

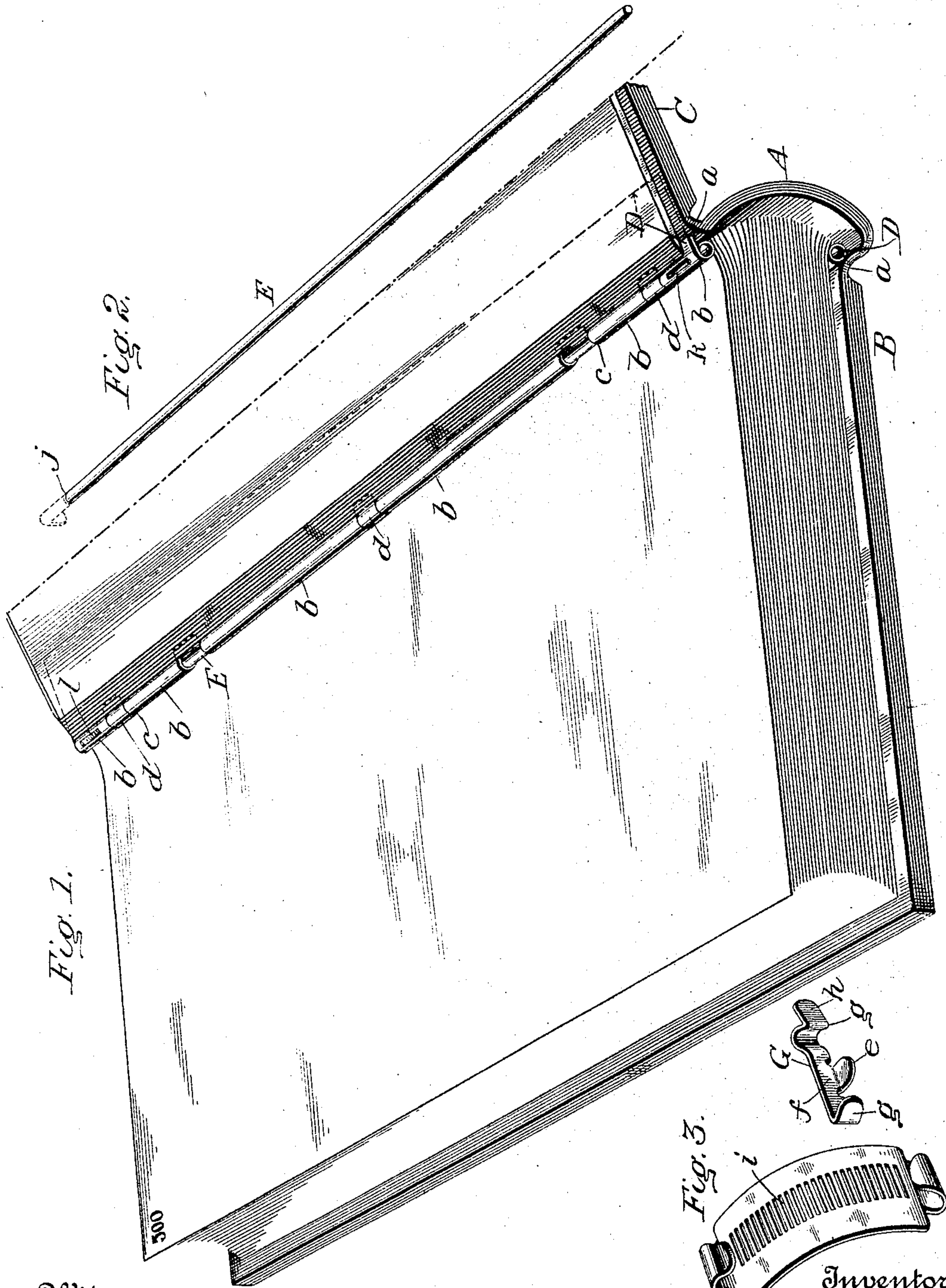
No. 764,618.

PATENTED JULY 12, 1904.

J. L. McMILLAN.  
FILE OR BINDER.  
APPLICATION FILED AUG. 29, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses  
D. E. Purdie  
Fannie Hill

Fig. 3.  
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John L. McMillan,  
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Attorneys.

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2 SHEETS—SHEET 2.

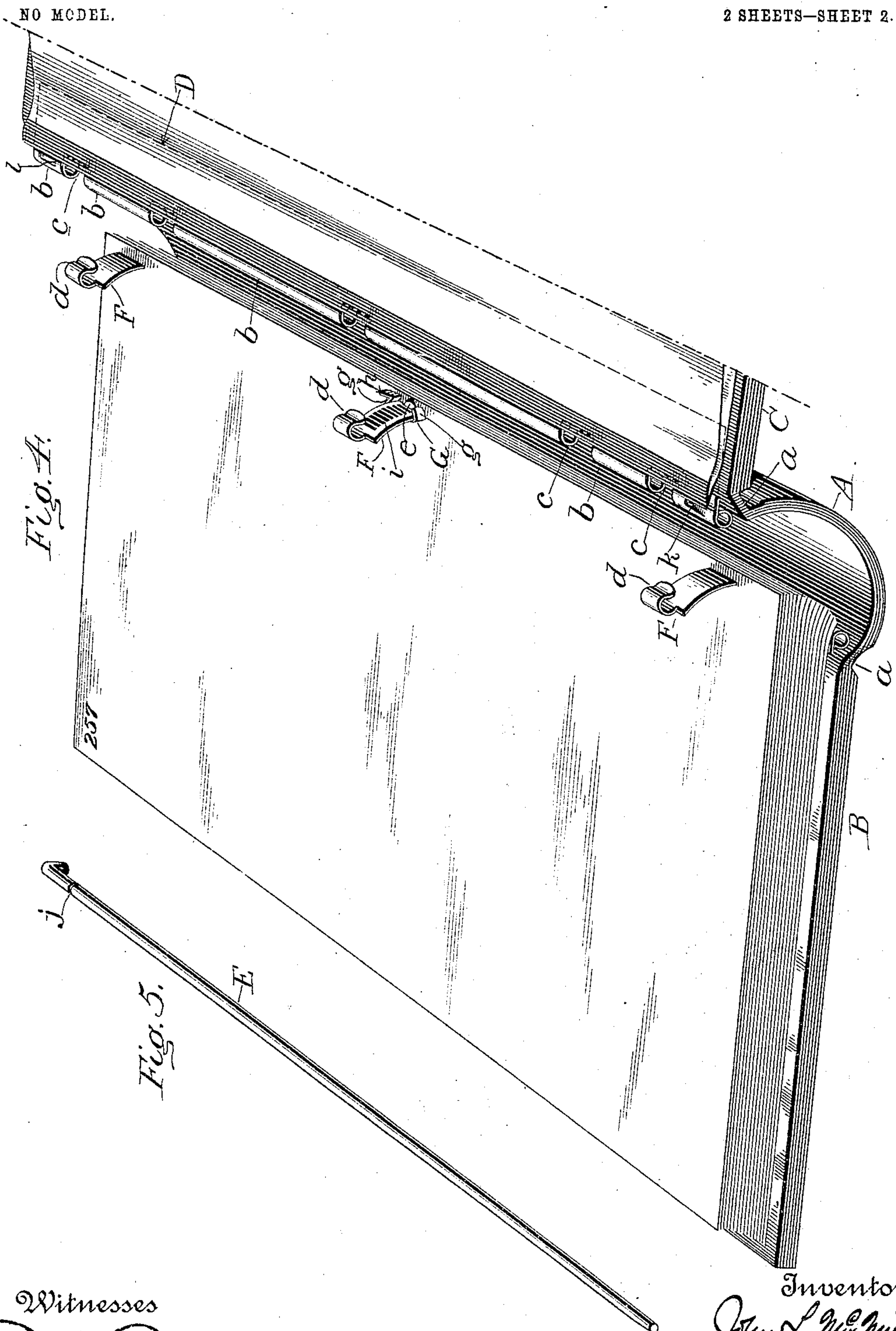


Fig. 4.

Fig. 5.

Witnesses  
D. E. Purdue  
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John L. McMillan,  
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# UNITED STATES PATENT OFFICE.

JOHN LOUDON McMILLAN, OF SYRACUSE, NEW YORK.

## FILE OR BINDER.

SPECIFICATION forming part of Letters Patent No. 764,618, dated July 12, 1904.

Application filed August 29, 1902. Serial No. 121,510. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN LOUDON McMILLAN, a citizen of the United States, residing at Syracuse, in the county of Onondaga and State of New York, have invented certain new and useful Improvements in Files or Binders, of which the following is a specification.

My invention pertains to bindings or covers for loose leaves or sheets or to those devices now commonly known to the trade as "loose-leaf ledgers," &c.

The invention is in the nature of an improvement upon a prior invention set forth in application Serial No. 685,515, filed in my name on the 9th day of July, 1898, upon which issued Letters Patent No. 708,065, dated September 2, 1902.

The invention here set forth is directed particularly to simplifying the construction, to better adapting the cover or binder for single sheets or leaves, though it may be used with folded ones, to giving to the binder the form and appearance of a regular bookbinding, and to holding compactly together any number of leaves or sheets, however small, so that during the gradual building up of the book or volume by the addition from time to time of leaves or pages such leaves or pages shall be convenient to handle and free from liability of being torn, displaced, or thrown out of shape.

The invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a perspective view of a book or volume provided with my improved binder; Fig. 2, a perspective view of the rod or wire used to fasten the binding or impaling strips in or to the cover or binding; Fig. 3, a perspective view of one of the binding or impaling strips and the clip or fastener used in connection therewith; Fig. 4, a perspective view of the cover with the binding or impaling strips detached therefrom at one end; and Fig. 5 a perspective view of the fastening wire or rod removed from the barrel in which it is normally held, said Fig. 5 showing the complete rod with the laterally-bent end, while Fig. 2 shows the same rod with the end removed, as is done when the binder is

to be permanently secured and it is desired to prevent removal of a leaf or leaves.

The purposes and uses of binders of this sort are now well understood and their employment is becoming quite general. Hence it is unnecessary to discuss their purposes or advantages.

Referring to the drawings, the improved construction will be readily understood.

The cover or binding comprises a back A, which is of rounding or substantially semicircular form, and two lids or cover-boards B and C, connected with the back A by the usual flexible portions or hinges *a*. Attached to each cover-board or lid B and C is a metallic plate D, one edge of which projects past the inner edge or boundary of the cover-board, to which it is attached and is there coiled or rolled into an open or tubular barrel *b*. This barrel is cut away at intervals, making openings *c*, the number of which may be greater or less, as found expedient.

E indicates a rod of diameter to pass freely yet to fit somewhat snugly within the barrel *b*, there being one such rod for each barrel.

F indicates a binding or impaling strip, of which there may be any desired number, advantageously three. These strips are curved to correspond more or less nearly to the curvature of the back A and are each formed with hook-shaped ends *d*, constituting short barrels, which, however, are not entirely closed, but are sufficiently closed to preclude their slipping off the fastening rod or wire E when said rod is inserted or passed through them. If desired, one end of each binding-strip may have its barrel completely closed, or, in other words, the outer end of the hook may be bent back until it makes actual contact with the body of the binding-strip F. One end, however, should be left sufficiently open to permit the threading or stringing of the sheets upon the strip. The strips F have their hooks or barrels at the left-hand end inserted in the openings *c* of the barrel at the front side of the cover and secured therein by introducing the binding rod or wire E of the barrel at that side of the cover. The sheets of paper which are to constitute the



book or volume and which under ordinary circumstances are added from time to time as their pages are filled or as more space is required in the book are perforated near the inner or binding edge, the perforations being of a size corresponding to the cross-section of the body of the binding-strips F, but only large enough freely to admit said strips.

It is desirable that the leaves or sheets introduced into the binder, even though of quite limited number, shall lie close together and maintain a fixed position in the binder. To this end one of the binding-strips F is provided with a series of narrow slots or perforations in close proximity to each other and extending in a series throughout the length of the body portion of said strip, as shown in Figs. 3 and 4. These perforations serve to receive a locking-tongue *e*, formed on a spring-clip G, which clip is of the form and construction shown in Figs. 3 and 4. As best seen in Fig. 3, it comprises a flat body portion *f* of a length approximately equal to the width of the binding-strip F and hook-shaped ends *g*, designed and adapted to clasp over the edges of the binding-strip F, one of the hooked ends *g* being extended out to form a thumb-piece *h*, by which to apply and remove the clip. Said clip is formed of spring metal or other resilient material, and the hook-shaped portions *g* are so fashioned that moderate pressure upon the tongue or thumb-piece *h* will serve to spring one of said hooks clear of and permit it to pass from the binding-strip F. The tongue *e*, which is designed to enter one or another of the slits or perforations *i* of the binding-strip F, can thus be withdrawn from such perforation, and the clip may be moved toward or from either end of the binding-strip F.

When a sheet or leaf is to be inserted, the clip G is removed, and said sheet is strung or threaded upon the binding-strips F, which with slight practice becomes a very simple operation and is speedily performed. The sheet is then pressed toward the front cover and into contact therewith or with the previously-applied sheets or leaves, after which the clip G is applied to the perforated binding-strip and is pressed down firmly against the last-applied sheet or leaf, forcing the same into close contact with the cover or with the previously-applied sheets, and then by pressure upon the thumb-piece *h* the clip is caused to spring over and engage the edges of the binding-strip F, and the tongue *e* is carried into a perforation of said binding-strip immediately above the surface of the last-applied sheet. Thus applied the clip firmly holds the series of sheets or leaves together and in close contact. The cover-board C is then swung over to bring its barrel *b* to position to receive the hooked ends *g* of the binding-strips F within the recesses *c*. The binding-

rod E is then introduced into the barrel *b* and passed, successively, through the short barrels *d* of the binding-strips F, thus completing the temporary binding.

In some instances it is deemed desirable to remove the sheets, or the book formed thereby, from the binder and to place the same in a cheaper binding. In such case the rods E may be withdrawn and the leaves transferred to any suitable binding with the binding-strips F remaining therein, or they may be removed from said strips and secured by other means in the permanent binder. Of course if the strips F be removed from the binder here described others will need to be supplied for the next volume or body of sheets or leaves.

If it be desired to secure the leaves permanently in the binder here described, the upper ends of the rods E are broken off at such point that the rods when forced inward within the barrels as far as they can go will be within and below the upper end of the barrel *b*. The rods E are circumferentially grooved, as shown at *j* in Fig. 5, to facilitate the breaking off of the end when necessary, and to limit the distance to which the rod may enter the barrel and preclude its being withdrawn from the lower end the barrel *b* has a U-shaped cut made in its lower portion, thereby forming a tongue *k*, which being pressed inward serves as a stop for the rod. A like cut is also made in the upper end of the barrel, so that after the end of the rod has been broken off and the rod is pushed inward until it encounters the stop *k*, the upper tongue *l* may be pressed inward, and thus preclude the withdrawal of the rod E. A drop of solder applied to each tongue will firmly secure the same against withdrawal and will in turn preclude the withdrawal of the fastening-rod E.

The parts may of course be made of any suitable material, and the style and finish of the binder may vary as widely as in other bindings. I prefer to make the binding-strips F of German silver for the reason that such alloy does not rust, is of adequate strength, does not soil the sheets, and presents a pleasing appearance. I do not, however, in any manner restrict myself as to materials or dimensions, but contemplate varying both as circumstances may require or fancy suggest. It is obvious, too, that the strips F may be permanently secured in the first instance at one end to the barrel at the forward side of the cover or binding or at that side from which the volume is built up.

This construction produces a binding which in the case of a complete volume presents the appearance of a handsomely-bound book and which during the process of building up the volume or filling the binder is neat in appearance and convenient to handle and protects the leaves against injury. It is admirably adapted for use in connection with single



5 sheets or leaves and dispenses with the neces-  
sity of employing additional strips laid in a  
fold of a sheet, as under my previous con-  
struction. By dispensing with said strip I  
am enabled to render the body of the book—  
that is to say, the package or collection of  
sheets or leaves—as compact at the inner or  
binding edge as elsewhere, which is very de-  
sirable both for the sake of appearance and  
10 because of the support which the leaves se-  
cure by being pressed into firm and intimate  
contact with each other.

While I have spoken of the strip F as pro-  
vided with perforations or slots, it is obvious  
15 that it is not necessary to completely perfo-  
rate said strip, the only requirement being  
that cavities or recesses of sufficient depth or  
teeth, shoulders, or projections of sufficient  
height to receive and hold the tongue *e* be  
20 provided, which may be done by cutting into,  
indenting, or embossing the body of the strip.  
I prefer, however, the perforations, as shown.  
The precise location of the perforations, in-  
dentations, projections, or shoulders in the  
25 width of the strip is immaterial, provided  
they and the tongue be in such relative lo-  
cations as to insure proper engagement. I  
have shown them entirely within the borders  
of the strip instead of at the edges, for the  
30 reason that I thereby preserve smooth and  
unbroken edges over which the paper may  
readily pass, and such construction is deemed  
a preferable embodiment of the invention,  
which, however, as above indicated, is not  
35 restricted to any specific location of the per-  
forations or indentations. For the same rea-  
sons I have shown the strip as having shoul-  
ders or abutments for the tongue to engage  
with produced by cutting or recessing the  
40 body of the strip instead of forming projec-  
tions thereon.

The location of the barrels *b* and the at-  
tachment thereof to the cover-boards causes  
said barrels to be raised upward as the book  
45 is opened and to be dropped downward into  
the back A as the book is closed, thus mate-  
rially facilitating the flat opening of the leaves  
of the book. The barrels, being connected by  
the binding or impaling strips F, cannot sepa-  
50 rate to any considerable extent. Hence the  
back A is sustained against spreading or flat-  
tening out of shape. At the same time the  
flexible strips F give a degree of elasticity to  
the binding which is desirable and which ma-  
55 terially contributes to the easy opening of  
the leaves and to their lying flat when the  
book is open.

The binding or impaling strips F are rep-  
resented as longitudinally curved, so that the  
60 outer edges of the leaves or sheets held there-

by shall produce a corresponding curve, and  
thus simulate more nearly the usual or regu-  
lar bookbinding.

Having thus described my invention, what  
I claim is—

1. In combination with a cover comprising  
a back and cover-boards flexibly connected  
therewith, a binding-strip F wholly contained  
within said cover, and having recesses extend-  
ing in a series throughout a considerable por-  
70 tion of its length; and a clip provided with a  
tongue to enter one or another of said recesses,  
and adapted to clasp the strip F, substantially  
as described.

2. In combination with a book cover or bind-  
75 ing, comprising a back and cover-boards; a  
binding-strip F contained wholly within said  
cover and adapted to be made fast thereto at  
both its ends at or near the points of connec-  
tion of the cover-boards with the back, and  
80 provided with a series of openings; and a clip  
adjustable upon said strip and provided with  
a tongue to enter one or another of said open-  
ings at will, whereby the cover or binding is  
caused to maintain its proper shape in sem-  
85 blance of a regularly-bound volume, and a  
less number of sheets than required to fill the  
binding may be held in firm and compact shape.

3. In combination with a book cover or bind-  
ing, a binding-strip wholly contained with said  
90 cover, and provided with a series of shoulders  
or abutments; and an elastic clip provided with  
a tongue to engage said abutments and of a  
form to clasp and frictionally engage the bind-  
ing-strip and to be sprung therefrom upon the  
95 application of moderate force, substantially  
as described.

4. In combination with a cover, comprising  
a back and cover-boards flexibly connected  
therewith, a series of leaves or sheets con-  
100 tained therein; a binding or impaling strip  
wholly within said cover, provided with a se-  
ries of abutments; and a spring-clip adapted  
to be applied to and removed from the bind-  
ing-strip upon the application of force suffi-  
105 cient slightly to distort it, said clip being pro-  
vided with a tongue or projection to engage  
with the abutments on the binding-strip.

5. In combination with binding-strip F hav-  
ing a series of cavities or openings *i*, a clip G  
110 provided with tongue *e*, hook-shaped ends *g*,  
*g*, and thumb-piece or projection *h*.

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

JOHN LOUDON McMILLAN.

Witnesses:

W. W. BRAND,

E. T. CARRINGTON.