No. 855,894. PATENTED JUNE 4, 1907.

M. Z. KIRK.

ADJUSTABLE BOOKBINDER.

APPLICATION FILED JUNE 18, 1906.

2 SHEETS—SHEET 1.

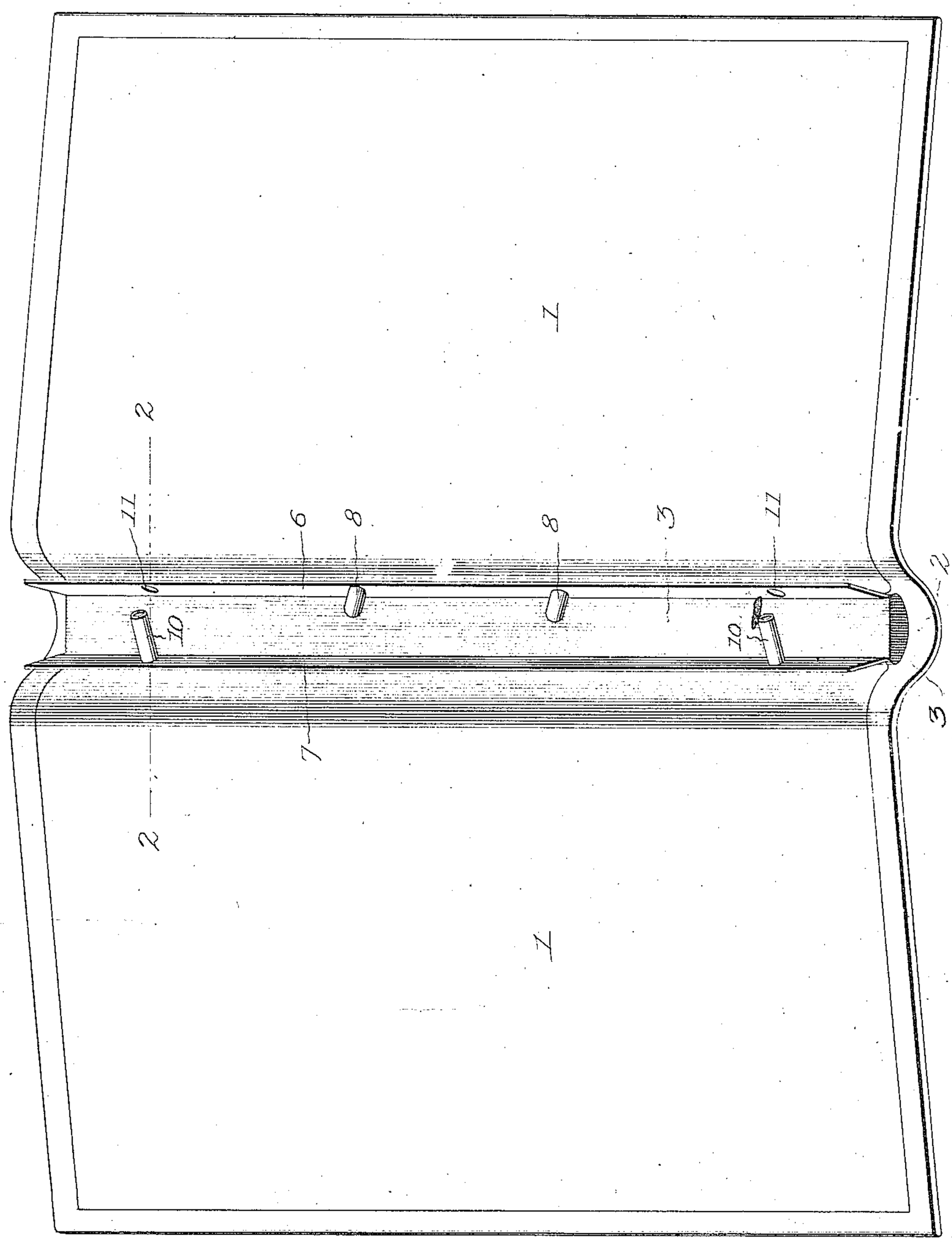

Fig. 1.

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2 SHEETS—SHEET 2.

Fig. 2.

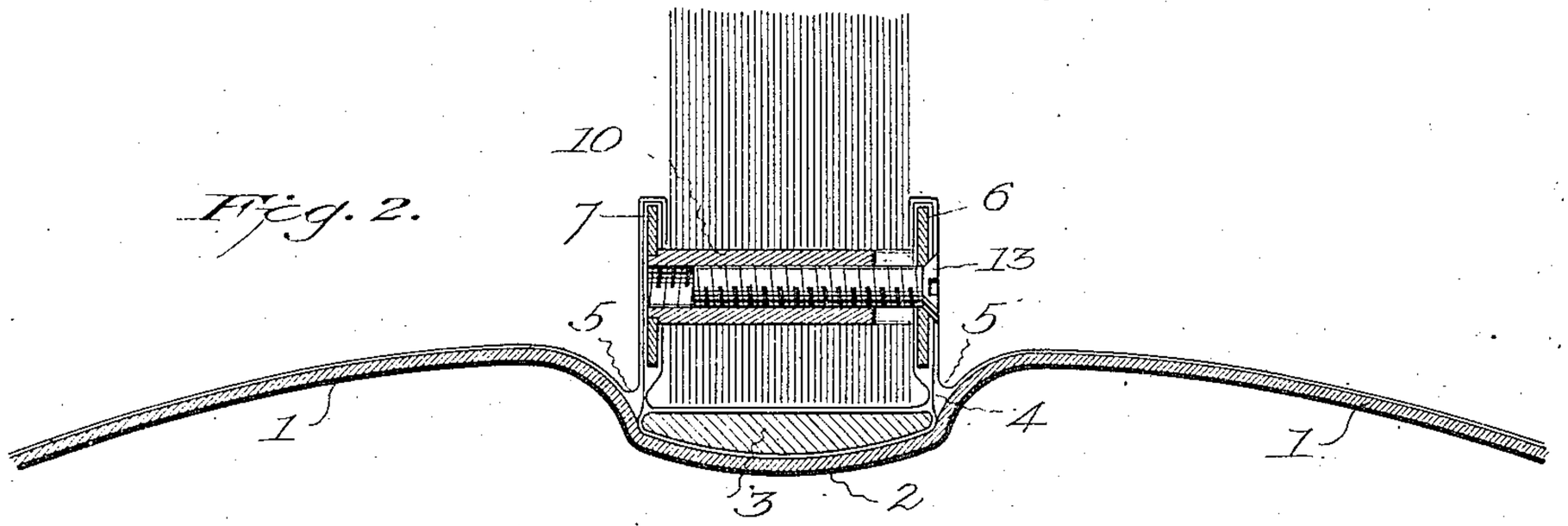


Fig. 3.

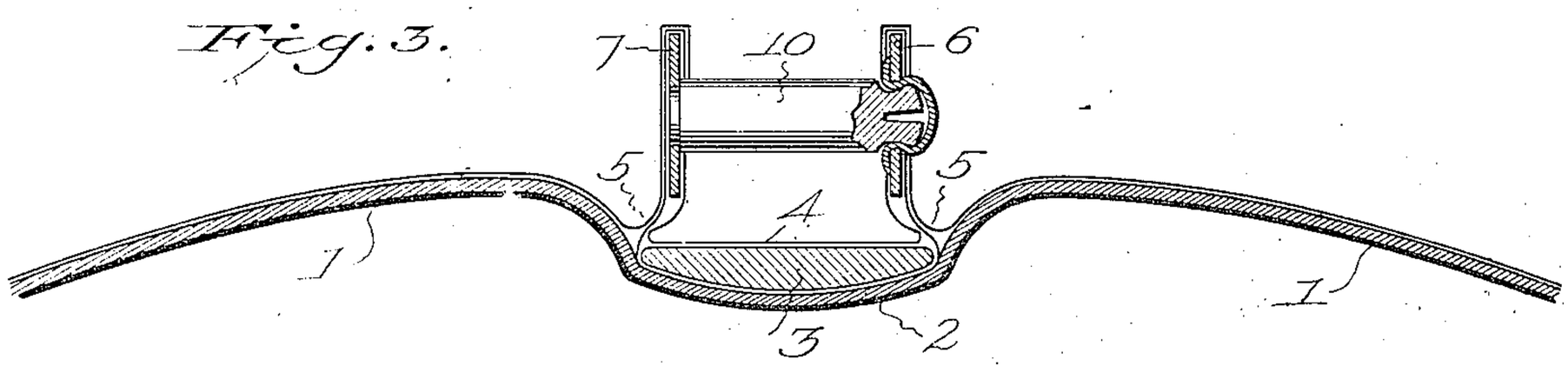


Fig. 4.

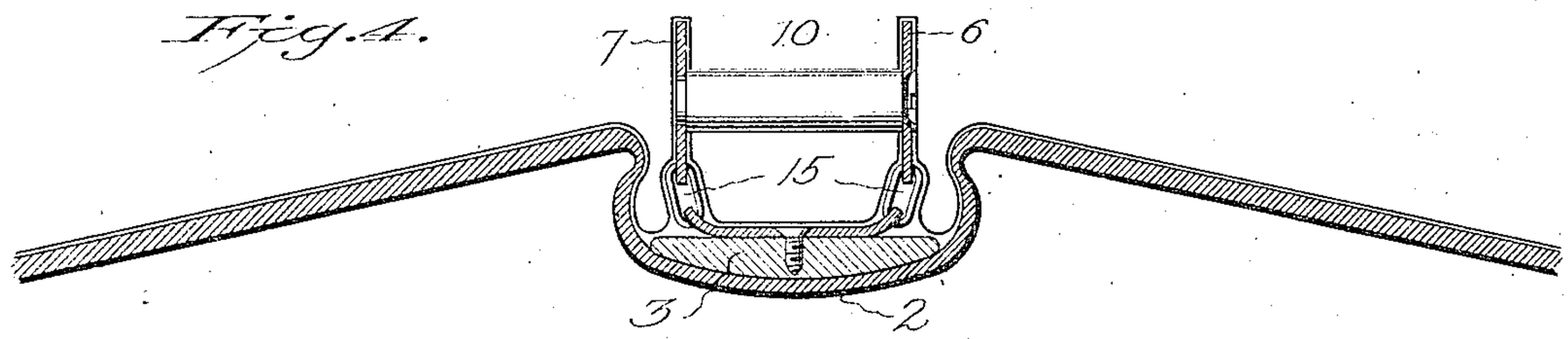


Fig. 5.

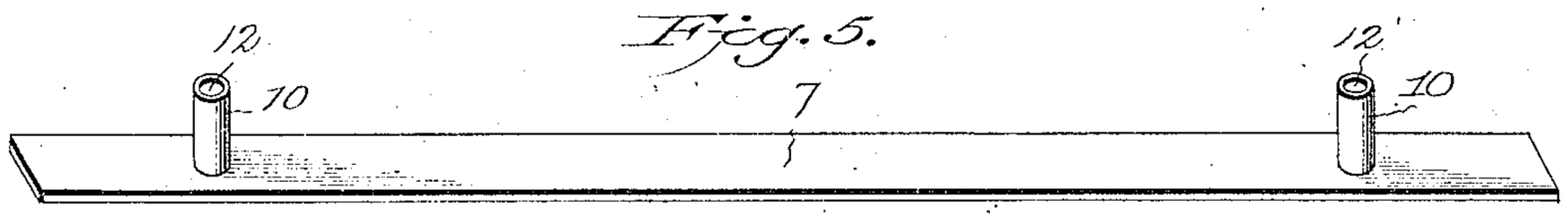
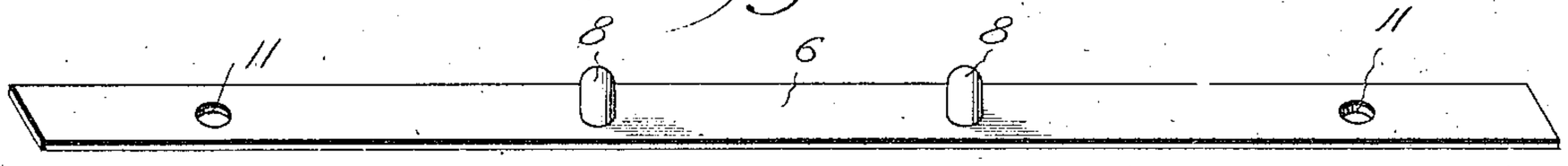


Fig. 6.



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UNITED STATES PATENT OFFICE.

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ADJUSTABLE BOOKBINDER.

No. 855,894. Specification of Letters Patent. Patented June 4, 1907.

Application filed June 18, 1906. Serial No. 322,239.

To all whom it may concern:

Be it known that I, MAHLON Z. KIRK, a citizen of the United States of America, residing at the city and county of Denver and State of Colorado, have invented a new and useful Adjustable Bookbinder, of which the following is a specification.

My invention relates to improvements in bindings for books, and the objects of my invention are: First, to provide a loose leaf book binder and leaf holder, in which additional leaves can be easily and quickly placed, and in which all attachments are absolutely invisible when the book is closed. Second, to provide a detachable book binder in which the leaves are clamped tightly between supporting strips that are hinged to the back of the binding. And third, to provide a laterally adjustable, loose leaf book binder, which is compact, simple and durable. I attain these objects by the mechanism illustrated in the accompanying drawings, in which:

Figure 1, is a perspective view of the back of a book, showing my improved binding device secured thereto, the leaves being omitted. Fig. 2, is a transverse, sectional view of a portion of a book and the binding device on the line 2—2 of Fig. 1, showing the leaves bound in position, a screw being used to connect all portions of the binder together. Fig. 3, is a similar view, the parts being fastened by a button. Fig. 4, is a transverse, sectional view, showing a modification in the manner of hinging the clamping strips to the back strip. And Figs. 5 and 6, are perspective views of the two clamping plates detached.

Similar letters of reference refer to similar parts throughout the several views.

Referring to the drawings, the numeral 1, designates a pair of book covers, which may be made of any suitable material. These covers are provided with the usual central cover joint and binding securing channel portion 2, and to this channel and cover joint portion I secure my improved binder, which is constructed and arranged and attached to the covers as follows:

My improved binder has a supporting back portion 3, which may be constructed of a strip of wood, wood-fiber, rubber, metal, or of any other suitable material. This supporting back portion or strip of my binding, is secured directly to the hinging channel portion of the covers, by glue, buttons, or by fastenings of any desired kind, or by any other suitable means, or it may be covered with leather or any other suitable material, and the covering alone may be glued or otherwise secured to the cover hinging or folding portion of the covers, or both the covering of the back and the back may be secured together to the central hinging portion of the covers. I preferably employ for the back of my binding a piece of wood and preferably cover it with leather 4, and to each side edge of the back 3, of the binding, I hinge by any suitable hinge joint 5, two strips of any suitable material, preferably using steel strips 6 and 7, which I term clamping strips. These clamping strips are narrow strips of thin sheet or ribbon steel, and they are hinged to the back to normally stand at right angles to the back, but they are hinged in such a manner that they will be free to swing from one cover to the other when the covers are laid fully flat on their backs; they are also hinged with a hinge swinging joint that will enable them to be adjustably moved laterally from their joints and from each other, so that they can be extended wider than the normal size of the original book, and a number of new and additional leaves may be added to it. Such a hinge joint may be made in a number of different ways. In Figs. 1, 2, and 3, I illustrate the joint I preferably use, and in Fig. 4 I illustrate two hinged joints I may also use if desired. In the construction shown in Figs. 1, 2, and 3, the clamping strips are secured to the back by a pliable fabric covering, such as leather, canvas, or any other suitable fabric or pliable material, and I preferably extend the leather covering 4, of the back 3, of the binder up over and around the clamping strips, securely gluing, cementing, sewing, or otherwise securing the leather covering of the back portion to the clamping strips, and thus securing a flexible as well as in a sufficiently practical measure a laterally extending hinge joint between the lower ends of the clamping strips and the side edges of the back. One of the clamping strips 6, may be provided with two or more projecting pins 8, which may be made of any suitable metal or material, and are secured by riveting or by solder or other suitable means to apertures

formed in the strips at about centrally of their height, and they are preferably placed in the central portion of the strips and they extend laterally from the inside of the clamping strip toward the clamping strip 7, a distance equal to about one-half of the normal thickness of the original thickness of the book, or their length is equal approximately to the greatest distance the strip 6, will be moved away from the ends of the posts 10, of the opposite strip 7, while the screws are still in engagement with the posts, and they are adapted to extend into perforations punched in the leaves of the book, and at any time after a book has been used and it is desired to add more leaves to it they permit that portion of the leaves that are on these pins, which is about one-half of all of the leaves in the book, to be turned back against the cover to which the clamping strip is secured; consequently the leaves that are mounted on these pins need not be removed from them. These posts 8 prevent the leaves from moving, when more leaves are employed than would permit the posts 10 to contact with the strip 6, as without them the exposed portions of the screws which are necessarily of less diameter than the posts, would permit the leaves to move a slight distance.

The opposite clamping strip 7, is provided with two or more laterally projecting stems 10, two being preferably shown, and they are preferably placed near the opposite ends of the strip and centrally of their height. These stems are made of any suitable metal or material. I preferably make them as well as the pins of brass or steel. These stems are rigidly secured by riveting or by other means, to apertures formed through the clamping strip to receive them. These stems are made to extend from the clamping strip 7 to close to but not necessarily against the clamping strip 6, a sufficient space being left between the free ends of the stems and the inner side of the clamping strip 6 to permit the clamping strip 6 to be clamped to the leaves inserted between the two clamping strips, and through the clamping strip 6, in alinement with each stem, and in their ends I form holes 11, and axially through these stems I form threaded holes 12, which extend nearly through them, and insert through the clear holes 11, and screw into the threaded holes 12, screws 13, which are made long enough to extend to close to the bottom of the threaded holes, and have enlarged head portions that bear against the outside of the clamping strip and draw the two clamping strips together, and thus rigidly clamp the clamping strips and the leaves that are between them together. The leaves of the book are also provided with apertures that are positioned to fit loosely over the threaded hollow stems, and leaves enough are placed on the stems and pins between the clamping strips to allow the screws to rigidly clamp the clamping strips against them, and when it is desired to insert or add new leaves, the screws are loosened and are unscrewed from the stems, and the leaves that lie against the clamp 7, and extend to the ends of the pins of the clamp 6, are turned against the cover of the clamp 7, and those leaves that are on the pins are turned against the cover of the clamp 6, as above described, and the leaves are practically divided in the center and the new leaves can be inserted in the center if desired, but if the leaves are to be added to the front of the book the leaves must first be taken from the pins or threaded stems, as required, and then the clamping screws are again inserted and screwed up tight, clamping the new and old leaves together. The long screws and the flexible joint hinge between the clamping strips, and the back 3 of the binder, permit of the addition of a large number of new leaves to the book at any time.

In Fig. 3, I illustrate an ordinary glove fastening catch, for securing the clamp 6 to the stems 10. In this arrangement, the free end of the stems are formed with expansible heads, which fit frictionally within sockets formed on the strips 6.

In Fig. 4, I illustrate another type of a hinged joint; in this view the clamping strips are hinged together by rings or loops of wire 15, at two or more points in their lengths, but the screw clamping strips and screws are used the same as in Figs. 1, 2, and 3. Other types of loose hinges may be used without departing from the spirit of my invention, and I do not wish to be limited to the constructions shown, as my invention contemplates the use of any loose expanding or contracting joint between the clamping strips, and the back strip of the binder, that will permit of expansion and contraction of the clamping strips to enable leaves to be either added to or removed from the book, and to be rigidly and removably clamped by the clamping strips together.

My invention is simple, durable, and practical, and makes a very strong, firm, binding for each and every leaf in the book.

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

1. In an adjustable binder for books, the combination with the covers, of the back strip; the clamping strips; the pins on one of said strips, the interiorly threaded stems on the other strip, in line with perforations in the strip having the pins; clamping screws which pass through said perforations into said threaded stems, and rings connecting said clamping strips with said back strip.

2. In an adjustable binder for books, the combination with the cover adapted to hold

a plurality of perforated leaves, of a back strip secured to the said cover, clamping strips hinged to said back strip; hollow posts on one of said clamping strips, which are interiorly threaded; screws which pass through perforations in the opposite strip and into the threaded posts whereby said strips may be held adjacent to and away from each other, said posts passing through the perforated leaves, and pins on the perforated clamping strip of less length than the threaded pins, which also enter perforations in the leaves and prevent movement of the leaves, when the threaded posts are out of contact with the opposite binding strip.

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

MAHLON Z. KIRK.

Witnesses:
G. SARGENT ELLIOTT,
ADELLA M. FOWLE.