

No. 773,728.

PATENTED NOV. 1, 1904.

J. W. GARDAM.
LOCKING DEVICE FOR LOOSE LEAF BINDERS.
APPLICATION FILED MAY 31, 1904.

NO MODEL.

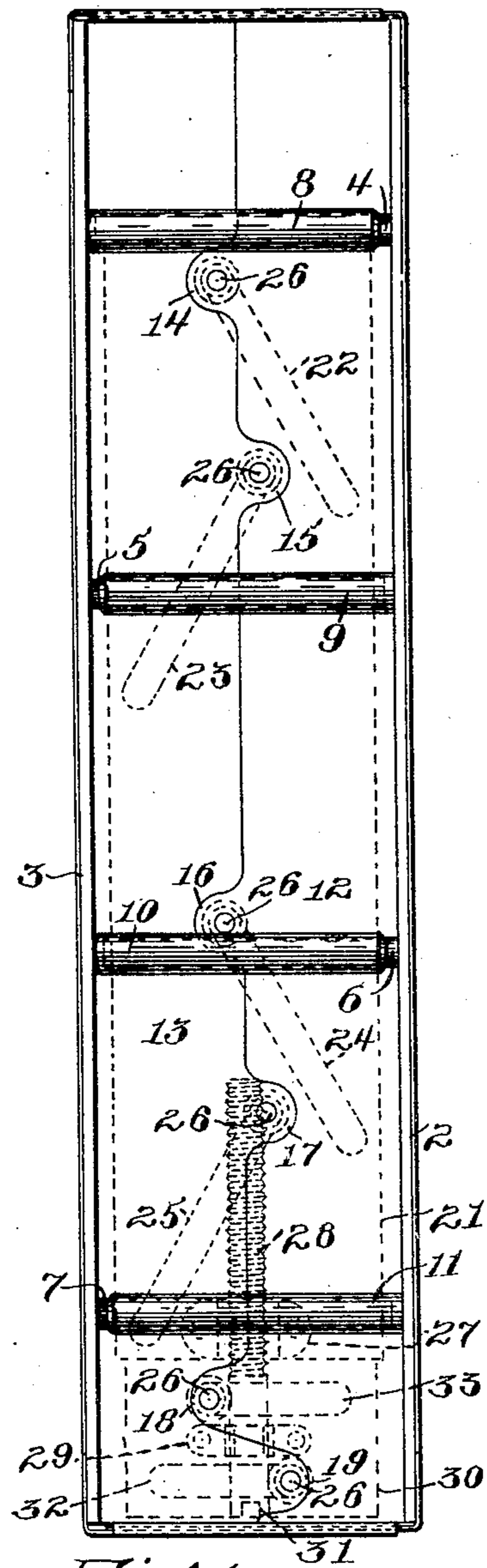


Fig. 1.

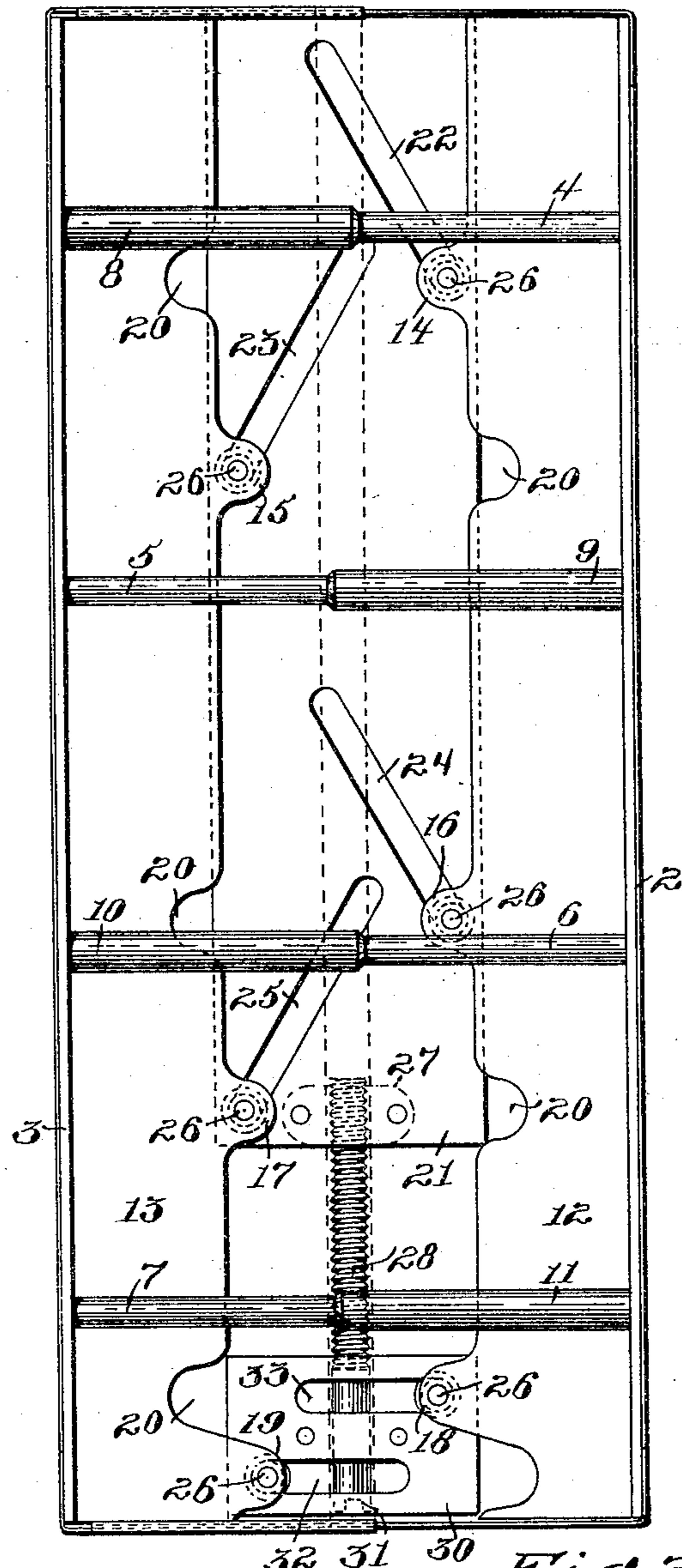


Fig. 2.

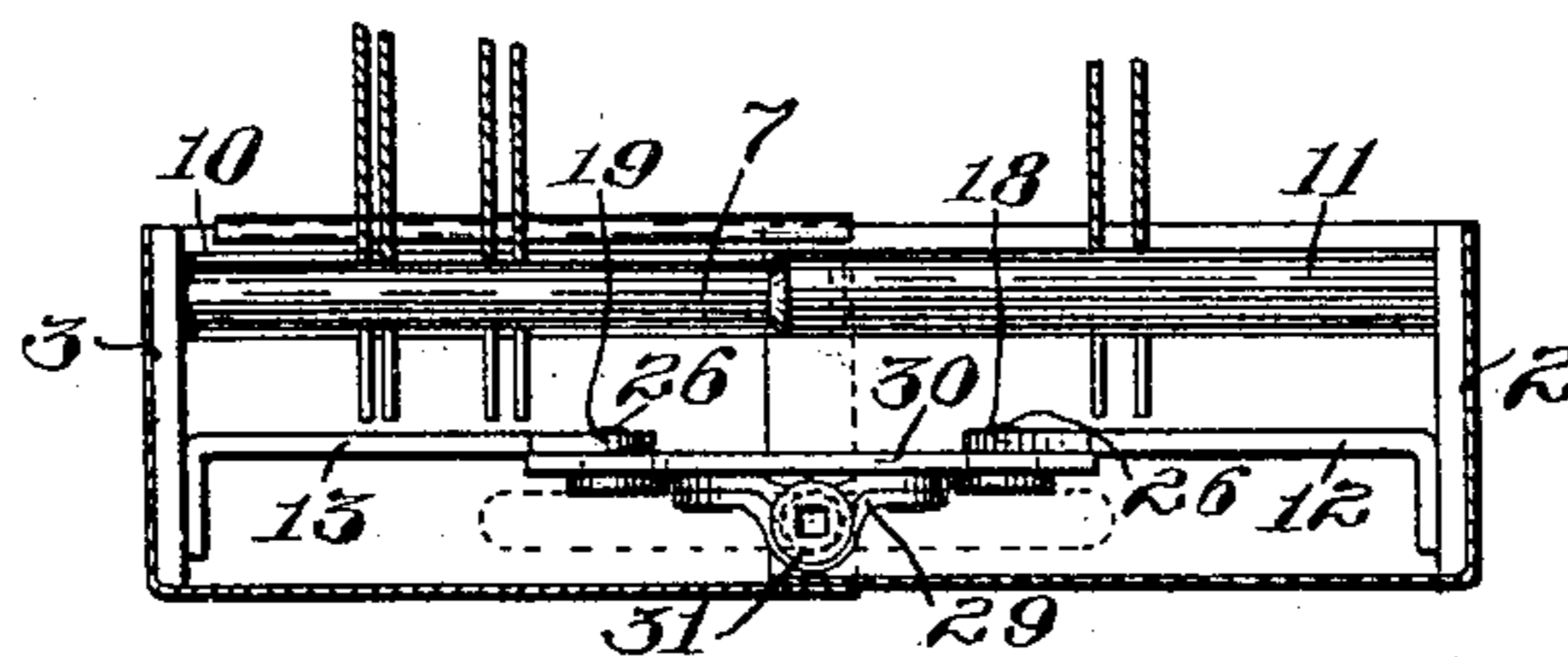


Fig. 3.

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UNITED STATES PATENT OFFICE.

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LOCKING DEVICE FOR LOOSE-LEAF BINDERS.

SPECIFICATION forming part of Letters Patent No. 773,728, dated November 1, 1904.

Application filed May 31, 1904. Serial No. 210,328. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH W. GARDAM, a citizen of the United States, residing in New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Locking Devices for Loose-Leaf Binders, of which the following is a specification.

This invention has reference to means for mechanically binding a plurality of leaves into book form.

It is an object of the invention to provide a device of compact form and yet whose construction is such as will permit a wide range of extensibility for the purpose of accommodating a large number of leaves.

It is a further object of the invention to produce an efficient, durable, and inexpensive device.

An embodiment of the present invention is illustrated on the accompanying drawings, in which—

Figure 1 shows an elevational view of a mechanical binder in its closed position. Fig. 2 is a similar view showing a binder in the open position, and Fig. 3 is an end sectional view thereof.

Similar characters of reference indicate like parts throughout the various figures.

The binder may comprise a casing formed of two sections 2 and 3, one of which is telescoped into the other, as seen in Figs. 1 and 2, and each one of the sections may be provided with rods or tubes 4, 5, 6, and 7, respectively, which are telescoped into corresponding tubes 8, 9, 10, and 11, for instance, as seen in Fig. 2. Within each one of these sections may be mounted a plate 12 and 13, respectively. One edge of each is provided with extended members 14 and 15, 16 and 17, 18 and 19, respectively, and to accommodate these members when the device is closed, as shown in Fig. 1, each plate may be also provided with recesses or depressions 20. Preferably located beneath the plates 12 and 13 is a plate 21, which is provided with cams which in the present instance preferably comprise slots 22, 23, 24, and 25, and the lugs 14, 15, 16, and 17, respectively, on the plates 12 and

13 are so located as to register along these slots, and these lugs and plate 21, respectively, are united together by rivets 26 passing through the various lugs aforementioned and into the various cam-slots aforementioned, as seen, for instance, clearly in Fig. 2. To the under side of the plate 21 may be secured a screw-threaded bearing 27, into which takes an elongated screw-threaded member 28, which is suitably journaled in stationary bearings 29, carried by a plate 30, located at the forward end of the binder, and this screw-threaded member is provided with a head 31, adapted to receive a key, whereby the same may be turned. The plate 30 is provided with slots 32 and 33, respectively, and with these slots register the lugs 18 and 19, respectively, and which are connected to said plate by suitable rivets in a manner hereinbefore mentioned.

On turning the screw 28 the plate 21 is urged along the longitudinal axis of the casing, and the rivets passing through the various lugs on the plates 12 and 13 will likewise travel along the slotted cams hereinbefore mentioned to gradually draw the plates toward each other until the casing is finally closed, as shown in Fig. 1, when the casing is closed.

It will be observed that the various points of connection between the plates 12 and 13 and the plate 21 lie on opposite sides and beyond the center meeting line of the two plates, and in this way the device can be made to occupy a very small space. At the same time it will also be observed that by extending the various lugs out beyond the face of the plates 12 and 13, respectively, a wider range of extensibility is possible without the necessity of forming the various plates or cam-slots of unnecessary extended proportions.

As is obvious, when the leaves are placed around the retaining-posts the screw-threaded member 28 may be manipulated, which will draw the sections 2 and 3 together, and thus close them upon the leaves, clamping the latter permanently in place. It will be observed also that I provide a construction wherein

connections between the actuating-plate 21 and the section-plates 12 and 13 extend out beyond the line of the section-plates, so that a wider range of extensibility may be obtained without the necessity of unnecessarily elongating the cam construction of the plate 21. It will also be observed that it is not necessary to confine myself to the present structure shown, as obvious modifications or relations of parts may be resorted to within the spirit of this invention. For instance, the slotted cam may be contained in the plates 12 and 13 rather than the plate 21, and the lugs may be placed upon the plate 21 instead of the plates 12 and 13. It will also be noted that any suitable device for actuating said plate 21 may be adopted at will.

Having thus described my invention, I claim--

1. In a device of the character specified, the combination with a sectional casing adapted to open and close upon itself, of extensible leaf-retainers, a plate carried by each section of the casing, lugs extending from the edge of each plate, and means coöperating with said lugs whereby to spread said plates apart and bring them together at will, said lugs

when said plates are closed together extending beyond the meeting line of the plates.

2. In a device of the character described, the combination with a casing formed of two sections, one telescopic upon the other, of a plate provided with cams and adapted to open and close said sections, and means projecting from said sections to coöperate with said cams, said means being so arranged that when the sections are closed together said means will lie beyond the main portion of the meeting line of the parts when in closed position.

3. In a device of the character described, the combination with two sections one telescoping upon the other, of a plate carried by each section, lugs extending from the edges of each plate, a secondary plate provided with cams which coöperate with said lugs, and means for actuating said secondary plate longitudinally, whereby to draw said first-mentioned plates together or spread them apart at will.

Signed at Nos. 9 to 15 Murray street, New York, N. Y., this 27th day of May, 1904.

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