

(No Model.)

H. E. DADE.
TEMPORARY BINDER.

No 592,082.

Patented Oct. 19, 1897.

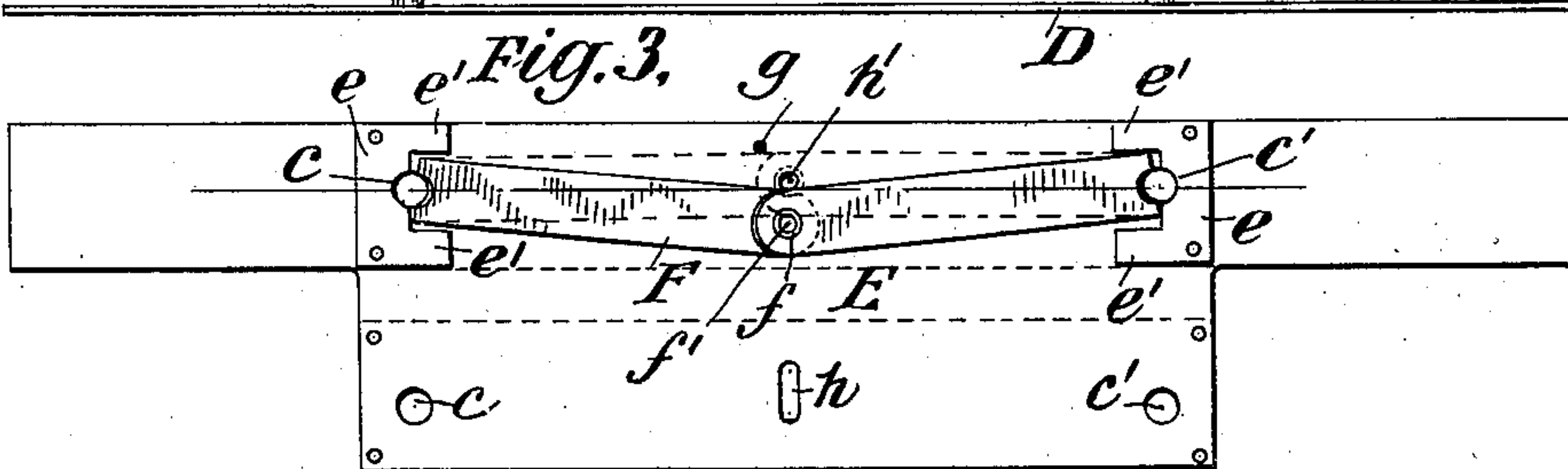
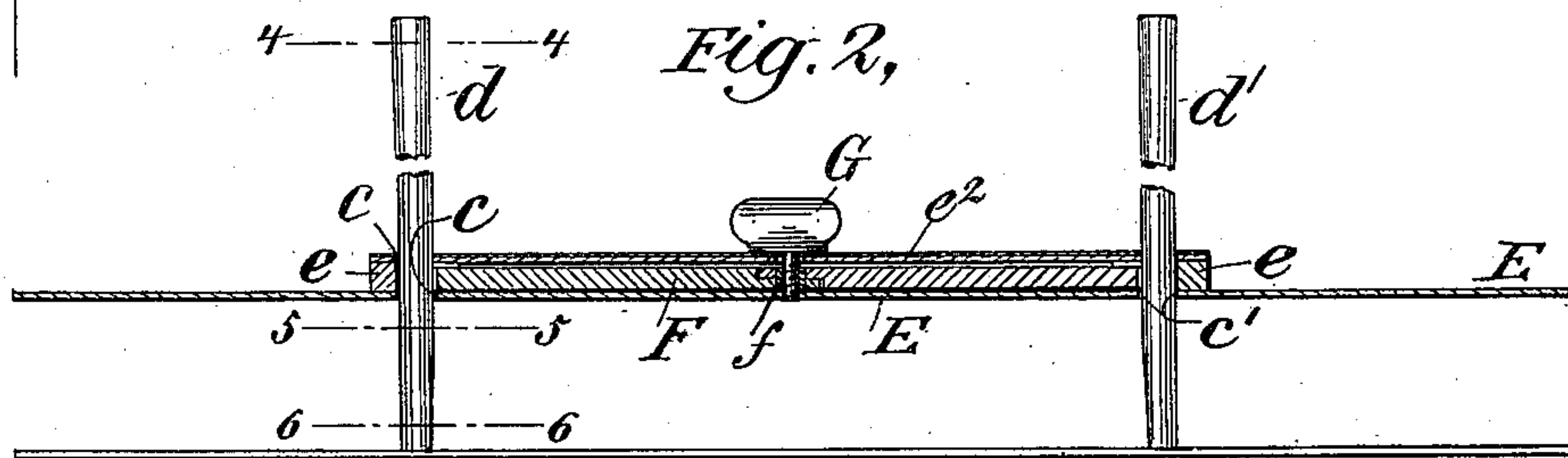
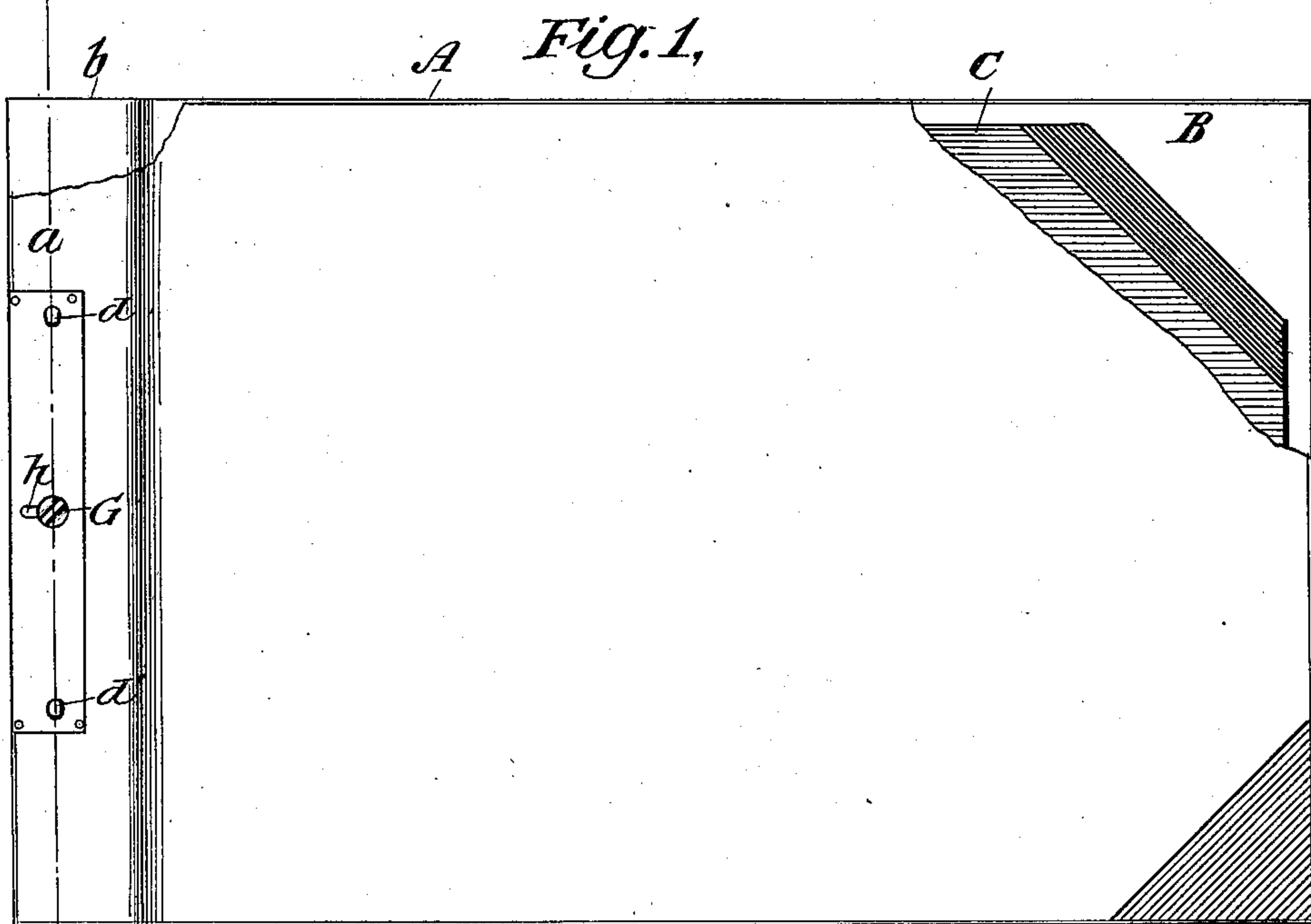


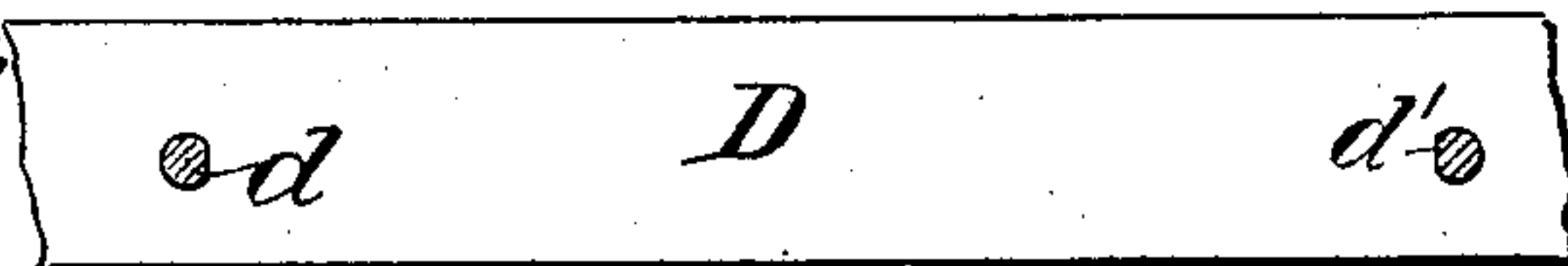
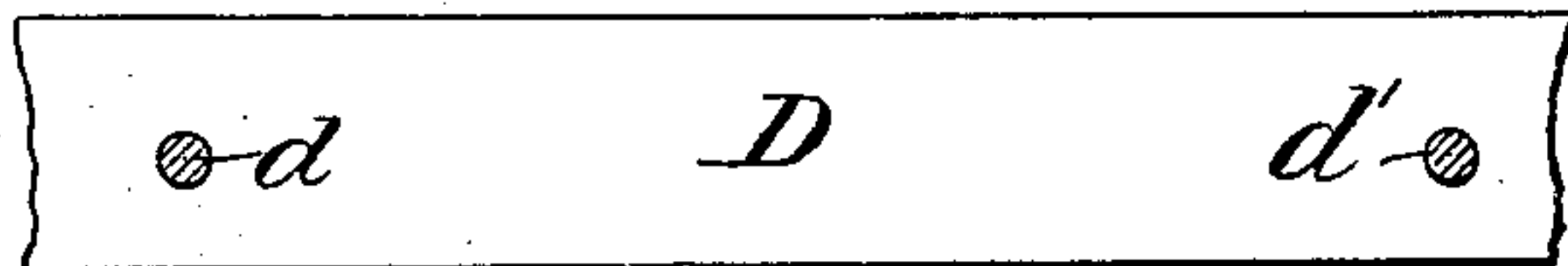
Fig. 4.



WITNESSES:

Fig. 5,
D. N. Haywood

Fig. 6,
Charles J. Pupp



INVENTOR

Harry E. Dade

BY

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UNITED STATES PATENT OFFICE.

HARRY E. DADE, OF NEWBURG, NEW YORK.

TEMPORARY BINDER.

SPECIFICATION forming part of Letters Patent No. 592,082, dated October 19, 1897.

Application filed December 7, 1896. Serial No. 614,713. (No model.)

To all whom it may concern:

Be it known that I, HARRY E. DADE, a citizen of the United States, residing in Newburg, county of Orange, and State of New York, have invented Improvements in Temporary Binders, of which the following is a specification.

This invention relates to binders of that class wherein apertured sheets are threaded on posts and locked securely in place, provision being made for the addition of sheets or the removal of sheets from time to time, as may be required.

The object of the invention is to provide a simple, efficient, and convenient device of the kind referred to.

The invention consists of the construction hereinafter set forth.

In the drawings forming part of this specification, and in which like letters of reference designate corresponding parts in all the views, Figure 1 is a plan view of a complete binder embodying my invention, partly broken away. Fig. 2 is a transverse sectional elevation of the posts and locking devices separated from the cover and taken on a broken line, as 2 2, Fig. 1. Fig. 3 is a plan view of Fig. 2, with a piece which forms a casing unfolded. Figs. 4, 5, and 6 are plan views of the base-plate to which the posts are affixed, the posts being sectioned on the lines 4 4, 5 5, and 6 6, respectively, of Fig. 2.

In the best form of the invention the covers A and B are employed, having hinged end pieces *a* and *b*, respectively. Sheets of paper or other fabric C are provided with apertures and threaded on the posts and held between the covers. The piece *b* is mainly composed of a base-plate D, having a pair of posts *d d'* rigidly fixed to it. The piece *a* is mainly composed of a piece E, generally of sheet metal, and formed into a casing having a top *e*². The length of the casing may be coincident with the length of the piece E, or it may be formed of the middle portion only of this piece, as shown in Fig. 2. In the latter case the piece E would be cut in the form shown in Fig. 3. The casing has apertures *c c'* for the posts through the top and bottom, and blocks *e* are fixed between the top and bottom and abutting the apertures *c c'*, the blocks serving to give rigidity to the casing

and afford solid supports for the posts when pressed outward by the toggle hereinafter described. These blocks have preferably small extensions *e'* to afford guideways for the toggle-arms and keep them in place especially when the toggle is slipped entirely off the posts. Within the casing is inclosed a toggle F, which is arranged to be thrown into and out of engagement with the posts by moving its pintle *f* transversely in the casing, the casing carrying or providing means to limit this transverse movement of the toggle. When the toggle is moved out of engaging position, the edge of the casing generally limits its movement, and when the toggle is moved into engaging position a pin *g*, fixed in the casing, generally limits its movement. Other means to limit the transverse movement of the toggles, however, may be used. For the purpose of conveniently actuating the toggle I provide a removable actuating handpiece G, extending through a transverse slot *h* into engagement with the pintle *f*, the stem of the handpiece being generally threaded and screwed into an aperture *f'* in the pintle. This aperture *f'* may, as shown, extend all the way through the pintle, so that when the clutching-arms are in engaging position the handpiece G may be screwed down into engagement with an aperture *h'* in the bottom of the casing, so as to lock the arms in this position, or I may replace the handpiece G with a small screw passing through the aperture *f'* and into aperture *h'* to lock the toggle in engagement with the posts. In the best form of the invention the toggle is arranged to pass the dead-center line, as shown in dotted lines in Fig. 3, when in its normal engaging position.

In constructing the binders shown in the drawings I have found that when the toggle is fitted to engage the posts *d d'* along their middle portions with sufficient secureness it generally is unable to grip the posts at their tops with sufficient secureness and generally cannot be thrown into engaging position at the bottoms of the posts, so as to clutch them, or at least without the use of great force. The result of this is that in the one case the binder cannot safely be entirely filled with sheets because the toggle is liable to slip off the posts, and in the other case the binder

cannot be conveniently used with a very few sheets. I have discovered that these defects may be overcome in a very simple manner by making certain changes in the posts.

5 These posts are generally substantially cylindrical and the apertures $c c'$ are circular and a little larger in diameter than the posts. When the toggle is extended so as to engage the posts, say somewhere along their middle, 10 then the posts yield to the outward pressure by bending and so spread apart a very small fraction of an inch and are forced against the outer sides of the apertures $c c'$ and blocks e . The toggle, however, is made of such 15 length as to securely clutch the posts when thus slightly spread apart, but when the toggle is at the bottom of the posts the posts cannot bend and spread as they do farther up because they are rigidly fixed in the base- 20 plate D , and so the toggle cannot be thrown into engaging position, at least not without using great force. I have found that the toggle may be also enabled to come into locking engagement with the posts at the bottom 25 without affecting its efficiency farther up on the posts by simply reducing the posts at their bases on their inner sides, so as to increase slightly the distance between them at this part, as shown in Figs. 2 and 6. This 30 may be done by simply filing away the posts or in any other way. I have found also that the toggle may be enabled to clutch the posts at their tops with proper secureness by simply increasing the posts at their tops a very small 35 fraction of an inch along their diameters which run in the direction of the extension of the toggle-arms, as shown in Figs. 2 and 4. These changes enable the toggle to properly clutch the posts at any part along their 40 length and add greatly to the usefulness of the binder. In some cases I may limit the transverse movement of the toggle in the casing by arranging the handpiece G to strike the ends of the slot h in the top of the casing.

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

1. In a binder, the combination of two posts of substantially uniform size throughout the main portion of their length and rigidly connected together at their bases, a piece having 50 apertures adapting it to slide on the posts, a toggle arranged to clutch the posts against the outer sides of the apertures of the piece, said posts being slightly reduced at their bases on their inner sides, substantially as and for the purpose set forth. 55

2. In a binder, the combination of two posts of substantially uniform size throughout the main portion of their length and rigidly connected together at their bases, a piece having 60 apertures adapting it to slide on the posts, a toggle arranged to clutch the posts against the outer sides of the apertures of the piece, said posts being slightly reduced at their 65 bases on their inner sides and slightly enlarged at their upper ends along their diameters which run in the direction of the extension

of the toggle-arms, substantially as and for the purpose set forth.

3. In a binder, the combination of two posts 70 of substantially uniform size throughout the main portion of their length and rigidly connected together at their bases, a piece having apertures adapting it to slide on the posts, a toggle arranged to clutch the posts against 75 the outer sides of the apertures of the piece, said posts being slightly enlarged at their upper ends along their diameters which run in the direction of the extension of the toggle-arms, substantially as and for the purpose 80 set forth.

4. In a binder, the combination of a pair of posts rigidly connected together at their bases, a piece formed of one piece of metal into a casing and provided with apertures through 85 its top and bottom adapting it to slide on the posts, the top of the casing having a transverse slot and the bottom of the casing having an aperture beneath the slot, blocks between the top and bottom of the casing and 90 abutting the apertures thereof, a toggle in the casing and having an aperture through its pintle and arranged to engage the posts, and a removable actuating-handpiece for the toggle passing through the slot in the top of 95 the casing into engagement with the toggle, whereby when the handpiece is removed a pin may be set in the aperture of the toggle's pintle and in the aperture in the bottom of the casing to hold the toggle in engaging po- 100 sition, substantially as and for the purpose set forth.

5. In a binder, the combination of a base-plate carrying a pair of posts rigidly fixed thereto, a casing provided with apertures in 105 its top and bottom adapting it to slide on the posts, a toggle inclosed within the casing arranged to engage the posts, and blocks between the top and bottom of the casing and abutting the said apertures, the block having 110 extensions on both sides of the apertures to provide guideways for the ends of the toggle, substantially as and for the purpose set forth.

6. In a binder, the combination of a pair of posts rigidly connected together at their bases, 115 a piece provided with apertures for the posts, a toggle working between the posts and arranged to engage them, the pintle of the toggle having a threaded aperture, and a removable actuating-handpiece for the toggle hav- 120 ing a threaded stem adapted to be screwed into the threaded aperture of the pintle, substantially as set forth.

7. In a binder, the combination of two covers having hinged end pieces a and b , the 125 piece b comprising a metal plate having a pair of posts rigidly secured to it, the piece a comprising a metal casing provided with apertures adapting it to slide on the posts, a toggle loosely inclosed within the casing and 130 adapted to engage the posts, and arranged to pass the dead-center line when in normal engaging position, the pintle of the toggle having a threaded aperture through it, a remov-

able actuating-handpiece for the toggle having a threaded stem arranged to be screwed into the aperture of the pintle, the bottom of the casing having an aperture and the top of the casing having a transverse slot, the removable handpiece working in the slot and arranged to be screwed down into the aperture in the bottom of the casing when the toggle is in engaging position, and blocks within the casing and abutting its apertures, the posts being slightly reduced on their inner

sides at their bases, and slightly enlarged at their upper ends along their diameters which run in the direction of the extension of the toggle-arms, substantially as set forth.

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In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HARRY E. DADE.

Witnesses:

EDWIN SEGER,

NICHOLAS M. GOODLETT, Jr.