engage said wedging portion and the opposite face of the other guide member, and a revoluble cam mounted in the frame and operatively connected with the locking-bar, substantially as described.

2. The combination, in a temporary binder, of a pair of parallel frames, a b, transversely-arranged telescoping pins secured to said frames, guide members, f c, located within rigidly secured to and extending transversely of the frames, one of said guides further having a beveled or wedging surface, a spring-pressed endwise-movable locking-bar g interposed between the guides having an end thereof arranged to engage said beveled surface, and means for retracting the locking-bar.

3. In a temporary binder for removable leaves, the combination with the telescoping frame members and leaf-holding pins secured thereto, of a suitably-mounted spring-pressed locking member, a wedging element secured to one of said frame members in normal contact with the locking member, a bar secured to the other member of the frame in normal frictional engagement with said locking member, and a key-actuated cam or wedge having the locking member connected therewith, substantially as described.

4. In a temporary binder for removable leaves, the combination with the two laterally-separable principal frame members provided with leaf-holding pins, of an endwise-movable locking-piece having its inner end adapted to frictionally engage a beveled surface integral or movable with one of said frame members, a key-actuated axially-movable cam mounted in the said frame member and having the outer end of said locking-

piece in engagement with the cam, and a bar secured to and movable with the other member of said frame and engaging the said inner end portion of the locking-piece, substantially as described.

5. In a temporary binder for removable leaves, upper and lower laterally-separable members comprising the frame proper and leaf-holding means connected therewith, in combination with a wedging member secured to one of said parts of the frame, a slidable bar attached to the other part or member of the frame, an independently-movable locking-bar interposed between and in normal engagement with said wedging and slidable bar members, and a revoluble key-actuated cam, the outer portion of the locking-bar extending within the sphere of the cam's movement, substantially as hereinbefore described and for the purpose set forth.

6. In a temporary binder provided with laterally-separable members comprising the frame proper, and means for holding loose leaves therein, the combination therewith of a beveled surface or wedging element *w* secured to one of said frame members, an endwise-movable spring-pressed bar having a freely-turning roll in its inner end adapted to engage said beveled surface, a revoluble key-actuated cam having the opposite end of said bar in frictional contact therewith, all being mounted in one of said frame members, and a fellow bar secured to the other member of the frame in frictional engagement with said roll, arranged whereby upon turning the cam in one direction, the roll is withdrawn or disengaged from the beveled surface, thereby releasing or unlocking the frame, substantially as described and for the purpose set forth.

7. In a temporary binder, the two laterally-separable frame members *a* and *b*, having respectively a beveled or wedge-shaped surface *w* and a bar member *f*, in combination with a spring-pressed bar *g* movably mounted in said frame member *a*, a roll *r* carried by said bar *g* interposed between and adapted to frictionally engage the adjacent surfaces of said parts *w* and *f*, and a revoluble key-actuated cam or wedge *h*, mounted in frame member *a*, having the outer end of said bar *g* in engagement therewith, substantially as described.

Signed at Providence, Rhode Island, this 10th day of June, 1902.

ISAAC H. SISSON.

Witnesses:
GEO. H. REMINGTON,
WILLIAM A. SULLIVAN.