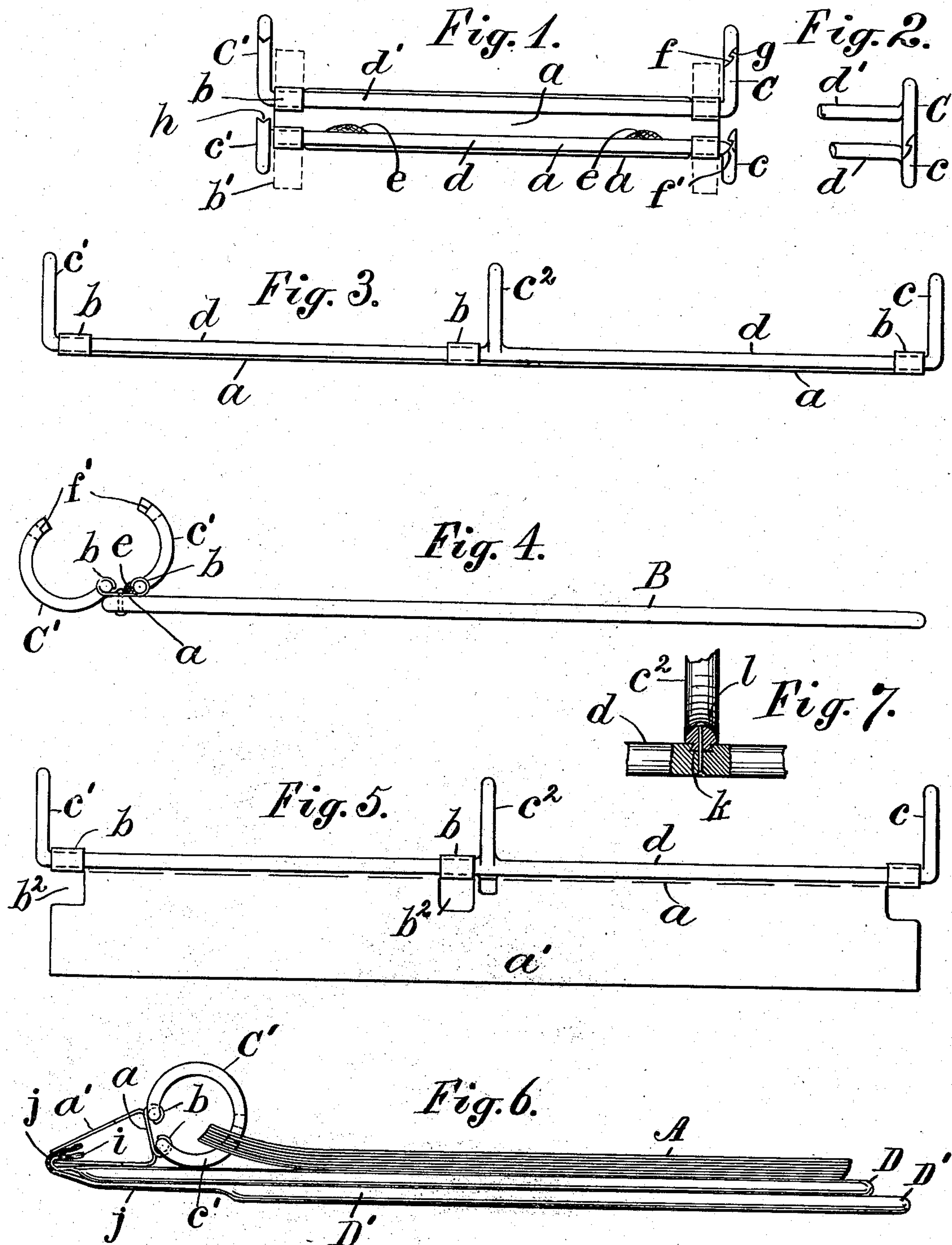


No. 840,643.

PATENTED JAN. 8, 1907.

L. M. MORDEN.  
TEMPORARY BINDER.  
APPLICATION FILED OCT. 11, 1905.



Attest:  
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per Thomas S. Crane, Atty.



# UNITED STATES PATENT OFFICE.

LUCENA M. MORDEN, OF WATERBURY, CONNECTICUT.

## TEMPORARY BINDER.

No. 840,643.

Specification of Letters Patent.

Patented Jan. 8, 1907.

Application filed October 11, 1905. Serial No. 282,283.

*To all whom it may concern:*

Be it known that I, LUCENA M. MORDEN, a citizen of the United States, residing at 69 Grand street, Waterbury, county of New Haven, and State of Connecticut, have invented certain new and useful Improvements in Temporary Binders, (Case A,) fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

In the present binder a metallic base is employed supporting two or more divided rings having sections which may open to insert and remove perforated leaves.

In the present invention the sections at one side of the rings are attached rigidly to the base at right angles thereto, and the opposite sections are all attached to a pivot-wire, which is journaled upon the base to turn the sections in the same plane as the fixed sections. One of the rings in the series has the meeting ends of the sections beveled so as to slip past one another and notched so as to interlock and retain their locked position until sprung out of their normal plane, which serves to disengage the ends and permit the movable section to be opened. Where only two rings are employed in the binder, the sections are formed integral with the opposite ends of wires, such wires serving, by means of solder or rivets, to attach the sections at one side rigidly to the base, while the wire upon the opposite sections forms a pivot by which it can be journaled upon the base. The bearings upon the base are readily formed by stamping integral ears upon the base, adapted to be bent over the wire to hold the same movably. Where three or four rings are required in the binder, the sections intermediate to the ends are dovetailed and riveted to the wires, so as to operate with the end sections. The metallic base, with the fixed and movable sections thereon, constitutes an article of manufacture which may be affixed to file-boards or to the binding of loose-leaf books and employed in other ways to hold the perforated leaves detachably.

The use of a wire to form a pivot for ring-sections is common, as well as the stamping of ears from the base to form bearings for the same. My construction differs from those heretofore used in the particular means used for locking the meeting ends of the sections together, which requires that the movable sections shall be held from end movement, and provides precisely similar forms for the meet-

ing ends, by which they may be readily locked or disengaged.

In the drawings, Figure 1 is a plan of a bed provided with two of the jointed rings with the sections separated. Fig. 2 shows the ring at one end with the sections interlocked. Fig. 3 is an edge view of a bed provided with three rings. Fig. 4 is an edge view of a bill-board with the bed-plate across one end and the hinged sections opened. Fig. 5 shows an alternative construction in an edge view of a bed provided with three rings and with flanges adapted to embrace or clamp flexible flaps upon the binder-cover. Fig. 6 shows the bed and rings of Fig. 5 connected with the covers of a binder and supplied with some loose leaves A. Fig. 7 shows the joint of the middle ring with the pivot-wire.

In Figs. 1 and 3, *a* designates the bed. *b* represents lugs cut integral with the bed in the position indicated by the dotted lines *b'* and bent into circular eyes, as shown at *b* in Fig. 4. *c* and *c'* designate the ring-sections to be fixed rigidly upon the bed and formed integral with a wire *d*, which is shown fitted within the bearings *b* at one edge of the bed and attached rigidly to the bed by solder *e*. *C* and *C'* designate the movable ring-sections formed integral with a pivot-wire *d'*, which is journaled in the bearings *b*, so that the ring-sections *C* and *C'* turn freely in the same plane as the fixed sections *c* and *c'*, and are held from longitudinal movement by the bearings *b*. The sections *c* *C* have their meeting ends formed with a bevel *f* and with a notch *g* at the base of the bevel, adapted to form a shoulder *f'* upon each of the meeting ends, which shoulders interlock when the sections are pressed together, but may be separated by springing the sections laterally when it is desired to open the movable sections. The meeting ends of the sections are beveled and notched upon opposite sides in a precisely similar manner, so as to form similar jaws, and both jaws may thus be milled or stamped with the same tools and shaped at a single operation, as they possess no slots or recesses which cannot be formed by stamping. As the fingers can only manipulate one of the rings at a time to separate the sections when interlocked, the other rings in the binder are made, as shown at the left end of Fig. 1, with the ordinary recess *h* upon one section and projection upon the opposite section to fit therein to hold such sections in alinement when closed. Only one ring in



a series of rings requires the locking-joint, as the bearings hold the pivot-wire from end movement, and the engagement of the projections with the recesses upon the opposite sections also serve to hold the parts of the interlocking joint in contact.

Fig. 3 shows the binder provided with a ring  $c^2$  intermediate to the end rings  $c$  and  $c'$ , the sections of such middle ring being firmly attached to the wire  $d$  and  $d'$  by any suitable means, and the bed is shown with three of the bearings  $b$  to hold the pivot-wire for the three rings movably.

Fig. 7 shows a dovetail  $k$  and rivet  $l$  for joining the rings  $c^2$  and pivot-wire  $d$ . It is obvious that the combination of the dovetail and rivet forms a strong junction of the ring-section with the pivot-wire better than any that can be produced by the solder which is commonly used for uniting such parts.

Fig. 4 shows the ring-sections open, as in Fig. 1, and the bed riveted upon the end of the file-board  $B$  to hold the leaves detachably thereon.

Figs. 5 and 6 show the bed formed with flanges  $a'$  bent backwardly from the bed and pressed toward one another to grip firmly two hinge-flaps or tongues  $i$  and  $j$  upon a couple of binder-covers  $D$  and  $D'$ . The bed is attached to the covers only by means of the flexible tongues, and the tongue  $j$  is made longer than the tongue  $i$  to permit the tongue  $j$  to extend over the upper side of the ring in the figure and the cover  $d'$  to lie over the leaves  $A$  when not in use.

Fig. 6 shows the covers folded one under the other to support the leaves for making inscriptions thereon. The flanges  $a'$  are shown with notches  $b^2$ , from which the lugs  $b'$  are cut to form the bearings shown at  $b$  in Fig. 6. It is obvious that bearings are not required for the wire  $d$  of the ring-sections, which are soldered rigidly to the bed; but such bearings are readily made by suitable means, so as to locate the wires parallel with one another, and thus secure their proper adjustment and relation to one another when one is soldered upon the bed and the other is fitted movably in its bearings.

I am aware that ring-sections have been formed upon opposite ends of a pivot-wire;

but such sections have never been locked by means applied to one of the rings only, and I have therefore made special claim to this construction, by which the operator, with only two fingers, can spring open the locked end of one of the ring-sections and then open all of the rings by a rotation of the pivot-wire with a continued movement of the same fingers.

Having thus set forth the nature of the invention, what is claimed herein is—

1. A temporary binder having a sheet-metal bed carrying a series of divided rings with the ring-sections at one side attached rigidly to the bed, and two of the opposite ring-sections formed integral with the opposite ends of the pivot-wire, bearings upon the bed for the pivot-wire adapted to hold the same from longitudinal movement, and a locking device, as the bevel  $f$  and notch  $g$ , applied to the joint of one of the rings, whereby the operator can spring such joint apart with the fingers and open all the rings simultaneously by a rotation of the pivot-wire with the same fingers.

2. A temporary binder having a sheet-metal bed carrying a series of three or more divided rings with the ring-sections at one side attached rigidly to the bed, and two of the opposite ring-sections formed integral with the opposite ends of a pivot-wire, bearings upon the bed for the pivot-wire adapted to hold the same from longitudinal movement, a dovetail notch  $k$  in the pivot-wire for each of the intermediate ring-sections and the said intermediate sections having each a dovetail fitted to one of said notches and secured therein by rivet  $l$ , the meeting ends of the sections on one of the rings being beveled and notched upon their opposite inner sides to form similar jaws adapted to interlock with one another, and to be sprung apart when required.

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

LUCENA M. MORDEN.

Witnesses:

L. LEE,  
THOMAS S. CRANE.