April 12, 1966 C. J. MacMAHON ET AL 3,245,738

DISPLAY DISPENSING UNIT

Filed July 8, 1964 2 Sheets-Sheet 1

FIG. 1.

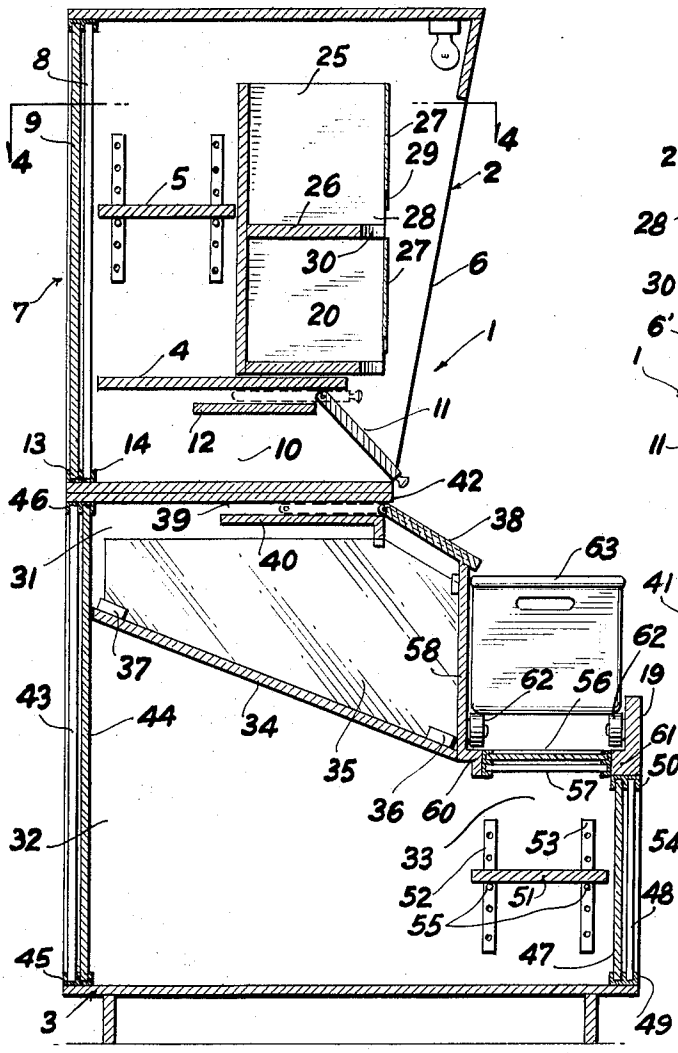
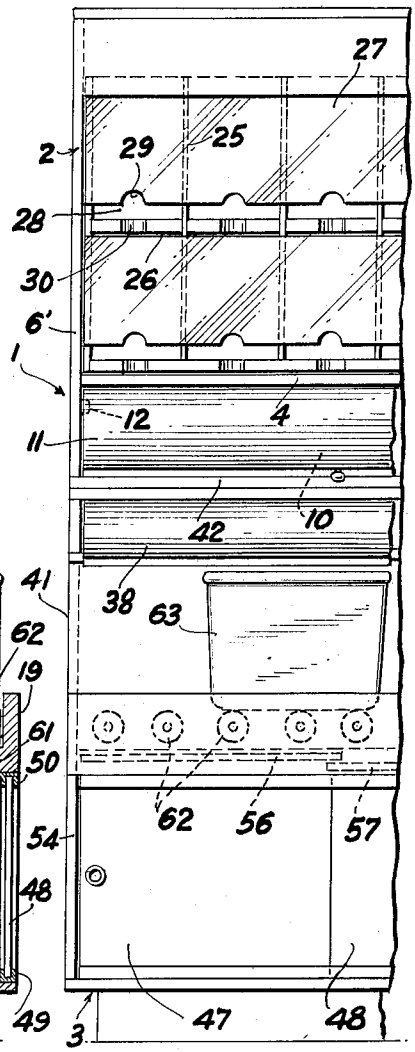


FIG. 2.



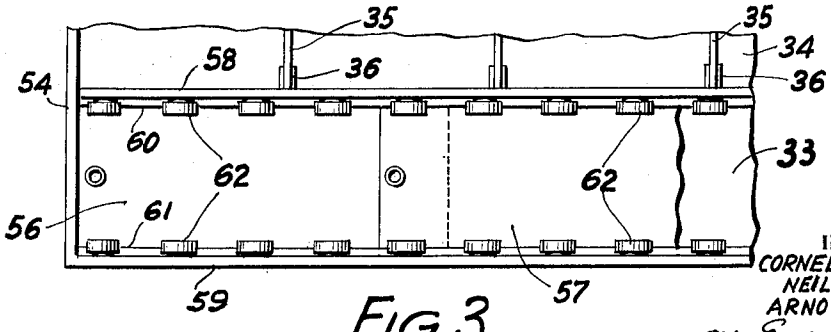


FIG. 3.

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Filed July 8, 1964 2 Sheets-Sheet 2

FIG. 4.

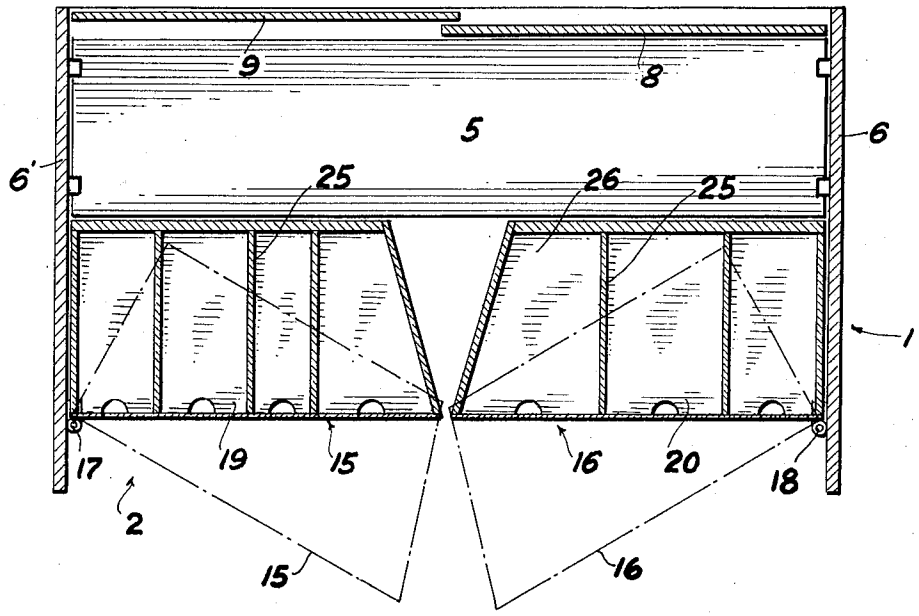


FIG. 5.

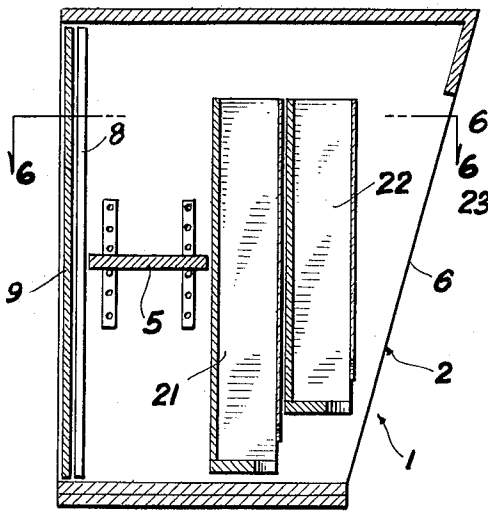
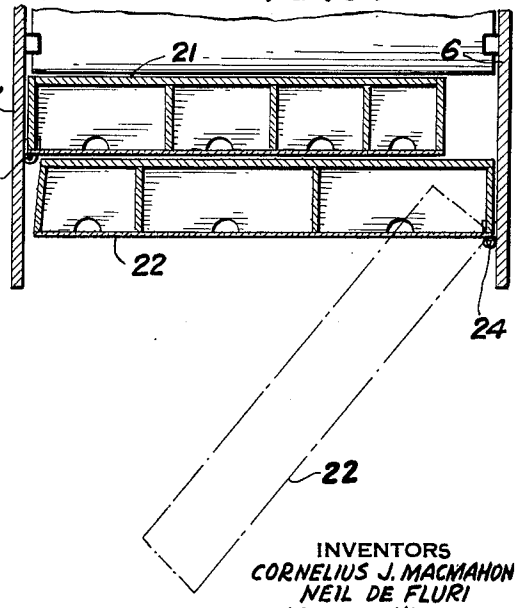


FIG. 6.



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DISPLAY DISPENSING UNIT

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This invention relates to a dispensing unit and is particularly directed to a compact transportable display dispensing unit for storing and dispensing articles used in hospitals and similar areas of distribution.

In hospitals and other locations having generally centrally disposed supply areas, the procedure usually is to procure certain required items therefrom and transport them to different locations wherever the need exists. This usually necessitates in certain areas, a plurality of trips to and from the centrally located supply area to fulfill the desired requirements. In medical establishments such as hospitals and the like, the usual procedure is to have a nurse or some other attendant make numerous trips to the central supply station and the particular patient being serviced while the usual rounds are being made. This routine is time consuming, costly, subjects the nurse to fatigue and reduces her operating efficiency accordingly.

To overcome these defects and others the applicants herein have provided a display dispensing unit which is compact, portable and comprises a series of visual compartments having the necessary medicaments and other paraphernalia stored therein and whereas there is ready and quick access to all the items generally located at the central supply area in the various compartments of the display unit. The display unit is compartmentalized in a manner which permits access to the medicaments in a continuous flowing manner so that there is no loss of time and back-tracking of items to be dispensed to the various patients. There is further provided a small receptacle movably carried by the display unit and capable of receiving articles therefrom.

It is therefore a principal aspect of the invention to provide a display dispensing unit which enables various types of articles, particularly those required in hospitals, to be stored in a compact area and quickly and readily available for use.

Another object of the invention is to provide a portable receptacle movably carried by the display unit for receiving individual items from those stored in the display unit for patient and other distribution.

A still further object of the invention is to provide a display dispensing unit which increases the time and efficiency of distribution of items stored and carried by the said unit.

A still further object of the invention is to provide a display dispensing unit which permits a smooth flow and handling of items in an orderly and expeditious fashion and permits increased efficiency of selection and distribution of medicaments and other articles to patients and others and thereby permits increased efficiency of personnel.

Another object of the invention is to provide a display dispensing unit which is simple in design and construction, rugged, easily loaded and unloaded with various types of articles, easily handled and transported to various locations, and economical to make and use.

Other objects and advantages will become apparent from a reading of the specifications and a study of the accompanying drawings and wherein:

FIG. 1 is a vertical section of the display dispensing unit, showing upper and lower compartments, according to the invention;

FIG. 2 is a partial front-elevational view of the display dispensing unit according to the invention;

FIG. 3 is a top partial view of the display unit showing the transport rollers for a small portable receptacle (not shown) and the compartments traversed thereby according to the invention.

FIG. 4 is a fragmentary section of FIG. 1 taken along line 4—4, the dot-dash lines showing the compartmentalized hinged structures in an intermediate projected position.

FIG. 5 is a vertical section of the unit's upper compartment but having a modified form of compartmentalized hinged structure.

FIG. 6 is a section of FIG. 5 taken along line 6—6, one of the hinged structures being shown by dot-dash lines in an intermediate projected position.

Now describing the invention, particularly with respect to FIGURES 1–4, there is shown in general a display dispensing unit 1 comprising an upper enclosure 2 seatably mounted on a lower enclosure 3 and continuous therewith. The upper enclosure 2 has mounted therein a longitudinally oriented horizontal lower shelf 4 and a shelf 5 of narrower width also longitudinally, and horizontally oriented. The shelving 5 is mounted on spaced brackets vertically attached to the end panels and supported by vertically adjustable pins protruding from said brackets. The enclosure has a pair of trapezoidal-like end panels 6 and 6' and a back panel interposed therebetween and consisting of a pair of vertical interleaving sliding doors 8 and 9 each providing access to the rear of said enclosure and the shelves 4 and 5. The shelving 4 provides a lower space or compartment area 10 accessible from the front of the enclosure through the opening of a hingedly mounted sliding lift-up panel 11. The panel door 11 when slid open, to provide access to the compartment 10 is made to reside on support member or groove track 12 mounted to and below in proximate relation to shelf 4. Access to lower compartment 10 is also provided through the back doors 8 and 9 of the upper enclosure as previously disclosed, the said doors being made to ride along elongated track grooves 13 and 14 positioned along the base of the upper enclosure 2. To the frontal portion of the upper enclosure 2 there is provided, according to one embodiment of the invention, a pair of hinged in-line compartmentalized components 15 and 16 each hinged along one of its vertical outward extremities 17 and 18 respectively to permit the said compartments to swing in a forward direction without the enclosure and free of any impact or entanglement at their inner extremities. The respective components each have separate frontally exposed compartments 19 and 20 of various dimensions to accommodate packaged medicaments of various sizes, shapes and configurations. The object of providing such swinging action on the part of the components is to create ready access to the compartments and the medicaments contained therein.

In another embodiment, instead of having the compartmentalized components as in FIG. 4 in-line or side-by-side with each other, it is possible to have them behind each other or in a row as shown in FIGS. 5 and 6. In particular the in-row components 21 and 22 each has one of its remote opposite extremities 23 and 24 vertically hinged to permit first the front component 22 to swing forward and then the rear component 21 to swing forward, each in its complete arcuate traverse, being free

and clear of the other to permit access to the medicaments contained in the various compartments of the components above referred to.

The representative compartments 19 and 20 making the components above referred to are separated by partitions 25 in the vertical direction and base partition 26 in the horizontal direction, the said partition being made of Plexiglas or any other similar material. The front of the compartment has a retaining transparent panel member 27 movably attached thereto and slightly shorter in height than the said compartment thereby leaving a space 28 at the lower extremity including small semi-circular cutouts 29 and 30 in both the base partition 26 and panel 27. The space and cut-outs referred to permit access to a limited number of the packaged medicaments, the remainder thereof being securely retained by the said retaining panel within the said compartments. Loading of these compartments is permitted by the simple removal of the retaining panel member.

The dispensing unit shown in FIG. 1 has a lower enclosure 3 which comprises in general upper storage area 31, lower storage area 32 and frontal storage area 33. The upper and lower areas are separated by a shelf 34 sloping downward from back to front and disposed to retain and otherwise hold and store merchandise suitable for dispensing within the area occupied by the dispensing unit. The area 31 is compartmentalized by the partition thereof with vertically oriented Plexiglas or otherwise transparent removable panel members 35 made to vertically reside in special retaining grooved brackets 36 and 37 mounted to the front and rear of the sloping shelf 34. Access to the upper storage area 31 is provided by a slidable sloping door or panel member 38 which when opened slides into a space 39 defined by a supporting bracket 40 mounted to the upper extremity of the end wall 41 and the inside surface of the lower enclosure top 42, the sliding panel member 38 reposing upon the bracket 40 when in an opened position to provide access to the storage area 31.

The lower storage area 32 is disposed to have access thereto through the rear of the enclosure 3 via a pair of vertical slidable interleaving doors 43 and 44 gliding and guided along grooved tracks 45 and 46 respectively longitudinally mounted to the rear inner surfaces of the base and ceiling of the enclosure 3. The frontal area or storage space 33 is disposed to have access thereto through the frontal portion of the enclosure through the opening of a pair of vertical slidable interleaving doors 47 and 48 gliding and guided along grooved tracks 49 and 50 respectively longitudinally mounted to the front of the inner surfaces of the base and ceiling of the said enclosure 3. The storage space 33 has adjustably mounted therein a horizontal shelf 51 mounted to and supported by vertically spaced brackets 52 and 53 attached to the end walls 54 at opposing ends of the enclosure 3. The shelf is supported via pins 55 protruding from the brackets, the said pins being positioned in accordance with the shelf spacing and height required. Access to the storage area 33 is also available from the ceiling thereof through flat horizontally arranged interleaving sliding doors 56 and 57. The doors 56, 57 described form the base of a channel-like structure external the frontal portion of the enclosure 3 and whose sides 58 and 59 with the base substantially define the channel area. At opposing ends of the base, along the channel sides and at the lower extremities thereof rides a pair of longitudinally oriented tracks 60 and 61 each disposed to support a plurality of longitudinally spaced apart freely rotatable rollers 62. Each roller is supported by the channel member sides and is adapted for receiving and supporting a freely transportable carriage or receptacle 63 disposed to move in the area defined by the channel sides and base. As the carriage 63 rides over the rollers for its purpose, the slidable doors 56 and 57 may be opened, the movement of the carriage being

disposed not to interfere with the accessibility thereto. The object of the carriage movement is to create ready accessibility to the medicaments in the storage areas as outlined above.

Accessibility and portability are the key features of the invention as it resides in the various combinations of the elements which go to make up the dispensing unit. For example, a continuous flow of selection may be accomplished by starting with the upper enclosure and selecting from each of the storage areas, accessible from the front, those medicaments required for a given area, to patient, or group of patients and placing same into the carriage or receptacle. After selection is made from the upper enclosure, the lower enclosure is then operated upon, first going to the storage area 31 then finally to storage area 33 by operating the horizontal sliding doors 56 and 57.

The rollers are spaced apart so as to bridge the area wherein the sliding doors 56 and 57 are located, this area above the said doors being conveniently defined between the said doors and rollers so as to provide ready accessibility to the storage region 33 therebelow, thus permitting positive communication and continuity of selection between the storage regions in the upper and lower enclosures as previously described. This communication and continuity is readily available as the receptacle 63 is movably transported along the said rollers so as to provide access to the said regions. This is an ingenious way of maintaining continuity of flow highly desirable in some establishments, especially hospitals. In getting the proper medicaments care must be used in the proper orientation of the same in the various compartments. Those drugs etc. used most frequently are placed in areas which have the greatest accessibility, and so on down the line. Those items having the greatest bulk are usually stored in compartments or storage areas 31. The dispensing unit is generally and preferably loaded from the rear of the upper and lower enclosure so as not to disturb or affect those medicaments already placed at the frontal areas of the said enclosure, while dispensing preferably takes place from the frontal areas.

In the above description, the invention has been disclosed merely by way of example and in preferred manner; but obviously many variations and modifications may be made therein. It is to be understood, therefore, that the invention is not limited to any form or manner of practicing same, except insofar as such limitations are specified in the appended claim.

We claim:

In a display dispensing unit, the combination of an upper enclosure member, a lower enclosure member, and movable conveying means, said upper enclosure member having therein an upper and a lower storage compartment, frontal apertured portions in communication with said respective upper and lower storage compartments, respectively; said lower enclosure member having upper, lower and frontal storage regions, a lower front portal in communication with said frontal storage region, said frontal storage region having an open portion at the top thereof, said conveying means comprising a movable receptacle below and forwardly of said frontal apertured portions and above said open portion of said frontal storage region and spaced supporting means in underlying movable engagement with said receptacle, said supporting means being so proportioned and positioned as to operatively engage opposite spaced portions of the bottom of said receptacle and to flank and expose said open portion of said frontal storage region, whereby articles stored in said respective upper and lower enclosure members may be readily transferred therefrom into said receptacle through said respective frontal apertured portions, front portal and open portion, the said lower enclosure member having an opening at the upper front corner thereof in communication with said upper storage region and inclined retractible closure means for said opening, said inclined closure means being disposed above the level and rear-

wardly of said receptacle, whereby articles in said upper storage region may be readily transferred therefrom to said receptacle.

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