

No. 754,766.

PATENTED MAR. 15, 1904.

J. L. HANSON.
LOOSE LEAF BINDER.
APPLICATION FILED OCT. 16, 1902.

NO MODEL.

Fig. 1.

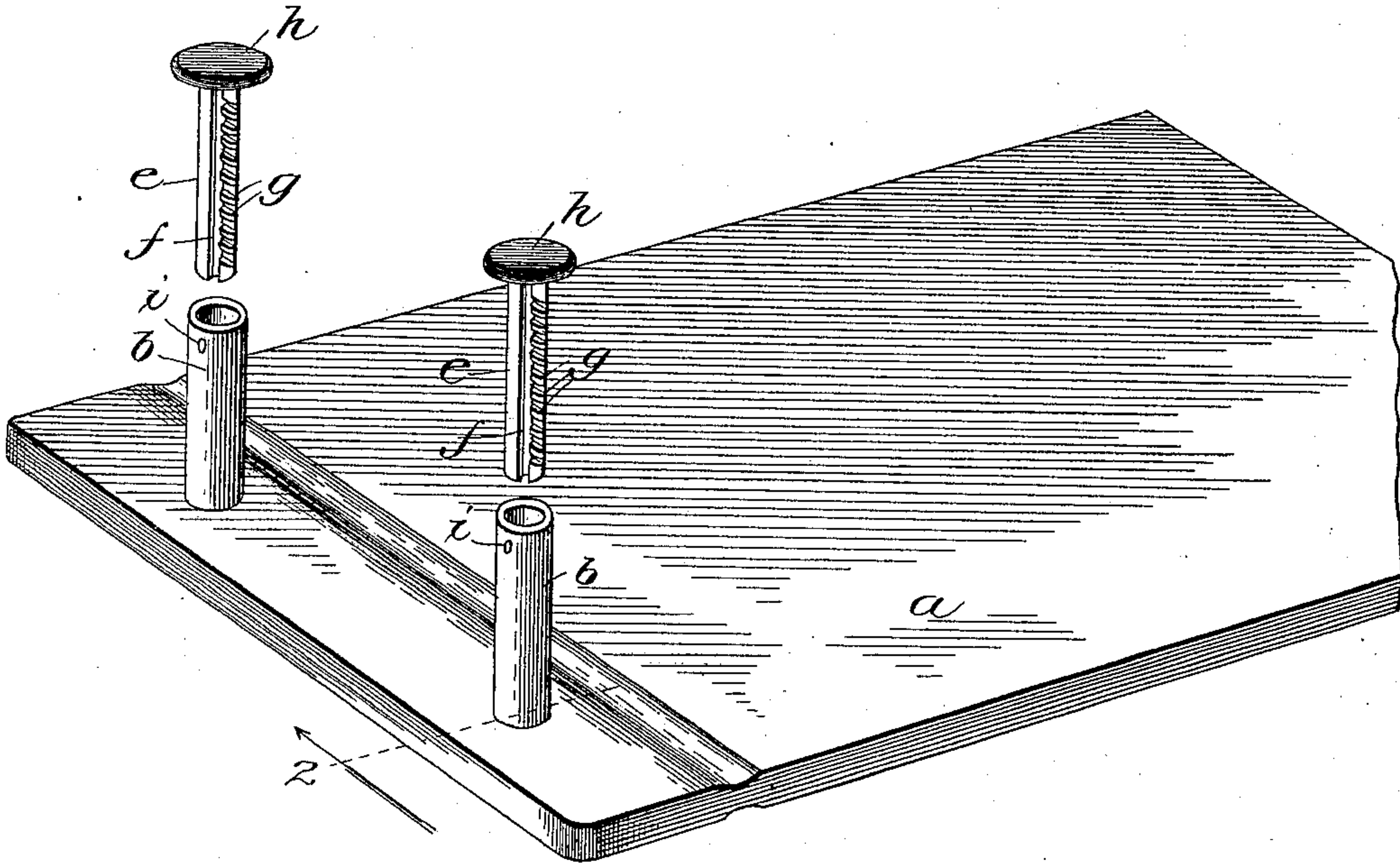
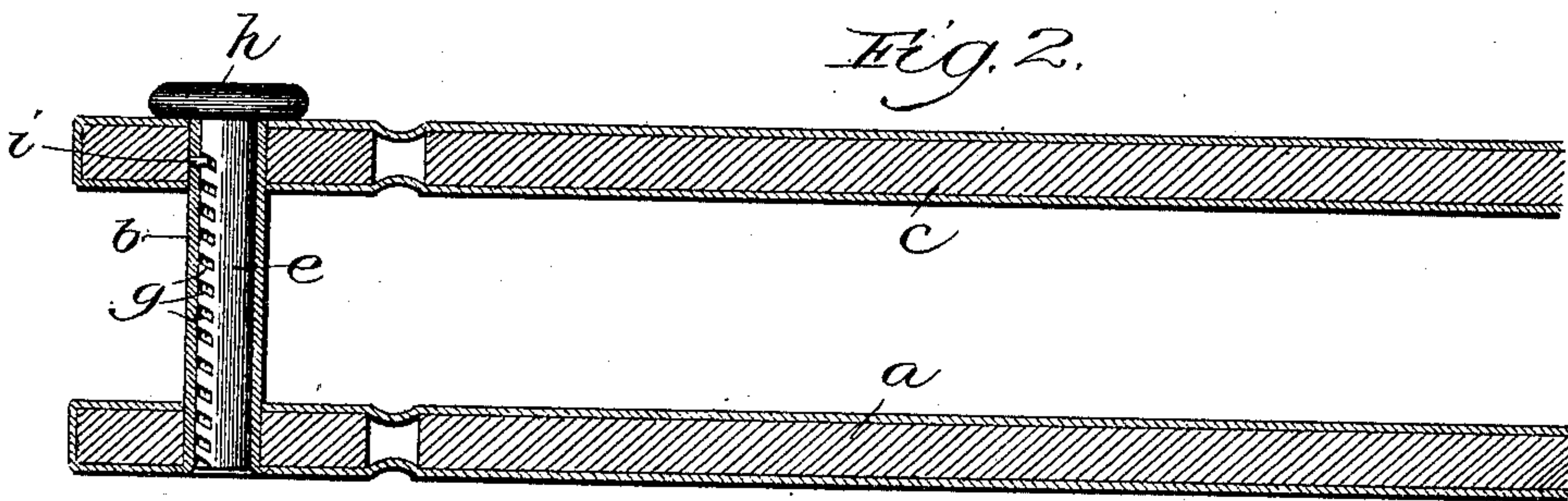


Fig. 2.



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UNITED STATES PATENT OFFICE.

JAMES L. HANSON, OF CHICAGO, ILLINOIS.

LOOSE-LEAF BINDER.

SPECIFICATION forming part of Letters Patent No. 754,766, dated March 15, 1904.

Application filed October 16, 1902. Serial No. 127,556. (No model.)

To all whom it may concern:

Be it known that I, JAMES L. HANSON, a citizen of the United States, residing at Chicago, Illinois, have invented certain new and useful Improvements in Loose-Leaf Binders, of which the following is a specification.

This invention relates particularly to that class of binders in which the leaves are removably secured and which is capable of being expanded as occasion may require, and particularly to the means for securing the front and back covers together in an expansible manner, all of which will be more fully hereinafter set forth.

The principal object of the invention is to provide a simple, economical, and efficient loose-leaf binder.

A further object of the invention is to provide a loose-leaf binder having front and back covers with means for removably and expansibly securing such front and back covers together.

Further objects of the invention will appear from an examination of the drawings and the following description and claims.

The invention consists principally in a loose-leaf binder in which there are combined front and back covers and means for detachably and expansibly securing them together, comprising tubular portions secured to one cover, bolt portions on the other cover adapted to engage the tubular portions with broken threads on one and a pin or similar element on the other part for removably and expansibly holding the parts together.

The invention consists, further, in a loose-leaf binder in which there are combined a back cover provided with a plurality of tubular portions secured together and having inwardly-projecting pins or similar elements, a perforated front cover, and bolt portions having broken threads rotatably engaging with the pin of the tubular portion and the perforations in the front cover for removably and expansibly securing such parts together.

The invention consists, further and finally, in the features, combinations, and details of construction hereinafter described and claimed.

In the accompanying drawings, Figure 1 is

a perspective view of the back cover or board of a binder, showing the connecting mechanisms in detached relation; and Fig. 2, a longitudinal sectional elevation of the parts, taken on line 2 of Fig. 1, showing the parts in assembled relation and looking in the direction of the arrow.

In the art to which this invention relates it is well known that it is very desirable to have a binder so constructed and arranged that the covers may be detached for the purpose of removing or renewing sheets or adding a number of sheets thereto. It is also well known that in order to have such a binder it is desirable to make it so that it may be expanded and contracted to meet various conditions and that the mechanism which permits the expansion and contraction of the parts should be constructed and arranged to contain as little objections as possible—in other words, that such expansible connecting mechanism should be simple and economical to make and not project beyond the book-covers any more than is essential for the manipulation of the same, to the accomplishment of which ends this invention particularly tends.

In constructing a loose-leaf binder in accordance with my improvements I provide a back cover or board *a* of the desired size and shape, to which is secured a plurality of upwardly-projecting tubular portions *b*. In order to provide for the attachment of the front cover in a removable and expansible manner, such cover is perforated, so that it may be brought into alinement with the back cover. A plurality of securing-pins *c* is provided, each having a longitudinal slot *f* and a plurality of inclined cams *g*, extending to such longitudinal slot, such inclined cams having their outer faces flush with and forming part of the cylindrical peripheral surface of the pin and providing a plurality of inclined grooves opening into the longitudinal groove at an acute angle thereto. Each of these securing-pins is further provided with thumb-heads *h*, by which they may be manipulated whenever it becomes necessary so to do. Each of the upwardly-projecting tubular portions is provided with an inwardly-projecting stud *i*, of such size and arrangement that it may en-

gage with the longitudinal slot in the securing bolts or studs, while permitting it to be inserted or removed or to engage with any one of the inclined cams *g* and assist in securing or fastening the parts together, as shown particularly in Fig. 2.

In operation the loose leaves are perforated according to the position of the upwardly-projecting tubular portions and as many as may be desired laid in position, preferably enough to fill the book in its minimum contracted condition. The front cover is then placed over the upper ends of the upwardly-projecting tubular portions and the securing-pins inserted, as above described. By partially rotating the securing-pins in the desired direction the stud of the tubular member engages with one of the threads or cams and holds the parts in the desired relation.

The principal advantages incident to the use of the above-described binder are, first, economy of manufacture and repair; second, the simplicity by which the parts may be removed or secured together; third, adjustability in expanding or contracting the book, and, fourth, the absence of any objectionable projections on either or both sides of the book-covers, all of which will be understood and appreciated by those skilled in the art.

I claim—

1. In a loose-leaf binder, the combination of an imperforate tubular member provided with an inwardly-projecting stud, a pin member having a longitudinal groove and a plurality of inclined cams extending to such groove and forming between them a plurality of inclined grooves opening into the longitudinal groove at an acute angle thereto, substantially as described.

2. In a loose-leaf binder, the combination of a tubular member provided with an inwardly-projecting stud, and a cylindrical pin member having a longitudinal groove and a

plurality of inclined cams extending to such groove, each having an outer surface flush with the cylindrical surface of the pin and forming a portion thereof, such cams forming between them a plurality of inclined grooves opening into the longitudinal groove at an acute angle thereto, substantially as described.

3. In a loose-leaf binder, the combination of a back cover, a plurality of upwardly-extending tubular portions each provided with an inwardly-projecting stud and secured to such cover, and a headed cylindrical pin member for each of such tubular members each having a longitudinal groove and a plurality of inclined cams extending downwardly at an incline to such groove and forming between them a plurality of grooves opening into the longitudinal groove at an incline, each of such cams having its outer surface flush with the cylindrical peripheral surface of the pin and forming a part thereof, substantially as described.

4. In a loose-leaf binder, the combination of a back cover, a plurality of upwardly-extending tubular portions each provided with an inwardly-projecting stud and secured to such cover, and a headed cylindrical pin member for each of such tubular members each having a longitudinal groove and a plurality of inclined cams extending downwardly at an incline to such groove and forming between them a plurality of grooves opening into the longitudinal groove at an incline, each of such cams having its outer surface flush with the longitudinal peripheral surface of the pin and forming a part thereof, and a perforated front cover in which such pin members are mounted, substantially as described.

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