J. F. ARNOLD.

MUSEUM OR SHOW CASE.

APPLICATION FILED NOV. 2, 1916.

1,230,825.

Patented June 19, 1917.

2 SHEETS—SHEET 1.

Fig. 1.

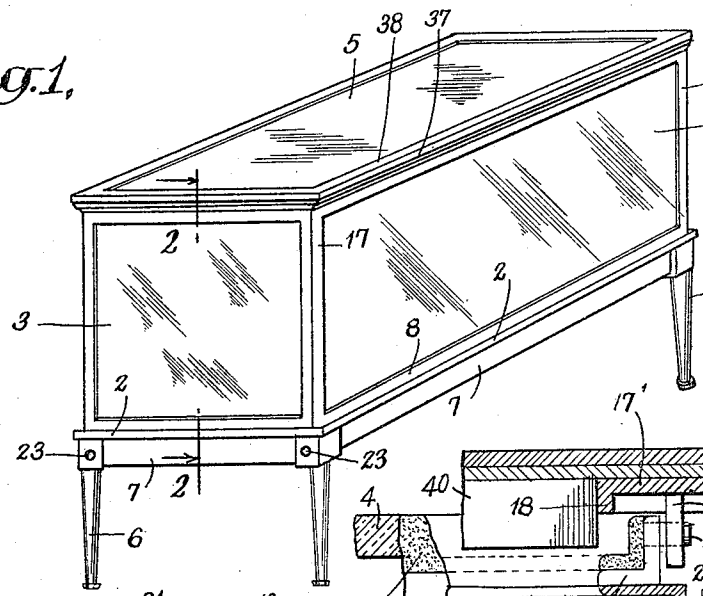


Fig. 6.

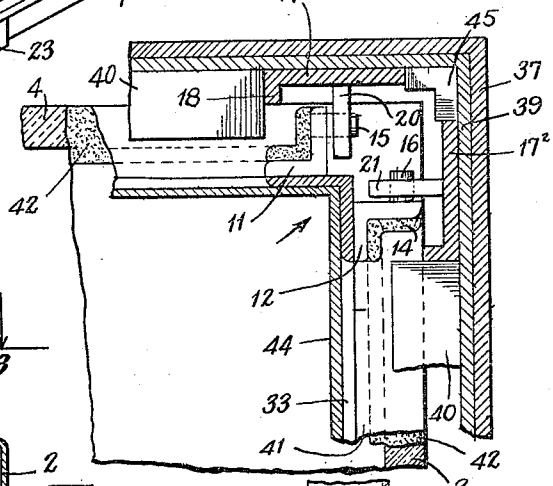


Fig. 4.

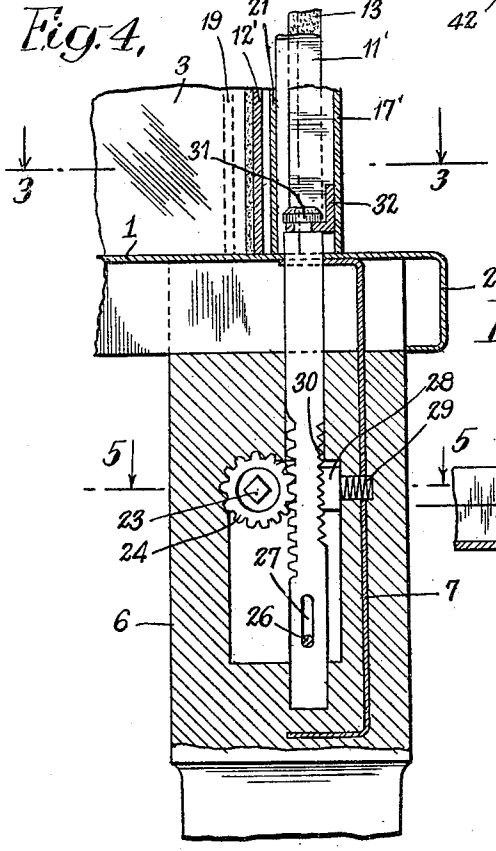
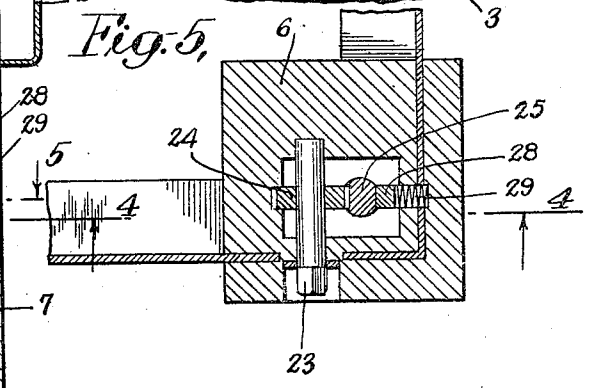


Fig. 5.



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2 SHEETS—SHEET 2.

Fig. 2.

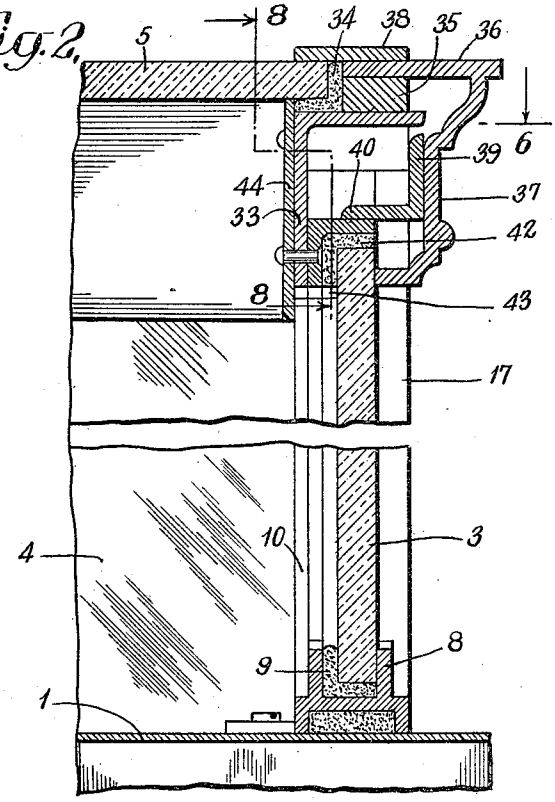


Fig. 7.

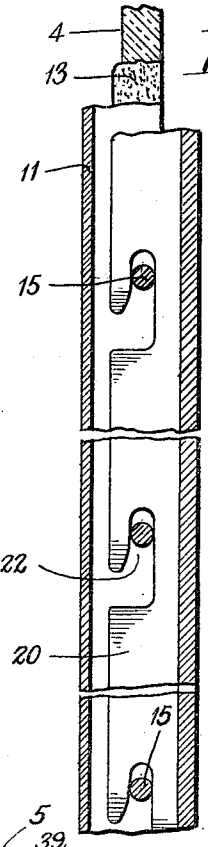


Fig. 3.

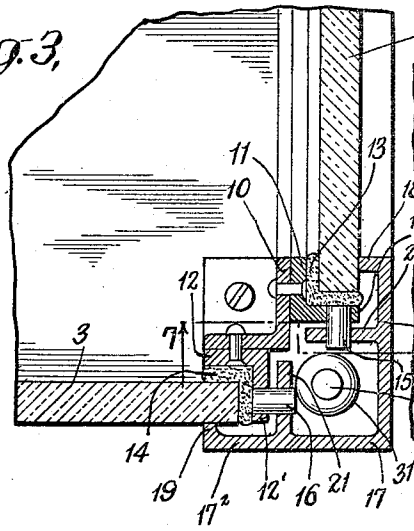
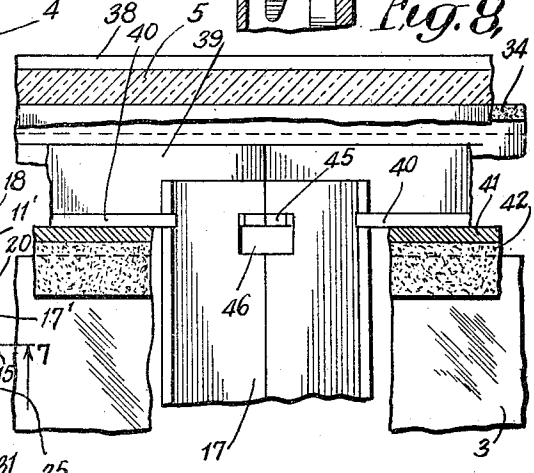


Fig. 8.



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MUSEUM OR SHOW CASE.

1,230,825. Specification of Letters Patent. Patented June 19, 1917.

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To all whom it may concern:

Be it known that I, JACOB F. ARNOLD, a citizen of the United States, residing at Mount Vernon, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Museum or Show Cases, of which the following is a specification.

My invention relates to show cases, particularly cases designed to hold museum specimens or the like. My object is to provide a construction which shall be dustproof, easily assembled and adjusted, and one which shall be simple in construction and inexpensive to manufacture. In accordance with my preferred construction angular corner pieces are provided which are adapted to press against the outer surfaces of the glass side and end plates of the case. These corner members are vertically adjustable and upon being drawn downwardly each corner piece is arranged to be wedged or pressed inwardly against the adjacent outer surfaces of the contiguous side and end plates, so that these plates are firmly held between the movable corner member and a fixed corner member on the inner side of the glass plates. The downward movement of the movable corner members is also arranged to draw the top construction down at the same time, so that this top construction presses firmly upon the upper edges of the side and end plates of the case forcing the bottom edges of these plates into firm contact with their seats. Other objects of my invention relate to certain details of construction and combinations of elements as will appear more fully hereinafter.

In order that a clearer understanding of my invention may be had, attention is hereby directed to the accompanying drawings forming part of this application and illustrating certain embodiments of my invention. In the drawings, Figure 1 represents a perspective view of an assembled museum case, Fig. 2 is a vertical section taken upon line 2—2 of Fig. 1, Fig. 3 is an enlarged horizontal section taken through a corner member on line 3—3 of Fig. 4, Fig. 4 is a vertical section taken on line 4—4 of Fig. 5, Fig. 5 is a horizontal section through the apron and a leg, taken on line 5—5 of Fig. 4, Fig. 6 is a horizontal section taken on line 6—6 of Fig. 2. Fig. 7 is a section taken on line 7—7 of Fig. 3 and Fig. 8 is a vertical section taken on line 8—8 of Fig. 2, but looking into the corner in the direction indicated by the arrow in Fig. 6.

Referring to the drawings, the museum case is provided with a base plate 1, preferably of sheet-metal, with its outer edge bent downwardly and thence inwardly, as indicated at 2. End plates 3 and side plates 4 are provided of glass and preferably a top plate 5 also of glass. The case is supported by legs 6 secured to base plate 1, a sheet-metal apron 7 preferably being provided below the flange 2 of the base plate extending around the four sides of the structure.

The side and end plates 3 and 4 are supported at their lower edges by flanged members 8 which are secured to base plate 1, a layer of felt or the like 9 being interposed between the lower edge of each glass plate and its seat and between the inner surface of the glass plate and the adjacent flange 8, as shown in Fig. 2. A fixed angular metallic member 10 is provided at each corner, these corner members being secured at the bottom to the metallic seats 8 or the base plate 1. A pair of metallic angles 11 and 12 are secured to the outer faces of the flanges of each fixed angle 10, angular members 11 and 12 being arranged to receive the adjacent vertical edges of the contiguous side and end plates 3 and 4. Layers of felt, or the like, 13 and 14 are interposed between angles 11 and 12 and the adjacent surfaces of plates 4 and 3, these felt strips forming supporting surfaces for the vertical edges of the plates and inner surfaces of the same contiguous thereto, as is shown in Fig. 3. The flanges 11′ and 12′ of angles 11 and 12 are provided with a number of pins 15 and 16 which extend in the same vertical planes with plates 4 and 3, respectively, for a purpose to be described hereafter.

A movable vertical corner member 17 is provided at each corner, members 17 being formed preferably of sheet-metal in the angular formation to be described. The two outside flanges 17′ and 17^2 of each member 17 extend outside of and parallel to plates 4 and 3. Flange 17′ has an inwardly directed end flange 18 and flange 17^2 a similar inwardly directed end flange 19, flanges 18 and 19 being adapted to press against the outer surfaces of plates 4 and 3 adjacent to the vertical edges of the same, as shown in Fig. 3. Flanges 17′ and 17^2 also have inwardly directed flanges 20 and 21 integral therewith and parallel respectively to end

flanges 18 and 19. These flanges 20 and 21 are provided with bayonet slots 22, as shown in Fig. 7, having inclined or wedge-shaped portions adapted to coact with pins 15 and 16 to cause the outer corner member 17 to be pressed inwardly when the same is drawn vertically down as will be described.

Each corner member 17 is drawn down into adjusted position, when the case is assembled in closed position, by means, such as the key-operated shafts 23, of which one is provided at each corner. Each shaft 23 is rotatably mounted in a leg 6 and carries gear or sector 24 arranged to coact with a vertical rack 25 extending upwardly through a suitable guideway in the leg. The extent of motion of rack 25 may be limited by a stop pin 26 extending through a vertical slot 27 in the rack, and the rack may be held in adjusted position by suitable means, such as the pawl 28, which is pressed into position by spring 29 to coact with ratchet teeth 30 on the rear surface of the rack. Rack 25 extends upwardly through an opening in base plate 1 into the interior of corner member 17, where it is provided with a collar 31, as shown in Fig. 4. A forked or angular piece 32 secured to corner member 17 extends beneath shoulder 31, so that drawing rack 25 downwardly by means of a key applied to shaft 23 serves also to draw corner member 17 downwardly.

Mechanism is also provided whereby the downward movement of corner members 17 causes pressure to be exerted upon the top edges of the glass plates 3 and 4 of the case to press the plates firmly against their bottom seats and to make the plates dustproof at their top and bottom edges as well as at their corners or vertical edges. This is accomplished by causing the vertical corner members 17 to draw the top construction downwardly with them and cause the same to press firmly upon the top edges of the side and end plates. The construction for accomplishing this is shown in Figs. 2, 6 and 8.

The glass top plate 5 is supported upon an angle bar 33 extending around the four sides of the case, a strip of felt, or the like, 34 being interposed between the lower surface of plate 5 adjacent its edge and the top flange of angle bar 33, the felt strip 34 also extending upwardly against the edge of plate 5. A strip 35 rests on the top flange of bar 33 outside the felt strip and in firm contact with the same, and the top flange 36 of a molding member 37 is mounted on top of strip 35. A flat strip 38 is mounted above flange 36 of the molding to extend across the vertical edge of plate 5, after the latter has been secured in position to close the joint, members 33, 35, 36 and 38 being secured together. An angle bar 39 is secured to the inner face of the vertical portion of molding 37, bar 39 having a horizontal flange 40 adapted to rest on the horizontal flange of an angle bar 41, which is secured to the vertical flange of angle bar 33. A strip of felt, or the like, 42 is bent around the top edge and adjacent inner surface of the side and end plates 3 and 4 between the same and the flanges of bar 41. Therefore downward pressure of flange 40 of angle member 39 upon angle bar 41 causes pressure to be exerted upon the top edges of plates 3 and 4, which also causes the bottom edges of these plates to be pressed firmly against their seats.

The vertical flange of angle bar 33 is mounted in alinement with stationary member 10, as is shown in Fig. 2, a slight clearance being left between the top of member 10 and the bottom edge of member 33, as shown at 43, to permit downward movement of member 33 and connected parts. A guiding strip 44 is secured to the rear face of the vertical flange of member 33 extending across the opening 43, to slidingly bear against member 10 and form a guiding and positioning means for member 33.

The engagement of corner members 17 with the top construction just described will now be referred to. The flanges 40 of angle member 39 are cut away at each corner, as is shown in Fig. 6, except for a comparatively small L-shaped portion 45, which is left at the extreme corner in each corner of the case. Each corner member 17 is provided with a rectangular slot 46 extending horizontally across the angle between flanges 17′ and 17^2 of the member adjacent the upper end thereof, as is shown in Fig. 8. This slot is of a length transversely of member 17 sufficient to receive the L-shaped member 45, as is shown in Figs. 6 and 8, and the portions of flanges 40 cut away at each corner are sufficient to receive flanges 17′ and 17^2. Accordingly, when corner members 17 are adjusted in position with the corner flanges 45 of the top construction extending through slots 46 in corner members 17, the downward pressure upon members 17 will be transmitted through flanges 40 to the upper edges of the side and end plates.

The operation of the device will now be clear. When the case has been assembled with the side and end plates in position and the top construction resting upon the top edges of the same, the corner members 17 are placed in position by extending the same upwardly through the openings in flanges 40 at the corners until each slot 46 is in alinement with the corresponding flange portion 45, when the member 17 is pressed outwardly to cause the firm engagement of flange 45 within slot 46. Each member 17 is also adjusted inwardly to cause the pins 15 and 16 to enter the bayonet slots 22 in flanges 20 and 21. Each rack 25 is now drawn downwardly in turn by the application of a key to shafts 23, this causing downward

movement of the corner member 17, as stated. As the member 17 moves downwardly, it causes the pressure of flanges 40 to be exerted on the top joint of the side and end plates and the consequent firm seating of the side and end plates at the bottom, as stated. Also, the engagement of pins 15 and 16 within the cam-shaped slots 22 causes the movement of flange 17′ toward plate 4 and the movement of flange 17^2 toward plate 3, as member 17 moves downwardly to cause the flanges 18 and 19 to press against the outer surfaces of plates 4 and 3 and the plates accordingly to be clamped between the inner and outer vertical corner members 10 and 17. The pins 15 and 16 are arranged in vertical alinement with each other, as many pins and coacting slots being used as is found necessary. It will thus be seen that the members 17 constitute a locking and clamping means for exerting pressure on the side and end plates both vertically and laterally upon the outer faces of each of the pair of plates which terminate at each corner.

It will be understood that my invention has the advantages, among others, that holes do not have to be drilled in the glass plates, and that no bolts or screws are used; that the case may be quickly set up and taken down without the use of tools, other than the key for turning shafts 23; that the frame members may be conveniently packed and shipped, and assembled, together with stock glass plates, at the place of installation, and that the glass plates are held firmly in place, in such a manner as to make a dustproof case. Doors may, of course, be provided if desired.

It should be understood that my invention is not limited strictly to the details of construction described, but is as broad as is indicated by the accompanying claims.

What I claim is:—

1. In a show case, the combination of a fixed inside corner member, a vertically movable outside corner member, an end plate and a side plate having their adjacent ends arranged between said members, and coacting means carried by said corner members, whereby vertical movement of said outside member causes the latter to press against the outer surfaces of both said plates, substantially as set forth.

2. In a show case, the combination of vertical inside and outside corner members, relatively movable toward and from each other and also in a vertical plane, a pair of vertical plates arranged at an angle to each other, and having their adjacent ends arranged between said members, and coacting means carried by said corner members, whereby vertical movement of one of the same causes relative movement of said members toward each other, to clamp both of said plates between them, substantially as set forth.

3. In a show case, the combination of a base member, vertical corner members secured thereto, side and end plates having their vertical ends alongside said members, a top member adapted to rest on the upper edges of said side and end plates, and a vertically movable member at each corner, formed to coact with said top member and with the adjacent fixed corner member, so that downward movement of said vertically movable member draws downwardly upon said top member and also presses the adjacent end portions of a side and an end plate laterally against the adjacent fixed corner member, substantially as set forth.

4. In a show case, the combination of a base member, side and end plates thereon, a corner member adapted to press against said plates adjacent to their contiguous edges, and adapted to cause downward pressure on said plates when it moves downwardly, means for moving said member vertically, and means operative during downward movement of said member for forcing the same against said plates, substantially as set forth.

5. In a show case, the combination of a base member, a vertical corner member secured thereto, a pair of vertical plates on said base member at an angle, with their ends adjacent said corner member, and a single key-operated means for detachably securing both plates against said corner member, under pressure, substantially as set forth.

6. In a show case, the combination of a base member, vertical corner members secured thereto, vertical plates on said base member at angles to each other, with contiguous ends adjacent to said corner members, a top member above said plates, and a unitary means at each corner for detachably securing both plates against the adjacent corner member, and the top member upon the plates, under pressure, substantially as set forth.

7. In a show case, the combination of a base member, vertical corner members secured thereto, vertical plates on said base member at angles to each other, with contiguous ends adjacent to said corner members, a top member above said plates, and a unitary means at each corner for detachably securing a plate against the adjacent corner member, and the top member upon the plate, under pressure, substantially as set forth.

8. In a show case, the combination of a base member, a vertical corner member secured thereto, a vertical plate on said base member with an end adjacent to said corner member, a horizontal member above said plate, and a unitary means for detachably securing said plate against the corner member under pressure, and for pressing said

horizontal member down on the top edge of said plate, substantially as set forth.

9. In a show case, the combination of a base member having seats to receive the lower edges of removable vertical plates, a pair of plates therein at an angle to each other with their ends adjacent, an angular outside corner member, having flanges adapted to press against the outer surfaces of said plates, close to their edges, and means for causing movement of said corner member against said plates to detachably secure the same in position, substantially as set forth.

10. In a show case, the combination of a base member having seats to receive the lower edges of removable vertical plates, a pair of plates therein at an angle to each other with their ends adjacent, a detachable corner member having portions adapted to press against the vertical edge portions of said plates, means for moving said member vertically, and securing the same in adjusted position, and means operative during vertical movement of said member for forcing the same against said plates, substantially as set forth.

11. In a show case, the combination of a base member, side and end plates thereon, a top member, corner members detachably secured to said top member and adapted to press against said plates, means for wedging said corner members against said plates when they move downwardly, and manually operable means for moving said corner members vertically, substantially as set forth.

12. In a show case, the combination of a base member, side and end plates thereon, a top member having horizontal flanges cut away adjacent the corners, vertical corner members adapted to be inserted through said flange cut-outs, means for detachably securing said corner members to said top member when thus inserted, and means for detachably securing the corner members, thus mounted, against said plates, substantially as set forth.

This specification signed and witnessed this 30th day of October, 1916.

JACOB F. ARNOLD.

Witnesses:
DYER SMITH,
I. MCINTOSH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."