

Aug. 6, 1968

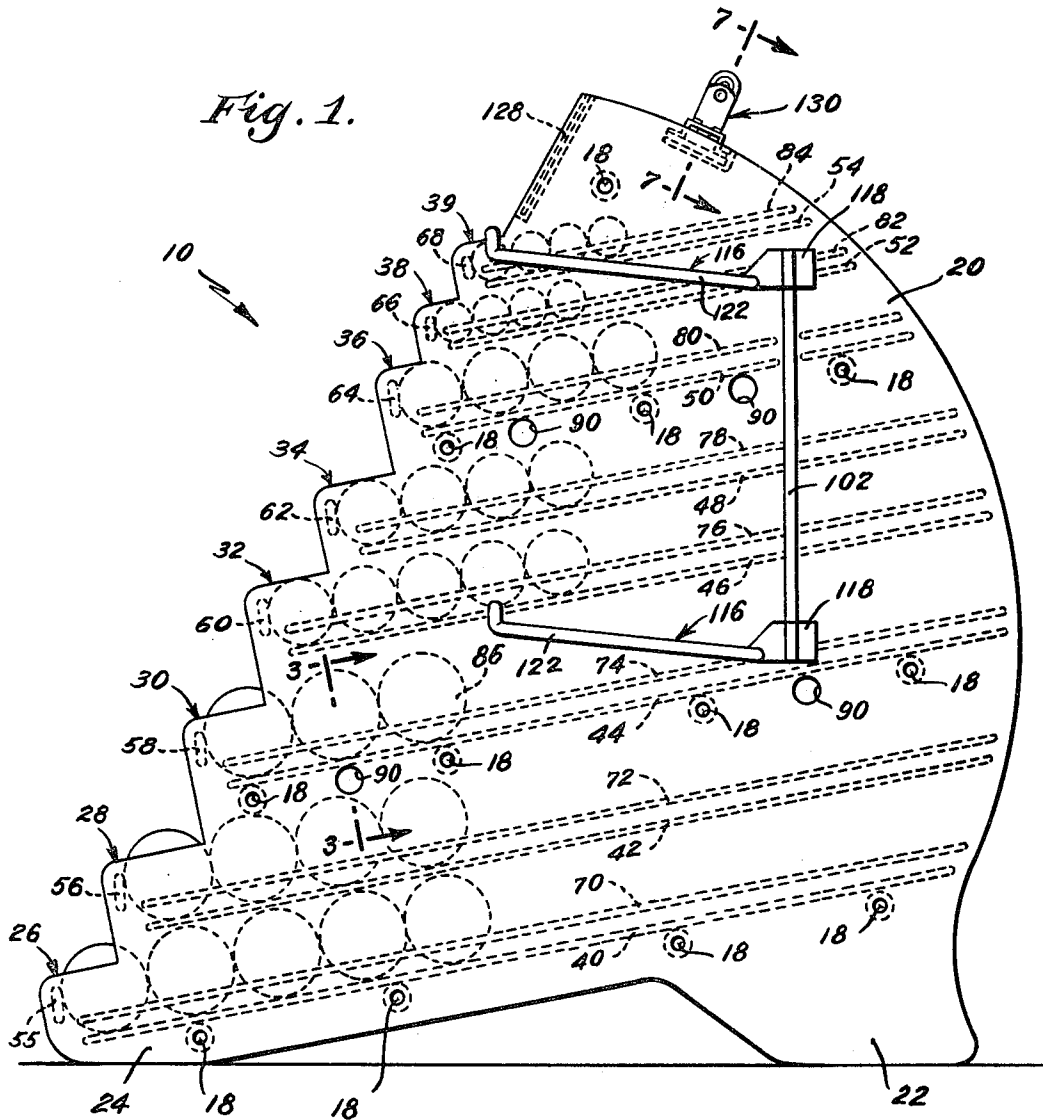
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3,395,809

BATTERY DISPENSER

Filed Dec. 21, 1965

4 Sheets-Sheet 1



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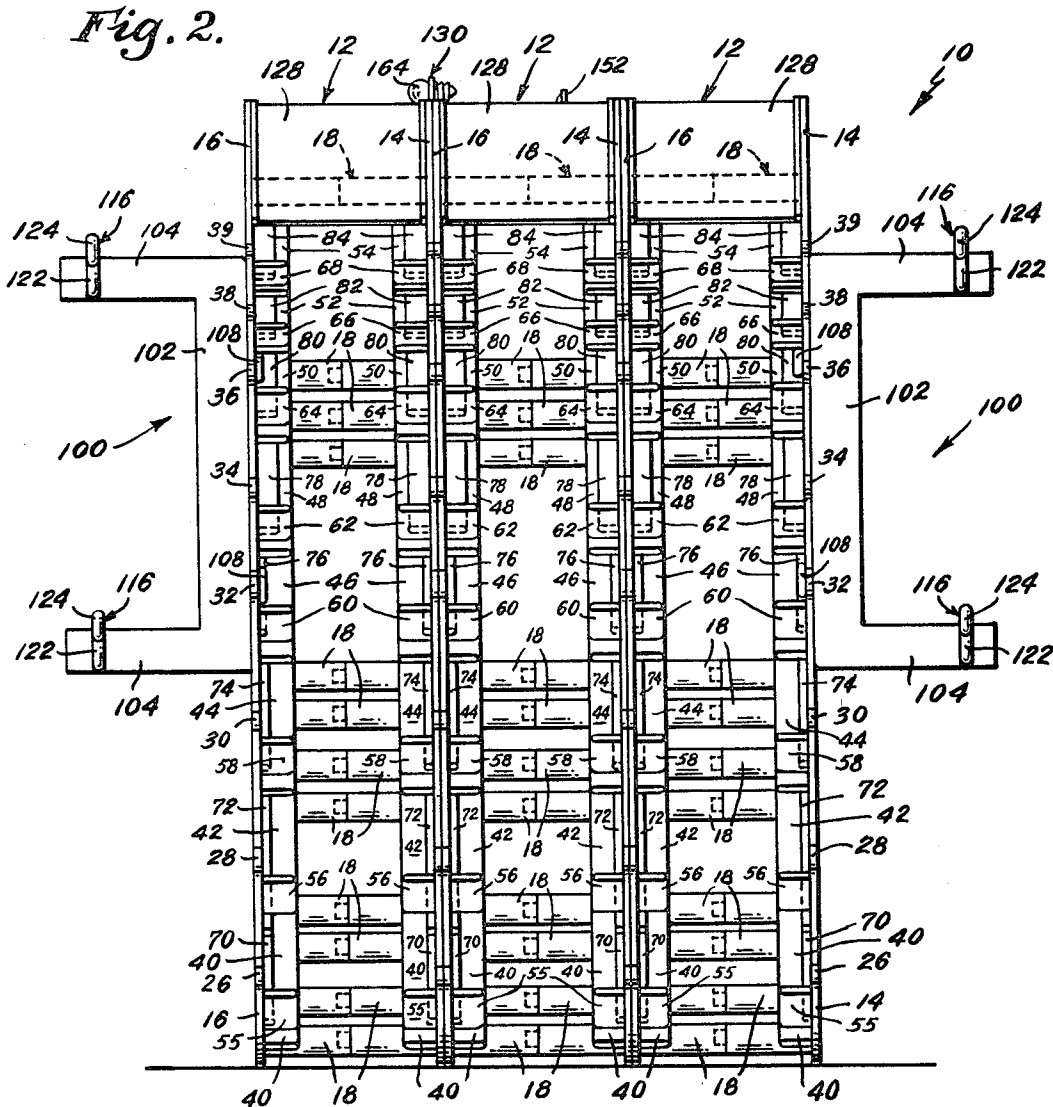
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Fig. 3.

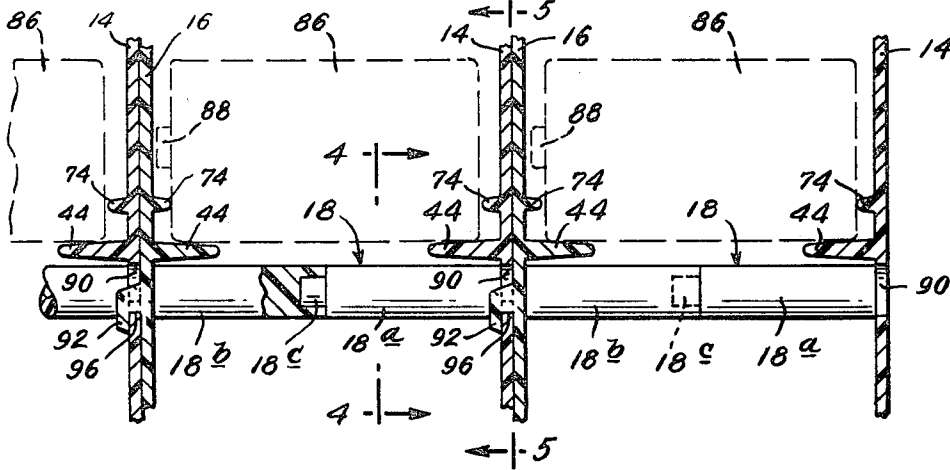


Fig. 4.

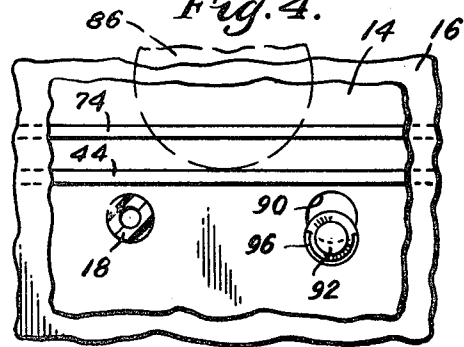


Fig. 5.

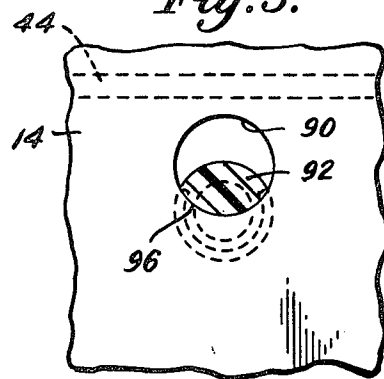
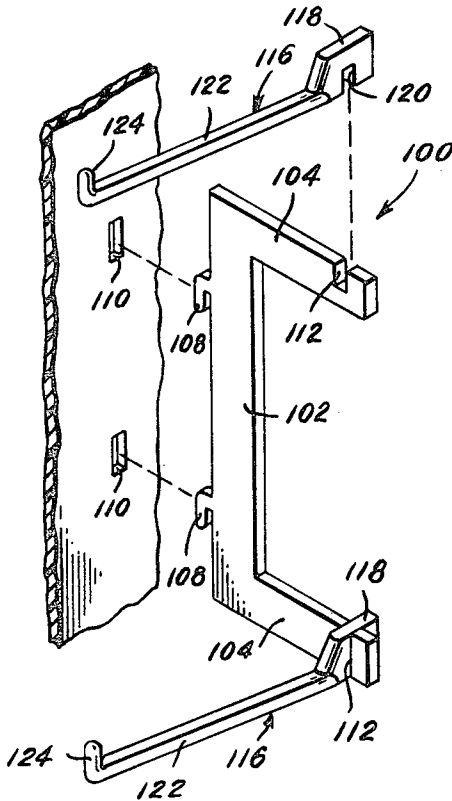


Fig. 6.



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Fig. 8.

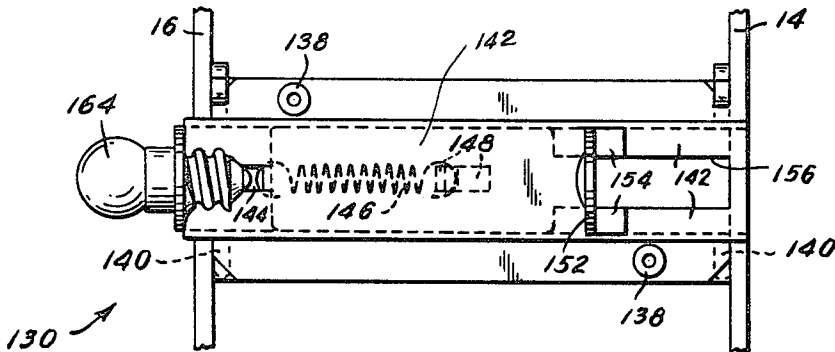


Fig. 7.

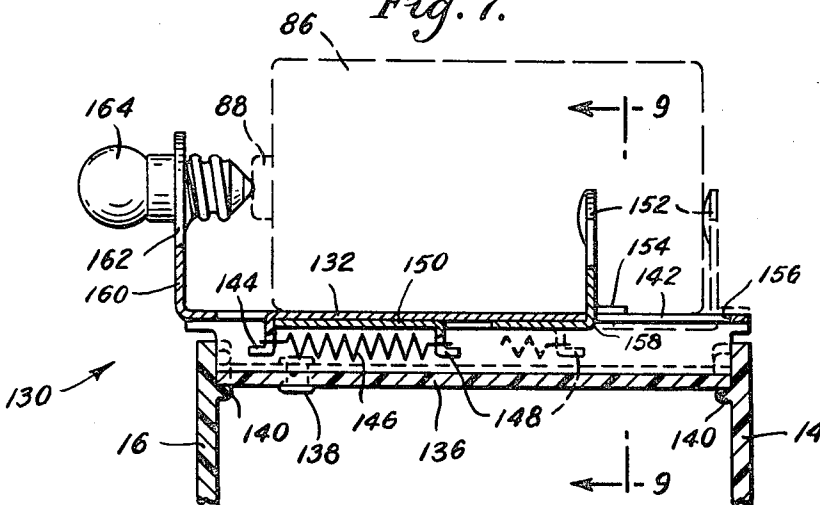
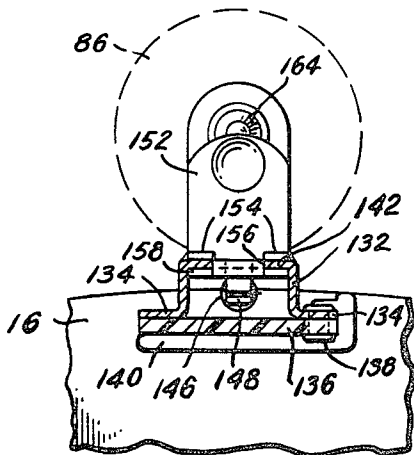


Fig. 9.



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3,395,809

BATTERY DISPENSER

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2 Claims. (Cl. 211—59)

ABSTRACT OF THE DISCLOSURE

A battery dispenser having a plurality of interconnected units and including a bracket assembly that is joined to a side wall of an outer unit and that provides for the display of packaged articles on said dispenser, the bracket assembly having spaced rods mounted thereon for receiving said packaged articles.

The present invention relates to a battery dispenser. More particularly, the present invention relates to a dispensing assembly that includes a plurality of dispensing units that are adapted to be interconnected, bracket assemblies being joined to the outer walls of said dispensing units for mounting packaged articles for display thereon.

The present invention is normally displayed on a counter or the like in a commercial establishment as a point of sales display and to stimulate impulse buying. Since many commercial establishments have limited counter space for use in the display of goods and particularly in the use of point of sales displays, it has been found useful to provide an assembly that has flexibility in the quantity of merchandise displayed. The present invention, in carrying out the concept of providing for flexibility of use, includes a plurality of display or dispensing units, all of which are constructed substantially identical. The display or dispensing units, which are of the self-service dispensing type and provide for customer removal of the merchandise, are formed such that a single unit or any number of units may be added or removed from the dispensing assembly as required. In order to provide for removable securement of the units, each unit has a plurality of openings formed in one side wall thereof, the opposite side wall thereof having a plurality of locking projections formed thereon. Thus, the dispensing units are arranged in interlocking and engaging relation by locating the locking projections of one unit in the openings of another unit. Since the units are formed substantially identical, they appear to define a single dispensing assembly with multiple dispensing magazines when they are interlocked in wall-to-wall engagement.

Accordingly, it is an object of the present invention to provide a dispensing assembly that includes a plurality of dispensing units that are removably connected together.

Another object of the invention is to provide a dispensing assembly that includes a plurality of dispensing units, each of which is defined by parallel spaced side walls that are adapted to be located in interlocking and engaging relation with the walls of the adjacent units.

Still another object is to provide a battery dispenser that includes a plurality of dispensing units having side walls each of which is formed with means for interlocking with the wall of an adjacent unit, thereby providing for the removal or insertion of the dispensing units as required.

Still another object is to provide a dispensing assembly, to the end walls of which brackets are adapted to be mounted for displaying merchandise otherwise not possible for dispensing by the assembly.

Still another object is to provide a battery dispenser on which a battery testing device is mounted, the testing de-

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vice being adjustable for accommodating batteries of various lengths.

Other objects, features and advantages of the invention will become apparent as the description thereof proceeds when considered in connection with the accompanying illustrative drawings.

In the drawings which illustrate the best mode presently contemplated for carrying out the present invention:

FIG. 1 is a side elevational view of the dispensing assembly embodied in the present invention;

FIG. 2 is a front elevational view of the dispensing assembly illustrated in FIG. 1;

FIG. 3 is a sectional view taken along lines 3—3 in FIG. 1;

FIG. 4 is a sectional view taken along lines 4—4 in FIG. 3;

FIG. 5 is a sectional view taken along lines 5—5 in FIG. 3;

FIG. 6 is an enlarged exploded perspective view showing a wall bracket displaying device that is adapted to be attached to a wall of one of the units of the dispensing assembly;

FIG. 7 is a sectional view taken along lines 7—7 in FIG. 1 showing a battery testing device;

FIG. 8 is a plan view of the battery testing device illustrated in FIG. 7; and

FIG. 9 is a sectional view taken along lines 9—9 in FIG. 7.

Referring now to the drawings and particularly to FIGS. 1 and 2, the dispensing assembly embodied in the present invention is illustrated and is generally indicated at 10. The dispensing assembly is defined by a plurality of dispensing units, each of which is generally indicated at 12, and, as will be described, the dispensing units 12 are formed substantially identical and are adapted to be removably joined together, wherein the dispensing assembly may include as many of the dispensing units as required by the user. Each of the dispensing units 12 is designed to store, display and dispense a plurality of cylindrical articles, such as batteries, wherein the longitudinal axes of the articles are generally horizontal. Thus, the articles are designed to be moved from an upper loading station in each of the dispensing units to a lower dispensing station in a rolling motion. As shown in FIG. 1, the dispensing units 12 are formed with a plurality of magazines for receiving the articles to be dispensed therefrom, the size of the magazine being determined by the size of the article to be dispensed therefrom.

Each of the dispensing units 12 includes spaced parallel side walls 14 and 16 that are positioned in their spaced relation by a plurality of spacer members 18. As illustrated herein, the component parts of the dispensing assembly 10 are fabricated of plastic material, and, as such, these components are molded. Thus, the walls 14 and 16 are each molded in separate operations and have joined integrally thereto a portion 18a and 18b, respectively, of the spacers 18. When the walls 14 and 16 are fixed in their spaced position by the spacers 18, the portions 18a and 18b of each spacer that are joined to the walls 14 and 16 are interlocked with the aligned portion to define the complete spacer 18. In this connection and as seen in FIG. 3, the portion 18a has a projection 18c formed thereon that is received in a corresponding opening formed in the portion 18b.

Referring now to FIG. 1, the end wall 14 of the end unit 12 is illustrated in side elevation and shows the shape and configuration of the side walls 14 and 16 as they define the magazines of each unit. Thus, the side walls 14 and 16 are each provided with a rear edge that is arcuate in configuration as indicated at 20 and that terminates in the lower end thereof as the rear edge of a heel portion

22. The heel portion of each wall is joined to a toe portion 24, the heel and toe portions of the side walls cooperating to define a stand for the unit of which they are a part. The front edges of the walls 14 and 16 are formed in step-like relation, each of the steps in the front edges defining a dispensing station for the various magazines, the magazines being indicated in FIG. 1 at 26, 28, 30, 32, 34, 36, 38 and 39. The magazines 26-39 of each unit and as located between the walls 14 and 16 are defined by spaced inclined tracks indicated at 40, 42, 44, 46, 48, 50, 52 and 54. The spaced tracks 40-54 are each formed on a side wall of each unit and are adapted to receive batteries for rolling relation thereon, the inclined formation of the tracks providing for movement of the batteries to the forward dispensing station of each magazine. As shown in FIG. 1, the batteries for each dispensing magazine may vary in size and will be accommodated in the particular magazine that is formed in accordance with the size thereof. As also shown in FIG. 1, each of the dispensing stations also includes spaced forward stops 54-68 that are located on each of the walls 14 and 16 and forwardly of the tracks 40 through 54, respectively, the stops 54-68 being adapted to restrain forward movement of the batteries as they are moved downwardly in their respective magazines. Since each of the batteries as fabricated normally includes an end terminal, spacers indicated at 70-84 are also joined to the side walls of the units and provide for accommodation of the batteries on the tracks, thereby restricting sidewise movement of the batteries on the tracks during movement thereof. Thus, as seen in FIG. 3, the spacers 74 that are formed on the walls 14 and 16 properly locate a battery 86 as it rolls on the tracks 44. Further, the spacers 74 accommodate the terminal 88 of the battery 86 as the battery rolls forwardly on the tracks 44 to the dispensing station.

As described, each of the dispensing units 12 is formed as an independent unit and may be so employed if desired. However, since the dispensing units 12 are limited in the merchandise in which they can display and dispense, they are normally secured together to form a dispensing assembly that may include as many of the units that can be accommodated on a display counter. In order to link or interconnect the units 12 in the manner as illustrated, the wall 14 of each unit is formed with a plurality of circular-like openings 90 therein, the openings 90 being normally four in number and being spaced on the surface of the wall 14. Molded as an integral part of the opposite wall 16 and on the outer surface thereof are a plurality of projections 92, the location of which generally correspond to that of the openings 90. The projections 92 are somewhat tapered in configuration to form substantially a frusto-conical member that is sized to be received within an opening 90. When the openings 90 and projections 92 are aligned upon interlocking of the walls 14 and 16 of adjacent units, the wall 16 on which the projections 92 are formed is elevated slightly above the wall 14 in which the openings 90 are formed. As will be described, elevating the wall 16 somewhat above the wall 14 of the adjacent unit is for the purpose of interlocking the walls. As seen in FIGS. 3, 4 and 5, each of the projections 92 is formed with an undercut that defines a slot 96, the slot 96 being of such size and shape for receiving the edge of the wall 14 in which the opening 90 is formed. Thus, the projections 92 define a hook configuration, and when the projections 92 are received in the aligned openings 90, the slots 96 provide for downward movement of the wall 16 with respect to the wall 14. This interlocks the projections 92 in the openings 90 and further aligns the walls 14 and 16 with respect to the vertical position thereof. The interlocked and engaging walls 14 and 16 locate the adjacent dispensing units 12 in the manner as illustrated in FIG. 2 to form the complete dispensing assembly. It is understood that any number of the dispensing units 12 may be linked together in the manner as illustrated and described, the only limitation in interlocking or linking

the units together being the space for accommodating the dispensing assembly. The operation of the individual dispensing units remains the same, since each of the units includes its own group of magazines as defined by its walls 14 and 16 and tracks 40-54. When any single unit or combination of units is to be removed from the assembly, the reverse of the assembly operation is carried out, wherein the unit on which the projections 92 are formed is elevated with respect to the adjacent unit, and the projections 92 are then withdrawn through the openings 90 to separate the adjacent dispensing units.

Since the dispensing assembly 10 is normally displayed on a counter or the like as a point of sales display, it is desirable to display other merchandise therewith that may be of the same general type as that located in the dispensing magazines but that is packaged in a different manner. In this connection, it is contemplated that batteries packaged in pairs or other multiples be packaged on cards and retained thereon by blister containers or the like. In order to mount the display cards on the dispensing assembly 10, a unique bracket assembly is provided and is generally indicated at 100 in FIGS. 2 and 6. The display bracket 100 is adapted to be mounted on either the wall 14 or 16, and for this purpose is formed with a vertical portion 102 to which are integrally joined spaced horizontal arms 104. Formed on the inner edge of the vertical portion 102 are hook elements 108 that are adapted to be received within slots 110, the slots 110 being formed in the walls 14 and 16 in aligned vertical relation that corresponds to the spacing of the hook elements 108. It is seen that the bracket 100 is thus mounted in place in either the walls 14 or 16 by projecting the hook elements 108 through the slots 110 and then allowing the bracket to drop downwardly to interlock the hooks 108 within the slots 110. Formed on the upper edges of the horizontal portions 104 and 106 adjacent to the outer edges thereof are grooves 112. Hang rods generally indicated at 116 are adapted to be suspended from the horizontal arms 104, and for this purpose each is formed with an enlarged rear portion 118 in which a groove 120 is located. The grooves 120 correspond in size and configuration to the grooves 112 and are frictionally interfitted therewith to locate the hang rods 116 in the position as illustrated in FIGS. 1 and 6. In this position, an elongated portion 122 of each hang rod projects forwardly of the bracket 100 and is somewhat inclined with respect to the horizontal. Located on the outer edges of the hang rods are end stops 124 for positively locating display cards or the like thereon. It is seen that the usual type of display card with an opening in the header thereof or in the backing thereof may be suspended from the brackets 100 by sliding the cards over the hang rods 122. It is further seen that the cards will be sufficiently spaced from the side walls of the dispensing assembly to permit free hanging thereof as a result of the interlocking of the hang rods in the grooves 112 formed in the horizontal arms 104.

Since the dispensing assembly 10 is normally employed as a battery dispenser, it is desirable to provide a means for testing the effectiveness of each battery as it is dispensed by the customer. For this purpose, a battery testing device generally indicated at 130 is provided. Referring now to FIGS. 7, 8 and 9, the battery testing device 130 is shown in detail, and, as illustrated, is adapted to be mounted between the walls 14 and 16 of one of the units 12. As illustrated herein, the battery testing device 130 is normally employed in the central unit 12, although it is understood that it may be mounted on any of the units as desired.

The dispenser 130 includes a channel-like base 132 that is formed with opposed flanges 134. The flanges 134 of the base 132 are secured to a plate 136 by rivets 138 or the like, and the plate 136, in turn, is received in opposed slotted supports 140 that are formed as integral inner extensions of the walls 14 and 16 adjacent to the uppermost ends thereof. The battery testing device 130 is thus

located at the top of the dispensing assembly but does not conflict with the loading of the batteries therein. The base 132 further includes an upper wall 142 in which a portion is cut out to define a finger 144. One end of a spring 146 is connected to the finger 144, while the other end of the spring 146 is connected to a finger 148 that is cut out of a slidable plate 150 to which an upstanding terminal 152 is joined. Joined to the upstanding terminal 152 are spaced feet 154 that slide on the upper surface of the wall 142 of the base 132, the feet 154 being located adjacent to an opening 156 formed in the wall 142. The terminal 152 includes a lower extension 158 that projects through the opening 156 and is joined to the end of the plate 150. The terminal 152 is thus slidable with respect to the base 132 but is limited in the inner movement thereof by the inner end of the slot 156. Further movement of the terminal 152 is restricted by the spring 136 that normally holds the terminal in the inner position thereof, as illustrated in full lines in FIG. 7. Joined to the upper wall 142 of the base 132 is an upstanding ear 160 in which an opening 162 is formed for threadably receiving an incandescent lamp 164. The threaded portion of the incandescent lamp 164 projects inwardly of the ear 160 and in opposed spaced relation with respect to the terminal 152. It is seen that a battery, such as battery 86, may be conveniently tested in the dispensing assembly after dispensing therefrom by simply inserting the battery between the terminal 152 and the contacts of the lamp 164. Since the base 132 is formed of a conducting material, a circuit is established through the ear 160, base 132, inner plate 150, terminal 152, and the battery. It is further seen that in testing the battery 86 for the effectiveness thereof the length of the battery may be somewhat greater than the space between the lamp 164 and the location of the terminal 152 in the position shown in full lines in FIG. 7. In this situation, the user merely moves the terminal 152 to the right, as seen in FIG. 7, and against the action of the spring 146. As the terminal 152 reaches the dotted-line position shown in FIG. 7, the battery 86 may be inserted therebetween and the lamp 164 for the testing thereof. If batteries of a size smaller than that illustrated in FIG. 7 are required for testing, they may be inserted between the terminal 152 and the lamp 164 in accordance with their size requirements, the spring 146 providing sufficient tension for the terminal 152 to locate it in positive engagement with the end of the battery disposed in the testing position.

While there is shown and described herein certain specific structure embodying the invention, it will be manifest to those skilled in the art that various modifications and rearrangements of the parts may be made without departing from the spirit and scope of the underlying inventive concept and that the same is not limited to the particular forms herein shown and described except insofar as indicated by the scope of the appended claims.

I claim:

1. In a dispensing assembly, a first dispensing unit including spaced, parallel side walls between which at least one dispensing magazine is defined, said dispensing magazine receiving articles therein for dispensing therefrom, a second dispensing unit including spaced, parallel side walls between which at least one dispensing magazine is defined for receiving articles for dispensing therefrom, means for removably interconnecting said dispensing units in side-by-side relation, wherein a side wall of said first unit is located in engaging and interlocked relation with a side wall of said second unit, said interconnecting means being formed as an integral part of the interlocked and engaging side walls, the parallel side walls of each dispensing unit having at least one pair of slots formed therein in vertically aligned relation, a bracket having hooks formed thereon in spaced vertically aligned relation and being received in the slots in one of said side walls for mounting said bracket thereon, and means mounted on each of said brackets for retaining articles for display thereon, said retaining means including an elongated rod on one end of which an enlarged portion is formed, said enlarged portion having a slot formed therein that engages a corresponding slot formed in a bracket, wherein said elongated rod is mounted on said bracket for receiving articles for display thereon.

2. In a dispensing assembly as set forth in claim 1, said bracket including an elongated vertical portion on which spaced vertically aligned hooks are formed, and extending in perpendicular relation with respect to the side wall on which the bracket is mounted, the slot for receiving the elongated rod being formed in the outer end of each of said horizontal arms, wherein the elongated rod received in said slot in a horizontal arm extends at substantially right angles with respect thereto and in spaced parallel relation with respect to the side wall on which the bracket is mounted.

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