

No. 682,339.

Patented Sept. 10, 1901.

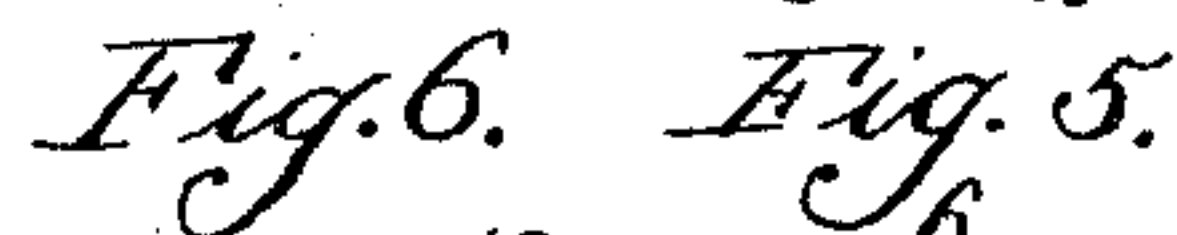
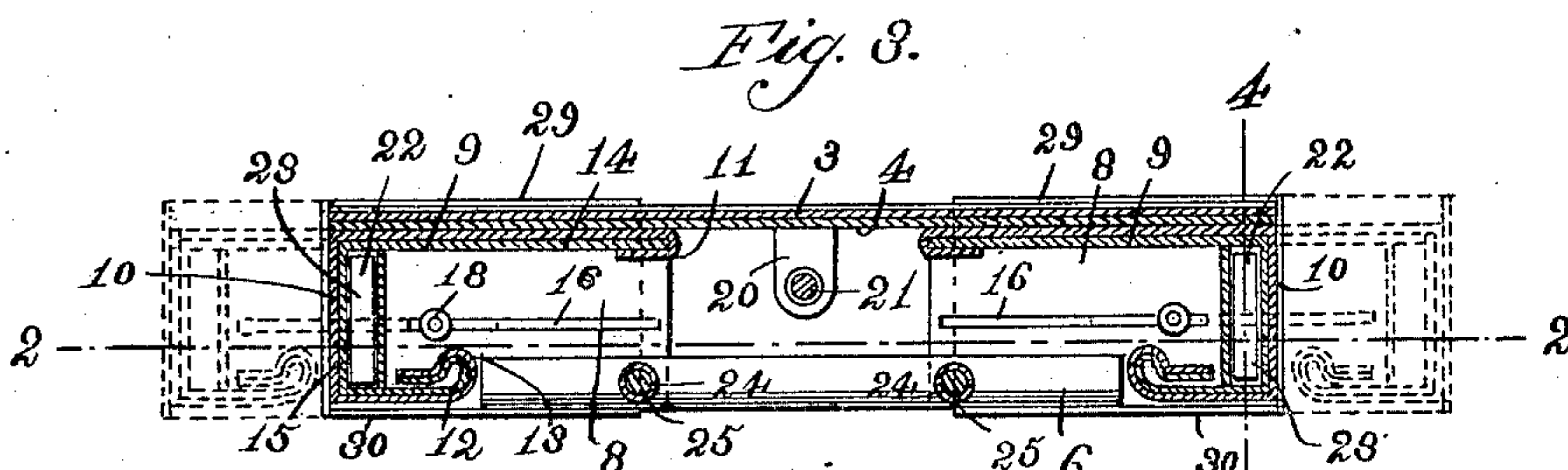
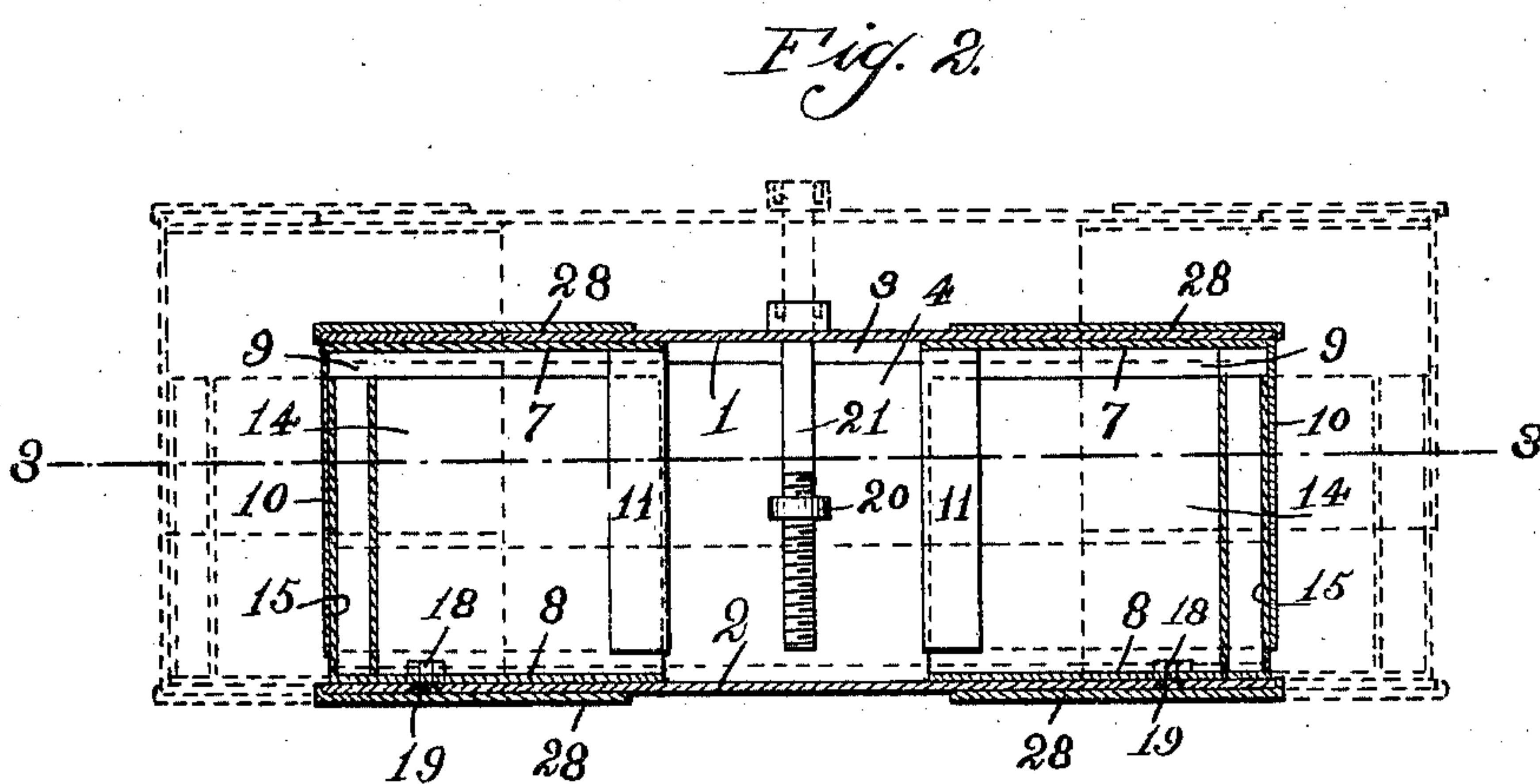
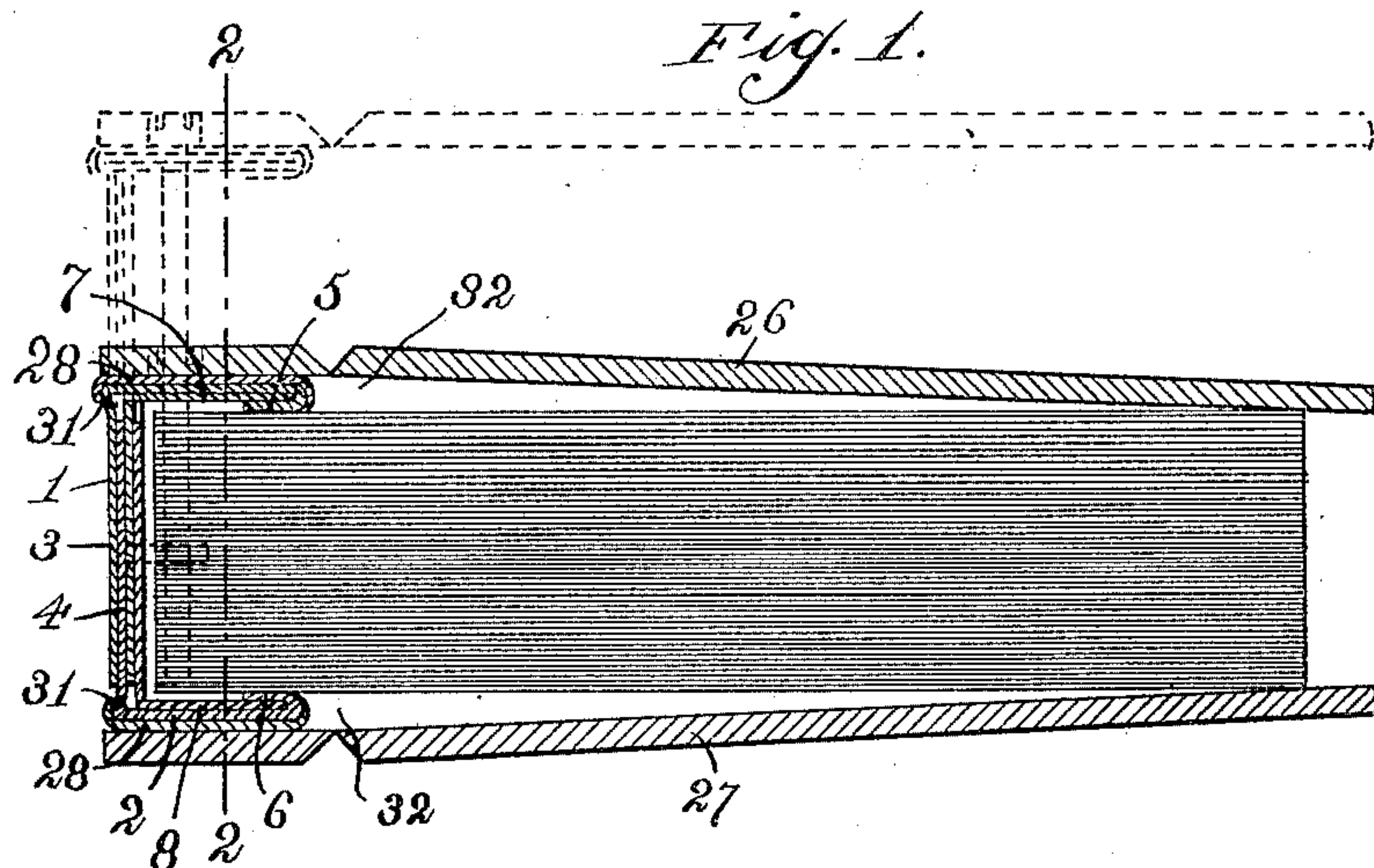
A. OPALLA.

LOOSE LEAF BINDER.

(Application filed Sept. 17, 1900.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses:

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P. W. Snowhook

Inventor:

Arthur Opalla

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Attorney.

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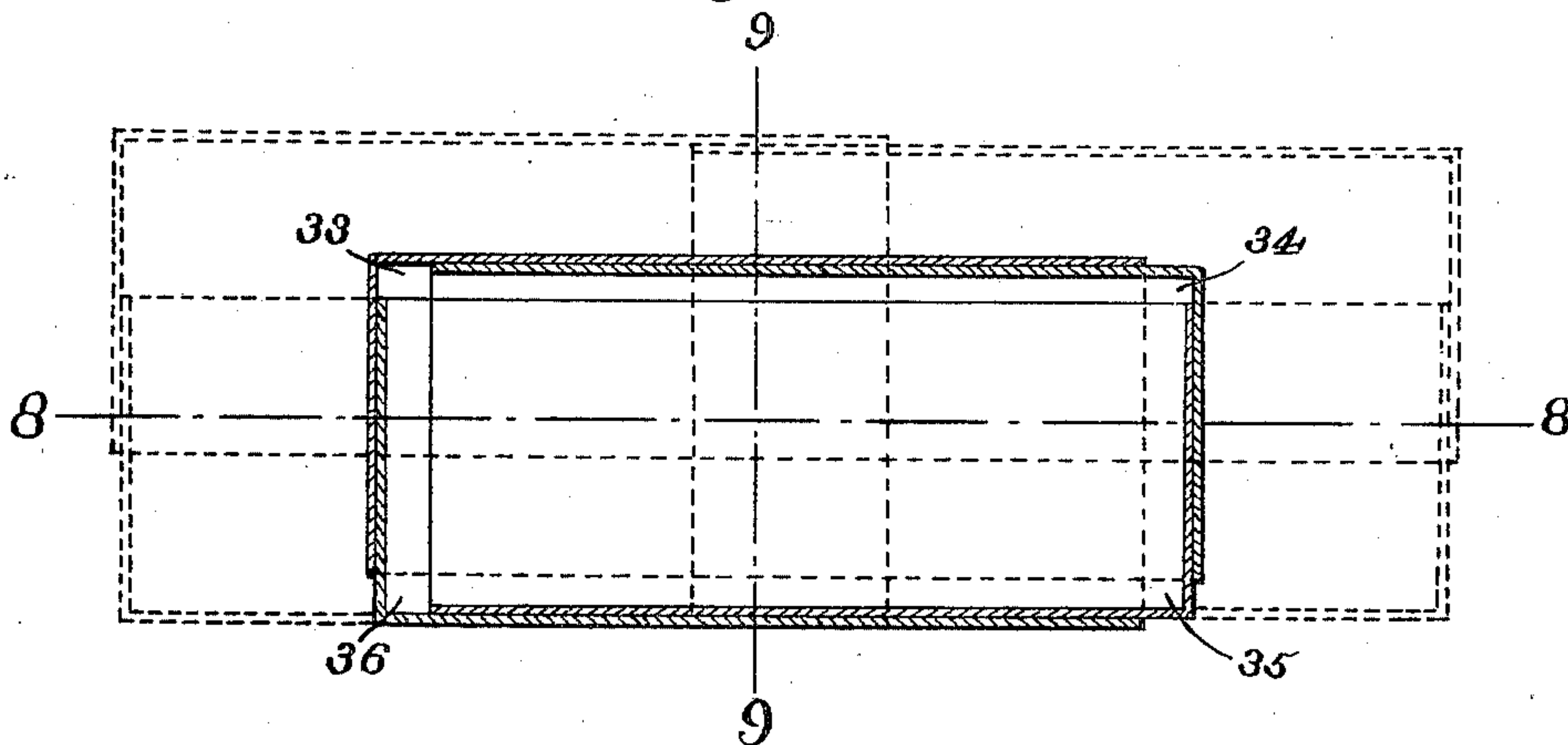
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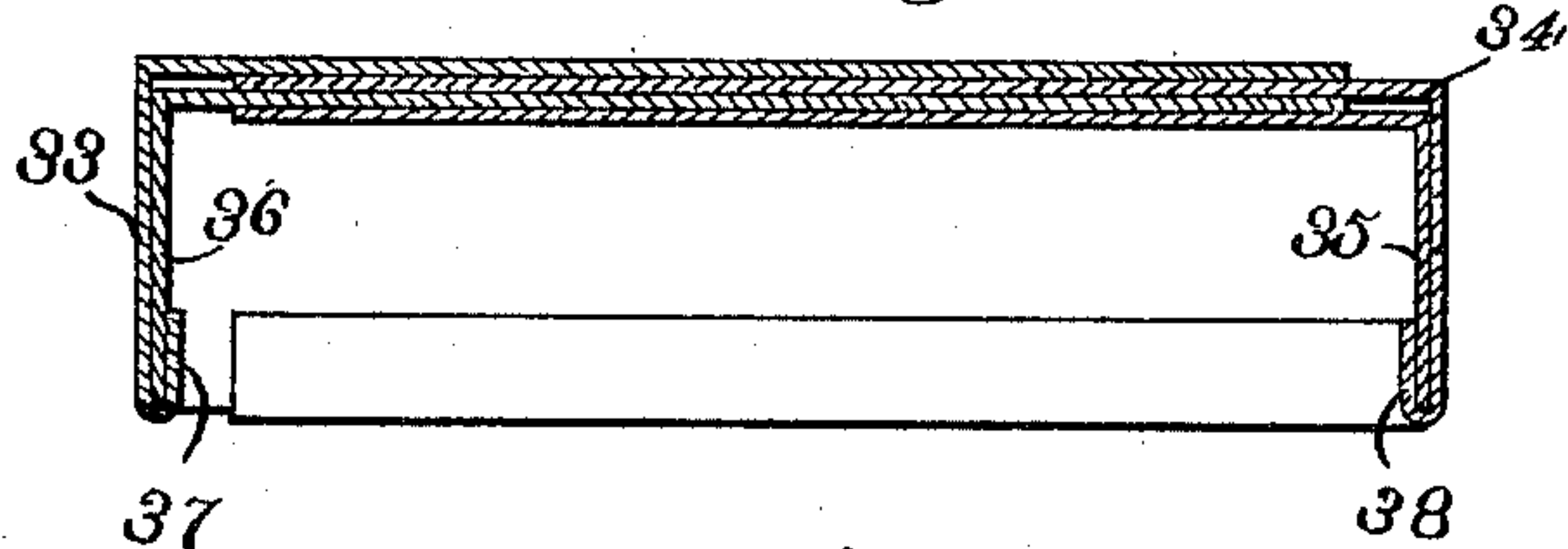
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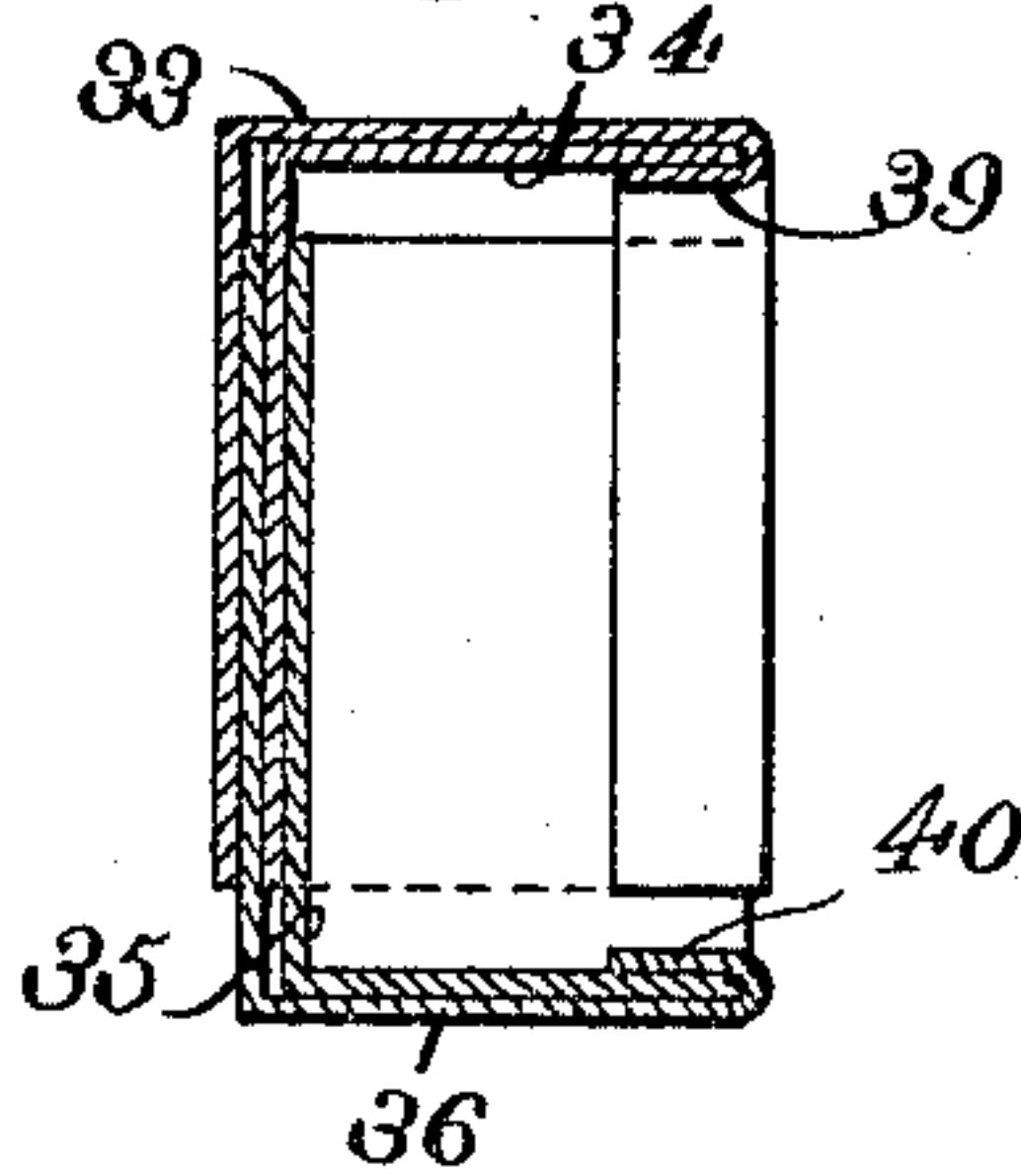
*Fig. 7.*



*Fig. 8.*



*Fig. 9.*



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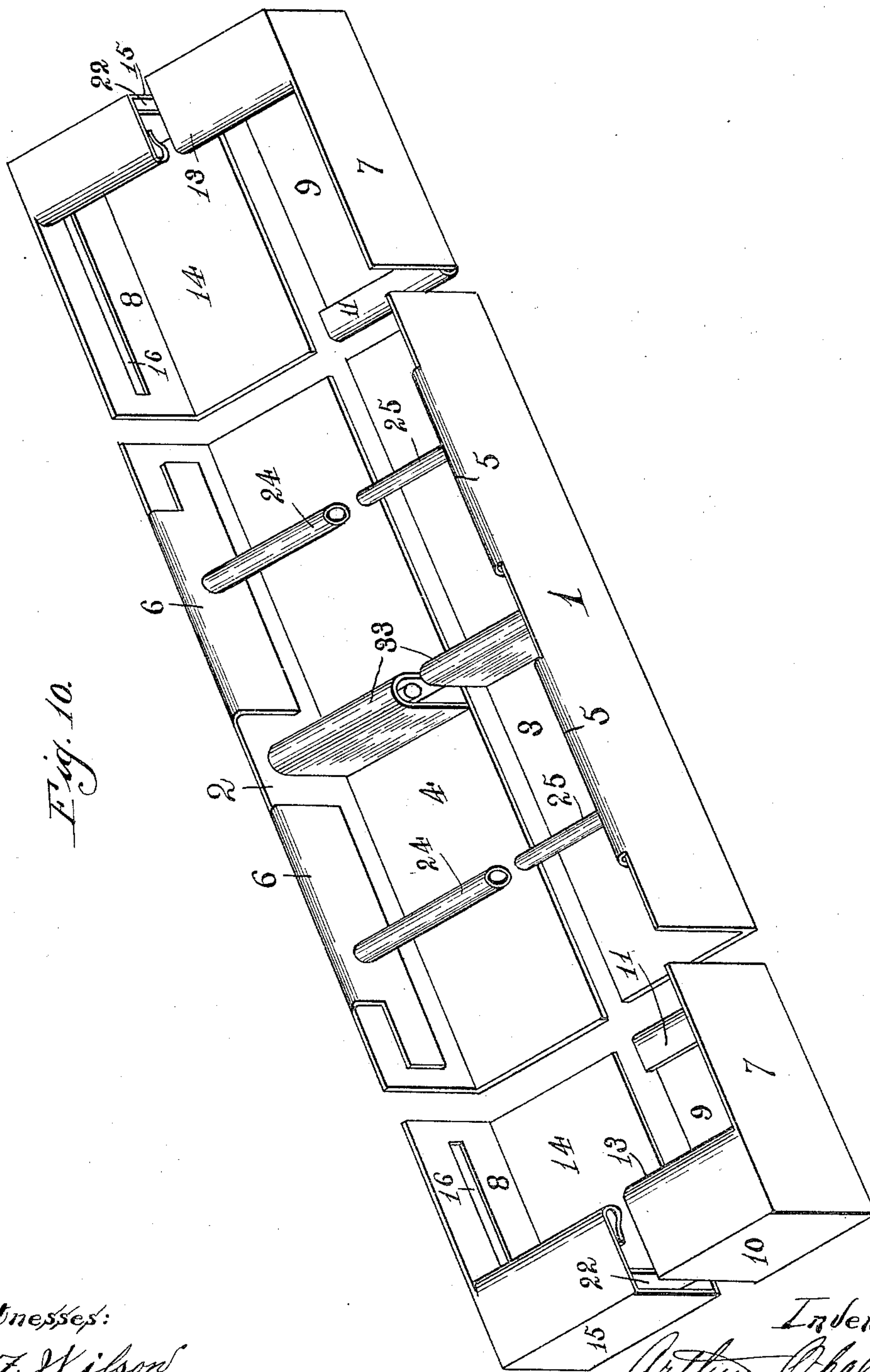
A. OPALLA.  
LOOSE LEAF BINDER.

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(No Model.)

3 Sheets—Sheet 3.

Fig. 10.



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# UNITED STATES PATENT OFFICE.

ARTHUR OPALLA, OF CHICAGO, ILLINOIS, ASSIGNOR TO OPALLA STRUBEN MANUFACTURING COMPANY.

## LOOSE-LEAF BINDER.

SPECIFICATION forming part of Letters Patent No. 682,339, dated September 10, 1901.

Application filed September 17, 1900. Serial No. 30,300. (No model.)

*To all whom it may concern:*

Be it known that I, ARTHUR OPALLA, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Loose-Leaf Binders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a novel construction in an adjustable book-back or loose-leaf binder, the object being to provide a device of this character which can readily be adjusted to suit leaves of various lengths and also to contain more or less leaves between its covers; and it consists in the features of construction and combinations of parts hereinafter fully described and claimed.

In the accompanying drawings, illustrating my invention, Figure 1 is a cross-section of a binder provided with a back made in accordance with my invention. Fig. 2 is a section on line 2 2 of Fig. 1, with the leaves removed. Fig. 3 is section on line 3 3 of Fig. 2. Fig. 4 is a section on line 4 4 of Fig. 3. Fig. 5 is a detail elevation of a clamping-screw and knob. Fig. 6 is a section on line 6 6, Fig. 5. Fig. 7 is a longitudinal section of a modified construction of back. Figs. 8 and 9 are sections on lines 8 8 and 9 9, respectively, of Fig. 7. Fig. 10 is a perspective view of the six-member back of slightly-modified form, showing the members in position to be slid together.

My device consists of a plurality of inter-fitting and relatively adjustable members so connected as to permit the device to be extended in length and depth. The said members comprise two principal members 1 and 2, both L-shaped and having two of their flanges 3 and 4 overlapping, thereby together forming a channel adjustable in width. The other flanges of said members 1 and 2 are bent over on their free ends to form guides 5 and 6. The said members 1 and 2 are connected together by means of two pairs of end members 7 and 8, as follows: Said end members 7 consist of a plate provided with a flange 9 on one of its long edges and with a flange 10 on one of its short edges, said flanges extending at right angles to each other. Said

flange 9 is bent over at its inner end to form a guide 11 and lies parallel and in contact with the flange 4 of the member 2. The member 7 lies upon the member 1 and extends into the guide 5 thereof. The flange 10 of said member 7 is of greater width than said member, thus leaving an extended tongue 12, which is bent at a right angle to said flange and flush with and at a right angle to the outer long edge of said member 7, and is then bent inwardly on a curve to form a guide 13 of peculiar shape. The member 8 is provided with flanges 14 and 15, corresponding to the flanges 9 and 10 of the member 7 and fitting telescopically within the latter. The said member 8 lies upon the member 2 and enters the guide 6 at its free end. By means of their engagement with each other and with said guides 5 and 6 said members 7 and 8 are held against relative longitudinal movement, but are free to move away from or toward each other. The said members 8 are each provided with a longitudinal slot 16, adapted to receive lugs 17 on nuts 18, entered by screws 19 passing through said openings in said members 2. Said nuts and screws form clamps whereby the members 8 are clamped rigid with said member 2, thereby holding the former against longitudinal movement. The flange 4 of said member 2 carries a projection 20, provided with a screw-threaded opening, which receives the end of a bolt 21, revolvably mounted in the member 1 and by means of which said members 1 and 2 are held against relative longitudinal movement and are moved toward each other.

The members 8 are each provided with a pocket 22 to receive a spring 23, bearing at its ends against the members 7 and 8, respectively, and holding same normally at the outer limits of their movement. Thus by turning the bolt 21 in one direction the members 1 and 2 and 7 and 8 would move toward each other against the action of said springs, and by turning same in the other direction the springs would force them apart.

The flanges 5 and 6 do not extend the entire length of the members 1 and 2, but are cut away at their ends to accommodate the guides 13. If desired, tubes 24 may be mounted on the guides 6 and pins 25 on the guides



5, forming telescopic posts to enter perforations in the sheets.

The members 1 and 2 are not movable longitudinally with relation to each other, but only vertically, and each pair of members 7 and 8 are movable longitudinally with relation to the members 1 and 2, but only vertically with relation to each other.

The object of making a ledger-back adjustable in both directions is not to enable the consumer to adjust it, but mainly to save the manufacturer the expense of making a large number of sets of dies, as ordinarily a complete set would be required for each size of back. Thus if a manufacturer receives an order for a back ten inches long and two inches deep and another for a back twelve inches long and three inches deep he has only to cut the members 1 and 2 to proper length for each border, fit the end members thereto, and then adjust the end members for the desired depth. The consumer is supposed to only and seldom does require more than that the depth be adjustable, as will be obvious, as if he were to adjust the length the sheets would not fit. However, should the consumer desire to extend the length of the back to accommodate large sheets he can do so. In dotted lines, Figs. 2 and 3, I have shown my device extended in both directions, and for purposes of illustration the members 1 and 2 are shown to be of same length, as shown in full lines. The covers 26 and 27 are removably mounted on said back in the following manner: Said covers each consist of two parts hinged together, one part being a narrow strip of about the same width as the members 1 and 2. Rigidly secured to each of said narrow strips are two sheet-metal plates 28, provided on three of their edges with narrow flanges 29 and 30, the distance between the edges of the flanges 29 being slightly less than the width of the members 1 and 2, so that they can be sprung over the latter, a small bend or shoulder 31 being provided on the members 1 and 2 where same are bent to form the flanges 3 and 4. The flanges 30 are adapted to engage the ends of the members 1 and 2 to prevent the covers from sliding off. Tongues 32 are provided on said flanges 29, engaging the front edges of the members 1 and 2, which may be engaged by the thumbs to remove said covers from the back.

In Figs. 7, 8, and 9 I have shown a modified form of my back, consisting of four box-corners 33, 34, 35, and 36, telescopically fitted together by means of flanges forming guides 37, 38, 39, and 40, so that they are telescopically movable relatively to each other and extensible in two directions. Where this construction is employed, the back must be adjusted to size before mounting the sheet-holding devices and covers. After the latter have been mounted the parts are adjustable

only vertically. The locking device 33 (shown in Fig. 10) is of a modified form; but as I do not claim the same as my invention particular description of same is omitted. In Fig. 10 I have illustrated a slightly-modified form of the six-member binder in perspective, this binder being quite shallow and the guide 6 being cut away in its middle portion to make room for the locking device 33. The outer ends of said guides 6 are extended and project to the rear of said guides 13 when the members 8 and 9 are at their innermost positions. These modifications, however, are not essential to either the strength or working of the device, as the guides 6 are strong enough in either case.

I claim as my invention—

1. In a loose-leaf binder, the combination with two members relatively movable in one direction and provided with guides, of a plurality of members movable in said guides and interfitting with each other, whereby said binder is expansible in two directions, devices carried by said members for holding sheets, and means for removably mounting covers on said back.

2. In a loose-leaf binder, the combination with four or more interfitting members relatively telescopically movable to make said back expansible in two directions, of devices for locking said members against movement in one direction, and devices for adjusting same in the other direction comprising springs bearing at their ends against opposite members, a bolt carried by one member and a nut carried by another member to receive said bolt, whereby by turning said bolt said members are forced toward or away from each other.

3. In a loose-leaf binder, the combination with a plurality of interfitting members movable telescopically with relation to each other to expand or contract said back in two directions, of devices for locking said members against relative movement to expand or contract said back in one direction, springs interposed in said back to normally expand said back in one direction, and devices engaging two of said members for contracting said back in said direction against the action of said springs.

4. In a loose-leaf binder, the combination with a back comprising a plurality of interfitting members relatively telescopically movable to expand or contract said back in two directions, of removable covers on said back, and devices carried by said back for securing sheets therein.

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

ARTHUR OPALLA.

Witnesses:

E. F. WILSON,  
ERWIN J. LOTZ.