

No. 768,159.

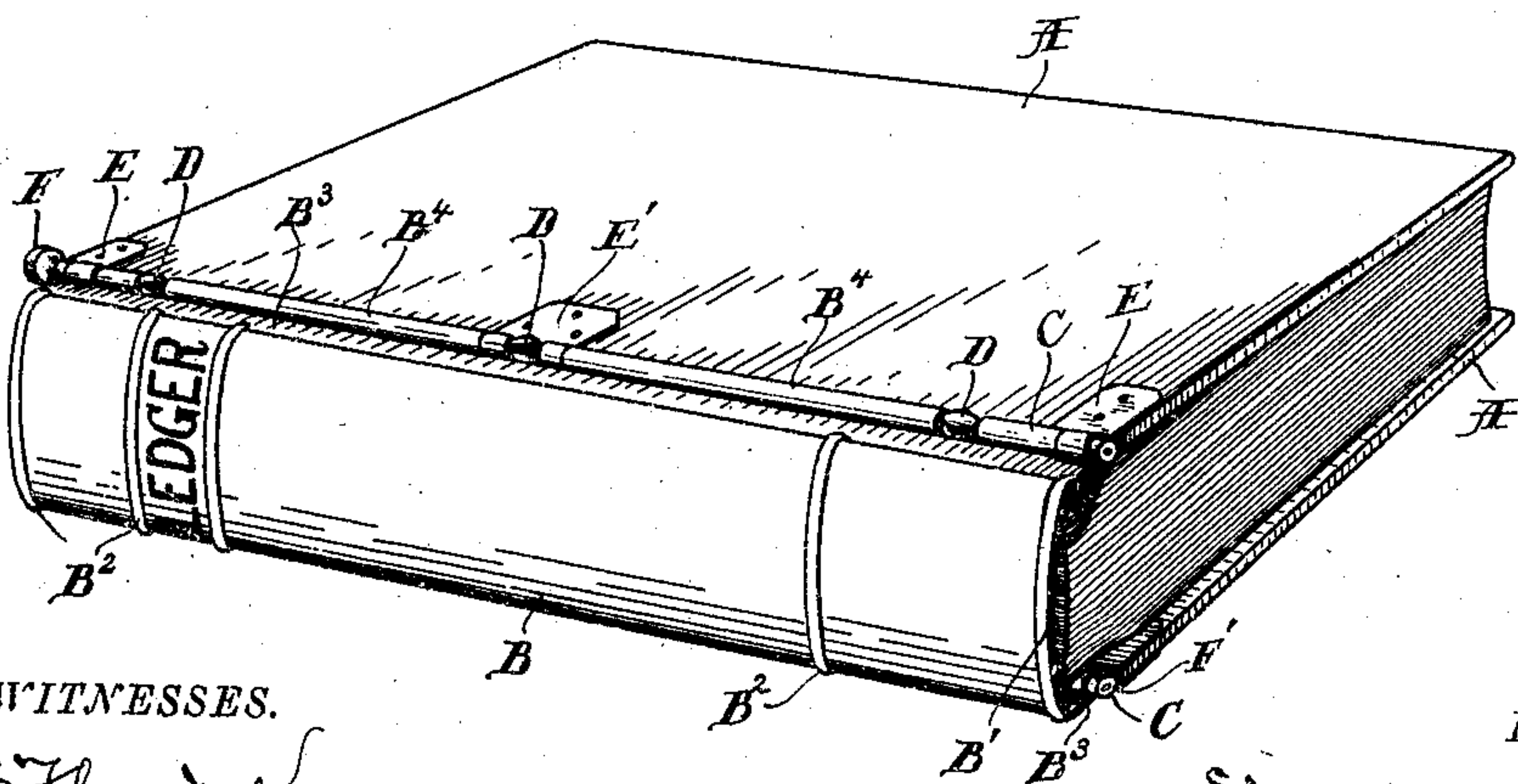
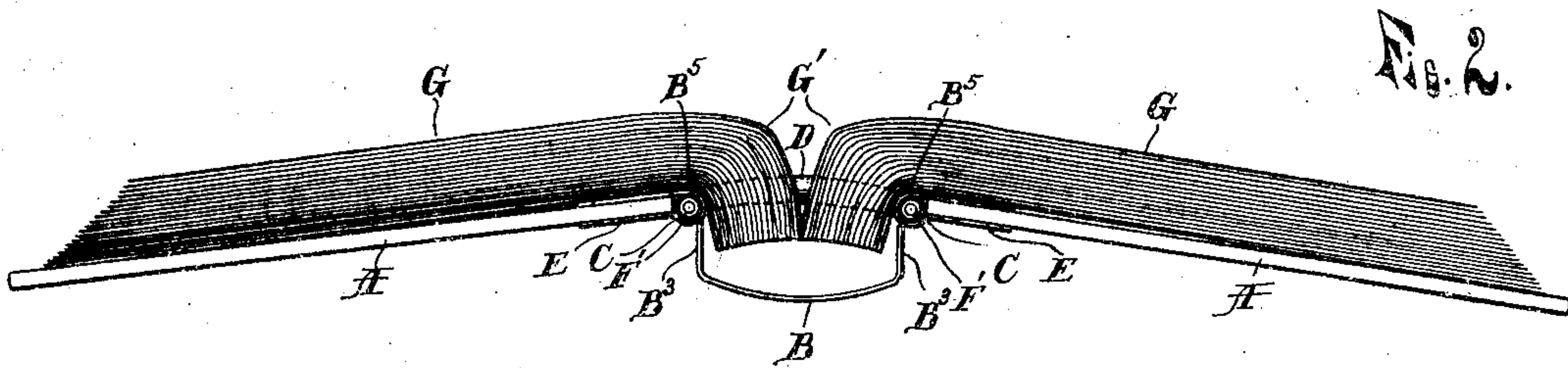
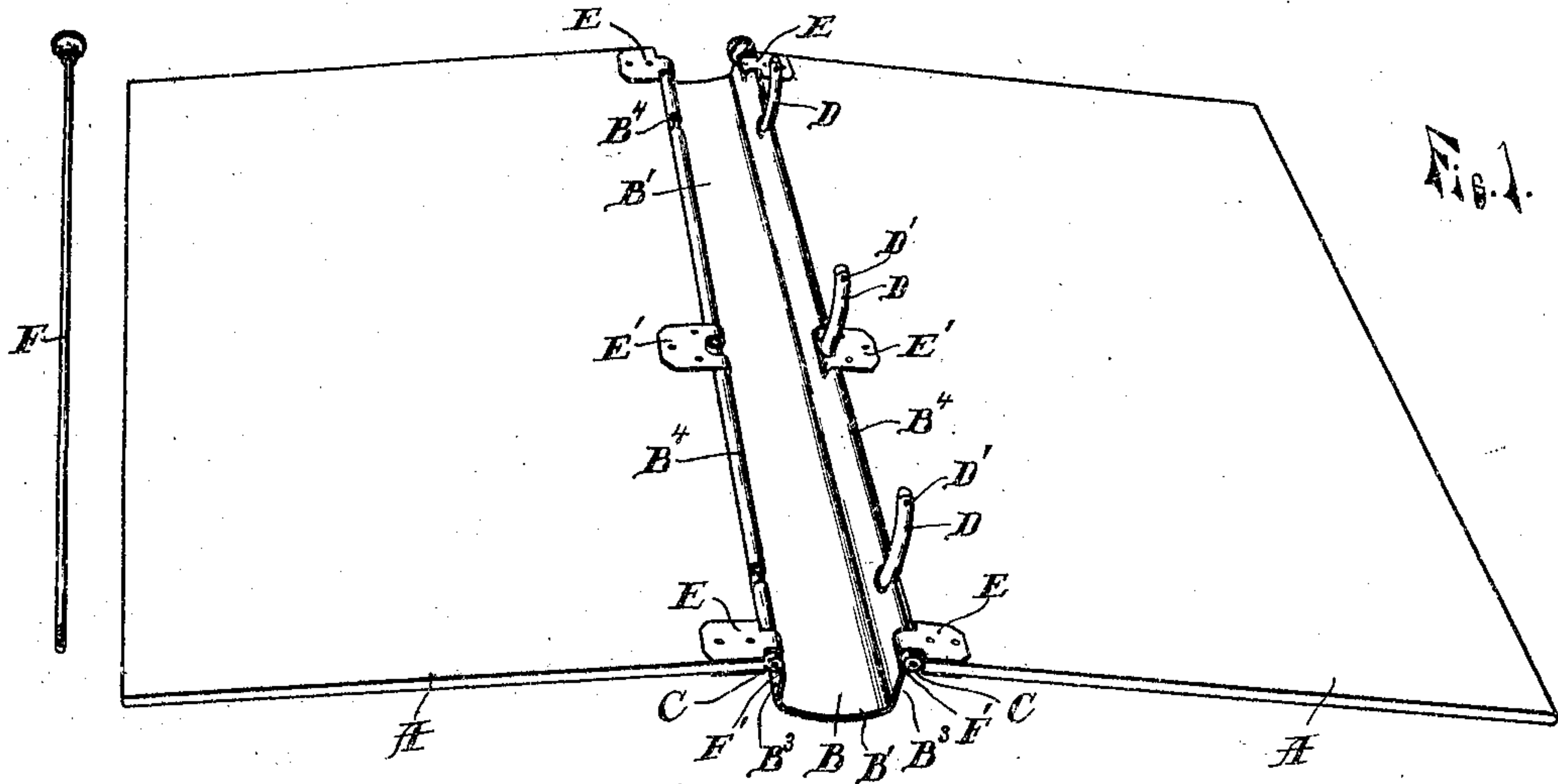
PATENTED AUG. 23, 1904.

E. C. SUCKERT.
LOOSE LEAF LEDGER OR BINDER.

APPLICATION FILED APR. 13, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES.

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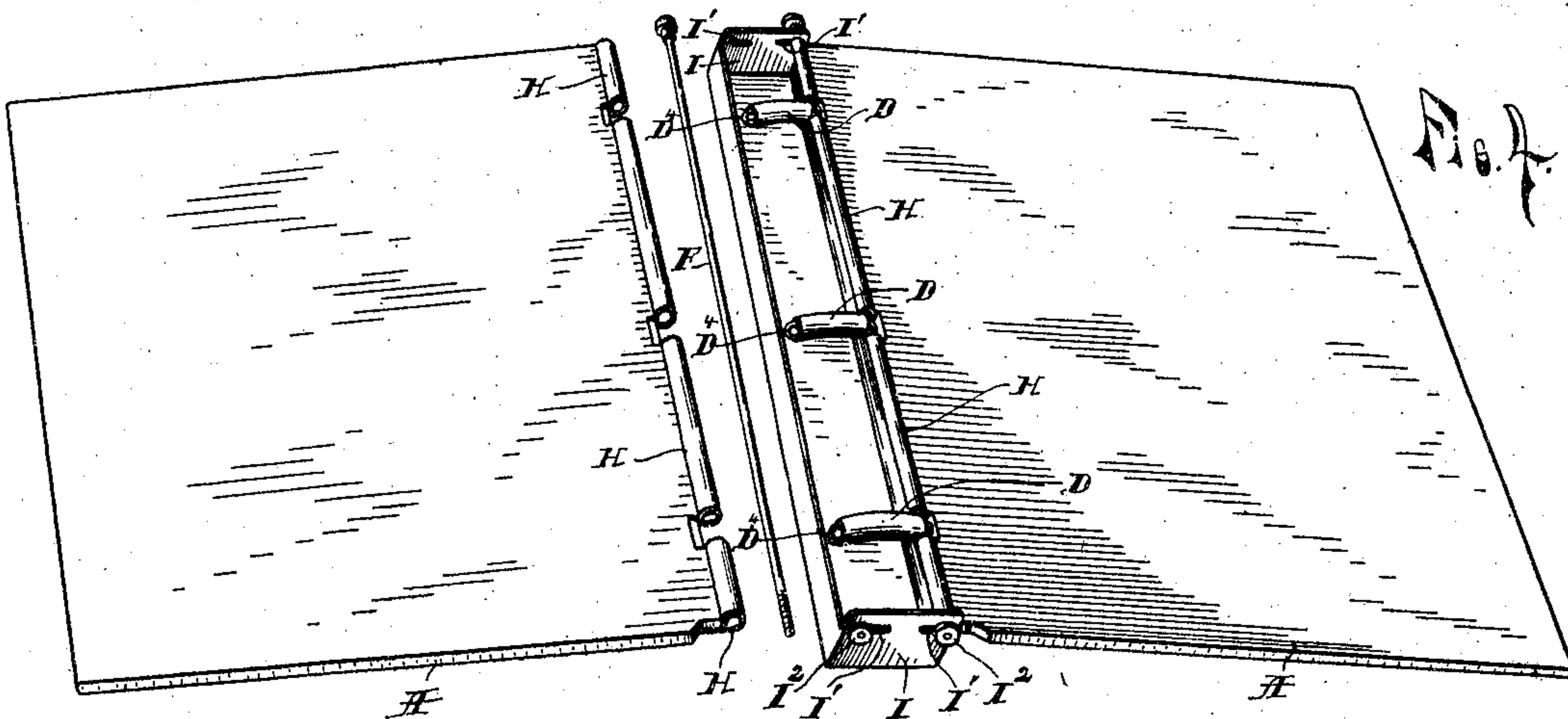


Fig. 5.

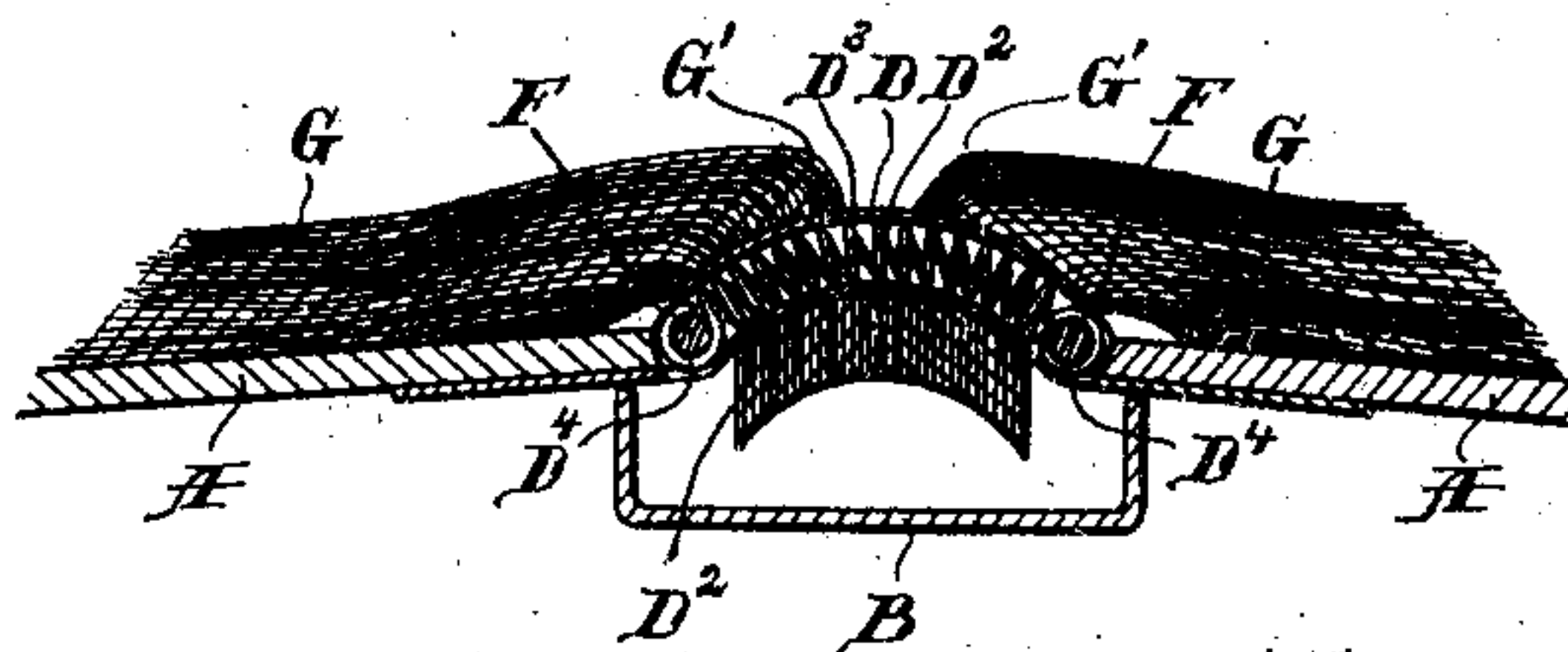


Fig. 6.

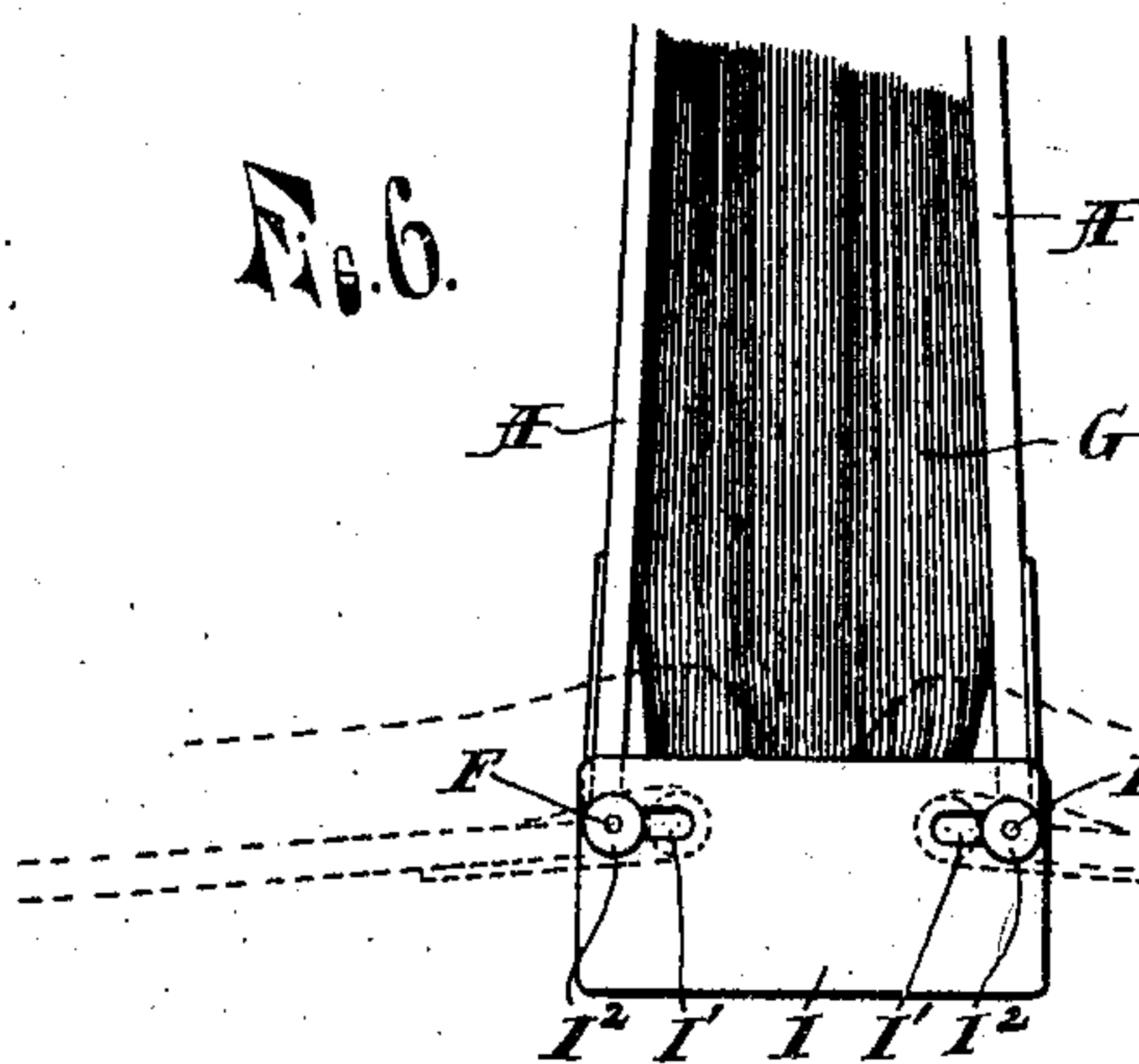
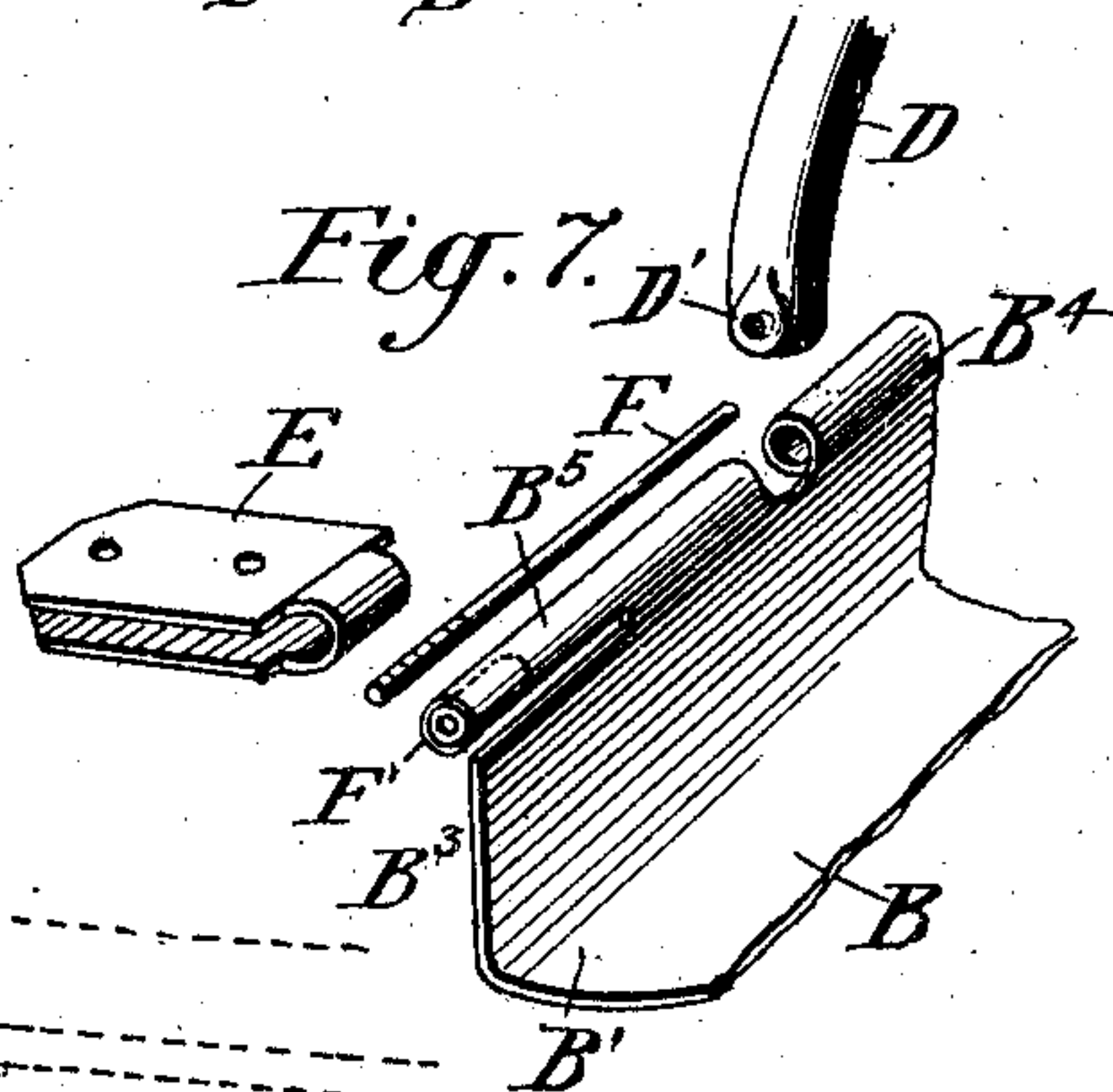


Fig. 7.



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UNITED STATES PATENT OFFICE.

EDWARD C. SUCKERT, OF DETROIT, MICHIGAN.

LOOSE-LEAF LEDGER OR BINDER.

SPECIFICATION forming part of Letters Patent No. 768,159, dated August 23, 1904.

Application filed April 13, 1903. Serial No. 152,346. (No model.)

To all whom it may concern:

Be it known that I, EDWARD C. SUCKERT, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Loose-Leaf Ledgers or Binders, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to improvements in that class of temporary binders known as "loose-leaf" ledgers; and its object is to provide a simple, cheap, and efficient construction and one which will firmly hold the leaves in such a manner that when the book is opened the leaves will not be inconveniently curved, but will lie flat against the covers.

It is also an object of the invention to so construct the device that any or all of the leaves may be quickly and conveniently removed and others inserted and to provide certain other new and useful features, all as hereinafter more fully described, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view showing the device open and the leaves removed. Fig. 2 is an enlarged end elevation of the same with the leaves in place; Fig. 3, a perspective view showing the book closed. Fig. 4 is a perspective view showing a modified construction with the device open and the leaves removed; Fig. 5, an enlarged transverse section of the same through one of the binders with the leaves in place; Fig. 6, an end view of the same, showing the book closed; and Fig. 7 is a detail showing detached portions of the back, cover, and hinge members in perspective.

As shown in the drawings, A A are the covers, and B the sheet-metal back, consisting of a curved back portion B', which may be formed with ornamental and strengthening ribs B² and otherwise ornamented and lettered, and also of side flanges B³, extending parallel with each other and each formed with an eye B⁴ by rolling the metal outward at the outer edge of the flange, said eyes forming one part of hinges C for securing the covers A and binders D to the back. The covers are hinged to the back by providing eyes E, formed of sheet metal,

with leaves embracing the covers and riveted thereto, and the eyes B⁴ are severed from their flanges B³ for a short distance at each end, so that they may be embraced by the eyes E and serve as the other member or hollow pintle B⁵ of a hinge to unite the covers to the back. The covers are also each provided with a double-eye member E' midway between their ends, and the eyes B⁴ are cut away opposite the eyes E' to allow the same to project into line with the eyes B⁴ and also to allow the ends of one of the binding members D to project into the space between the eyes of the double members. The eyes B⁴ are also cut away near each end to receive the ends of the binding members D, which are provided with transverse openings D' to receive the rods or pintles F of the hinges C, which rods are passed through the eyes B⁴, the double eyes E', and the openings D' in the binders, thus pivotally and detachably securing the ends of the binders D to the upper ends of the flanges of the back or at the point where the leaves bend when the book is opened. One end of each rod F is provided with a milled head, and its opposite end is screw-threaded to engage a screw-threaded opening in a block F', secured in one end of each eye B⁴.

The leaves G are perforated at three points near one edge to receive the three binders D, which are curved slightly throughout their length, so that the center leaves will be raised higher than those nearer the flanges when the book is opened, and thus allow the leaves to lie more closely against the covers. The leaves may also be scored across, as shown at G', so that they will bend with a more abrupt angle.

In certain instances it may be found desirable to use the form of binder shown in Figs. 4 and 5, in which a coiled spring D² is used instead of a solid curved bar, and this spring is preferably covered with a piece of rubber tubing D³ or other suitable covering, this providing a flexible binder which will yield laterally, and thus allow the leaves to lie more nearly flat upon the covers than would be possible if a solid bar were used.

When the flexible binders are used, it may be found desirable to construct the back and

hinges as shown in Figs. 4, 5, and 6, the back being formed of sheet metal with side flanges, as before; but, instead of the hinge-eyes being formed on the back, eyes H are secured to the edges of the covers A, and these eyes are cut away to receive the ends of the binders, which are pivotally attached to the covers by the hinge-rods or pintles which pass through the eyes H and the loops D⁴ on the ends of the springs D², forming the binders. The back is formed with end portions I, and these ends are provided with transverse slots I', through which the rod F passes to hinge the covers to the back, the slots in one end being provided with blocks I², having screw-threaded openings to receive the screw-threaded ends of the rods. The covers being hinged to the rods, said rods will be moved toward each other in the slots I' by the bending of the binders when the book is opened, thus allowing the binders to bend more than they otherwise would.

In this construction any or all of the leaves may be very quickly and easily removed or others put in, it being only necessary to turn one of the rods by its milled head until it is disengaged from the screw-threaded opening in the block F, when it may be pulled out of the eye B⁴ and the back turned away from the leaves, which may then be lifted off the binders or new leaves slipped on. The device is also very inexpensive, as the parts are few and easy to make.

Having thus fully described my invention, what I claim is—

35 1. The combination with a back and covers, of a series of flexible binders, and means pivotally connecting the back, covers and binders whereby the ends of each binder are allowed

to move toward each other as the binders are flexed by the opening of the book. 40

2. The combination with covers and a back, of a hinge connection between said covers and back consisting of hollow pintles and a hinge member embracing said hollow pintles, binding members having openings in their ends, and rods passing through the openings in the binders and the hollow pintles. 45

3. The combination with covers, of a back provided with side flanges formed with eyes at their upper edges, hollow pintles formed by severing the eyes from the flanges for a distance at each end, eyes on the covers embracing said pintles, binding members having openings in their ends, and a rod extending through the binders and hollow pintles. 50

4. The combination, with covers, of eyes on said covers, a series of binders having openings in their ends, a back provided with side flanges outwardly turned at their edges to form eyes, said eyes being cut away to receive the ends of the binders and severed from the flanges at each end to form pintles for the eyes on the covers, blocks secured in one end of each of the eyes on the back flanges and having screw-threaded openings, and rods each extending through the eye on one flange and the openings in one end of the binders and having a screw-threaded end to engage the screw-threaded opening in the block. 55 60 65

In testimony whereof I affix my signature in presence of two witnesses. 70

EDWARD C. SUCKERT.

Witnesses:

LEWIS E. FLANDERS.

OTTO F. BARTHEL.