

H. TROST.
SECTIONAL OR UNIT MERCHANDISE AND BOOK CASE.
APPLICATION FILED NOV. 1, 1905.

934,239.

Patented Sept. 14, 1909.
2 SHEETS—SHEET 1.

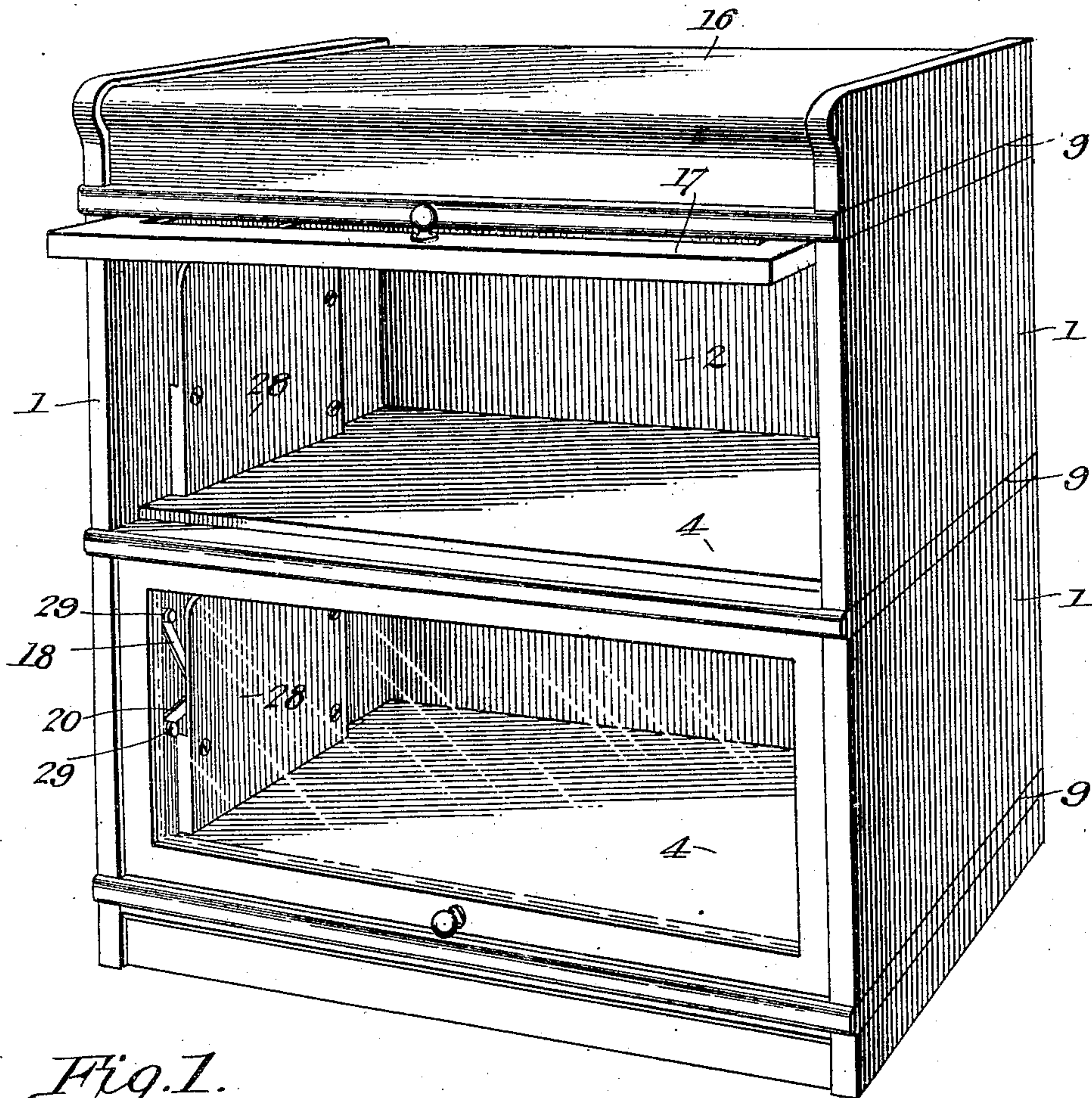


Fig. 1.

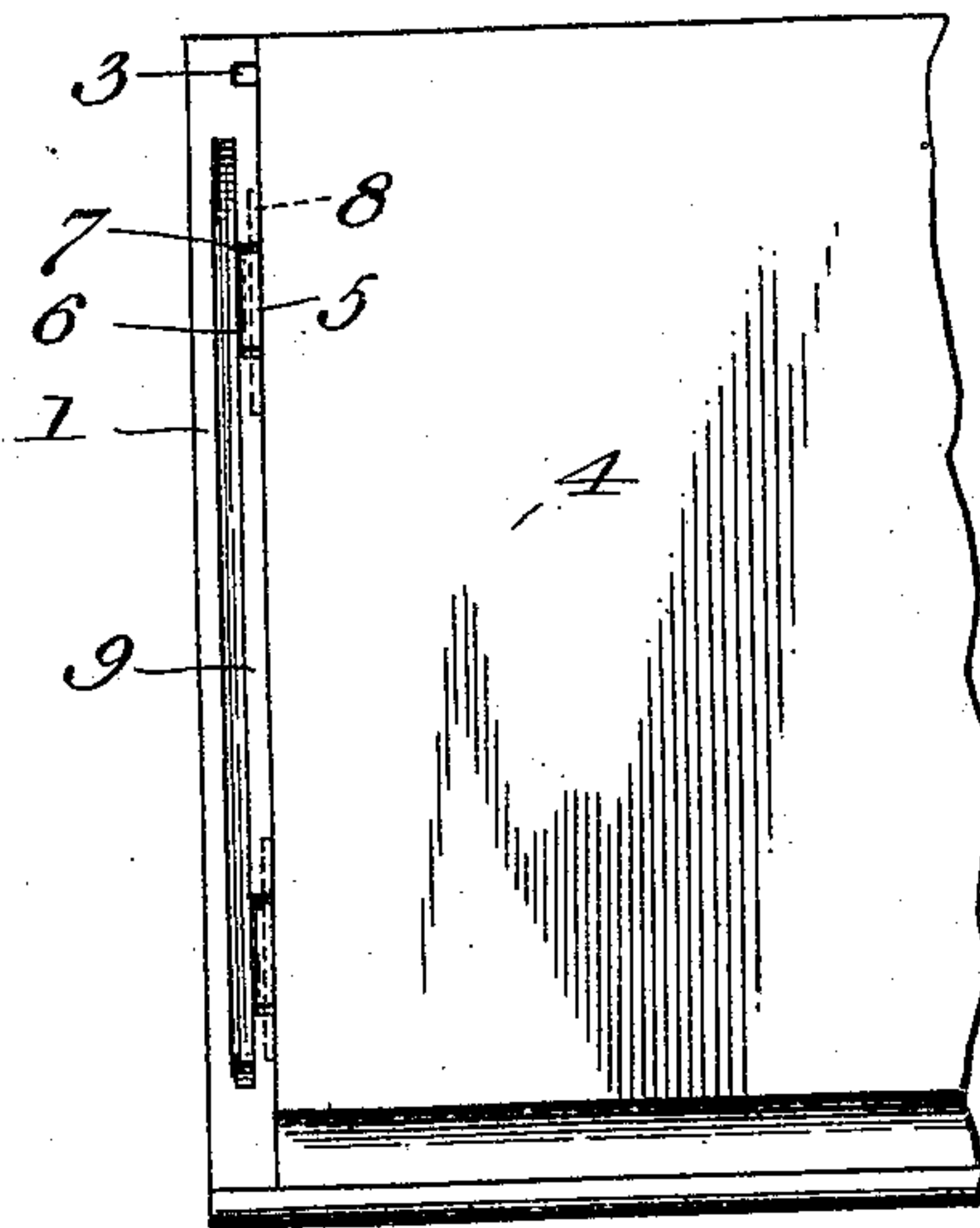


Fig. 4.

Witnesses:
J. D. Kluge
George T. Bean.

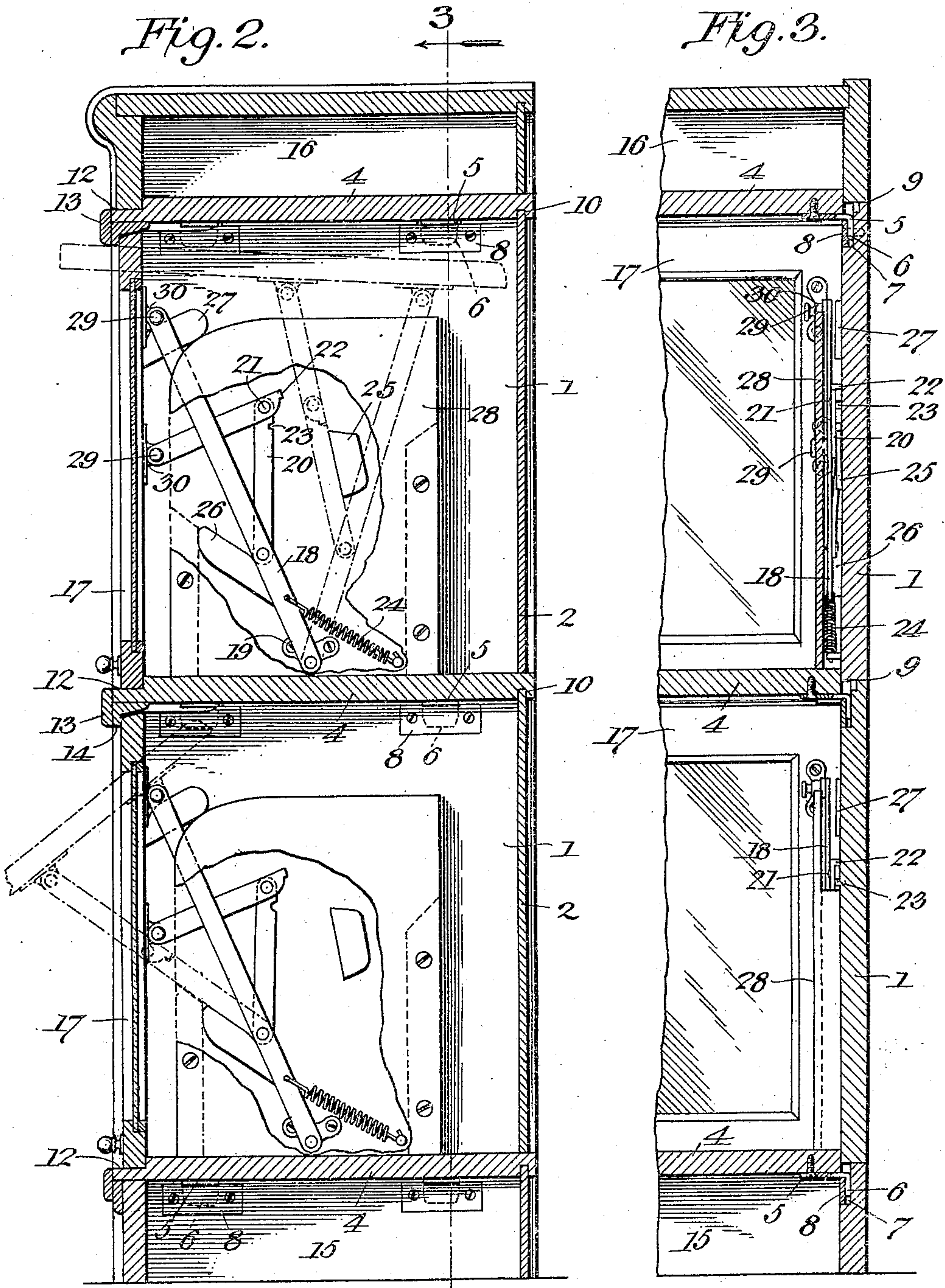
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George J. Bean.

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UNITED STATES PATENT OFFICE.

HENRY TROST, OF COHOES, NEW YORK.

SECTIONAL OR UNIT MERCHANDISE AND BOOK CASE.

934,239.

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Application filed November 1, 1905. Serial No. 285,471.

To all whom it may concern:

Be it known that I, HENRY TROST, a citizen of the United States, residing at Cohoes, in the county of Albany and State of New York, have invented certain new and useful Improvements in Sectional or Unit Merchandise and Book Cases; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to merchandise and book cases made up of a number of sections or units, and it has for its object to provide improved means for holding together the walls and top and bottom members of each unit or section when assembled and which will permit the easy disassembling of said parts in order that they may be compactly packed for shipment or storage.

It has further for its object to provide improved means for hinging a sliding door to each unit or section in a manner that will enable it to be readily disconnected from its hinges when the parts are to be assembled for packing or transportation, without disconnecting the hinges, and under which construction the door can be readily connected to its hinges without the employment of skilled help.

It has furthermore for its object to provide means for drawing the door within the unit or section during the operation of opening the door.

It has further for its object to provide a construction whereby the door will be supported by the hinges in a horizontal position within the unit or section when the door is open.

To the accomplishment of the foregoing and such other objects as may hereinafter appear the invention consists in features which will be hereinafter particularly described and then sought to be clearly defined by the claims, reference being had to the accompanying drawings forming a part hereof.

Figure 1 is a perspective of a merchandise or book case embodying my invention; Fig. 2 a vertical cross section through Fig. 1 with a portion of the covering-shield broken

away to show the door-hinge construction, the position of the hinge and the door when closed being shown in full lines, and in the upper section the dotted lines indicating the position of the hinge and the door when the latter is opened, and in the lower section the dotted lines indicating one position of the door and a part of the hinge in the operation of opening the door; Fig. 3 is a section on the line 3—3 of Fig. 2 looking in the direction of the arrow; and Fig. 4 is a plan view of a portion of one shelf and one end and front wall of the base.

The hinge construction is the same at both ends and a description of one will answer for both.

In the drawing, the numeral 1 designates the end walls of a unit or section, and 2 the rear wall which slides in grooves 3 formed in the end walls.

The numeral 4 designates the shelf of the unit or section and which, when between two units or sections constitutes the top of the lower one and the bottom of the upper one. Each shelf is provided at its opposite ends with angle-plates 5 secured to the under face of the shelf so as to present depending flanges 6 so located that when the shelf is placed in position these flanges will enter sockets 7 formed in the upper edges of the end walls 1. These sockets are formed by recessing the end walls from the inside face thereof and extending metallic plates 8 across the open faces of these recesses flush with the inner face of the end wall and below the upper edge of the wall so that when the shelf is put in position the horizontal portion of the angle-plates 5 will rest upon the upper edge of the metallic plates 8 so that the shelf will be supported thereon, with a portion of the shelf lying below the top edge of the end walls and a portion extending above the top edge thereof. This affords the advantage of the shelf being sustained by metallic supports, which supports in connection with the angle-plates strongly brace the connection between the shelf and the end walls so that greater durability and strength is obtained, and it also causes the upper projecting portion of the shelf in conjunction with the upper edge of the end wall to constitute a recess or rabbet 9 at each end of the unit or section to receive the lower ends of the end-walls of the unit or section next above, or of the top of the unit or section. The shelf is

also formed at its rear with a groove 10 to receive the upper end of the rear wall 2 of the unit or section, and at its forward end is formed with a rabbet 12 to receive the bottom stile of the door when the latter is closed, and is also provided along its front edge with a molding 13 which projects beyond the ends of the shelf so as to lap over the front edges of the end walls and with a depending flange 14 for the top stile of the door to bear against when the door is closed. Each unit or section is formed as described and when so formed its several parts can be readily assembled to form the complete unit or section, and readily disassembled when to be packed compactly for shipment or storage. The base or support for the bottom unit or section is designated by the numeral 15 which may be of any desired configuration and is formed with a socket 7 and metallic bearing-plate 8 to receive the corresponding angle-plate 6 and flange 7 of the shelf of the unit or section the same as the end walls of the several units or sections. The uppermost unit or section is provided with a top or cap 16 of any desired configuration, the lower portion of which will fit in the rabbets 9 and 12 of the top unit or section, so as to give an ornamental finish to the top unit or section.

Each unit or section is provided with a door 17 which when closed lies in front of the section and when open lies within the upper portion of the section. For the purpose of supporting the door within the unit or section and also during its movements between its closed and opened positions I provide a novel construction of hinge, and for the purpose of drawing the door within the unit or section I combine with the hinge a spring which when the door is swung upward in the act of opening it will retract or draw the door to its position within the unit or section. This hinge consists of an arm 18 pivoted at its lower end to the end wall of the section, or to a plate 19 attached thereto, and at its upper end is pivotally connected to the door. The other member of the hinge consists of a jointed or two-part arm 20 the lower section of which is pivotally connected to the arm 18 and the upper section pivotally connected to the door, and the two sections connected one to the other by a pivot pin 21, and in order that the joint thus formed may break in only one direction one section of the jointed arm is provided with a lateral lip 22 which will bear against the edge of the other section, and preferably by entering a notch 23 formed therein. Under this construction when the door is within the unit or section it is supported therein by its hinge, and when the door is pulled out and swung downwardly the two-part jointed arm 20 breaks at its joint so as to permit said arm to fold in order that the door may be

brought to its vertical position in front of the unit or section for the purpose of closing the same. When the door is swung outward in the act of opening it the jointed arm is straightened and the long arm turns upon its lower pivot so that the door may be swung upward and to position within the unit or section. For the purpose of drawing the door into the upper portion of the unit or section when being opened, a suitable spring, for instance a coiled spring 24, is connected at one end to the lower portion of the long arm 18 and at the other end to the end wall of the unit or section. This spring is put under tension when the door is drawn out and closed, and when the door is swung upward in being opened said spring contracts and pulls the door into position within the upper portion of the unit or section. For the purpose of preventing the two-part arm of the hinge breaking or yielding at its joint and folding when the door is in position within the unit or section, a stop 25 is secured to the end wall of the section in such position that one section of the two-part arm will abut against it and the arm be thus prevented from folding which if permitted might leave the door free to drop and cause the parts to become disarranged. For the purpose of breaking the joint however at the proper time in the closing of the door, a stop 26 is located in the path of travel of the two-part arm 20 at the proper point in the outward movement of the door so that one section of said arm will strike against the stop and thus not being permitted to travel farther in that direction will cause the joint to break or yield so that the two parts of the arm will fold so as to permit the door to assume its vertical position in front of the section. When the door is in this position the joint of the two-part arm will lie to the rear of the long arm, and when the door is open and within the upper portion of the unit or section the two-part arm will be in front of the long arm as illustrated. When the door is in its closed position the lower stile thereof lies within the rabbet 12 of the bottom or shelf of the unit and its upper end bears against the ledge 14 of the top or shelf at the top of the unit, and the inner face of the side stiles of the door bears against stops 27 attached to the inner faces of the end walls of the unit or section near the front portion thereof, and thus the door is held in position in front of the unit or section when closed.

In order that books or merchandise placed within the unit or section may not contact with the hinges of the door, a covering shield 28 is placed over each hinge and secured to the end wall by screws or otherwise so as to cover the arms of the hinge. In order that the door may be readily detached from its hinges when the parts of the unit or section are to be disassembled for shipment or storage

age, said door is pivotally connected to the upper arms of the hinge by means of thumb nuts 29 which pass through ears 30 secured to the stiles of the door and screw into the upper ends of the hinge arms. These thumb nuts are not covered by the shield 28 and consequently are easy of access for the purpose of attaching and detaching the door to the hinges.

I have illustrated and described the preferred details of construction and arrangement of the several parts but it is obvious that such changes can be made therein as will fall within the scope of the appended claims.

Having described my invention and set forth its merits, what I claim is:—

1. In a merchandise or book case, a vertically and horizontally movable door for the case, shields adjacent to the inside faces of the end walls of the case, hinges secured to the case within the space between said shields and the end walls of the case and detachably secured at one end to the door, and springs located within the space between the shields and end walls of the case and connected to said hinges for moving the door to a horizontal position within the case when opened, and holding the hinges within the spaces in which they are located when the door is detached from the hinges, substantially as described.

2. In a merchandise or book case, a vertically and horizontally movable door for the case, a hinge permitting the door to be supported in a horizontal position within the case when open and to be moved to a vertical position in front of the case, said hinge comprising two arms having the door connected thereto and pivotally supported within the case, one of said arms being formed of two parts jointed one to the other, with one part hinged to the other arm, substantially as described.

3. In a merchandise or book case, a vertically and horizontally movable door for the case, a hinge permitting the door to be supported in a horizontal position within the case when open and to be moved to a vertical position in front of the case, said hinge comprising two arms having the door connected thereto and pivotally supported in the case, one of said arms being formed of two parts jointed one to the other, with one part hinged to the other arm, and a stop to limit the backward movement of the two-

part jointed arm of the hinge, substantially as described.

4. In a merchandise or book case, a vertically and horizontally movable door to the case, a hinge permitting the door to be supported in a horizontal position within the case when open and to be moved to a vertical position in front of the case, said hinge comprising two arms having the door connected thereto and pivotally supported within the case, one of said arms being formed of two parts jointed one to the other, with one part hinged to the other arm, and one part formed with a lip to bear against the other part when the two parts are distended, and a stop to limit the backward movement of the two-part jointed arm of the hinge, substantially as described.

5. In a merchandise or book case, a vertically and horizontally movable door to the case, a hinge permitting the door to be supported in a horizontal position within the case when opened and to be moved to a vertical position in front of the case, said hinge comprising two arms having the door connected thereto and pivotally supported within the case, one of said arms being formed of two parts jointed one to the other, with one part hinged to the other arm, and a stop to break the joint in the two-part arm in opening the door to enable the two parts to fold at such time, substantially as described.

6. In a merchandise or book case, a vertically and horizontally movable door to the case, a hinge permitting the door to be supported in a horizontal position within the case when opened and to be moved to a vertical position in front of the case, said hinge comprising two arms having the door connected thereto and pivotally supported within the case, one of said arms being formed of two parts jointed one to the other, with one part hinged to the other arm, a spring for moving the door to a position within the case when opened, and a stop constituting a bearing for the upper portion of the door when closed to resist the tendency of the spring to pull the door inwardly, substantially as described.

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

HENRY TROST.

Witnesses:

PHILIP TROST,
HENRY W. TROST.