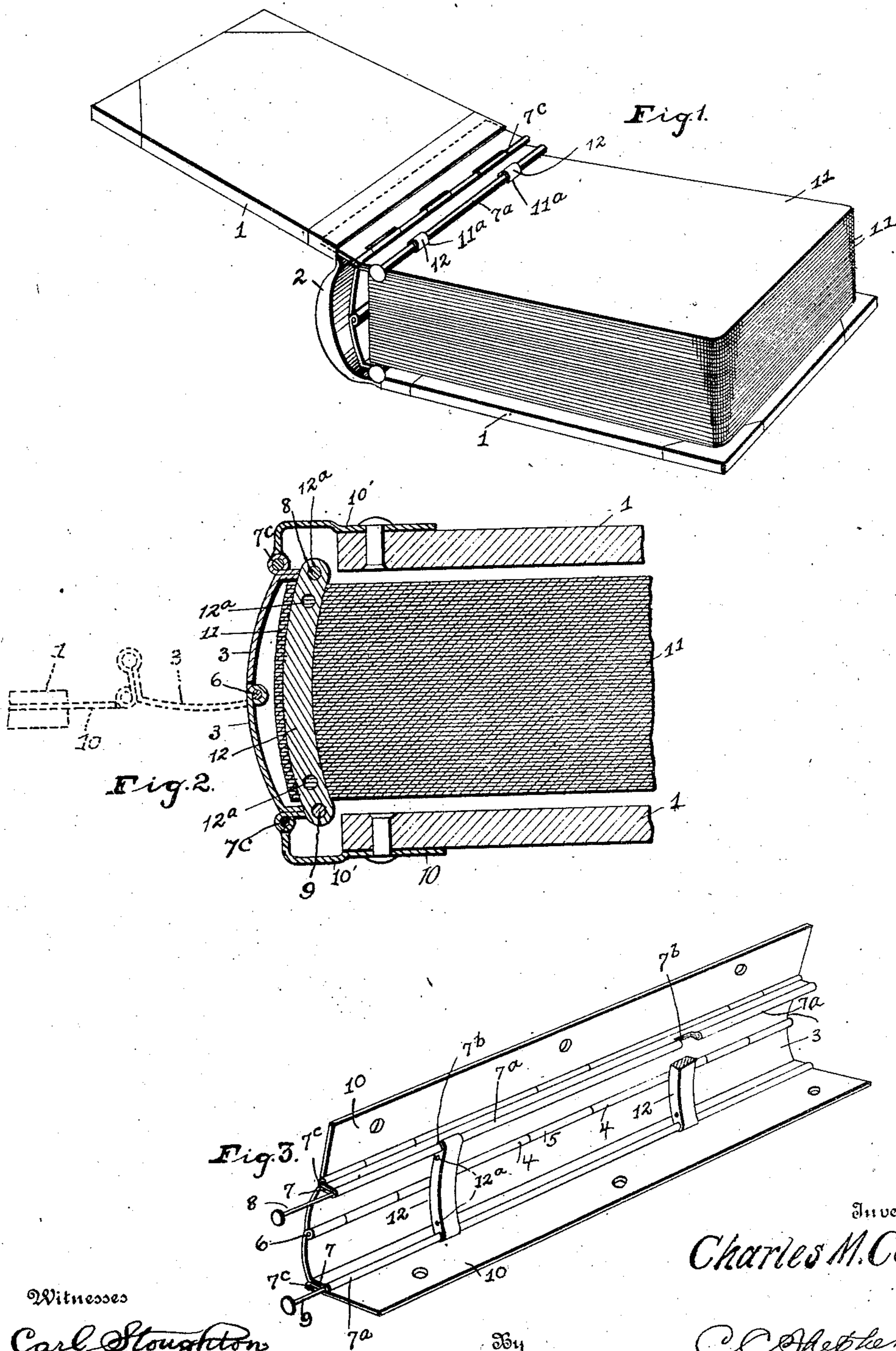


C. M. COTT.
 LOOSE LEAF BINDER.
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929,394.

Patented July 27, 1909.



Witnesses
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By

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UNITED STATES PATENT OFFICE.

CHARLES M. COTT, OF COLUMBUS, OHIO.

LOOSE-LEAF BINDER.

No. 929,394.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES M. COTT, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Loose-Leaf Binders, of which the following is a specification.

My invention relates to that class of book binding in which loose or independent leaves are designed to be detachably or removably bound within a cover and the objects of my invention are to provide improved binding means of such construction and arrangement as to admit of loose sheets or leaves being readily bound in proper or desirable relation with each other in such manner as to permit the ready removal of one or more of said sheets or leaves, or the insertion of additional or substitute sheets or leaves; to so construct my improved binder as to render the same convenient for use, neat in appearance and inexpensive in construction and to produce certain other improvements, the details of construction and operation of which will be more fully pointed out hereinafter. These objects I accomplish in the manner illustrated in the accompanying drawing, in which:

Figure 1 is a view in perspective of a book embodying my invention, with one of the cover boards thrown to the open position, Fig. 2 is a vertical section through a portion of a modified form of the device, said section being taken through one of the binding bars, and, Fig. 3 is a detail view in perspective of the connected metallic members which form my improved binding means.

Similar numerals refer to similar parts throughout the several views.

1 represents the usual upper and lower cover boards of a book which are flexibly connected with the longer edges of a central curved back piece 2 which may be of the usual or any well known form, this curved back piece being omitted for the sake of clearness in illustration in Fig. 2 of the drawing. In producing the binding members of my device, I employ two parallel metal back plates 3, each of which is slightly curved in cross section as shown, the adjoining edges of said plates being formed at intervals with tubular projections such as are indicated at 4 and 5, the projections of one of said members 3 being adapted, as shown, to enter the spaces between the cor-

responding projections of the other member, thereby forming a continuous hinge tube through which passes a hinge rod 6.

As shown more clearly at 7 in Fig. 3 of the drawing, the upper and lower or outer marginal portions of the plates 3 are bent forwardly, said bent portions being doubled upon themselves and shaped in their outer portions to form barrels or tubes 7^a. These tubes 7^a are notched or cut-away at desirable intervals as indicated at 7^b, the notches of one of the tubes 7^a being opposite or in transverse alinement with the notches of the remaining tube 7^a. 8 and 9 represent respectively rods which are adapted to be removably inserted into the tubes 7^a and 7^b. Each of the plate members 3 has hinged thereto at the rear of its flange projection 7, as shown at 7^c, a plate 10 which is adapted to have its outer portion suitably secured to or in the rear end portion of the cover board 1. By thus connecting the wings or plate members 10 with the rear ends of the cover boards, it will be observed that the curved back of the metallic binder, which is composed of the sections 3, will be retained in the position shown within the curved back member 2 of the book cover.

The paper sheets or leaves 11 which are to be bound by the binding appliance herein shown, are formed at their inner ends with two or more openings 11^a, which openings when said sheets are laid one upon the other, are adapted to register one with the other. In binding these leaves, I employ two or more metallic binding bars 12 which are preferably curved rearwardly, as shown, and which are provided in their upper and lower portions with suitably separated openings 12^a. These bars are adapted to be inserted through the registering openings 11^a of the sheets 11, the ends of the bars fitting into the notches 7^b of the tube 7^a in the manner indicated more clearly in Fig. 3 of the drawing. This being accomplished the binding bars 12 are removably secured in place by inserting the locking rods 8 and 9 through the tube members 7^a and through corresponding holes 12^a of the bars 12.

In the modified form of the device shown in Fig. 2, the parts are substantially like those above described except that a plate 10' is used in place of the plate 10 shown in Figs. 1 and 3, the object of constructing the plate as shown in this figure being to space the cover from the ends of the bars 12 to

thereby permit said covers to move toward the ends of said bars when fewer leaves are bound within the binding.

Assuming that it is desired to remove some of the sheets in the upper half of the book, it will be understood that by pulling the upper rod 8 outward from engagement with the upper ends of the bars 12 and permitting the upper cover board and upper curved plate member 3 to drop downward to the position indicated in dotted lines in Fig. 2 of the drawing, the desired number of leaves may be readily lifted from engagement with the binding bars 12, or new leaves may be readily added to those already bound together. It is also evident that by removing both the rods 8 and 9, all the bound leaves may be readily disengaged from the bars 12, or if desired the bound body of leaves together with the binding bars may be removed from engagement with the binder back. By providing more than one opening 12^a in the member 12, it will be seen that the thickness of the device as a whole may be reduced when only a few leaves are carried upon said members. When said leaves are so few in number that they do not cover the inner openings 12^a, the hinge rods 8 and 9 are inserted through these inner openings, the hinged connection of the members 3 permitting this to be done.

From the construction and operation described, it will be seen that comparatively simple and inexpensive means are provided for readily and conveniently binding loose leaves into book form and for disconnecting or removing said leaves from the binding.

What I claim, is:

1. In a binder for loose leaves, the com-

bination with a cover comprising upper and lower cover boards and a back having a flexible connection with said boards, of a binder back comprising parallel sections 3 hinged one to the other at the center of said binder back, plate members 10 hinged to said members 3 and having rigid connections with said cover boards, binding bars adapted to be inserted through openings in the leaves to be bound, said binding bars being detachably connected with the upper and lower portions of said sections 3.

2. In a binder for loose leaves, the combination with a cover comprising upper and lower cover boards and a back having a flexible connection with said back boards, of a binder back comprising parallel sections 3 having a hinge connection one with the other, each of said sections having an inwardly projecting portion terminating in a tube, said tube being notched at intervals, upper and lower plate members hinged to said members 3 and having a rigid connection with said cover boards, binding bars having openings therein, said binding bars adapted to be inserted through registering openings in the leaves to be bound and having their ends adapted to enter the notches of the tube terminations of the plate projections 3, and locking rods adapted to be passed through said tubes and through the openings in said binding bars.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES M. COTT.

Witnesses:

A. L. PHELPS,
L. C. STOUGHTON.