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L. W. PLUMMER.

DISPLAY CASE.

APPLICATION FILED JAN. 30, 1904.

NO MODEL.

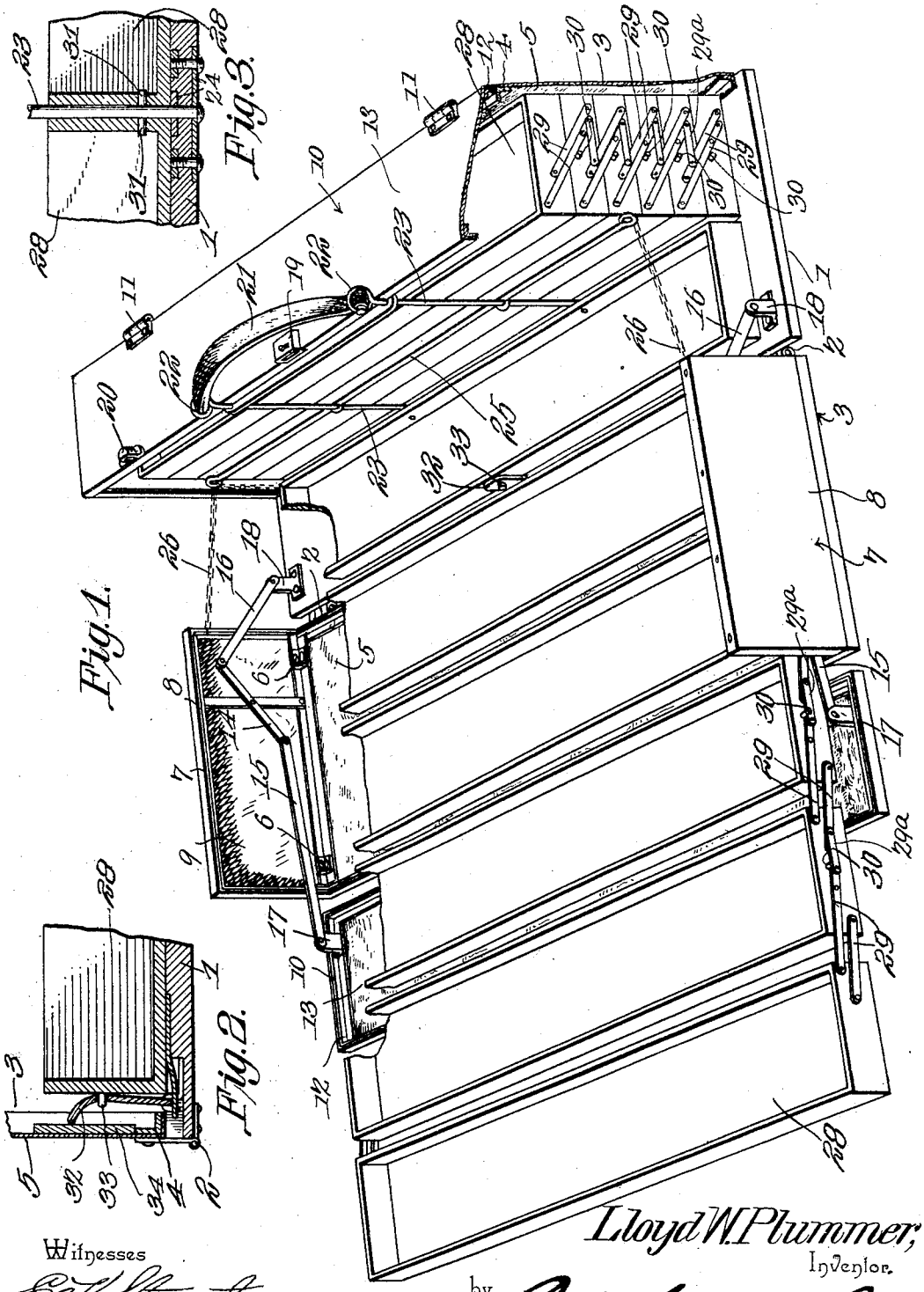


Fig. 1.

Fig. 3.

Fig. 2.

Witnesses

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No. 771,572. Patented October 4, 1904.

UNITED STATES PATENT OFFICE.

LLOYD W. PLUMMER, OF BLOOMINGTON, ILLINOIS.

DISPLAY-CASE.

SPECIFICATION forming part of Letters Patent No. 771,572, dated October 4, 1904.

Application filed January 30, 1904. Serial No. 191,364. (No model.)

To all whom it may concern:

Be it known that I, LLOYD W. PLUMMER, a citizen of the United States, residing at Bloomington, in the county of McLean and State of Illinois, have invented a new and useful Display-Case, of which the following is a specification.

This invention relates to display-cases of the kind used by commercial travelers and agents generally for the display of samples of various sorts of merchandise—as, for example, cakes, confectionery, coffee, spices, cigars, notions, and novelties of various sorts.

The principal object of the present invention is to provide in a display-case a novel form of folding casing or cover, improved carrying means, and readily-removable sets of trays so connected by lazy-tongs as to be conveniently extended so as to lie side by side and expose their contents to view and to be quickly and readily restored to a position in which the trays are superposed one upon another and each tray serves as a lid or cover to the tray immediately beneath.

A further object of the invention is to provide in a display-case of the type specified improved means for securing sets of trays in the case, so that a set of trays may be readily removed from the case when desired or returned thereto at will.

In attaining the objects above mentioned and others which will appear as the invention is more fully disclosed I prefer to make use of the novel construction and combination of parts of a display-case hereinafter fully described and claimed, and illustrated in a preferred form of embodiment in the accompanying drawings, forming part of this specification, in which corresponding parts are designated by similar characters of reference throughout the several views.

In the drawings, Figure 1 is a view in perspective of the display-case with one half of the case opened to the full extent and the other half in closed position, parts of the structure being broken away to display internal mechanism. Fig. 2 is a detail view in section through the tray-latch. Fig. 3 is a detail view showing the means of securing the carrying-rods and the studs carried by said rods to engage the lowermost trays in the case.

In the drawings, 1 designates the base of a casing or cover, at either side of which is attached by a pair of hinges 2 2 of suitable construction a side wall 3. The base may be composed of any material of the requisite thickness and lightness, as seasoned wood or heavy cloth-board, and the side walls are preferably made up of rectangular frames 4 4 with leather coverings 5. At the ends of the side walls 3 of the casing are rigidly secured, by means of brackets 6 or other suitable fastening means, sections 7 of the end walls of the casing. Each of the side walls has at its ends the sections composing one half of the end walls of the casing, and these sections are, like the side walls themselves, preferably constructed of rectangular frames 8, with leather coverings 9 secured thereon. At the upper edges of the side walls 3 sections 10, forming the top of the casing, are attached to the side walls by means of hinges 11, and these sections 10 are also preferably constructed of rectangular frames 12 and leather coverings 13.

The two halves of the casing on opposite sides of a vertical plane extending along the median line of the base are exactly similar, and consequently a description of one half of the casing will suffice to disclose the construction of both.

In order to facilitate the extension of the parts of the casing so as to permit the display of the contents of the sample-trays, the sections of the end walls mounted at the ends of the side walls of the casing are so connected by means of systems of levers with the sections of the top of the casing and the base thereof that when the side walls of the casing are swung outward upon the hinges 2 the top sections will be automatically extended by means of the lever connections between said top sections and the base 1 of the casing. The system of levers employed at each end of the casing to effect this outward movement of the top of the casing consists of a lever 14, mounted upon each end section at the end of one of the side walls, and links 15 and 16, extend-

ing from the ends of the lever 14, to which they are pivotally connected, to the base 1 and top section 10 of the casing, respectively. The links 15 and 16 are both pivotally connected with the portions of the casing and structure to which they lead by means of suitable brackets 17 and 18.

In order to secure the several parts of the casing in closed position, so as to form an effective protection for the trays contained therein, it is desirable to provide a lock 19 of any suitable construction and catches or clasps 20, which connect the two top sections in the usual manner.

The preferred means for supporting and carrying the display-case consists of a handle 21 of any ordinary or preferred construction, secured in eyes 22 at the upper ends of rods 23, whose ends are rigidly attached to plates 24, secured upon the base of the casing by means of screws or other suitable fastening devices. The rods 23 extend upward through openings provided therefor by cutting recesses in the margins of the top members 10 of the casing and are spaced a fixed distance apart by means of a bar 25, mounted upon the rods at a short distance above the bottom of the casing, as shown. The bar 25 extends almost to the end walls of the casing, and at each end thereof two light chains 26 are attached to the bar 25 and extend therefrom to the lower corners of the end sections 8 of the casing, as shown. These chains are of such length that when the side walls of the casing are extended in the same plane as the base of the casing the chains will be drawn taut and further movement of the side walls upon their hinges prevented. In consequence of this arrangement of parts it is unnecessary to provide an extended support for the casing when it is desired to display the contents thereof. It is sufficient if means is provided to afford full support for the base of the casing, as the side walls and top sections when extended will exactly balance each other and the chains 26 will prevent dropping of the side walls below the horizontal plane. As the top sections of the casing are positively operated by means of the lever systems connecting them with the base of the casing, the top sections will be held in the same plane as the side walls of the casing, and the chains 26 serve indirectly, therefore, as means for limiting the movement of the top sections of the casing.

Each casing is arranged for two sets of trays 28, which are arranged on opposite sides of the upright rods 23, to which the handle is fastened. In the form of the invention illustrated each set of trays consists of six trays of relatively long and narrow dimensions; but it is to be understood that the number of trays in each set and the dimensions of the trays may be varied at will without departing from the spirit of the invention. The trays in each set are all connected by means of links, forming lazy-tongs and operative to extend the entire set of trays into position in which they lie side by side in the horizontal plane when the tray at the top of the set is raised and shifted laterally.

In order to effect the desired movement of the trays, each tray is preferably provided at each end with a plate of thin sheet metal, such as aluminium, and a pair of links 29 are pivotally mounted in each plate and extend to the plate upon the adjacent end of the tray immediately above. If the plates are not used, the links may be pivoted directly to the ends of the trays. By reason of this arrangement all the trays between the uppermost and the lowermost have links extending both upward and downward, and in order to provide for the simultaneous movement of all of the trays links 29^a are arranged transversely of all the trays except the uppermost and lowermost to connect the adjacent members of the two pairs of links 29, which extend upwardly and downwardly, respectively, from the tray. Studs 30 limit the movement of the links 29 and hold the trays in the same plane when extended.

The preferred means employed for securing the sets of trays in position consists of two pairs of studs 31, carried by the rods 23 and projecting laterally therefrom in opposite directions, and a pair of spring-catches 32, arranged at opposite sides of the base 1 of the casing. The studs 31 engage sockets provided therefor in the inner sides of the trays at the bottom of the two sets, and the catches 32, which may be of any suitable or preferred construction, engage with studs 33, provided on the outer sides of the lowermost members of the two sets of trays.

When the studs 31 engage with the sockets provided therefor in the lowermost members of the sets of trays and the catches 32 engage with the studs provided for that purpose, it is obvious that the lowermost members of the two sets of trays will be firmly secured upon the base of the casing or cover of the display-case. Hence any movement imparted to the uppermost members of said sets of trays will be without effect upon the lowermost members, but will result in a certain amount of movement of the trays intervening between the uppermost and lowermost.

When it is desired to remove the trays from the casing for the introduction of other trays or for any other purpose, the catches 32 may be disengaged from the studs 33, and by giving the trays a slight lateral movement they may be disengaged from the studs 31, so permitting the intermediate removal of the trays.

In order to prevent injury to the side walls of the casing from contact with the catches 32, provided for securing the trays in the casing, it is desirable to provide at the lower margin of each of the side walls a plate 34, of aluminium or other suitable material, to receive any wear occasioned by said catches; but

such wear-plates may be dispensed with without sacrificing the other advantages of the structure.

From the foregoing description it will be clearly evident that when the trays are secured in the casing and filled with the wares to be displayed the extension of the trays into position to display the wares fully and to the best advantage can be instantly accomplished after the casing has been opened, and the opening of the casing into proper position for the display of the contents is also a matter requiring only a moment of time. When the contents of the trays have been displayed, the restoration of the trays to their superposed position to permit the closing of the casing is accomplished with as much ease as the extension of the trays to display their contents. In order to restore the trays to superposed position, it is only necessary to grasp the outermost tray when the trays are extended and lift it upward and inward toward the middle of the casing. The lazy-tongs connecting the several trays of the set will act to draw all of the trays into superposed order, in which each tray serves as a cover and closure for the tray immediately below.

A special feature of advantage of this display-case over those ordinarily used is in the arrangement of the side walls and the sections forming the top of the case in such manner that when the base of the casing is firmly supported the side walls and cover-sections may be extended in the same plane with the base and securely held in that position to afford a support for the sample-trays extended to display their contents.

While I have described and illustrated the preferred form of embodiment of my invention, it will be obvious that various changes in the minor details of construction may be resorted to without departing from the spirit of the invention or sacrificing the advantages thereof. I do not limit myself, therefore, to the exact structure above described, but reserve the right to make changes therein within the scope of the appended claims.

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

1. In a display-case, an outer casing or cover, including a base, side walls hinged to the base, top sections hinged to the side walls, and means connecting said base and top sections whereby the top sections are positively opened outward from the side walls when the side walls are swung outward into the plane of the base.

2. In a display-case, a casing or cover including a base, side walls hinged to the base, end sections secured to said side walls, top sections hinged to said side walls, and mechanism for extending said top sections into the plane of the base mounted upon said end sections and connected with the base, said mechanism being operative when the side walls are swung outward from their normal position.

3. In a display-case, a cover or casing including a base, side walls hinged to said base and adapted to open outward, a carrying structure extending upward from said base between said side walls, and sets of display-trays removably secured upon said base at opposite sides of said carrying structure.

4. In a display-case, a base, side walls arranged to swing outward from said base, a carrying structure extending upward from the middle of said base and provided with oppositely-arranged projections, display-trays arranged at opposite sides of said carrying structure and engaged by said projections, and catches at the outer sides of said trays for engagement therewith to hold them in position upon said base.

5. In a display-case, a base, a carrying structure arranged at the middle of said base, side walls at the sides of said base and arranged to swing outward therefrom, and means for limiting the outward swing of said side walls, said means extending from said carrying structure.

6. In a display-case, a base, vertical rods arranged in the middle of said case, a handle secured at the upper ends of said rods, means for holding said rods at a fixed distance apart, and side walls arranged at the margins of said base.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

LLOYD W. PLUMMER.

Witnesses:

R. F. BERRY,

C. B. FITMORE.