No. 620,160. Patented Feb. 28, 1899.

W. S. MENDENHALL.

TEMPORARY BINDER.

(Application filed Jan. 29, 1898.)

(No Model.)

Fig. 1.

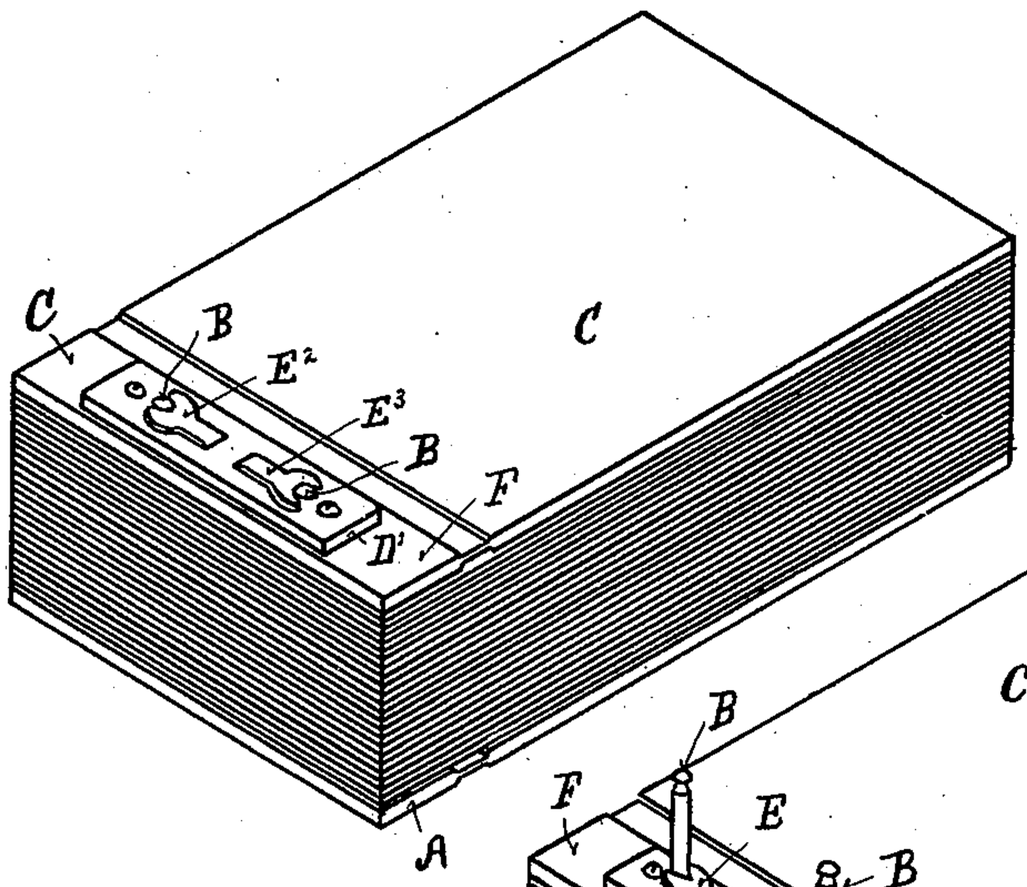
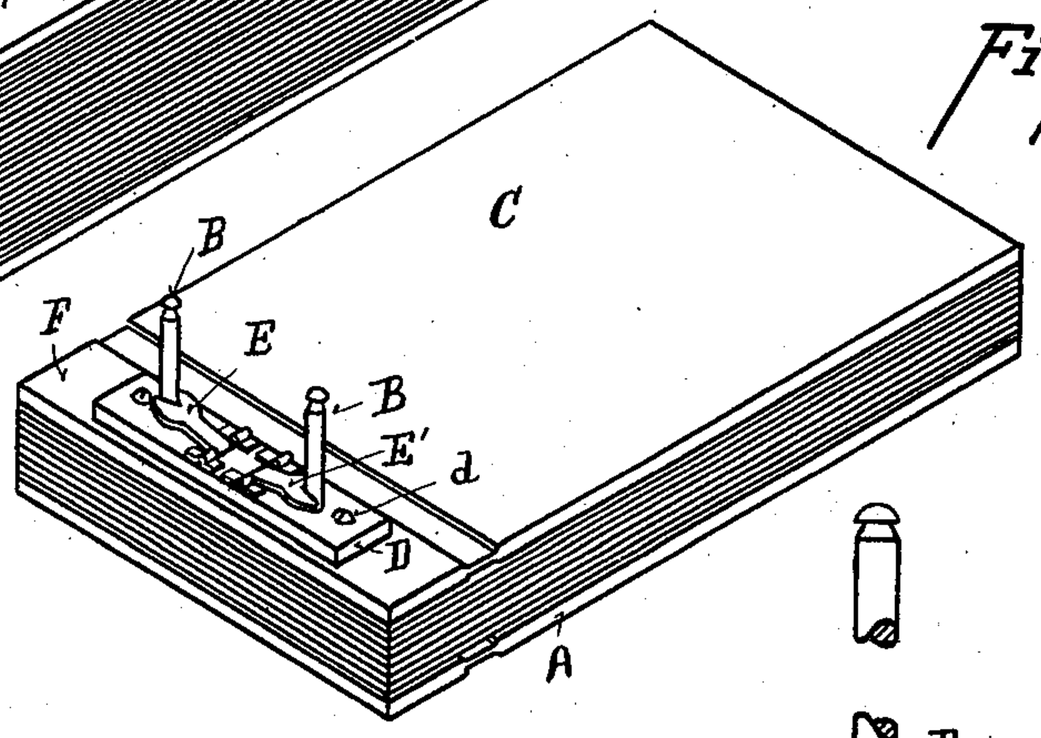


Fig. 2.



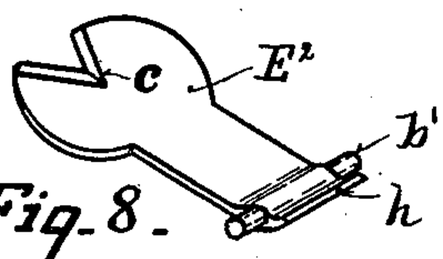


Fig. 8.

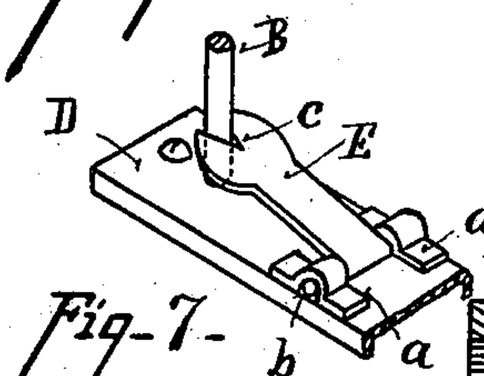


Fig. 7.

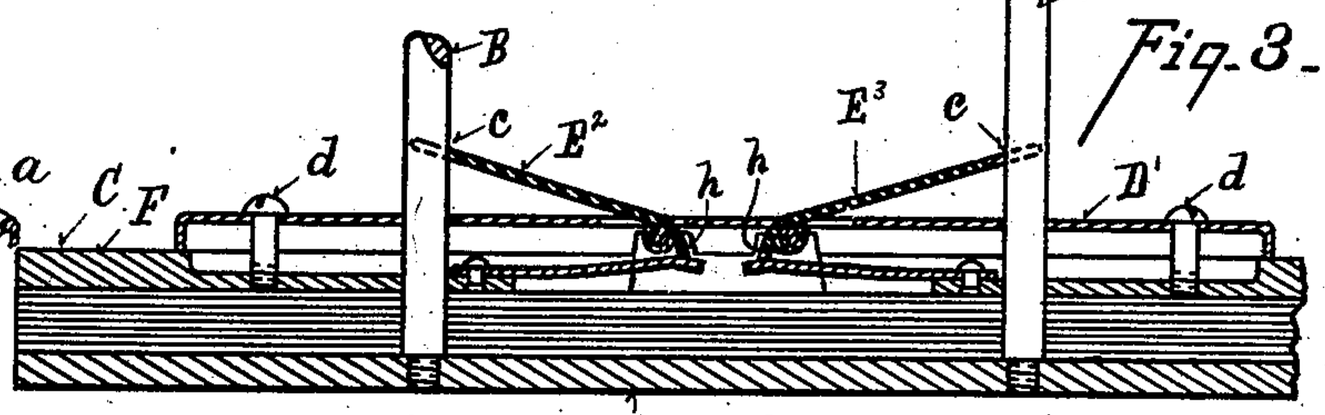


Fig. 3.

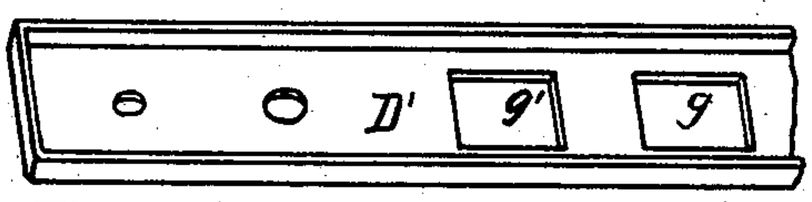


Fig. 6.

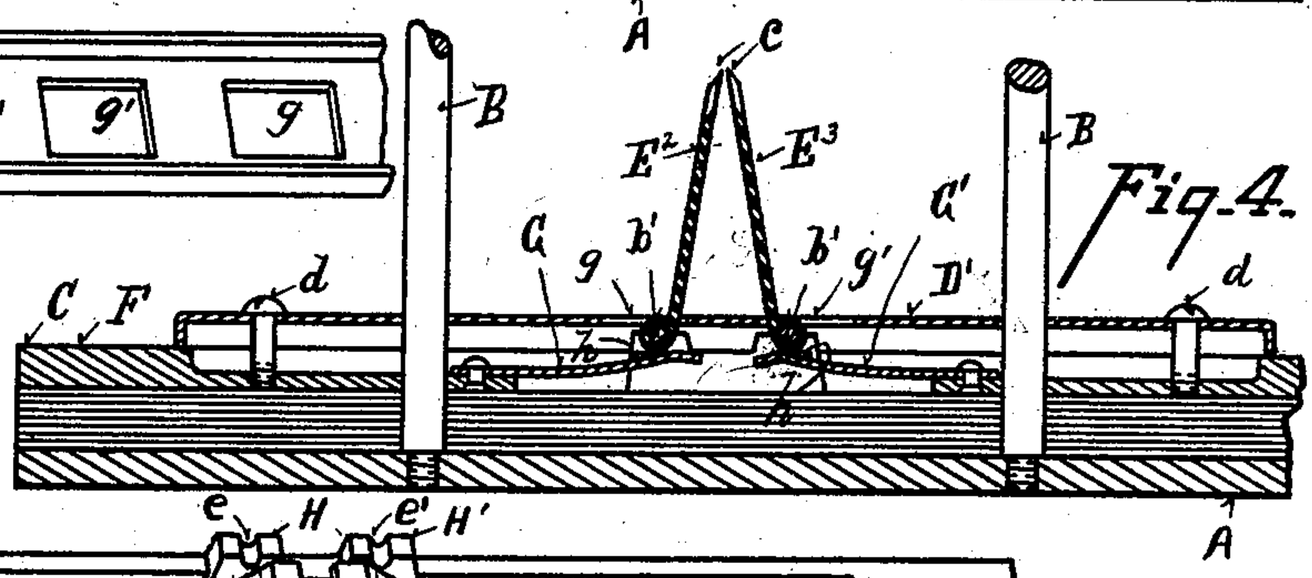


Fig. 4.

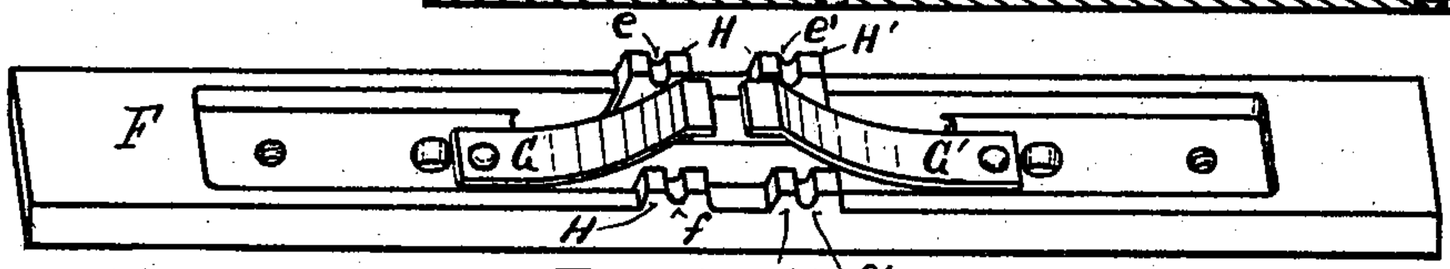


Fig. 5.

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UNITED STATES PATENT OFFICE.

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TEMPORARY BINDER.

SPECIFICATION forming part of Letters Patent No. 620,160, dated February 28, 1899.

Application filed January 29, 1898. Serial No. 668,484. (No model.)

To all whom it may concern:

Be it known that I, WALTER S. MENDENHALL, residing at Norwood, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Temporary Binders, of which the following is a specification.

The object of my invention is to provide a temporary binder which can be locked in position to hold any number of sheets firmly between the covers by means of one or more binding-posts and one or more arms hinged to the cover and having a frictional engagement with the binding-posts, which arms are readily detachable from the binding-posts to allow the cover to be removed for the addition or removal of sheets.

The features of my invention are more fully set forth in the description of the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of my improvement, having a large number of leaves forming a full book. Fig. 2 is a similar view of a different form, showing a partial book secured by the temporary binders. Fig. 3 is a transverse sectional elevation through the line of binder-posts and clamp, showing the binder-posts in position for holding the leaves and covers together. Fig. 4 is a similar view showing the position of the clamps when it is desired to remove the top cover or the sheets. Fig. 5 is a perspective view of the clamp-supporting base and controlling-springs. Fig. 6 is a perspective view of the cover of the clamp-base. Fig. 7 is a perspective view of one of the clutch-arms. Fig. 8 is a modification of Fig. 7.

The preferred form of construction is shown in Figs. 2 and 7, in which the bottom cover is provided with two binding-posts, upon which the top cover slides. A plate is preferably secured to this top cover for the attachment of the clutch-arms. This plate is provided with orifices to engage over said binding-posts, and friction clutch-arms are pivoted or hinged to the plate, the outer ends of said arms being notched or otherwise shaped to engage the peripheries of the binding-posts.

A represents the bottom or stiff cover. B represents the binding-posts, secured thereto.

C represents the top cover, and D the top binder-plate, secured to said top cover. E E′ represent the frictional clutch-arms, hinged to said plate D by ears *a* and pivot-bolt *b*, suitably attached at one end to said arms. *c* represents the notched end of said arms, adapted to engage against said binding-posts. Said arms can be hinged or pivoted to the top cover direct without the use of a plate; but the addition of a plate makes a stronger device. The arms are so hinged to the plate or cover as to be capable of a vertical movement to and from each other and to and from the binding-posts, and when out of engagement with the posts they assume a vertical position and serve as a handle or grasping means for manipulating the top cover.

In order to rest against the posts, so that the notched ends will form a friction-clutch with said binding-posts, the arms must be longer than the distance between their pivot-points and the base of the binding-posts, so that when swung outward in their pivotal movement they will incline against the said posts. It is evident that one or more posts may be used and one clutch-arm engaging with one of said posts, although where two are employed they react against each other and give a firmer frictional contact with the binding-posts.

It is sometimes desirable to provide a spring coacting with the clutch-arm to assist in holding it more rigidly in its adjusted position either open or closed. This form of construction is shown in Figs. 1, 3, 4, 5, and 8. When it is desired to use this construction, a plate F is provided which is adapted to be secured to the under side of top plate D′ by screws *d*, passing through said plates and securing them to the top cover. This plate is likewise provided with orifices for the passage of the binding-posts. Two leaf-springs G G′ are secured to said plate, and raised pivot-blocks H H′, provided with notches *e e′ f f′*, are formed upon the upper face of said plate F in juxtaposition to the free ends of said springs. The top plate D′ is provided with two orifices *g g′* large enough to allow of the insertion of the pivotal ends of the clutch-arms E^2 E^3 and to allow a pivotal movement of said arms when secured in position between the plates.

As shown in detail in Fig. 8, the arms E are each provided with horizontal pivots *b*, and at the extreme ends of the arms, adjacent to said pivots, tailpieces *h* are provided, which

tailpieces coöperate with the leaf-springs G G′, as will be hereinafter explained.

The arms are attached as follows: The free ends of the arms are passed through the orifices in the top plate, and then the pivot-bolts *b′* are rested in the notches *e e′ f f′*. The screws are then passed through the two plates, which secure them to the top cover, the friction-arms being held securely between the plates by the engagement of the top plate with the pivot-blocks, and at the same time the arms are capable of a pivotal or radial movement to and from each other and to and from the binding-posts, and when out of engagement with the binding-posts they assume and are retained in a vertical position, so that the top cover may be readily placed in position without the necessity of holding the pivot-blocks by hand during such operation.

In Figs. 3, 4, and 8 I have shown the clutch-arms E E′ as being provided at their pivot ends with extensions *h*, against which the springs G G′ normally bear to hold said arms in either their vertical or their locking position, as will be readily understood. It is evident that with either construction when pressure is applied to raise the top cover the tendency will be to force the clutch-arms downward and outward, forming a firm frictional contact with the binding-posts and acting as a friction-clutch to prevent upward movement, while the arms can readily be released when it is desired to lift or remove the top cover by pushing them toward each other, in which case the free ends of the arms serve as a handle to manipulate the top cover. Where the springs are employed, they coact with the tailpieces *h* at the pivoted ends of the friction-arms and give greater rigidity to the pivotal movement of said arms, as they will then move under a slight tension. By this construction I provide a very simple convenient binder in which the top cover can be easily manipulated to insert or remove sheets. The clutch-arms will yield when pressure is applied from above to force the leaves more firmly between the covers, and the sheets will be locked in this position when the pressure is removed, and they can be readily unlocked when desired by releasing the clutch-arms from engagement with the binding-posts.

Having described my invention, I claim—

1. In combination with a temporary binder employing a bottom cover provided with vertically-arranged binding-posts, a top cover adapted to slide on said posts, a pair of independently-movable arms each separately hinged near its inner end to said top cover by a horizontal pivot and free to swing from a horizontal to a vertical position, the free end of each arm being arranged to engage with one of the binding-posts when in an approximately horizontal position, and both arms being adapted to be swung up and retained in a vertical position out of contact with the binding-posts to provide an operating-handle for the top cover, substantially as described.

2. In combination with a temporary binder employing a bottom cover provided with vertically-arranged binding-posts, a top cover adapted to slide on said posts, a pair of independently-movable arms each separately hinged near its inner end to said top cover by a horizontal pivot at a distance from one of the binding-posts less than its own length and free to be swung from a horizontal to a vertical position, the free end of each arm being arranged to engage with one of the binding-posts when in an approximately horizontal position and both arms being adapted to be swung up and retained in a vertical position out of contact with the binding-posts to provide operating means for the top cover, substantially as described.

3. In combination with a temporary binder employing a bottom cover provided with a pair of binding-posts, a top cover adapted to slide on said posts, a plate attached to said top cover and provided with a pair of apertures, a pair of independently-movable arms each separately hinged near its inner end between said top cover and plate by a horizontal pivot, the free ends of which arms project out through the apertures in the plate and are free to swing from a horizontal to a vertical position, so as to engage with the binding-posts when in an approximately horizontal position, substantially as described.

4. In a temporary binder employing a bottom cover provided with binding-posts, and a top cover adapted to slide on said posts, in combination with a top plate secured to said top cover, and provided with a pair of apertures, a pair of independently-movable arms each separately hinged at one end between the top cover and plate and having their free ends projecting through the apertures in the said top plate, said arms being free to swing from a horizontal to a vertical position so as to engage with the binding-posts when in an approximately horizontal position, and a pair of leaf-springs each secured at one end and having its opposite end in engagement with the pivotal end of the arms, substantially as described.

5. In a temporary binder employing a bottom cover provided with binding-posts and a top cover adapted to slide on said posts, the combination with spring-controlled arms each separately hinged at one end by a horizontal pivot to said cover between the binding-posts and capable of assuming a vertical position, said arms being adapted to engage with the binding-posts and forming a handle for manipulating the cover when disengaged, substantially as described.

In testimony whereof I have hereunto set my hand.

WALTER S. MENDENHALL.

Witnesses:

OLIVER B. KAISER,

W. R. WOOD.