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PATENTED JUNE 18, 1907.

J. WALKER, JR.

FILE, TEMPORARY BINDER, LOOSE LEAF BOOK, AND THE LIKE.

APPLICATION FILED DEC. 29, 1904.

FIG. 1.

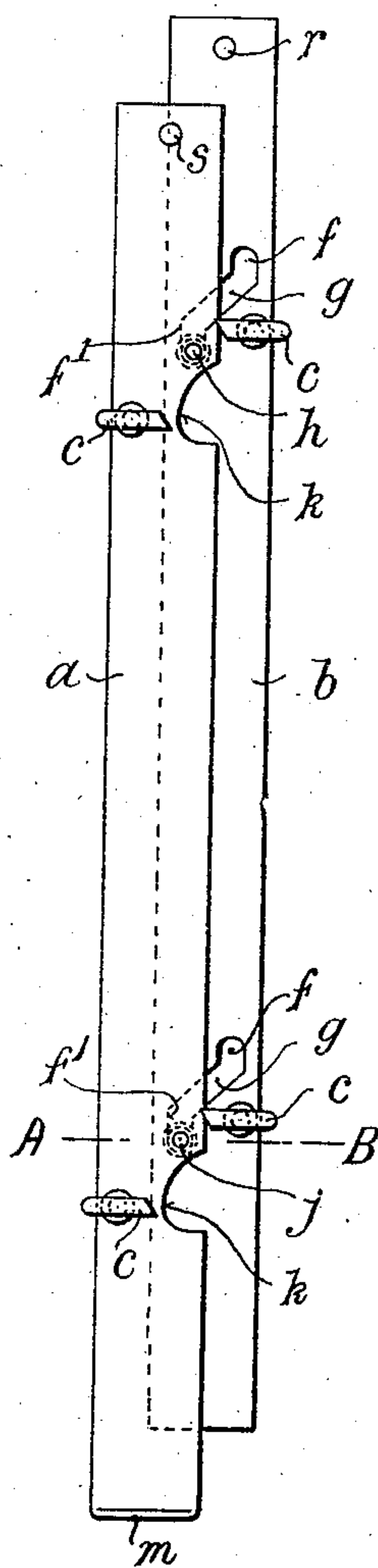


FIG. 2.

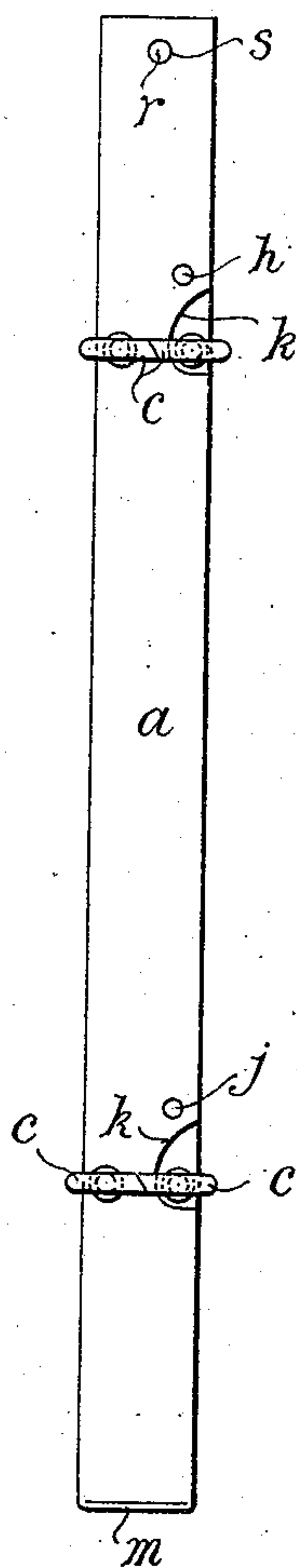


FIG. 4.

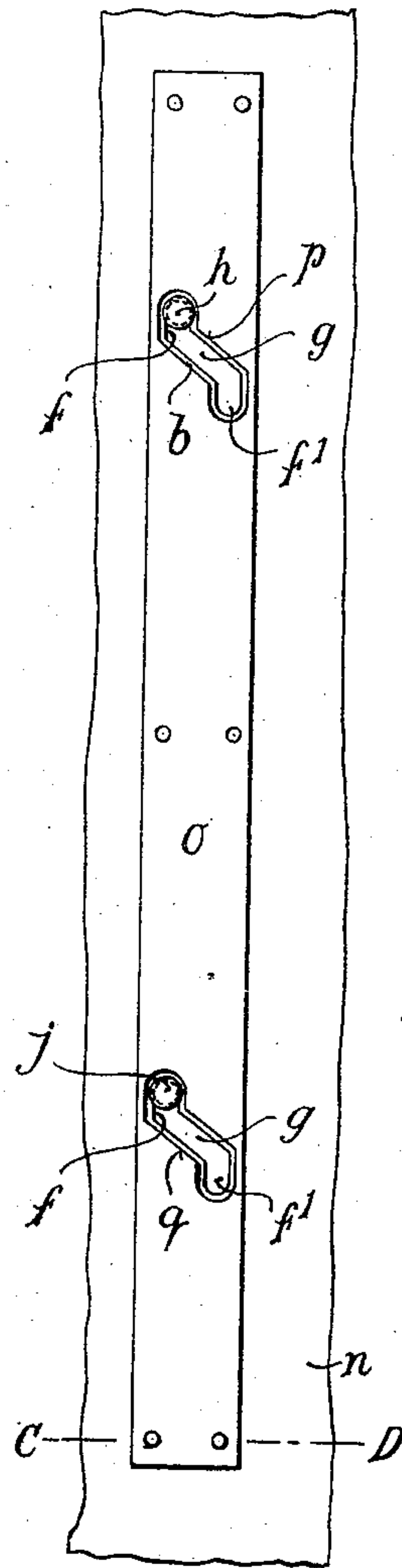


FIG. 3.

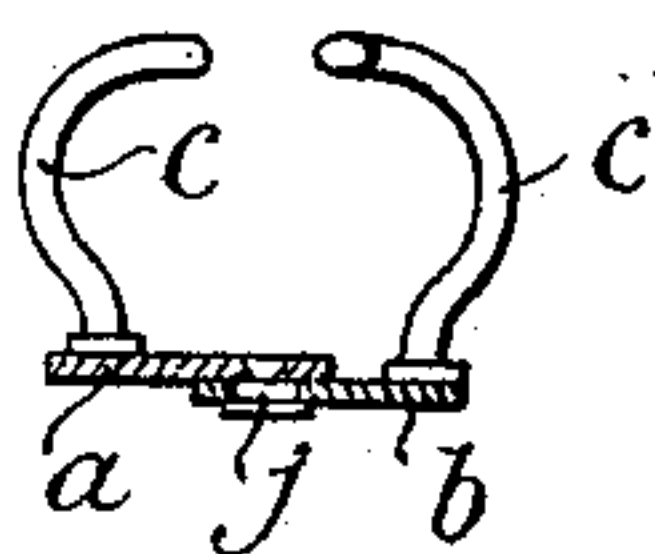
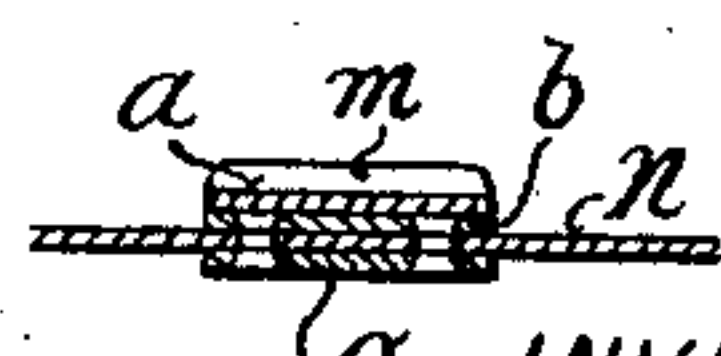


FIG. 6.



FIG. 5.



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FILE, TEMPORARY BINDER, LOOSE-LEAF BOOK, AND THE LIKE.

No. 857,371.

Specification of Letters Patent.

Patented June 18, 1907.

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To all whom it may concern:

Be it known that I, JOHN WALKER, Jr., a subject of the King of Great Britain and Ireland, residing in Putney, London, England, have invented certain new and useful Improvements in and Relating to Files, Temporary Binders, Loose-Leaf Books, and the Like, of which the following is a specification.

This invention relates to files, temporary binders, loose leaf books and the like, and aims to provide certain improvements therein.

This invention is especially directed to that type of binder which is provided with one or more pairs of prongs which are adapted to be separated to permit the insertion or removal of the leaves, and to be brought to registering position to prevent displacement of the leaves.

My invention aims to provide a binder of this type in which a wide lateral separation of the prongs is obtained, so that the leaves may be easily inserted and removed and at the same time to provide a binder having the minimum width and thickness.

A further object is to so mount the filing prongs that they shall be capable of withstanding the severe strain to which they are subjected, and to provide means whereby they are rigidly locked in their closed positions.

In the drawings wherein I have shown one embodiment of my invention, Figure 1 is a plan of the device showing the prongs open ready to permit the insertion or removal of the leaves; Fig. 2 is a similar view showing the prongs closed; Fig. 3 is a section on the line A—B of Fig. 1; Fig. 4 is an inverted plan or bottom view showing the means of attachment I prefer to employ; Fig. 5 is a cross section on the line C—D of Fig. 4; Fig. 6 is a cross section of a modified construction.

In the preferred construction shown I provide two elongated members or plates *a*, *b*, each of which carries one or more filing prongs *c*. Preferably such prongs are riveted or otherwise fastened to the upper surfaces of the plates. This construction not only provides an extremely rigid mounting for the prongs, but enables the plate *a* to slide completely over upon the top of the plate *b*. Preferably the plates are of precisely the same width so that when superposed the device occupies no greater space laterally than one of the plates. This is important as it enables me to materially reduce the width of the binder or loose leaf book to which my invention is applied.

According to my invention I provide for a lateral separation of the prongs which is proportionately very much greater than that heretofore obtained in this type of binder. To this end I provide a guiding means along which the plates are constrained to slide in their relative movements, such guiding means being shown in the drawing as slots *g* formed in the under plate *b*, into which extend pins *h*, *j* carried on the top plate *a*. In Fig. 6 the pins are shown as carried by the lower plate *b* and slide in slots formed in the top plate *a*. Any other suitable guide may be substituted.

According to my invention the direction of the slots *g* approaches quite closely to that of the transverse axis of the plates, so that as the plates move apart, the prongs *c*, *c* are widely separated as shown. This wide lateral separation with the narrow width of the plates shown is rendered possible by so constructing the parts that the plates are completely superposed when the binder is closed. Preferably the slots *g* extend obliquely as shown, so that the prongs may be separated by a relative lengthwise movement of the plates.

According to my invention I provide means for securely locking the plates in their closed position so that no lateral strain upon the plates will separate them. Such means preferably consist of slots *f*, *f*, which are formed as continuations of the slots *g*, *g*, the slots *f* being extended in a direction lengthwise of the plates, so that when the latter are in their closed positions the pins *h*, *j*, bear against the inner sides of the slots, thus preventing lateral movement of the prongs. This hence necessitates an initial longitudinal movement of the plates before any lateral separation of the prongs takes place. Preferably also I provide similar slots *f'* at the opposite ends of the slots *g*, such slots locking the plates in their open positions during insertion or withdrawal of the leaves. The inclination of the slots *g* is especially desirable in connection with the slots *f*, *f'*, since it permits a complete opening or closing movement of the prongs by a single and practically continuous movement of the plate *a* in one general direction.

In its closed position the plate *a* preferably extends completely over the plate *b* as shown thus providing a smooth and continuous surface on the top of the binder so that the edges of the leaves cannot in any way be caught during opening of the book. The

plate *a* is provided with recesses *k* into which the prongs *c, c*, upon the lower plate enter when the device is closed.

To provide some means for holding the plates in their closed positions against longitudinal movement along the slots *f*, I preferably form the lower plate with a knob or projection *r* and the upper plate with a recess *s* as best shown in Fig. 1. A thumb piece *m* may be provided at one end of the plate *a* to facilitate its manipulation.

When my device is used as a binder for a loose leaf book, any suitable means may be provided for attaching the binder to the covering of the book. In the construction shown I prefer to provide a third plate *o* (Fig. 4) which is riveted or otherwise secured to the lower plate *b* with a binding material *n* interposed between the two. In this case the third plate *o* is preferably provided with slots *p* of the same general outline as the slots *f, f'* and *g* but of larger proportions in order to receive the heads of the pins *h, j*, so that the latter do not extend beyond the lower surface of the plate. For use in connection with files, the plate *b* may be attached directly to a board or other support.

It will be seen that by my invention I provide a binder of the utmost simplicity of construction, in which the prongs are rigidly mounted and capable of withstanding any strain to which they are subjected. It will be further seen that I am enabled to provide an extremely wide lateral separation of the prongs, a result not heretofore accomplished in a device of this character, and that such separation takes place without any undue longitudinal movement of the plates, so that in practice the leaves carried by the plate *a* do not necessarily extend an appreciable distance beyond the book cover when the device is opened. It will further be seen that the wide separation of the prongs obtained by my invention may be accomplished with a binder of extremely narrow width when closed, whereby the thickness of the book is reduced and the device is adapted for books of much less size than those now in use. It will also be observed that the device is extremely economical to manufacture, and has no complicated mechanism which is liable to derangement or delicate parts which are liable to breakage.

While I have described in detail the preferred form of my invention, I do not wish to be limited thereto as the same is susceptible of considerable variation without departing from the invention.

What I claim is:—

1. In a file, temporary binder or the like, the combination of two plates each of which normally extends substantially across the entire face of the other, and each of which is provided with a fastening prong, which prongs register in the normal positions of the

plates, said plates being adapted to move longitudinally and transversely relatively to each other to provide a wide lateral separation of the prongs said plates being provided with guiding means extended substantially across the width of such plates and adapted to guide them in such movements.

2. In a file, temporary binder or the like, the combination of two plates each of which normally extends substantially across the entire face of the other, and each of which is provided with a fastening prong, which prongs register in the normal positions of the plates, said plates being adapted to move longitudinally and transversely relatively to each other to provide a wide lateral separation of the prongs, said plates being provided with a pin and slot connection adapted to guide them in such movements, such slot extending obliquely substantially across the width of such plates.

3. In a file, temporary binder or the like, the combination of two plates each of which normally extends substantially across the entire face of the other, and each of which is provided with a fastening prong, which prongs register in the normal positions of the plates, said plates being adapted to move longitudinally and transversely relatively to each other to provide a wide lateral separation of the prongs, said plates being provided with guiding means extended substantially across the width of such plates and adapted to guide them in such movements, and means for preventing an initial lateral separation of the plates when in their normal positions.

4. In a file, temporary binder or the like, the combination of two plates each of which normally extends substantially across the entire face of the other, and each of which is provided with a fastening prong, which prongs register in the normal positions of the plates, said plates being adapted to move longitudinally and transversely relatively to each other to provide a wide lateral separation of the prongs, said plates being provided with a pin and slot connection adapted to guide them in such movements, such slot extending substantially across the width of such plates and having a portion extending obliquely substantially longitudinally of such plates whereby to prevent an initial lateral separation of the plates.

5. In a file, temporary binder or the like, the combination of two plates mounted one upon the other, and adapted to slide relatively to each other, each of said plates having a prong, said prongs registering in the normal positions of the plates, such plates having means for guiding them to move longitudinally and transversely relatively to each other to separate such prongs, said means extending obliquely at such an angle to the length of the plates that the latter

tend to move to separate the prongs when under a lateral stress, and means for preventing such separation.

6. In a file, temporary binder or the like, 5 the combination of two plates mounted one upon the other, and adapted to slide relatively to each other, each of said plates having a prong, said prongs registering in the normal positions of the plates, such plates 10 having a pin and slot connection adapted to guide them to move to separate such prongs, the slot of said connection extending obliquely at such an angle to the length of the plates that the latter tend to move to 15 separate the prongs when under a lateral stress, such slot having a portion extending substantially longitudinally of such plates into which said pin moves when the plates are in their normal positions, whereby such 20 separation is prevented until the plates are given an initial longitudinal movement.

7. In a file, temporary binder or the like, the combination of two plates mounted one upon the other, and adapted to slide relatively to each other, each of said plates having a prong, said prongs registering in the normal positions of the plates, such plates 25 having a pin and slot connection adapted to guide them to move to separate such prongs, the slot of said connection extending obliquely at such an angle to the length of the plates that the latter tend to move to separate the prongs when under a lateral stress, such slot having a portion extending substantially longitudinally of such plates into 35 which said pin moves when the plates are in their normal positions, whereby such separation is prevented until the plates are given an initial longitudinal movement, and said slot 40 having a similar portion at its opposite end adapted to prevent such plates from moving toward their closed positions from their open positions.

8. In a file, temporary binder or the like, 45 the combination of two plates mounted one upon the other, and, each having a prong, one of said plates having a slot having a portion extending obliquely in a direction transverse to said plate, and a portion extending substantially longitudinally thereof, and the 50 other of said plates having a part sliding in said slot, whereby when such part is in the transverse portion of said slot the prongs may

be laterally and longitudinally separated by a longitudinal movement of said plates, and 55 when such part is in the longitudinal portion of said slot, lateral movement of the plates is resisted.

9. In a file, temporary binder or the like, the combination of two plates, each having a 60 prong, said plates being adapted to slide relatively to each other to separate said prongs, slots in the lower of said plates, pins in the upper plate working in said slots and having heads beneath said lower plate, a binding 65 material beneath said lower plate, and a third plate clamping such material against said lower plate, and having slots within which said pin heads slide.

10. In files, temporary binders, loose leaf 70 books or the like, an upper plate, a lower plate, the upper plate being provided with pins and the lower plate with slots, said pins being disposed in the slots, heads to said pins of greater width than the slots, a plurality of 75 prongs on one plate adapted to mate with similar prongs on the other plate, a third plate provided with slots and secured to the lower plate and so disposed that the heads of the pins travel in the slots of the third plate, 80 and binding material disposed between the lower and third plates substantially as described.

11. In files, temporary binders, loose leaf 85 books or the like, an upper plate, a lower plate, the upper plate being provided with pins and the lower plate with slots, said pins being disposed in the slots, heads to said pins of greater width than the slots, a plurality of prongs on one plate adapted to mate with 90 similar prongs on the other plate, said slots having parts inclined to the horizontal axis of the device and parts parallel thereto, a third plate provided with slots and secured to the lower plate, and so disposed that the 95 heads of the pins travel in the slots of the third plate, and binding material disposed between the lower and third plates, substantially as described.

In witness whereof, I have hereunto signed 100 my name in the presence of two subscribing witnesses.

JOHN WALKER, JUNR.

Witnesses:

JOHN VAUGHAN,

GORDON MELVILLE CLARK.