

(No Model.)

H. E. DADE & G. F. HILL.
BINDER.

No. 574,477.

Patented Jan. 5, 1897.

Fig. 3,

Fig. 2,

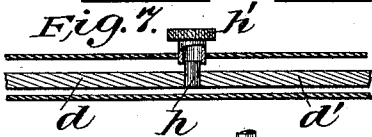
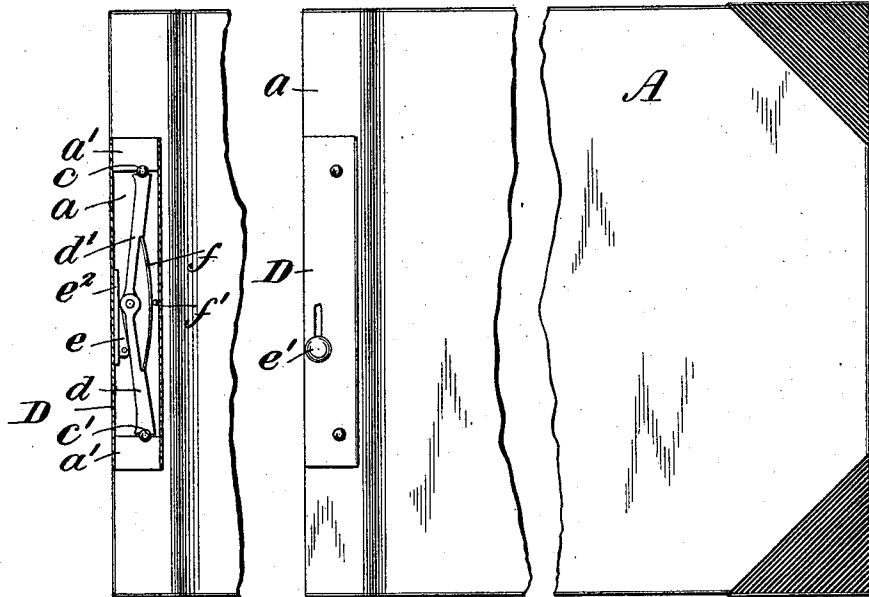
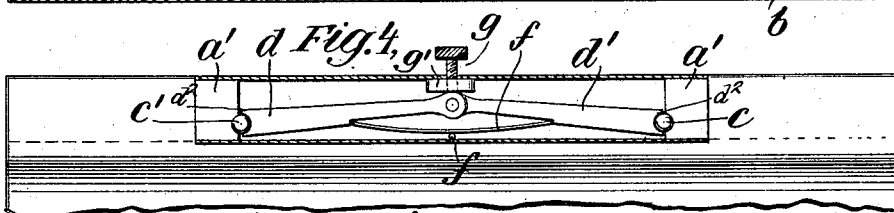
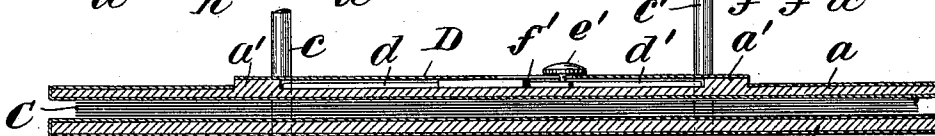
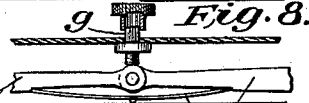


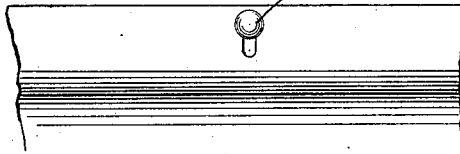
Fig. 1,



WITNESSES:

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Adm. Exm.

Fig. 6



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BINDER.

SPECIFICATION forming part of Letters Patent No. 574,477, dated January 5, 1897.

Application filed July 3, 1896. Serial No. 597,947. (No model.)

To all whom it may concern:

Be it known that we, HARRY E. DADE, residing in the city, county, and State of New York, and GEORGE FRANCIS HILL, residing in Brooklyn, Kings county, New York, citizens of the United States, have invented certain new and useful Improvements in Binders, of which the following is a specification.

This invention relates to binders adapted to receive and hold in convenient form sheets of paper or other fabric and to receive additional sheets from time to time, as may be required.

The object of the invention is to provide simple and convenient means for securely clamping the sheets in place, and adjustable, so as to accommodate such additional sheets as may from time to time be added.

The invention consists of the construction hereinafter set forth.

In the drawings forming part of this specification, and in which like letters designate corresponding parts in all the figures, Figure 1 is a sectional elevation of a binder embodying one form of the invention. Fig. 2 is a plan view, reduced, of the form shown in Fig. 1, part being broken away. Fig. 3 is a fragmental plan view of the same, the top of the casing for the clamping means being removed. Figs. 4 and 5 are views similar to Fig. 3, showing modified forms of the clamping means; and Fig. 6 is a fragmental plan view of the form shown in Fig. 5 with the casing intact. Fig. 7 is a transverse view of part of the toggle and casing and showing the actuating-handpiece of the toggle removable. Fig. 8 is a plan view of the toggle and casing, similar to Fig. 4, and showing the head of screw *g* removable.

In the best form of the invention two stiff covers *A* and *B* are employed, between which the sheets *C* are secured, and having hinged inner pieces *a* and *b*, respectively. The piece *b* is preferably made of metal, and has firmly secured to it two posts *c* and *c'*, adapted to pass through apertures cut in the sheets *C*. The piece *a* also has apertures for the posts, whereby the cover *A* is enabled to slide on the posts. Supported by the piece *a* and adapted to engage the posts is a toggle comprising a pair of hinged or pivotally-con-

nected toggle-arms *d d'*. The outer ends of these arms are generally cut out to form small projections *d²* on each side of a post. The inner ends of the arms are, of course, pivotally connected together to form a toggle-joint. In Figs. 3, 4, and 5 the toggle is shown bent and in its disengaging position, and when moved inward, so as to extend the arms, the posts are tightly clutched, so that the cover cannot be moved. The piece *a* is generally provided with blocks *a' a'* to afford supports for the posts when engaged by the toggle and to afford a bearing for the top of a casing *D*, which incloses the toggle and is secured to the plate *a*, the plate or piece *a* forming the bottom of the casing.

We may employ various means for actuating the toggle. In Figs. 1, 2, and 3 is shown hand means comprising a wedge *e*, provided with a handpiece *e'* and adapted to slide back and forth between the toggle-arms and a brace-piece *e²* on the piece *a*. The wedge serves to throw the toggle forward into engagement with the posts. In this case we generally also employ a spring to actuate the toggle in the reverse direction. It will be observed that this spring tends to hold the toggle-arms out of engagement with the posts *c c'*, so that these arms when out of engaging position are kept clear of the posts and prevented from catching on the posts when the piece *a* is sliding up or down on the posts. Moreover, when the cover *A* is removed the spring *f* keeps the toggle bent and retracted, so that in replacing the cover the posts may pass freely without obstruction through the apertures in the cover. The spring is preferably a flat strip of metal *f*, having its ends engaging shoulders on the toggle-arms, as shown, and it may be provided with a small pin *f'*, set in the piece *a* to hold it in position. Any convenient form or arrangement of the spring may of course be employed. The handpiece *e'* stands outside the top of the casing, its stem extending through a slot in the casing into engagement with the wedge *e*.

In Fig. 4 a thumb-screw *g*, passing through the outer side of the casing and through a threaded projection *g'* on the piece *a*, is employed to move the toggle into engagement with the posts. In this case the spring *f* is

generally employed to serve the same purpose as in Figs. 1, 2, and 3.

In Figs. 5 and 6 an extension of the pintle *h* of the toggle-joint extends through a slot in the top of the casing and is provided with a head *h'* to move the toggle into and out of engagement with the posts. In this case the toggle-arms are so arranged that the pintle *h* passes the dead-center line when the toggle is in engaging position, as shown in dotted lines in Fig. 5, so that the toggle is firmly held in this position until moved back again by hand. A spring, as *f*, is not shown in Fig. 5, but it may be there employed to hold the toggle-arms clear of the posts *c c'* when they are out of engaging position, so as to prevent the toggle-arms from accidentally catching on the posts when the piece *a* is moving on the posts *c c'* and from obstructing the apertures for the posts in the cover *A* when the cover is removed.

While we prefer to employ two stiff covers *A* and *B*, it is of course obvious that some of the advantages of the invention would be secured if one or both covers were dispensed with. If desired, the handpieces *e'* and *h'* and the head of the screw *g* may be made removable, so that only the proper person having possession of these parts will be able to unlock the binder, as indicated in Figs. 7 and 8.

In Fig. 7 the handpiece *h'* has a barrel-stem fitting removably on an extension of the pintle *h*, and in Fig. 8 the head of the screw fits removably on the squared end of the screw *g*.

It will be seen that the casing *D*, whose bottom is the piece or plate *a*, loosely incloses the toggle, which has free movement back and forth therein, so that the toggle may work without obstruction or binding. The casing affords or carries the means for limiting the transverse movement of the toggle, so that the toggle is held in the casing in proper position and cannot be disarranged.

In Fig. 3 the toggle works between the piece *e'* and pin *f'*. In Fig. 4 it works between the piece *g'* and pin *f'*, and in Fig. 5 it works between the sides of the casing.

What we claim as new, and desire to secure by Letters Patent, is—

1. In a binder, the combination of a pair of posts rigidly connected together at their bases and adapted to receive sheets of paper or other material, a plate having apertures adapting it to slide on the posts, and a spring-pressed toggle comprising a pair of arms pivoted together by means of a bodily-movable pintle, the toggle being arranged for engagement with the posts and supported by the plate, substantially as set forth.

2. In a binder, the combination of two covers, one of which is provided with a pair of posts, a plate fixed to the other cover and having apertures for the posts, and a toggle comprising a pair of arms pivoted together by means of a bodily-movable pintle, the toggle being arranged to engage the posts and pro-

vided with a spring tending to hold it out of engagement and with suitable means to operate the toggle, substantially as set forth.

3. In a binder, the combination of a pair of posts rigidly connected together at their bases and adapted to receive sheets of paper or other material, a plate having apertures for the posts, and a toggle comprising a pair of arms pivoted together by means of a bodily-movable pintle and arranged to engage the posts and supported by the plate, the toggle being provided with a spring tending to hold it out of engagement and with suitable means to operate the toggle, substantially as set forth.

4. In a binder, the combination of a pair of posts rigidly connected together at their bases and adapted to receive sheets of paper or other material; and a toggle comprising a pair of arms pivoted together by means of a bodily-movable pintle, the toggle being arranged for engagement with the posts, the pintle of the toggle-joint being arranged to pass the dead-center line when the toggle is in its normal engaging position, substantially as set forth.

5. In a binder, the combination of a pair of posts rigidly connected together at their bases and adapted to receive sheets of paper or other material; and a toggle comprising a pair of arms pivoted together by means of a bodily-movable pintle, the toggle being arranged for engagement with the posts, said posts arranged to contact with the outer ends of the toggle-arms so as to hold the outer ends of the arms against movement transverse to the posts, the pintle of the toggle-joint being provided with a removable handpiece, substantially as set forth.

6. In a binder, the combination of a pair of posts rigidly connected at their bases and adapted to receive sheets of paper or other material; and a toggle comprising a pair of arms pivoted together by means of a bodily-movable pintle, the toggle being arranged for engagement with the posts, the pintle of the toggle-joint being arranged to pass the center line connecting the posts when the toggle is in its normal engaging position, and being provided with a removable handpiece, substantially as set forth.

7. In a binder, the combination of a pair of posts rigidly connected together at their bases and adapted to receive sheets of paper or other material, a casing provided with apertures adapting it to slide on the posts, a toggle comprising a pair of arms pivoted together by means of a bodily-movable pintle, the toggle being loosely inclosed in the casing and arranged for engagement with the posts, the posts arranged to contact with the outer ends of the arms so as to hold them against movement transverse to the posts, said casing having an aperture in its top, and a handpiece for operating the toggle extending through said aperture, substantially as set forth.

8. In a binder, the combination of a pair of posts rigidly connected together at their bases and adapted to receive sheets of paper or other

material, a casing provided with apertures adapting it to slide on the posts, a toggle comprising a pair of arms pivoted together by means of a bodily-movable pintle, the toggle being loosely inclosed in the casing and arranged for engagement with the posts, said casing having an aperture in its top, and a removable handpiece for operating the toggle extending through said aperture, substantially as set forth.

9. In a binder, the combination of a pair of posts rigidly connected together at their bases and adapted to receive sheets of paper or other material, a casing provided with apertures adapting it to slide on the posts, a toggle comprising a pair of arms pivoted together by means of a bodily-movable pintle, the toggle being loosely inclosed in the casing and arranged for engagement with the posts, said casing having an aperture in its top, and a handpiece for operating the toggle extending through said aperture, the casing providing means to limit the movement of the toggle, substantially as set forth.

10. In a binder, the combination of a lower cover provided with two fixed posts, an upper cover provided with a fixed casing having apertures adapting the upper cover to slide on the posts, a toggle comprising a pair of arms pivoted together by means of a bodily-movable pintle, the toggle being loosely inclosed in the casing and arranged for engagement with the posts to lock the upper cover on the posts, the toggle-joint arranged to pass the dead-center when in its normal engaging position, the top of the said casing having an aperture, and a removable handpiece engaging the pintle of the toggle-joint through the aperture, substantially as set forth.

11. In a binder the combination of a pair of posts rigidly connected together at their bases and adapted to receive sheets of paper or other material, a plate provided with apertures for the posts, a toggle comprising a pair of arms

pivoted together by means of a bodily-movable pintle, the toggle being arranged to engage the posts and supported by the plate and having an actuating-handpiece, said handpiece removable from the toggle when the latter is in engaging position, substantially as and for the purpose set forth.

12. In a binder, the combination of a lower cover provided with two fixed posts, an upper cover provided with a fixed casing having blocks as *a'* and apertures adapting the upper cover to slide on the posts, a toggle comprising a pair of arms pivoted together by means of a bodily-movable pintle, the toggle being loosely inclosed in the casing and arranged for engagement with the posts to lock the upper cover on the posts, the toggle-joint arranged to pass the dead-center when in its normal engaging position, the top of the said casing having an aperture, and a removable handpiece engaging the pintle of the toggle-joint through the aperture, substantially as set forth.

13. In a binder, the combination with a pair of posts rigidly connected together at their bases and adapted to receive sheets of paper or other material, and a toggle arranged for engagement with the posts, said toggle comprising hinged arms having a bodily-movable pintle working in a plane at right angles to the posts, said posts arranged to contact with the outer ends of the arms so as to hold their outer ends against movement in a direction transverse to the posts, substantially as set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

HARRY E. DADE.
GEORGE F. HILL.

Witnesses:

SIDNEY MANN,
EDWIN SEGER.