No. 652,654. Patented June 26, 1900.

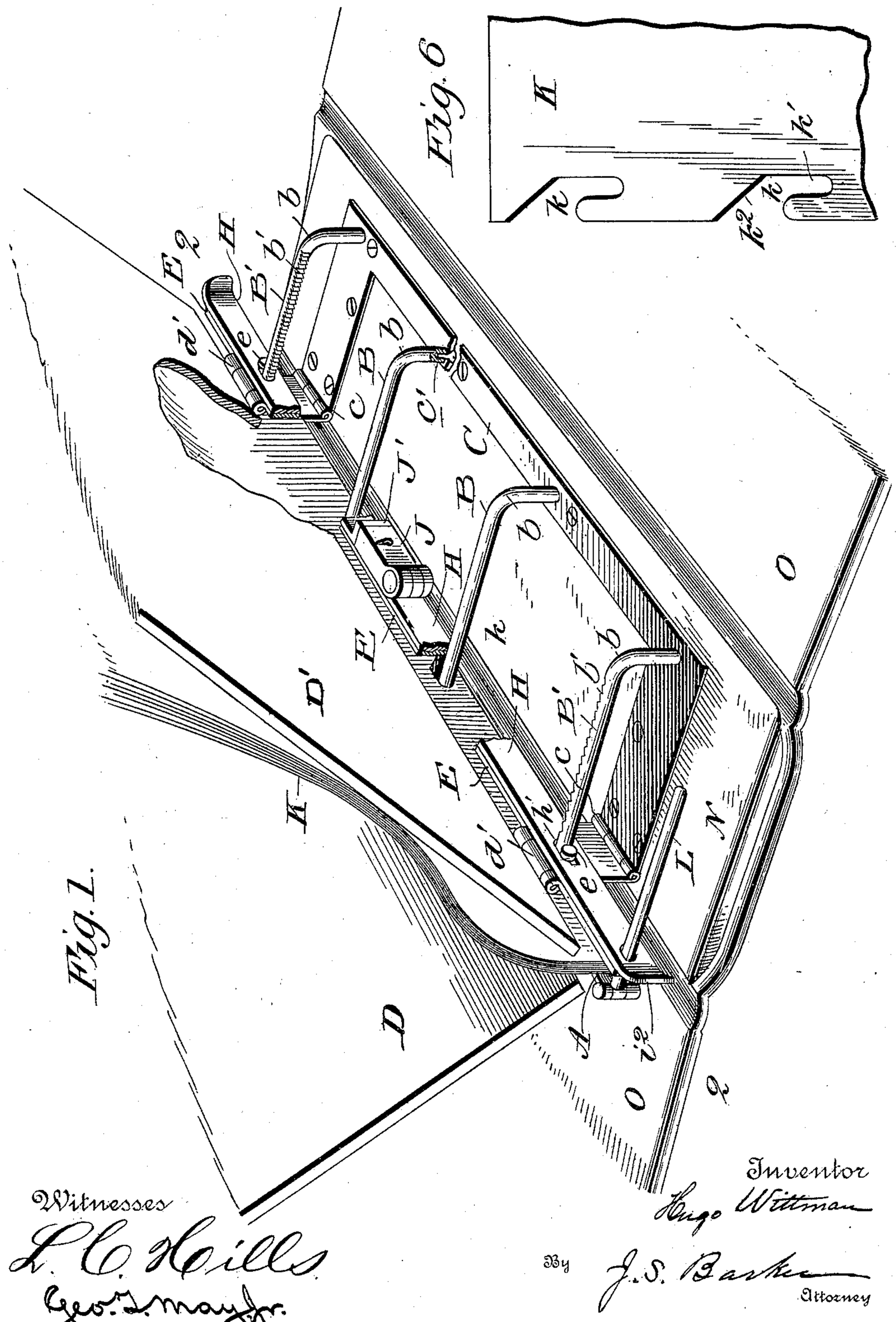
H. WITTMAN.

TEMPORARY BINDER.

(Application filed June 15, 1899.

(No Model.)

2 Sheets—Sheet 1.



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TEMPORARY BINDER.

(Application filed June 15, 1899.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 3.

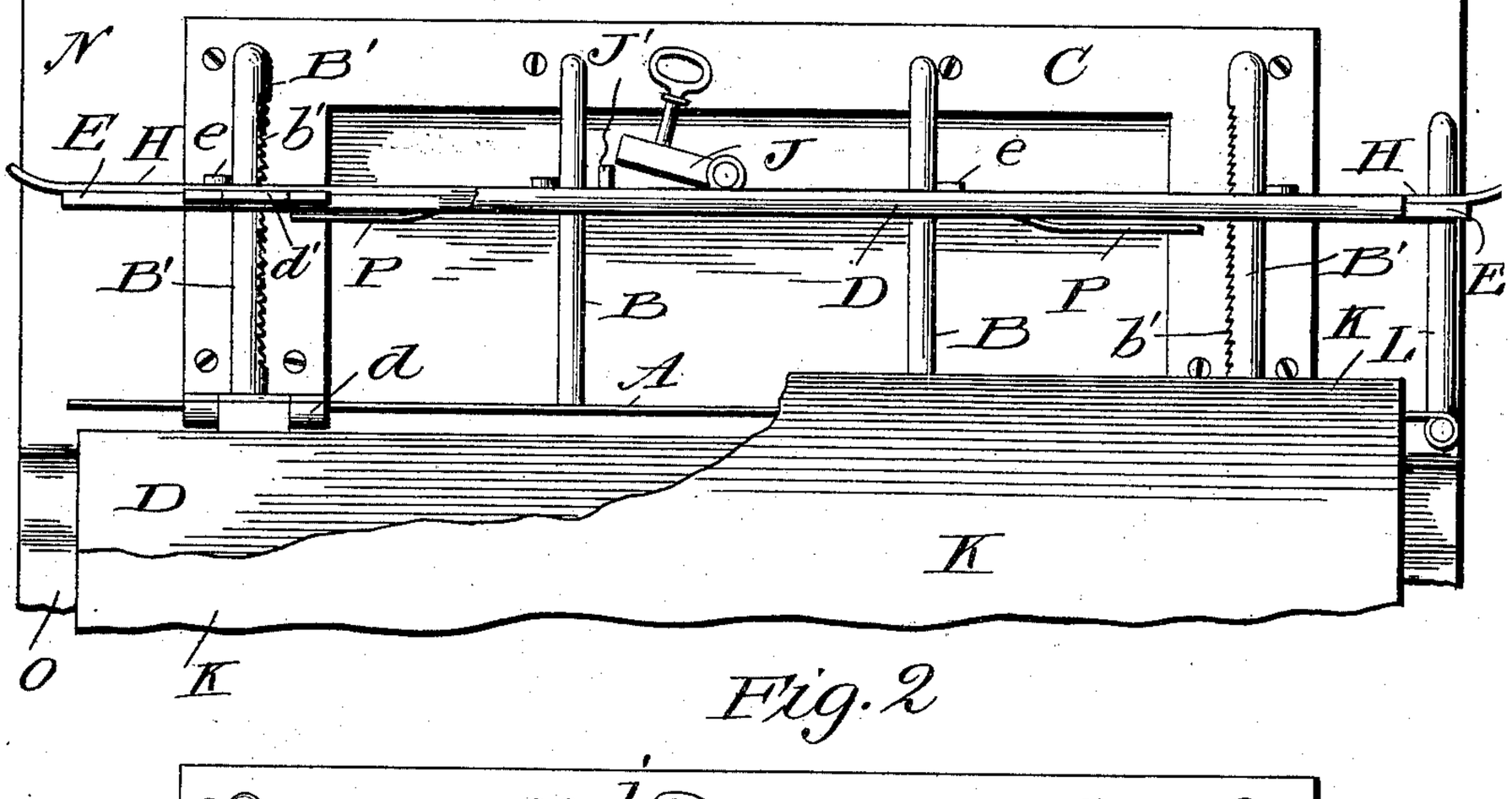

Fig. 2

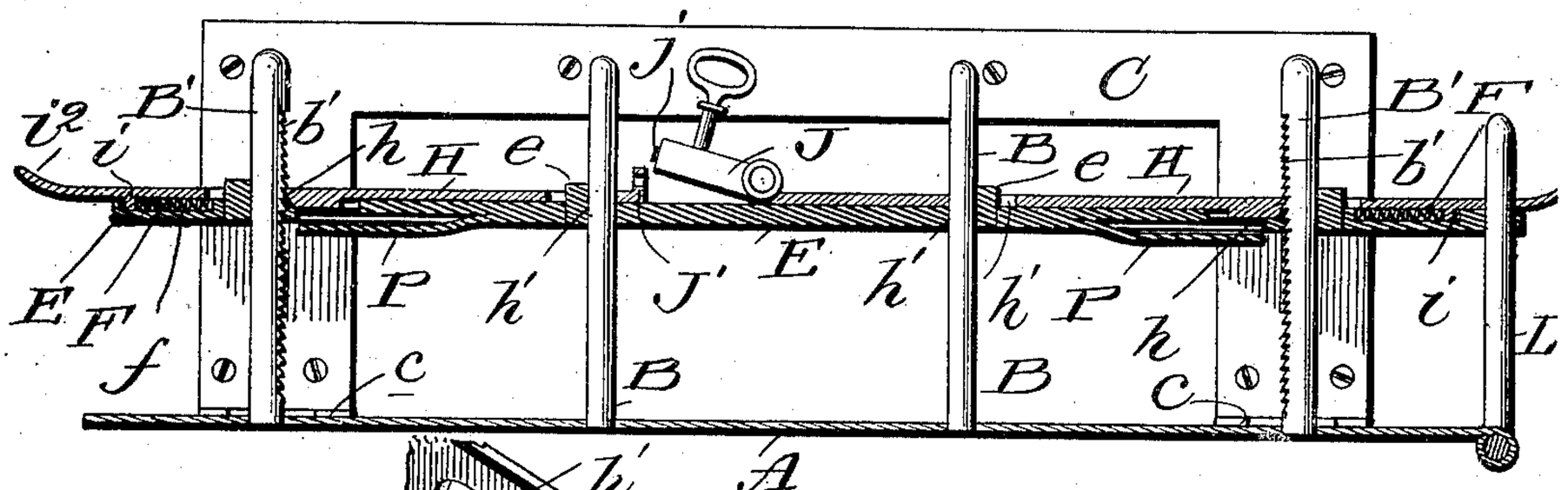

Fig. 4

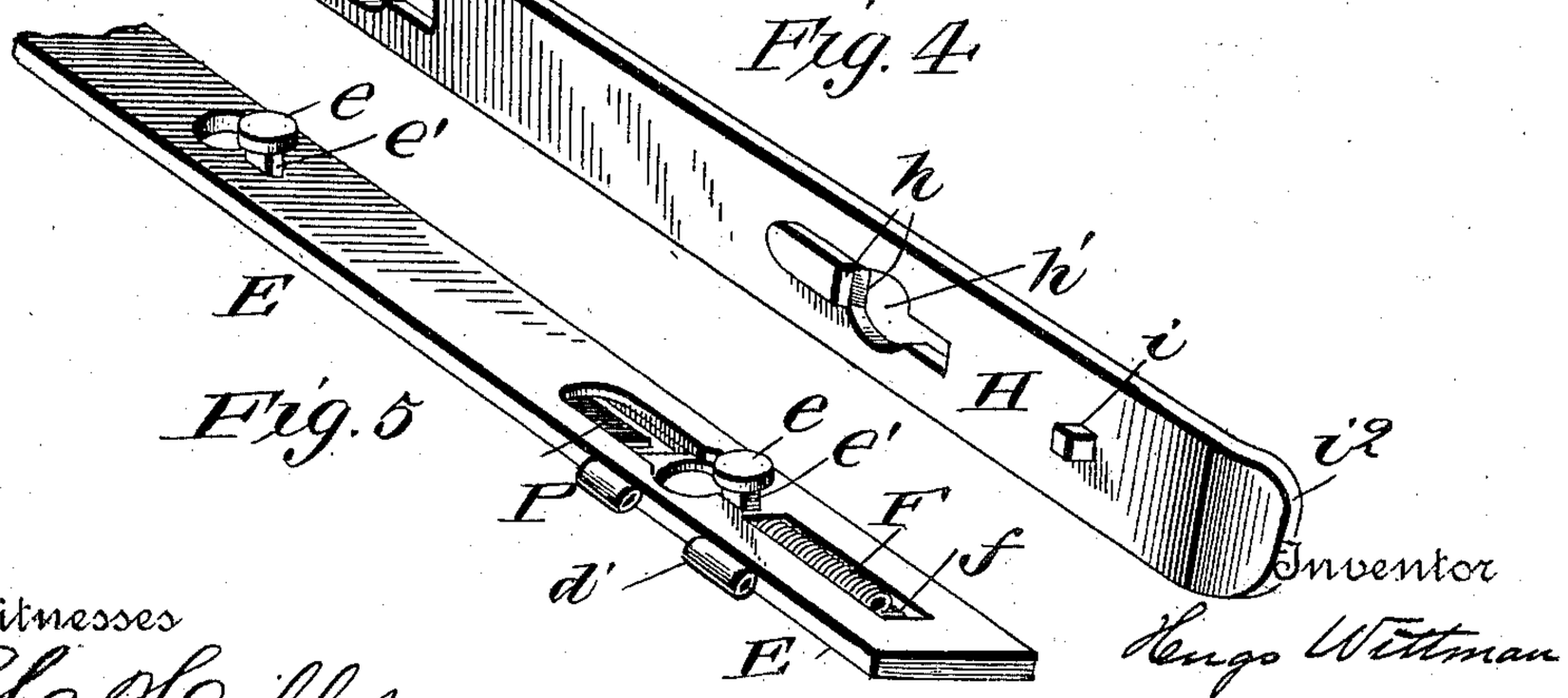

Fig. 5

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UNITED STATES PATENT OFFICE.

HUGO WITTMAN, OF BUFFALO, NEW YORK.

TEMPORARY BINDER.

SPECIFICATION forming part of Letters Patent No. 652,654, dated June 26, 1900.

Application filed June 15, 1899. Serial No. 720,606. (No model.)

To all whom it may concern:

Be it known that I, HUGO WITTMAN, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Temporary Binders, of which the following is a specification.

My invention relates to temporary binders, particularly to the class of such binders in which are held loose sheets; and the invention has for its object to improve said binders in the following particulars: to provide improved means for securely holding and clamping the sheets by their edges; to make such clamping parts adjustable, whereby the number of sheets may be added to or taken from; to provide improved means for locking the clamping devices in order to guard against the removal or insertion of sheets by unauthorized persons, and to generally improve the construction and operation of a temporary binder, as will be hereinafter pointed out.

In order that my invention may be the better understood, I have in the drawings accompanying this specification illustrated one and the preferred embodiment thereof, without, however, intending thereby to limit my invention to the specific embodiment thereof which for the purpose of enabling a clearer understanding of the invention I have represented in the drawings.

Figure 1 is a perspective view of a complete device embodying my invention, parts of the binder proper being broken away, the several covers being also broken away, and the binder being represented as holding but a comparatively few sheets. Fig. 2 is a sectional view taken through the sliding or clamping plate, the attaching-plate C being represented in elevation. Fig. 3 is an elevation of the complete device, parts being broken away and the plates between which the sheets are clamped being represented as considerably separated. Figs. 4 and 5 are detached perspective views, drawn to an enlarged scale, representing two of the coacting plates of the movable or clamping member of the device. Fig. 6 is an elevation of a small portion of one of the leaves adapted to be used in connection with the binder.

In the drawings, A designates a plate or strip of material, preferably metal, to which is secured the series of bars or pins B, which operate to hold the leaves K in place in the binder. The bound edges of the leaves rest upon, and are supported on one side by, this plate or strip A, and for this reason, as well as because it supports the pins B, I term it the "base" or "stationary" plate. One of the covers D is hinged at *d* to the edge of the base-plate A.

In the form of my invention shown in the drawings, wherein the binder proper is attached to and supported within a protecting or outer cover consisting of a stiff back N and cover-leaves O hinged thereto, an attaching-plate C is secured to the base-plate, and this plate C is secured to the back N of the outer cover by screws or in any other suitable manner. I prefer that the attaching-plate C should be connected with the base-plate by hinges *c* and that it should also be secured to the upper or outer ends of the pins B, upon which the leaves to be bound are supported, the outer or free ends of the said pins being preferably bent, as at *b*, so as to occupy positions substantially at right angles to the main portions of the pins in order that the securing-plate C may set off a suitable distance in rear of the pins, so that when the plate is secured to the back of the outer cover there will be ample space between the back N and the plate C, on the one hand, and the pins, on the other, for the insertion of the edges of the leaves. The ends *b* of the pins are connected with the plate C, preferably by screws *c'*, as indicated in Fig. 1.

E represents the movable or clamping member of the binder. It is preferably in the form of a plate or bar of metal perforated at suitable points for the passage of the pins on which the leaves are mounted and upon which pins it may be moved toward and from the base-plate A.

I prefer that the outer or end set of pins B' should be serrated along their sides or edges, as indicated at *b'*, and that the movable plate E should carry means for engaging with the roughened or serrated bars, so that the said plate shall be held with sufficient security in the different positions to which it may be adjusted upon the leaf-pins.

One of the covers D' is connected by hinges *d'* to the movable plate E. The form of

clamping means carried by the plate E and for engaging with the leaf-pins B′ which I prefer to employ consists of two spring-actuated sliding plates H, mounted upon the upper face of the movable plate E, each of the said sliding clamp-plates being provided with teeth *h*, adapted to engage with the serrated edge of a pin B′. While a single tooth *h*, carried by each sliding plate H and adapted to engage with one of the pins B′, would insure an engagement of the clamping member with the pins, I prefer that each plate H should be provided with a pair of teeth *h*, as represented in Figs. 2 and 4, as thereby I secure a better engagement with the supporting-pins. In order to form the two teeth *h*, I prefer that the sliding plate H should be thickened adjacent to the opening *h′*, through which the pin B′ passes, as represented in Fig. 4, and that such thickened portion of the plate should rest in a recess formed for its reception in the movable plate E.

F F designate springs, which are mounted in recesses *f*, formed in the movable plate E. The sliding or clamp plates H are provided with studs or projections *i*, which are so disposed as to enter the recesses in which the springs F are mounted and engage with the latter, so that the springs shall operate to move the plates and bring the teeth *h* thereof into engagement with the pins. Such a construction has several advantages over the constructions commonly employed in devices where sliding clamping members are used to grip the leaf-pins, as it does away with the necessity of forming the movable plate with side flanges and providing it with a cap or cover to retain the clamping means and the spring in position thereon, thus decreasing the number of parts and the difficulty of assembling or repairing the device without affecting its efficiency of operation.

The plates H are perforated, as at *h′*, for the passage of the pins B B′, and these perforations or openings are made keyhole-shaped, as represented in Fig. 4, so as to cooperate with headed studs or projections *e*, which rise from the upper face of the plate E, in holding the sliding clamping-plates H down upon and close to the movable plate E, which carries them. The studs *e* are formed with narrow necks *e′*, which are of such size as to freely pass into the contracted parts of the keyhole-shaped openings *h′*. When the clamp-plates H have been moved so that the necks of the studs *e* are situated in the contracted parts of the keyhole-shaped openings, the enlarged heads of the studs, overlying the edges of the contracted parts of the openings, prevent the plates H from rising or separating from the plate E. When the movable plate is arranged upon the pins B, as represented in Figs. 1 and 2, that being the normal position of the parts, the plates H are moved sufficiently to put the springs F under tension and also to cause the necks of the studs *e* to enter the contracted parts of the apertures *h′*. This insures that the clamping-teeth *h* shall be held with the force of the springs against the serrated edges of the pins B′ and also that the plates E and H shall be locked together. The slots or openings *h′* are sufficiently long to permit of the plates H being slid inward sufficiently to permit the teeth *h* disengaging the edges of the pins B′, so that the clamping member of the binder may be freely moved toward and from the stationary plate A and the leaves supported thereon to be bound. The outer ends of the plates H project somewhat beyond the ends of the plate E and are turned upward or otherwise suitably shaped, as represented at i^2, to be engaged by the thumb or fingers when the plates are to be moved inward to disengage the pins B′.

I prefer to use in connection with the binder such as I have described leaves which are independently removable from and insertible into the binder, so that it is only necessary to relieve the pressure upon the bound edges of the leaves by moving the clamping member of the binder in order to permit the removal of any leaf, whatever be its position in the book or volume formed by the combination of the binder and leaves, or to insert a new leaf in any position or place in the volume. In order to permit this, the leaves are provided with angular slots *k* in the edges which are to be bound. The slots correspond in number and position with the pins B B′ and are preferably of the shape indicated in Fig. 6—that is to say, having a portion *k′* parallel or substantially parallel with the edge of the sheet and an inclined portion k^2, by which entrance is had to the portion *k′* from the edge of the sheet.

In order to hold the sheets or leaves in the binder, even when the clamping member thereof does not bear upon them, I provide a locking or confining pin L. This is hinged to the base-plate A and is so disposed that it bears against one edge of the sheets or leaves when it is arranged in position parallel with the pins B. I prefer to hold the locking-pin L in position to confine the leaves by causing it to pass through apertures in the plates E and H of the movable or clamping member of the binder. Whenever a leaf is to be inserted into or removed from the binder, the clamping member should be moved upon the pins B B′ sufficiently far from the base-plate to disengage the locking-pin L, which may then be turned down, permitting the leaves or sheets K to be readily disengaged from the pins by a slight lateral and then outward movement. By bending the pins B B′, as shown, the clamping member of the binder may be moved onto the short bent portions of the pins, which not only releases the leaves or sheets in the binder, but also carries the cover D into such a position that it may be easily thrown back out of the way, thereby permitting easy access to the leaves to permit their removal or insertion. This con-

struction enables me to bind a very large number of sheets or leaves and at the same time allows the easy removal or insertion of sheets when the binder is full.

I consider it best to interpose springs between the movable clamping member of the binder and the leaves K, and P P represent such springs. The springs may be of various constructions, but that shown is very simple and effective and is the form which I prefer. It consists of an integral part of the movable plate E, the plate being cut to form an elastic or spring finger, which is so bent as to normally lie slightly below the face of the plate E and to present a relatively-large bearing-face to engage with the edge of the leaf.

In binders of the character just described it is often advantageous to lock the parts in closed or binding position in order to prevent tampering with the volume, as by the removal of any leaf or leaves or the insertion of extra leaves. I have therefore devised a novel form of lock for holding the parts in closed or binding positions. The inner contiguous ends of the sliding clamping-plates H are some distance apart, and to one of the said plates there is hinged a lock J, adapted when the plates H are in their normal clamping positions to bridge the space between the inner ends of the said plates and prevent them from being moved, so that the teeth *h* may disengage the pins B′ and allow movement of the clamping member of the binder. The inner end of the plate H, opposite the one to which the lock is attached, is formed into an abutment J′, which is recessed to receive the bolt *j* of the lock. It will be understood that when the bolt is moved into the lock-case by means of a suitable key the lock J may be turned back on its hinge, (see Fig. 2,) when the sliding clamp-bars may be moved to disengage the teeth *h* and allow the plate E to be moved.

I have described a complete device in the form in which I have made it; but it is apparent that all of the features of my invention need not be combined in a single apparatus and that there may be various modifications and changes of the device without departing from the spirit of my invention. Some of these I will suggest. Thus the outer cover might be entirely omitted, and in that event it would probably be unnecesary to provide the binder with the attaching-plate C. As has already been suggested, the movable clamping member of the binder as I have herein described it is a complete and operative device without the lock J. Certain features of my invention are equally applicable to binders employing straight leaf-pins, upon which the leaves may be strung in the usual way now followed in placing papers in files or temporary binders, and in this event of course the locking-pin L would be unnecessary.

Other changes and modifications will suggest themselves, those which have been specified being merely suggested for the purpose of showing that my invention is not restricted to the precise form of binder and volume herein illustrated and described.

What I claim, and desire to secure by Letters Patent, is—

1. In a temporary binder, the combination of a base-plate, a series of leaf-pins carried thereby, said pins being bent toward the back of the binder near their upper ends, a clamping member supported on the pins, and an attaching-plate secured to the base-plate, and also detachably united with the upper ends of the said leaf-pins, substantially as set forth.

2. In a temporary binder, the combination of a base-plate, a series of leaf-pins carried thereby, a clamping-plate movable upon the said pins, an attaching-plate, C, hinged to the base-plate, and screws or equivalent detachable connections uniting the upper ends of the leaf-pins with the said attaching-plate, the upper ends of the pins being bent at substantially right angles to the main portions thereof, substantially as set forth.

3. The combination of a base-plate, leaf-pins attached thereto and bent toward the back of the binder at their upper ends, a movable clamping member carried by said pins, an attaching-plate hinged to the base-plate and having its opposite edge detachably connected with the ends of said leaf-pins, covers, D, D′, attached respectively to the base-plate and clamping member, and an outer back to which the attaching-plate is secured, substantially as set forth.

4. The combination of a base-plate, leaf-pins rising therefrom, and serrated or roughened along one side, a movable clamping-plate mounted upon the pins, and two sliding plates carried by the said clamping-plate, the said movable and sliding plates being provided with holes through which the pins pass, each sliding plate being thickened adjacent to the hole therein for the pin, and provided with a pair of teeth, *h*, *h*, adapted to engage with the serrated or roughened sides of the pins, the said thickened portions of the movable plates resting in recesses formed therefor in the movable plate, substantially as described.

5. The combination of the leaf-pins, the plates between which the leaves are clamped, and a pivoted locking device adapted to engage with the edges of the leaves and hold them upon the pins, substantially as set forth.

6. The combination of a base-plate, the leaf-pins, a clamping-plate sliding upon the leaf-pins, and a locking or leaf-holding, pin, L, pivoted to the base-plate and adapted to engage with the edges of the leaves, when supported upon the pins, the clamping-plate being provided with an aperture through which the said pin, L, passes when said plate is moved into clamping position, whereby the pin, L, is held in locking or holding position, substantially as set forth.

7. The combination of a base-plate, the leaf-

pins, a movable plate mounted on such pins, clamp-plates adapted to engage with the leaf-pins carried by the movable plate and movable toward and from each other, and a lock arranged to be entirely removed from between the clamp-plates to permit such plates to be moved to free the movable plate, and also adapted to be moved between and to connect such plates to hold them positively in locking or clamping position, substantially as set forth.

8. The combination of a base-plate, leaf-pins carried thereby, a movable clamping-plate carried by such leaf-pins, two independent clamp-plates mounted on said movable plate and adapted to engage the leaf-pins, and a lock hinged to one of said clamping-plates and adapted to prevent the movement of said clamp-plates to disengage the leaf-pins, substantially as set forth.

9. The combination with a base-plate and the leaf-pins, of a movable plate, E, mounted upon such pins, two sliding clamp-plates mounted on said movable plate and adapted to engage the leaf-pins, and a lock hinged to one of said clamp-plates and having a locking engagement with the other, substantially as set forth.

10. In a temporary binder, the combination with the base-plate and the leaf-pins, of a movable plate, E, carried by such pins, two spring-held sliding clamp-plates normally engaging with said leaf-pins and adapted to be moved toward each other to be disengaged therefrom, and a locking device hinged to one of said clamp-plates and adapted to span the space between such plate and the other sliding plate and be locked in such position, whereby the sliding clamp-plates are positively locked against movement toward each other, substantially as set forth.

11. The combination with a base-plate and the leaf-pins, of a movable plate, E, mounted upon the pins, sliding clamping-plates, H, H, carried by the plate E, and arranged to engage with the leaf-pins, the inner ends of the said plates, H, being adjacent to each other, and a lock carried by one of the sliding plates, H, and free from the other and adapted to span the space between such plate and the other sliding plate, and to positively hold them, when in this position, in locking engagement with the leaf-pins, substantially as set forth.

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