A. D. OLES.

SECTIONAL BOOKCASE.

APPLICATION FILED MAR. 30, 1908.

902,995. Patented Nov. 3, 1908.

2 SHEETS—SHEET 1.

Fig. 1.

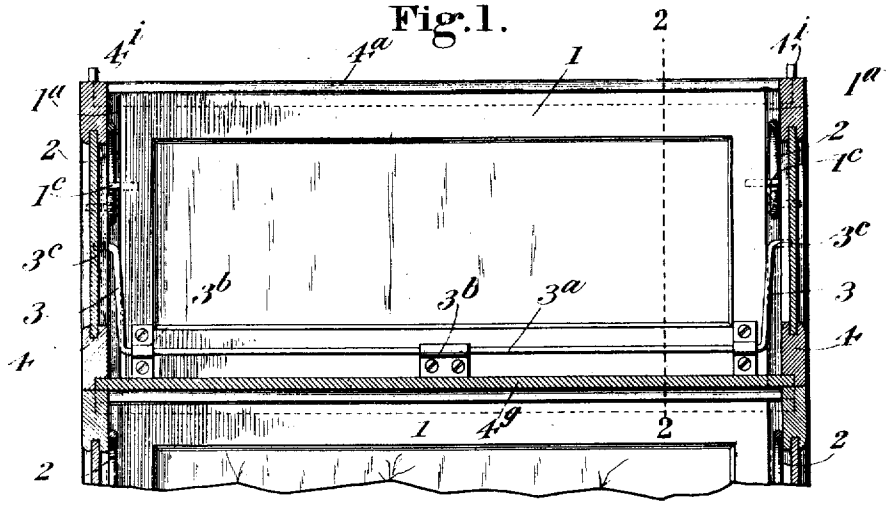


Fig. 2.

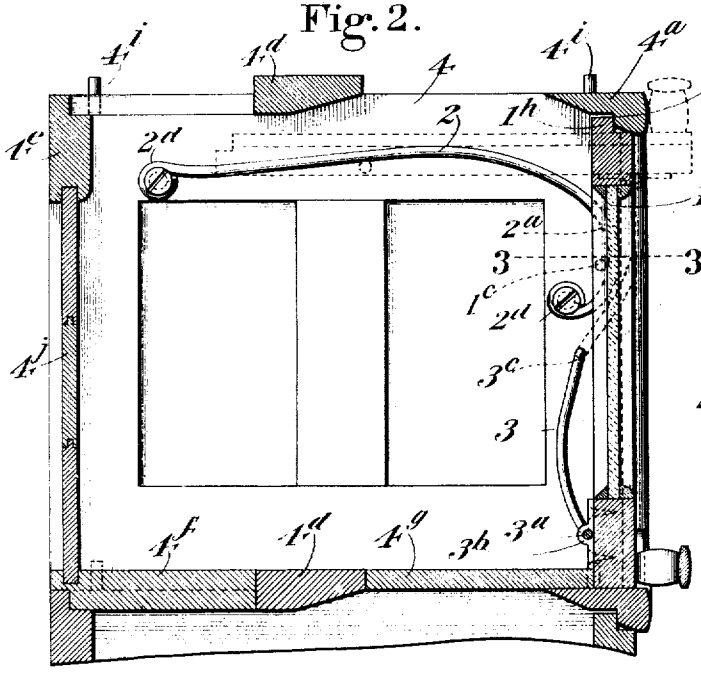
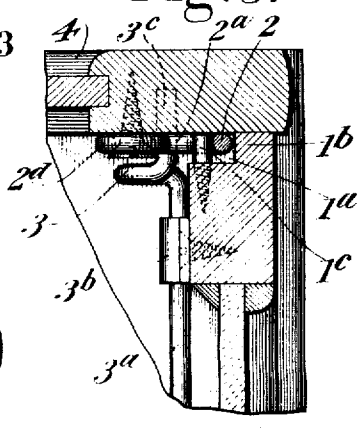


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 4.

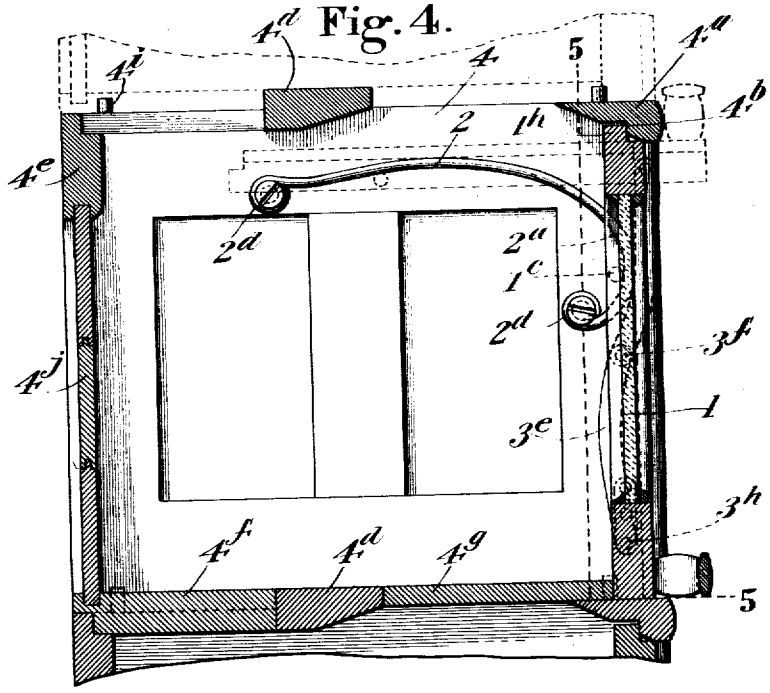


Fig. 5.

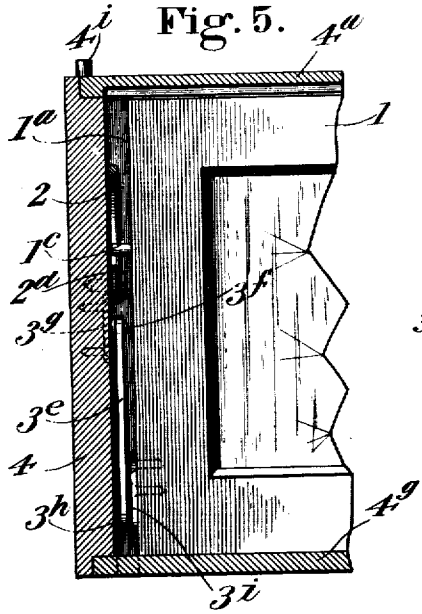


Fig. 6.

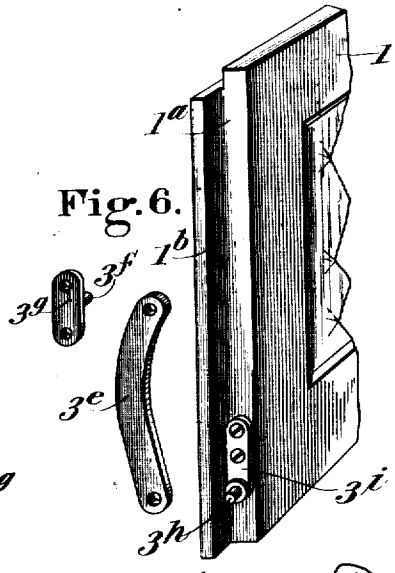
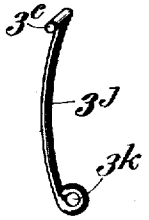


Fig. 7.



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UNITED STATES PATENT OFFICE.

ABRAM D. OLES, OF UNADILLA, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO NEW STORE & LIBRARY FIXTURE COMPANY, OF ALBANY, NEW YORK.

SECTIONAL BOOKCASE.

No. 902,995. Specification of Letters Patent. Patented Nov. 3, 1908.

Application filed March 30, 1908. Serial No. 424,190.

To all whom it may concern:

Be it known that I, ABRAM D. OLES, of Unadilla, in the county of Otsego and State of New York, have invented certain new and useful Improvements in Sectional Bookcases; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form part of this specification.

This invention is an improvement in sectional book-cases, merchandise cases, shelving, and the like, which are provided with swinging and sliding doors, and it relates particularly to the mounting of the door, whereby a direct pull on the lower end of door will cause it to swing upwardly and backwardly and slide in close under or below the top of the case or compartment closed by such door,—the door being hung in such manner that it will rise turn and swing backward at one continuous movement, and the weight of the door is practically suspended at all times so that the door can be handled with very little exertion, and will be kept true and move steadily at all times and will not bind or stick.

The invention will be clearly understood from the accompanying drawings, and following description of parts illustrated therein, and the appended claims summarize the features for which protection is desired.

In the drawings—Figure 1 is a longitudinal vertical sectional elevation of a cabinet or case, having each door provided with my improved door hangers; and showing the backs of the doors and the door hanging devices in elevation. Fig. 2 is an enlarged transverse section of the case on line 2—2, Fig. 1. Fig. 3 is an enlarged detail section on line 3—3, Fig. 2. Fig. 4 is a transverse section like Fig. 2, showing a modification of the hanger. Fig. 5 is a detail section on line 5—5, Fig. 4. Fig. 6 is a detail view of one of the hangers shown in Figs. 4 and 5 detached. Fig. 7 shows another modification of hanger.

The case may be of any suitable construction. As shown it is a sectional case, each unit being preferably constructed to fit one upon another, and each adapted to be closed by a swinging door 1, which door is of ordinary appearance, but has its end pieces recessed on their rear outer edges as at 1^a, forming flanges 1^d, which are adapted to conceal and to rest upon, the guide and supporting wires 2, which are attached to the ends of the case as shown.

Each guide-wire 2 has its forward end curved downwardly and inwardly, as at 2^a, forming almost a semi-circle, and then curved backward and extending on almost a straight line toward the back of the case, the ends of the guide-wires being preferably formed with eyes 2^d as shown, for the passage of retaining screws, by which the guide-wires are firmly fastened in position. The flanges 1^b of the door run upon and against the guide-wires 2, and when the door is raised said flanges support the door upon the wires, as indicated in dotted lines in Fig. 2.

In order to cause the upper end of the door to follow the guide-wires and remain in contact therewith, pins 1^c are inserted in the end pieces of the door, and contact with the inner sides of the guide-wires, opposite flanges 1^b, (see Figs. 2 and 3), so that the upper end of the door is caused to follow the guide-wires in opening and closing.

The door is hung upon swinging hangers. Preferably, as shown in Figs. 1–3, these hangers 3 are formed integrally with a wire 3^a which extends the length of the door, and is confined to the lower bar thereof by keepers 3^b

The hangers 3 and wire 3^a thus form a wide U-shaped bail, by which the door is hung on and between the end portions of the case. Preferably the upper ends of the hangers 3 are bent outwardly at right angles forming pintles 3^c which can be sprung into holes or sockets in the end pieces of the case, as shown in Figs. 1–3, and thus pivotally suspend the hangers on the end pieces at points below the lower front ends of the guide-wires 2. The hangers 3 are curved so that when the door is fully opened they will not contact with the wires 2, and yet will keep the door as close to the top of the case and allow it to move as far inward as is possible when it is opened; and when the door is closed the hangers will prevent the lower edge of the door binding.

It will be observed that the hangers 3 support the weight of the door as it is closed and opened, and practically sustain the entire weight of the door when it is closed,—and when it is opened then sustain the forward part thereof, although at that time the major weight of the door is borne by the guides 2.

Owing to the curvature of the forward part of the guides 2, the upper portion of the door when closed is stopped in a proper vertical position; and as the door is opened, pins 1^c follow around the guide-wires, and cause the upper part of the door to move inwardly and gradually assume a horizontal position, until fully opened, as indicated in dotted lines in Fig. 2.

By having the hangers 3 formed on or rigidly connected by the wire 3^a, there is less torsional strain put upon the door in opening or closing, even if the opening or closing pressure be applied only to one end of the door because as the hangers are rigidly connected they must move simultaneously and uniformly; and thus the door will be kept from teetering or oscillating on its supports, and will move truly and accurately.

In some cases however, instead of using the connected hangers as shown in Figs. 1–3, separate hangers may be used, as in Figs. 4–7. Thus as shown in Fig. 4 the hangers 3^e—which may be stamped out of sheet metal,—are provided with eyes at each end, the upper eyes being pivoted on pintles 3^f attached to plates 3^g secured to the ends of the case by screws; while the lower eyes of the hangers are pivoted on pintles 3^h secured to plates 3^i fastened to the ends of the door by screws as shown. This is a very satisfactory construction, but I prefer the form shown in Figs. 1–3. Fig. 7 shows a hanger 3^j formed of wire and provided with a pintle 3^c to engage a socket on the frame as in Fig. 1, and having an eye 3^k on its lower end, by which it can be pivoted to the door, by a screw or pintle 3^h.

The case is preferably formed with end portions 4 which may be paneled if desired, and these are connected at the front by a top piece 4^a, rabbeted as at 4^b to form a stop for the forward upper end of the door 1, which has an upstanding flange 1^h on its upper side adapted to engage the rabbet 4^b, see Figs. 2 and 4.

The end portions 4 are also connected by an intermediate top piece 4^d, by a rear back strip 4^e, and by bottom strips 4^f and 4^g. The bottom strips 4^f and 4^g of one section are adapted to rest upon the top of a lower section, on opposite sides of the bar 4^d of such section, so that the sections are interlocked; and they may be further interlocked by means of dowel pins or studs 4^i on the top of one section engaging sockets in the bottom of the superposed section so as to prevent casual displacement of one section on another.

The back of the case may be formed of tongued and grooved strips 4^j interposed between the strips 4^e and 4^f as shown. The bars 4^d and 4^a may be beveled on their inner opposed edges as shown so as to give every clearance for the top of the door.

It will be seen from the foregoing description and drawings that I have a case that is strongly built; and a tilting swinging door that can be quickly operated with one easy motion, and which will not bind or stick as it is opened or closed, as the short hangers will keep the bottom of the door straight with the case at every point of its swinging motion and the curved wires will keep the top of the door close to the top of the case at all points of the movement of the door.

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

1. The combination, with a case and a tilting swinging door therefor, of hangers pivoted to the ends of the case and to the lower part of the door, curved guides on the ends of the case located above and extending in rear of the hangers, and means for causing the upper portion of the door to follow said guides in the opening and closing movements of the door.

2. The combination with a case and a sliding door therefor, of hangers pivoted to the ends of the case and to the lower part of the door, curved guide-wires attached to the ends of the case above and extending in rear of the pivots of said hangers, and means for causing the upper portion of the door to follow said guide-wires in the opening and closing movements of the door.

3. The combination of a case, a swinging sliding door therefor having flanged ends, curved guides attached to the ends of the case and adapted to engage the flanges and direct the movement of the upper portion of the door and to support it when in elevated position, and hangers pivotally connected to the ends of the case below the curved guides and pivotally connected at their lower ends to the lower side of the door.

4. The combination with a case, and a swinging tilting door having flanged ends, of curved guide-wires adapted to direct the movement of the upper portion of the door and to support it by its flanges when in elevated position, pins attached to the door and engaging the wire-guides opposite the flanges; and hangers pivotally connected to the ends of the case below the curved guides and pivotally connected at their lower ends to the lower part of the door.

5. The combination of a case, a door therefor, curved guides on the ends of the case and adapted to guide the upper part of the door in its opening and closing movements, and connected hangers pivoted to the lower portion of the door and to the adjacent ends of the case.

6. The combination of the case and a tiltable sliding door therefor, curved hangers pivotally connected to the ends of the case at one end and to the lower edge of the door at the other end, a rod connecting said hang-

ers, and curved guides attached to the ends of the case above the hangers and adapted to support the upper part of the door, substantially as described.

7. The combination of a case and a slidable door therefor having flanged ends, curved hangers pivotally connected to the ends of the case at one end, a rod rigidly connecting both hangers and hinged to the lower edge of the door; curved guide-wires attached to the ends of the case above the pivots of the hangers and adapted to contact with the flanges of the door, and pins connected to the sides of the door and engaging said curved guide-wires and adapted to retain the flanges in contact with said wires.

In testimony that I claim the foregoing as my own, I affix my signature in presence of two witnesses.

ABRAM D. OLES.

Witnesses:
CHARLES M. OLES,
E. M. OLES.