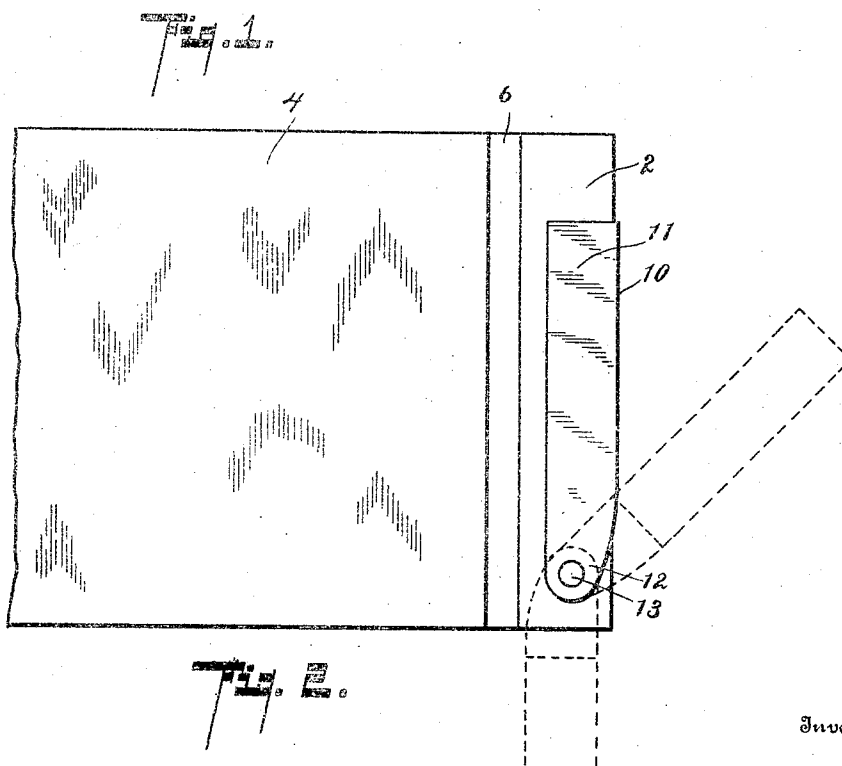
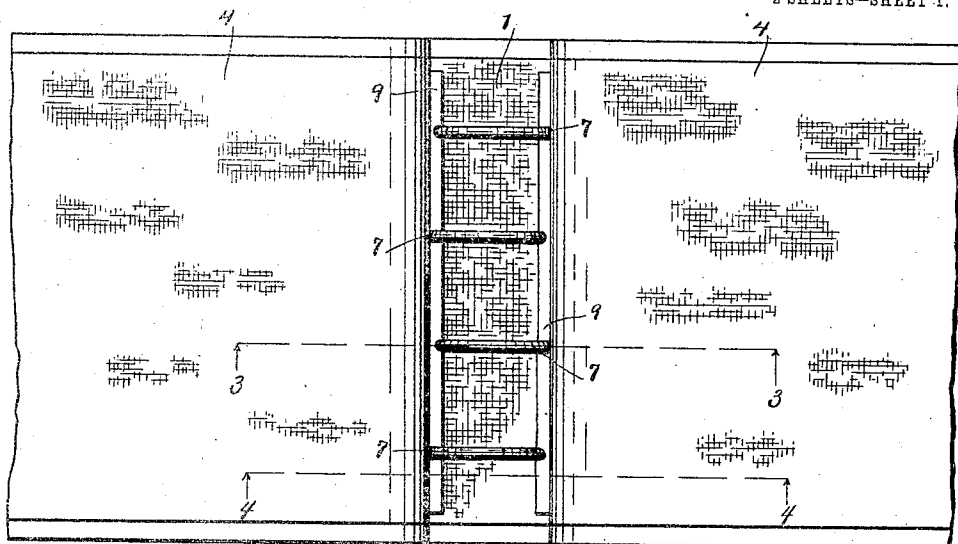


G. H. RENWORTH.
 TEMPORARY BINDER OR LOOSE SHEET HOLDER.
 APPLICATION FILED SEPT. 4, 1908.

932,059.

Patented Aug. 24, 1909.

2 SHEETS—SHEET 1.



Inventor

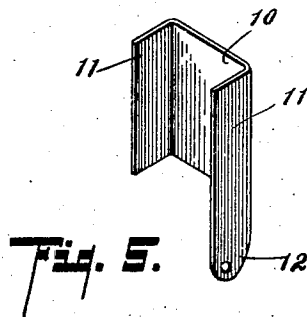
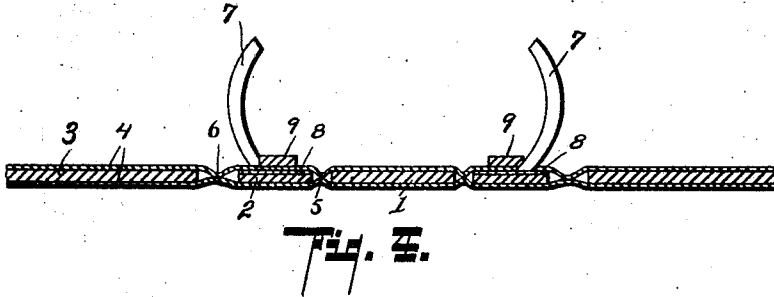
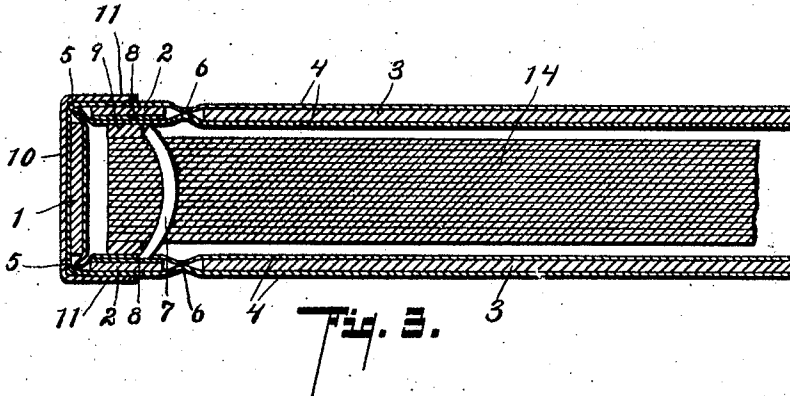
Witnesses
 Clara Ellen Braden
 Phineas Woodruff.

George Henry Renworth
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 Attorneys

UNITED STATES PATENT OFFICE.

GEORGE HENRY RENWORTH, OF KALAMAZOO, MICHIGAN, ASSIGNOR, BY MESNE ASSIGNMENTS,
TO THE KALAMAZOO LOOSE LEAF BINDER COMPANY, OF KALAMAZOO, MICHIGAN.

TEMPORARY BINDER OR LOOSE-SHEET HOLDER.

832,059.

Specification of Letters Patent.

Patented Aug. 24, 1909.

Application filed September 4, 1908. Serial No. 451,673.

To all whom it may concern:

Be it known that I, GEORGE HENRY RENWORTH, a citizen of the United States, residing at the city and county of Kalamazoo, State of Michigan, have invented certain new and useful Improvements in Temporary Binders or Loose-Sheet Holders, of which the following is a specification.

This invention relates to improvements in temporary binders or loose sheet holders.

The main objects of this invention are: First, to provide an improved temporary binder of the impaling pin type, which may be opened flat at any point to expose any desired sheet or leaf. Second, to provide an improved temporary binder or loose sheet holder, which may be quickly and easily opened at any desired point for the insertion or removal of any particular sheet or leaf and again quickly closed and secured. Third, to provide an improved temporary binder or loose sheet holder of the impaling pin type in which the leaves are very securely held so that it is quite impossible for them to work off the pins. Fourth, to provide an improved binder of the type described which is very simple and economical in structure.

Further objects, and objects relating to structural details, will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification.

The invention is clearly defined and pointed out in the claims.

A structure embodying the features of my invention is clearly illustrated in the accompanying drawing, forming a part of this specification, in which,

Figure 1 is an inside detail plan view of my improved binder, the covers being shown open, the binding mechanism being closed. Fig. 2 is a detail plan of my improved binder closed, the securing means being shown in its open position by dotted lines. Fig. 3 is a longitudinal section, taken on a line corresponding to line 3—3 of Fig. 1, the binder being closed and sheets or leaves being indicated therein. Fig. 4 is a longitudinal section, taken on a line corresponding to line 4—4 of Fig. 1, the binding mechanism being open. Fig. 5 is a perspective view of the retainer or binder securing means.

In the drawing, the sectional views are taken looking in the direction of the little

arrows at the ends of the section lines, and similar numerals of reference refer to similar parts throughout the several views.

Referring to the drawing, I provide a back member 1, which is preferably substantially flat, as illustrated. To each edge of this back member, I hinge a binding member 2. At the forward edges of these binding members, the covers 3 are hinged. The back member, binding members and covers are preferably provided with a continuous covering 4, which forms the hinges 5 for the binding members to the back member, and the hinges 6 for the covers to the binding members, as clearly appears in Fig. 3, thus forming a very satisfactory and at the same time economical construction, and one which is attractive in appearance.

The impaling pins 7 are preferably curved and are secured to the metal strips 8, which form part of the binding members. On the inside of the binding members, I preferably arrange leaf-engaging strips 9, which, when the binder is closed, are adapted to engage the rear ends of the leaves, and, when the book is full, to clamp the same between them. The impaling pins are so arranged that their outer ends, when the binder is closed, lie in front of the leaf-engaging strips 9, thus effectively preventing the leaves working off the impaling pins.

I preferably provide my improved binder with four impaling pins, two carried by each binding member. This permits of the binder being opened at any desired point without any of the leaves being freed from the impaling pins, as all the leaves or sheets above the place where it is desired to insert to remove a sheet may be swung over with the top cover on the impaling pins carried by the top binding member. The impaling pins are preferably so arranged that they serve to support the binding members when the binder is closed; that is,—they prevent their collapsing when the binder is only partially filled with sheets or leaves.

The retainer 10 for securing the binder in its closed position is preferably in the form illustrated and has a flange 11 at each end adapted to close over the binding members, as shown in Fig. 2. This retainer is preferably pivotally secured to the bottom binding member by means of the extension 12 on one of its flanges; a pivot, as 13, being provided. This permits of the retainer being swung out

at the end of the back member, so that the back will lie flat when the binder is opened, as illustrated in Fig. 4.

As appears from Fig. 3, the sheets or leaves 14, when the binder is filled, are clamped between the leaf-engaging strips 9, which aid the impaling pins in securing or retaining the leaves so that the leaves are very securely held.

My improved binder is capable of very rapid manipulation for the insertion or removal of a sheet or leaf at any desired point; and, when the binding mechanism is open, the sheets or leaves lie perfectly flat, and at the same time all of the sheets are still secured by the impaling pins. A further advantage is that, particularly when the leaf-engaging strips are present, the sheets may be quite readily inspected without disengaging the binding mechanism.

I have illustrated and described my improvements in detail in the form preferred by me on account of the structural simplicity and economy, and the convenience with which the structure may be operated. I am, however, aware that the structure may be very considerably varied in structural details without departing from my invention, and I desire to be understood as claiming the same specifically, as illustrated, as well as broadly.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. The combination with a substantially flat back member, of a pair of binding members hinged thereto at their rear edges; impaling pins carried by said binding members; leaf engaging strips arranged on said binding members so that the free ends of the impaling pins lie in front of said strips when the binder is closed; covers hinged to said binding members; and a retainer having inwardly-projecting flanges adapted to engage said binding members.

2. The combination with a substantially flat back member, of a pair of binding members hinged thereto at their rear edges; impaling pins carried by said binding members; covers hinged to said binding members; and a retainer having inwardly-projecting flanges adapted to engage said binding members.

3. The combination with a substantially flat back member, of a pair of binding members hinged thereto at their rear edges; impaling pins carried by said binding members; leaf-engaging strips arranged on said binding members so that the free ends of the impaling pins lie in front of said strips when the binder is closed; and a retainer having inwardly-projecting flanges adapted to engage said binding members.

4. The combination with a substantially flat back member, of a pair of binding members hinged thereto at their rear edges; im-

paling pins carried by said binding members; and a retainer having inwardly-projecting flanges adapted to engage said binding members.

5. The combination with a back member, of a pair of binding members hinged thereto at their rear edges; impaling pins carried by said binding members; leaf-engaging strips arranged on said binding members so that the free ends of the impaling pins lie in front of said strips when the binder is closed; covers hinged to said binding members; and means for securing said binding members in their closed position.

6. The combination with a back member, of a pair of binding members hinged thereto at their rear edges; impaling pins carried by said binding members; leaf-engaging strips arranged on said binding members so that the free ends of the impaling pins lie in front of said strips when the binder is closed; and means for securing said binding members in their closed position.

7. The combination with the back member, of a pair of binding members hinged thereto; impaling pins carried by one of said binding members; and a retainer having inwardly-projecting flanges adapted to close over said binding members, pivotally secured by one of its flanges to one of said binding members, so that it may be swung out at the end of said back member when open.

8. The combination with the back member, of a pair of binding members hinged thereto; impaling pins carried by one of said binding members; and a retainer having inwardly-projecting flanges adapted to close over said binding members, adapted to be swung out at the end of said back member when open.

9. The combination with a back member, of a pair of binding members hinged thereto at their rear edges; impaling pins carried by one of said binding members; a leaf-engaging strip carried by the other of said binding members, said impaling pins being arranged so that their free ends lie at the front edge of said strip when the binder is closed, said impaling pins being adapted to support said binding members when in their closed position; and a retainer having flanges at its edges adapted to engage said binding members, whereby they are held with said impaling pins in closed position.

10. The combination with a back member, of a pair of binding members hinged thereto at their rear edges; impaling pins carried by one of said binding members; a leaf-engaging strip carried by the other of said binding members, said impaling pins being arranged so that their free ends lie at the front edge of said strip when the binder is closed, said impaling pins being adapted to support said binding members when in their closed position; and means for securing said

binding members with said impaling pins in closed position.

11. The combination with a back member, of a pair of binding members hinged thereto at their rear edges; impaling pins carried by one of said binding members, said impaling pins being adapted to support said binding members when in their closed position; and a retainer having flanges at its edges adapted to engage said binding members, whereby they are held with said impaling pins in closed position.

12. The combination with a back member, of a pair of binding members hinged thereto at their rear edges; impaling pins car-

ried by one of said binding members, adapted to prevent the collapsing of said binding members when in their closed position; and a retainer having flanges at its edges adapted to engage said binding members, whereby they are held with said impaling pins in closed position.

In witness whereof, I have hereunto set my hand and seal in the presence of two witnesses.

GEORGE HENRY RENWORTH. [L. s.]

Witnesses:

CLARA E. BRADEN,
PHINA WOODRUFF.