

No. 726,957.

PATENTED MAY 5, 1903.

F. MACEY.
DOOR FOR SECTIONAL BOOKCASES.
APPLICATION FILED MAY 16, 1901.

NO MODEL.

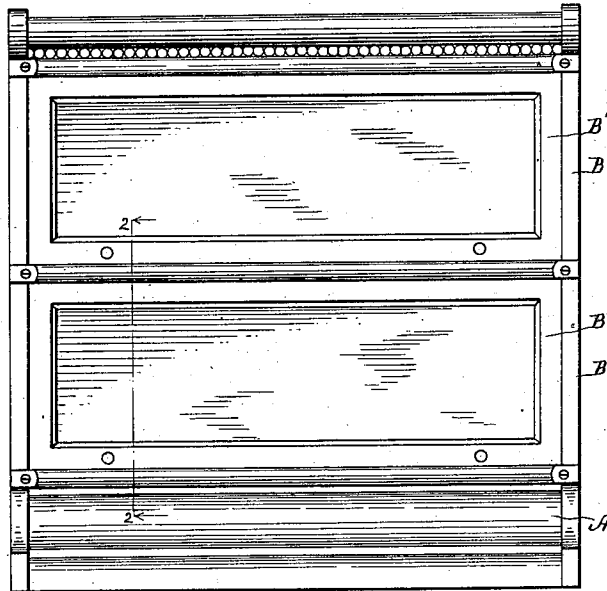


Fig 1

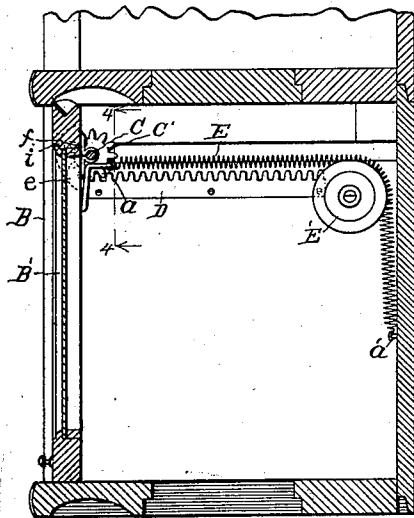


Fig 2

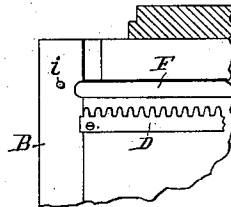


Fig 3

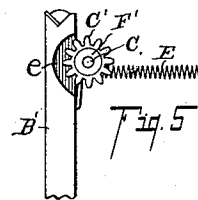


Fig 5

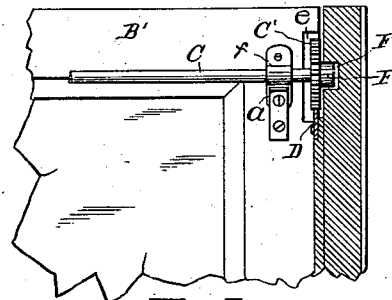


Fig 4

Witnesses:

S. A. Earl
O. A. Earl

Inventor,

Frank Macey
By *Fred L. Chappell*
Att'y.

UNITED STATES PATENT OFFICE.

FRANK MACEY, OF GRAND RAPIDS, MICHIGAN.

DOOR FOR SECTIONAL BOOKCASES.

SPECIFICATION forming part of Letters Patent No. 726,957, dated May 5, 1903.

Application filed May 16, 1901. Serial No. 60,512. (No model.)

To all whom it may concern:

Be it known that I, FRANK MACEY, a citizen of the United States, residing at the city of Grand Rapids, in the county of Kent and State of Michigan, have invented a certain new and useful Door for Sectional Bookcases, of which the following is a specification.

This invention relates to an improved door and actuating mechanism therefor, the same being especially adapted and intended for use in sectional bookcases.

As constructed prior to this invention sectional bookcases were provided with doors having a double movement. They were supported on pivots which permitted the door to swing down and cover the front of a section, and guideways or recesses were provided in the upper part of the section which permitted the door to be moved back after it was swung to the proper horizontal position.

The chief object of this invention is to provide tension devices for the door, whereby the door becomes largely automatic in its operation.

Minor objects will appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in this specification.

The invention is clearly defined and pointed out in the claims.

A structure embodying the features of my invention is fully illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a front elevation of a sectional bookcase containing my improved door and actuating mechanism. Fig. 2 is an enlarged detail view on a line corresponding to line 2 of Fig. 1. Fig. 3 is a detail view of the upper inner end of one of the sections, showing the relation of the rack and end grooves and the lock. Fig. 4 is a detail sectional view on line 4 4 of Fig. 2. Fig. 5 is a detail end view of the upper edge of the door, showing the relation of the pinion, spring, &c., thereto.

In the drawings the sectional views are taken looking in the direction of the little arrows at the ends of the section-lines, and similar letters of reference refer to similar parts throughout the several views.

Referring to the lettered parts of the draw-

ings, A is the base of a sectional bookcase, on which the sections are placed.

B is the framework of a single section, having ends, sides, and skeleton top and bottom.

B' is the door, which is adapted to swing down and close the front of the section when it is drawn forward and is adapted to recede into the proper part of the section when opened. On the upper inner side of the door I provide a shaft C, having pinions C' at each end, and racks D, which the pinions engage, and thereby a parallel movement is secured.

On the ends of the shaft C, I provide little rollers F', that extend into the guideways F to insure the engagement of the racks and pinions. I connect the spring E, which is preferably a coiled spring, to the inside of the section, extended over suitable guides when necessary, and connect it to the upper inner side of the door B' when it is arranged in its closed position. The spring is here extended over a guiding-pulley E', because the relative width and height of the section are such that it is necessary to extend the spring to one side to admit of sufficient play of the same; but if the section were twice as wide as it is high no such guiding means would be required. When the door is drawn forward, it puts a stress on the spring E; but when it is swung down to the front the resistance of the spring is overcome by the lever-lock action of the door, so that the door easily rests in the closed position. This is particularly true if the spring is connected in close relation to the pivotal point. Thus when the door is in the closed position the spring is constantly under tension. When it is desired to open the door, the door is swung outwardly and upwardly to the horizontal position, when of course the lever action of the door ceases and the door is withdrawn by the action of the spring into the upper part of the case. Therefore all that is required to open the case is to swing the door outwardly as though it were an ordinary door, and when the door reaches the proper position it will be automatically withdrawn into the case. On the other hand, when it is desired to close the section it is obvious that the door must be drawn out, when it will swing down into the closed position, and the spring will be automatically locked ready to perform its func-

tion of automatically withdrawing the door when it is swung up again. It is perfectly obvious that this connection can be made use of without the racks and pinions for securing the parallel movement of the door; but this device is a very desirable one to use in this connection. It does not matter in what manner the spring is used, so long as the proper connections are made to withdraw the door. I have shown a coiled wire spring for this connection; but any elastic connection might be employed for the purpose, such means being very common indeed—for instance, in lamp-hangers, curtain-rolls, and similar devices.

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

1. The combination of a suitable receptacle; a door therefor pivoted at its upper edge and adapted to close down over the front and to be swung out and moved into a recess in said receptacle; a spring connection from the inside of the receptacle to the inner side of the door, whereby the door, when pulled outward and swung to the closed position will automatically retain the spring under tension so that when the door is swung open, it will be automatically withdrawn into the receptacle, as specified.

2. In a sectional bookcase, the combination of a section and door having a pivot-joint toward its upper edge with a suitable way in the upper part of the section to receive the door after it has been swung open and moved back; a spring connected within the section and extended and connected to the inner side of the door, whereby when the door is moved out and swung to the closed position, it puts tension on the spring and automatically retains it in position so that

when the door is swung open, it will be automatically withdrawn into the section, as specified.

3. The combination of a suitable receptacle; a door having pivots toward its upper edge and adapted to swing down over the front of the receptacle; suitable ways in the receptacle to receive said door; a spring connection from the inside of the receptacle to the inside of the door whereby the door when pulled out and swung to the closed position will automatically retain the spring under tension so that when the door is swung open it will be automatically withdrawn into the recess in the receptacle, as specified.

4. The combination of the bookcase section or box B open at its front; a door with pivots at each end; a horizontal guideway for the door; a coiled spring secured within the case at one end and to the door at the other; and a suitable guiding-pulley over which the same extends, the same being arranged to withdraw the door into the section when the door is swung to the horizontal position, as specified.

5. A bookcase comprising a box or crate, having an open front, a door suspended in said front portion adapted to swing upwardly and then slide rearwardly, a spring secured at one end to the rear portion of the crate and at the other end to the said door whereby the door is drawn rearwardly when brought to a horizontal position, substantially as described.

In witness whereof I have hereunto set my hand and seal in the presence of two witnesses.

FRANK MACEY. [L. S.]

Witnesses:

CARL HESTER,
MAUD F. MATHESON.