

No. 641,459.

Patented Jan. 16, 1900.

F. MACEY.  
SECTIONAL BOOKCASE.

(Application filed Sept. 7, 1899.)

(No Model.)

2 Sheets—Sheet 1.

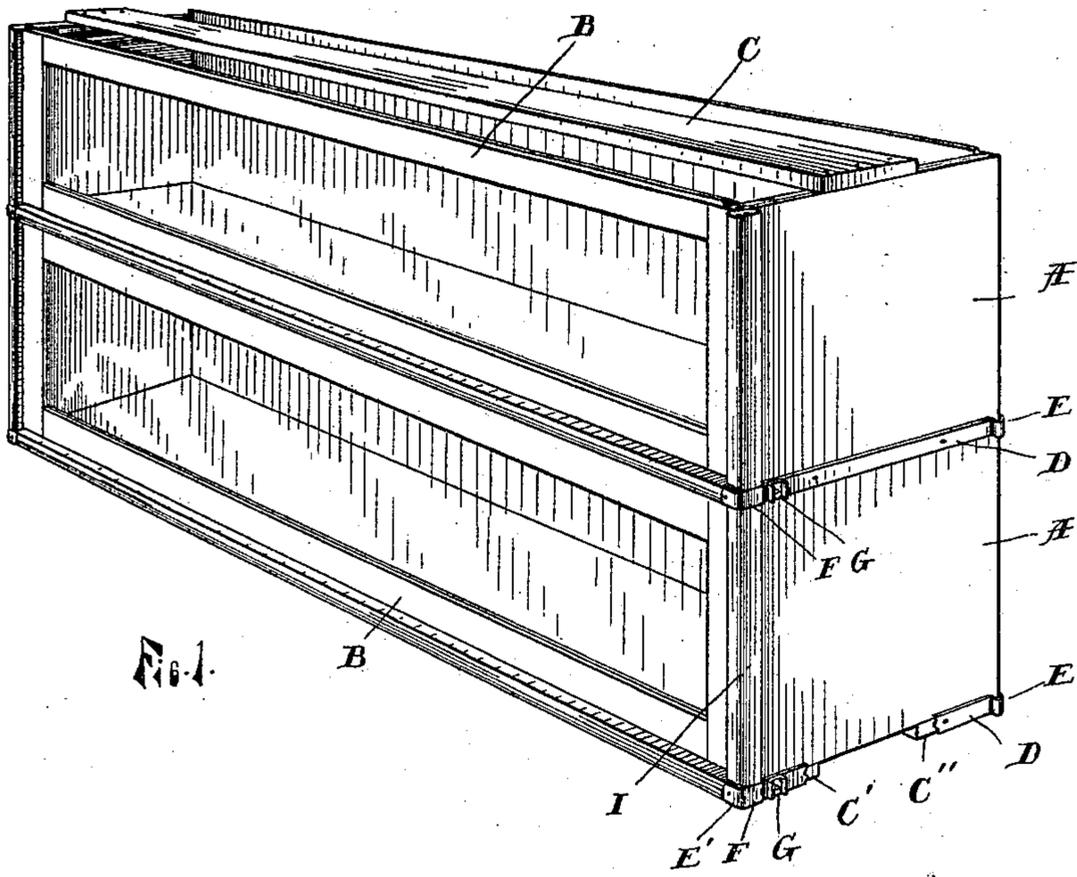


Fig. 1.

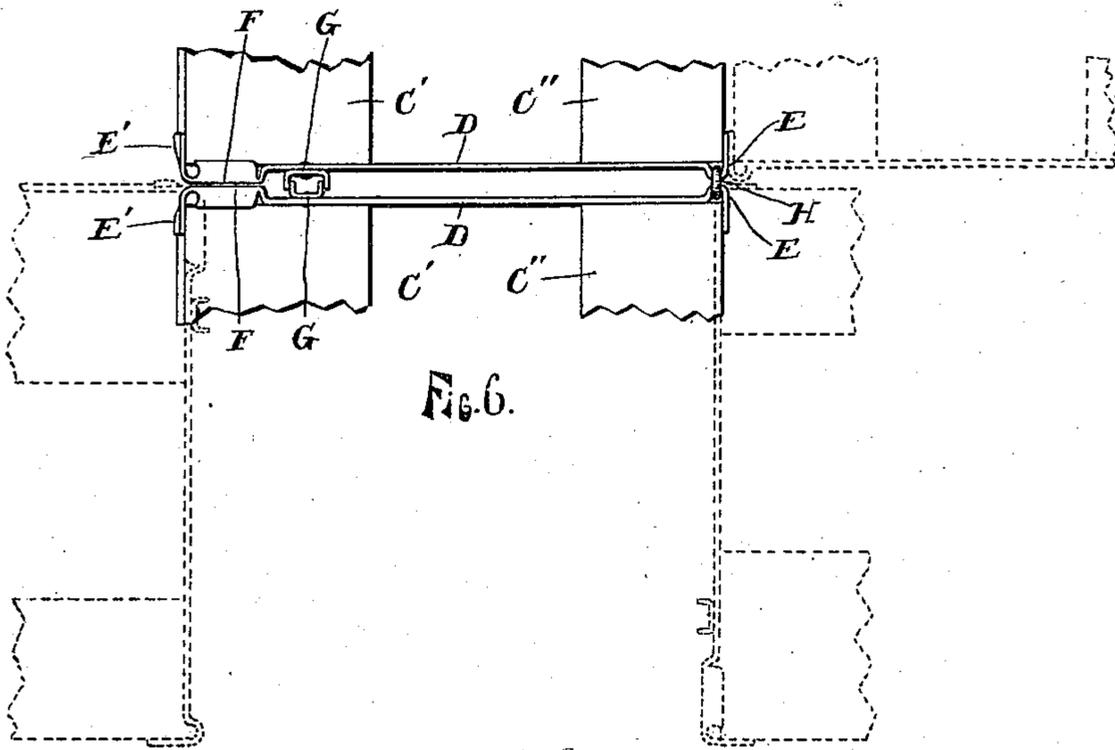


Fig. 6.



Fig. 7.



Fig. 8.

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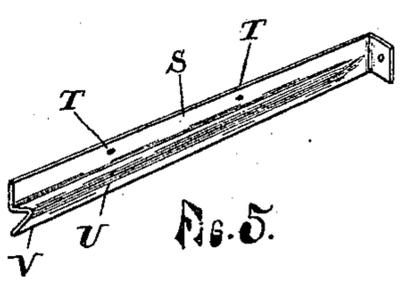
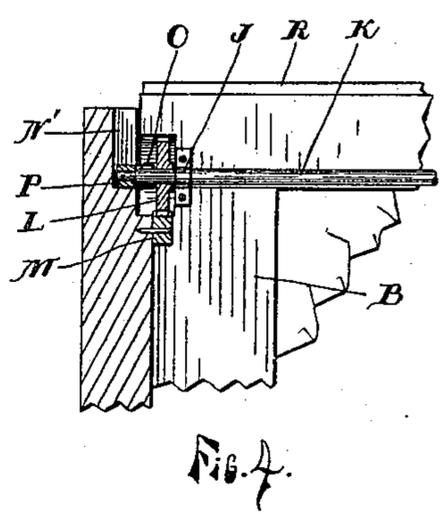
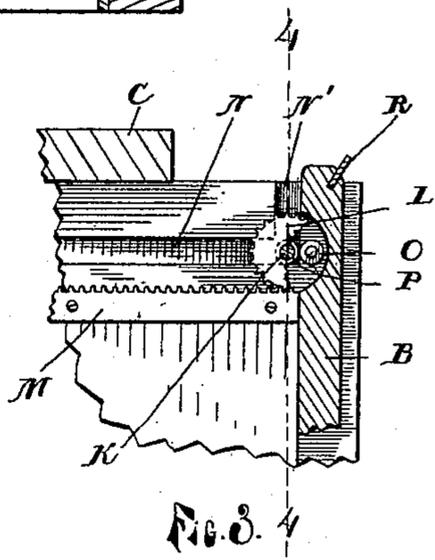
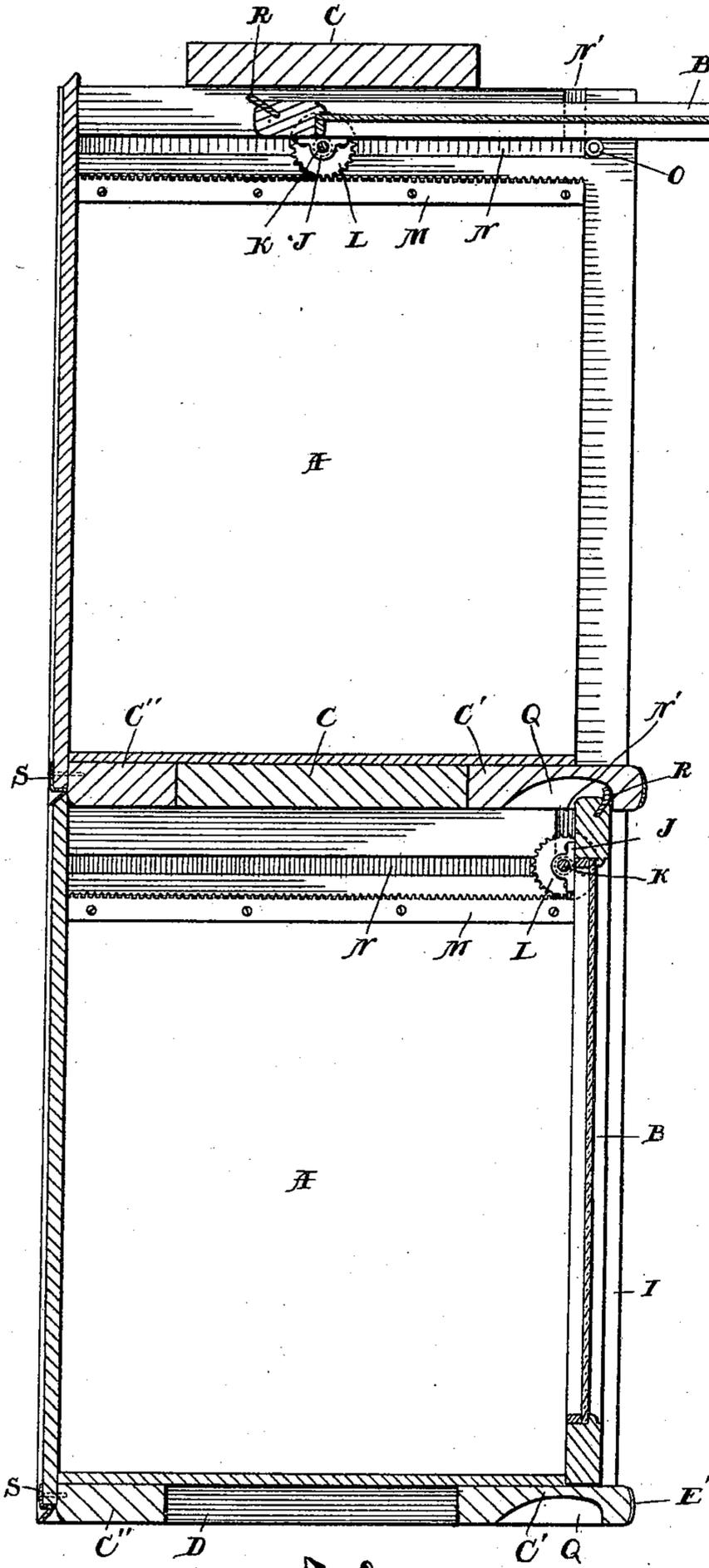
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2 Sheets—Sheet 2.



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# UNITED STATES PATENT OFFICE.

FRANK MACEY, OF GRAND RAPIDS, MICHIGAN.

## SECTIONAL BOOKCASE.

SPECIFICATION forming part of Letters Patent No. 641,459, dated January 16, 1900.

Application filed September 7, 1899. Serial No. 729,698. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK MACEY, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Sectional Bookcases; 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 improvements in sectional bookcases; and its object is to provide means for pivotally supporting the front of a section and preventing the same from binding when run back within the top of the section, to provide an improved joint at the back of the sections, to provide improved couplings for the ends of the sections, to provide an improved arrangement of the dust-strip for the front of the sections, and to provide the device with certain other new and useful features hereinafter more fully described, and particularly pointed out in the claims.

My invention consists, essentially, in providing each front with a rod journaled in bearings on the front, whereby the same is pivotally supported, and means at each end of the front for guiding the front and connected by said rod, whereby the front is caused to run back equally at each end, and is thus prevented from binding; also, in providing an improved joint-strip for the back, having the form shown and made of sheet metal; also, in arranging a strip of rubber or other flexible material radially to the axis on which the door turns and having its free edge adapted to engage and traverse the concave side of a recess in the section above and to engage the vertical forward side of said recess when the front is closed; also, in providing metallic strips for the ends of the sections, having semicylindrical portions at the angles and coupling-staples to engage the same, all as hereinafter more fully described, and particularly pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective of two sections of a bookcase embodying my invention; Fig. 2, an enlarged vertical section of the same; Fig. 3, a detail of the door guiding and pivoting

mechanism; Fig. 4, a sectional detail of the same on the line 4 4 of Fig. 3; Fig. 5, a detail of a portion of the joint-strip for the back; Fig. 6, a detail in plan view of the end couplings, showing various positions of the sections in dotted lines; Fig. 7, an elevation of one of the coupling-strips, and Fig. 8 a perspective detail of the coupling-staple.

Like letters refer to like parts in all of the figures.

A A represent two sections of a case, having fronts B B adapted to swing outward at the bottom to a horizontal position and then run back horizontally into the top of the case. Each section is provided with a middle top strip C and front and rear bottom strips C' and C'', these three strips forming the dividing-shelf between the sections. The ends of these strips are covered by strips of sheet metal D, extended around the corners of the sections and secured thereto, and also provided with tubular portions E and E' at the respective corners of the case to receive the respective parallel prongs of a coupling-staple H, made of round rod and bent, as shown in Figs. 6 and 8. Transverse flanges G, arranged in pairs, one pair adapted to embrace the other pair, as shown in Fig. 6, are attached to the strips D to insure correct alignment of the sections when placed end to end. A portion of each strip D adjacent to the front end thereof is set off outward and turned inward at its respective upper and lower sides to complete the lines of the abutting finishing-strip I on the sections, and the ends of these flanges are concaved and abut against the coupling-staples. The dotted lines in Fig. 6 show some of the various relative positions in which the sections may be arranged and coupled together by this device.

Attached to the inner side near the upper part of the front B are bearings J, in which is journaled a rod K, extending across the upper part of the front and beyond the same at each end. On the ends of this rod K are rolls P, which engage and traverse grooves N, extending horizontally in the upper part of the respective ends of the sections from the back thereof to near the front of the same and thence extending upward to the top of the ends. Adjacent to the front side of each end is a fixed roll O in the plane of the groove N

and adapted to support the front B and permit free movement thereof. Near each end of the rod K is rigidly attached a pinion L, and these pinions engage racks M, attached  
5 to the respective ends of the sections and arranged parallel to the grooves N.

Q is a concave recess in the under side of the strip C'', said recess having its surface concentric with the axis of the rod K, except  
10 at the forward side, where the surface of the recess curves abruptly downward and extends vertically to engage the front B and the strip R. To serve as a dust-stop, a strip of rubber or other flexible material R is inserted  
15 in a groove cut diagonally in the upper forward corner of the front B, said strip extending in a plane radial to the axis of the rod K and having its free edge extending diagonally outward and upward from the front and yield-  
20 ingly engaging the inner surface of the concave Q near the front side thereof when the front B is closed, and traversing the concave when the front is opened or closed. The adjacent edges of the back of each section are  
25 joined by a strip of sheet metal, (shown in Fig. 5,) the same being grooved longitudinally and having the vertical part S, provided with openings T, for securing it to the lower edge of the back by nails extending through the back and  
30 into the back strip C'', and a middle portion U, extended at right angles to the portion S, to engage the under edge of the back, and thence extended at an incline outward, as at  
35 V, to engage the upper edge of the back on the section below, which edge is beveled on the outer side to fit the inclined part V of said strip.

From the foregoing the operation of my device will be readily understood. When the  
40 front is run back into the section or drawn out from the same, the gears L necessarily rotate simultaneously, and thus traverse the racks at the same rate, the result being that any unequal pressure on either end of the  
45 front is at once equalized and the front is obliged to run in and out equally at each end. All binding or "slewing" out of square is thus prevented. The rod serves also as a  
50 movable support for the front of the section. As the front is turned down to place the edge of the strip R sweeps out any dust in the concave Q, and engaging the surface of the  
55 same near the front thereof forms a tight joint, regardless of the exact vertical adjustment of the front. The rod K also traverses freely in the groove N and forms a hinge or pivot on which the front B is supported and turns when the rod is in its forward position. This support being back of the center of  
60 gravity, the front tends to close tightly at the bottom without fastening.

The strips D not only cover the ends of the strips C' C'', forming a finish therefor, but also form a part of the vertical finishing-strip  
65 I at the front corner, and together with the

staples H form pivotal connections for the section when attached end to end, whereby they may be readily adjusted in various relative positions and also brought accurately in  
70 line when placed end to end.

The metallic strips S form a stiff bottom for the joint, holding the same securely and guiding the same to place when the sections are placed one above the other.

Having thus fully described my invention, 75 what I claim, and desire to secure by Letters Patent, is—

1. The combination of a case having horizontal grooves in its ends, a rod having its ends in said grooves and traversing the same, a front pivotally supported on said rod and adapted to turn thereon from vertical to horizontal planes, and means on said casing and coöperating means on said rod for limiting and equalizing the movement of the respective ends of the front. 85

2. The combination of a case having horizontal grooves in its ends, racks attached to the ends of the case parallel with the grooves, rolls in the grooves and adapted to traverse  
90 the same, a rod journaled in said rolls, a front, journal-bearings on the front, and engaging the rod, and pinions fixed on the rod and engaging the racks, substantially as described.

3. In combination with a sectional book- 95 case, a joint-strip consisting of a strip of metal having a perforated vertical portion at one edge, a middle portion at right angles thereto, and an inclined portion at the other edge, substantially as described. 100

4. In combination with a sectional book- case, coupling-strips having tubular portions, and coupling-staples having round parallel prongs to engage and rotative in the tubular portions, substantially as described. 105

5. In combination with a sectional book- case, coupling-strips having embracing flanges and tubular portions, and coupling-staples having round parallel prongs to engage said tubular portions, substantially as described. 110

6. In combination with a sectional book- case, coupling-strips having offset portions with inwardly-turned flanges and tubular portions near each end, and coupling-staples having round parallel prongs to engage said  
115 tubular portions, substantially as described.

7. In combination with a sectional book- case, strips having parallel embracing flanges, offset portions having inwardly-turned flanges and tubular portions near the ends, and coupling-  
120 staples having round parallel prongs to engage said tubular portions, substantially as described.

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

FRANK MACEY.

Witnesses:

LUTHER V. MOULTON,  
LEWIS E. FLANDERS.