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DISPLAY AND DISPENSING RACK

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FIG. 1.

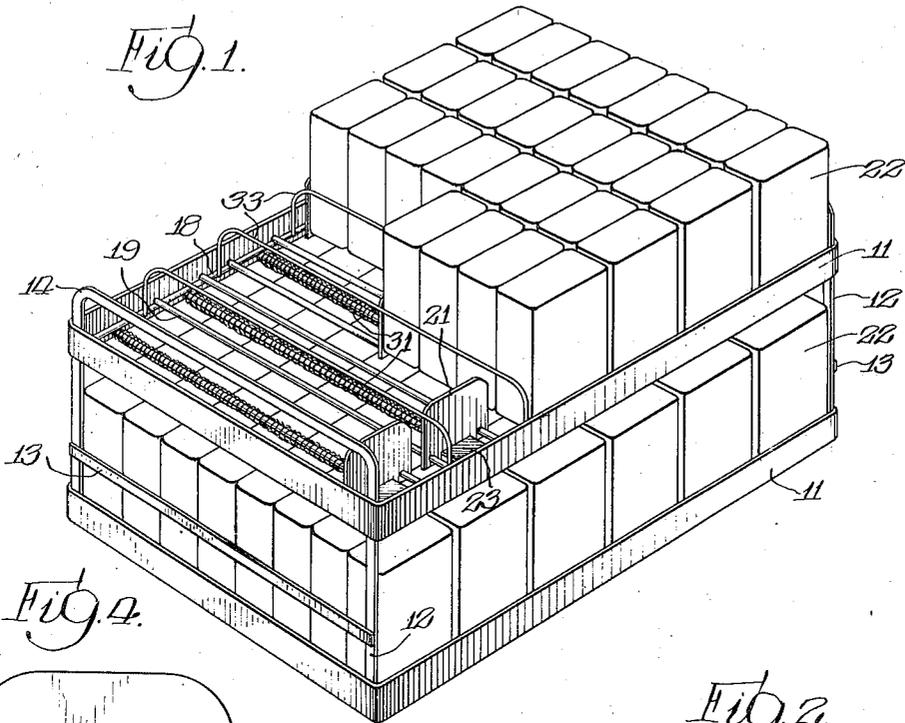


FIG. 4.

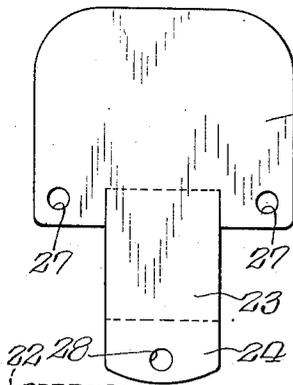


FIG. 2.

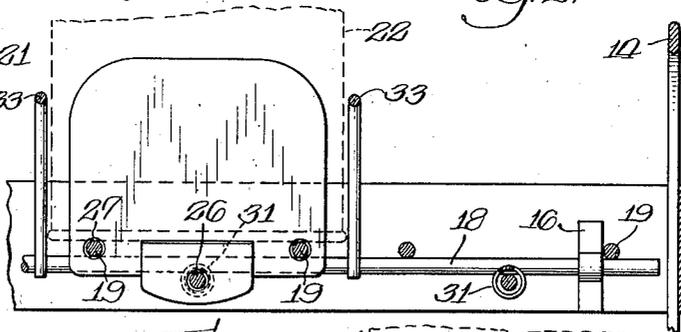
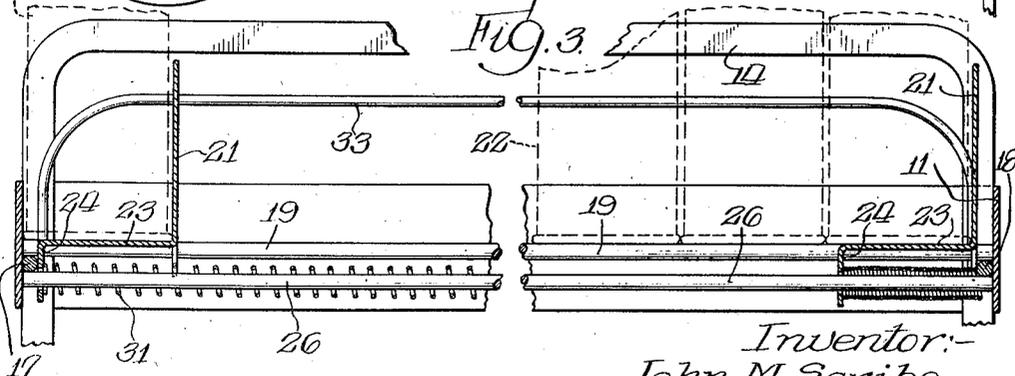


FIG. 3.



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DISPLAY AND DISPENSING RACK

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6 Claims. (Cl. 211-49)

This invention relates to dispensing apparatus. In its illustrated form it is embodied in a display rack for packages such as cans, the packages being arranged in rows so that when the front package of each row is removed a spring urged follower slides the remaining packages forward to the front position.

The present invention has several advantages as compared to display or dispensing racks heretofore known. One of these advantages is the economical manufacture of the device made in accordance with this invention. It can be made almost entirely of wire, although it is preferred that the frame structure be formed of flat metal strips. It will be evident, however, that such strips are of very little cost and easily assembled. The follower elements may be stamped out of sheet metal.

Another advantage of the display and dispensing device of the present invention is its compactness. Although the followers are pushed forward by springs operating on rods, this result is accomplished without requiring any extra room for the springs. An important detail making this possible is that the brace for the follower extends forwardly under a package so that it does not require any extra room while the spring extends rearwardly from the front end of the brace so that it may collapse under the brace and permit the follower to move all the way back in the frame.

Other advantages and objects of the invention will be apparent from the following description and from the drawing, in which:

Fig. 1 is a perspective view of one form of the invention chosen for illustration, a large number of cans being illustrated as carried thereby.

Fig. 2 is a fragmentary sectional view taken just in front of a follower.

Fig. 3 is a broken sectional view showing one follower in a forward position and one in a rear position; and

Fig. 4 is a plan view of a stamped sheet metal blank ready to be reshaped to form the follower.

Although this invention may take numerous forms, only one has been chosen for illustration. In this form the dispensing apparatus is carried by a framework including metallic bands 11 and end frames 12. The bands 11 may each be made from a single strip having its ends welded together. The frames 12 may each be made from a single piece of flat bar stock bent to an inverted U-shape. It is preferred that there be added to this a brace member 13 which also

serves to prevent sideward removal of the packages held in the rack. The horizontal portion 14 of the U serves a similar purpose for the packages in the top layer and also serves as handles for the rack. The bands 11 may be welded or otherwise secured to the end frames 12, the upper band 11 thus being supported in proper spaced relationship to the lower band and the lower band 11 serving as a frame support, as well as a stand for the device to space the spring urged followers away from a table or shelf upon which the device may be resting as will be hereinafter described.

Within each of the bands 11 is carried the dispensing device or assembly which may be said to comprise the heart of the invention. These devices which are substantially identical at the top and bottom may be made up separately and secured within the frame structure by brackets 16 welded to the front and back sides of the bands 11 and having a loop therein extending around front and back wires 17 and 18 of the inner dispensing structure.

A plurality of slide wires 19 are spot welded to the top sides of the front and back wires and serve the dual function of spacing the front and back wires 17 and 18 prior to their being secured to the band 11 and of furnishing the sliding support for the followers 21 and the packages or cans 22.

The follower 21 includes not only the vertical portion to which the reference numeral 21 is applied but also an integral forwardly extending brace 23 which, as seen best in Fig. 3, is bent downwardly at its front end to form a leg 24 which slidably engages a wire 26. The follower 21 is shaped from a blank, seen best in Fig. 4, which may easily be stamped from sheet metal, the dotted lines in Fig. 4 indicating the positions at which the blank is subsequently bent to form the brace 23 with its leg 24. In stamping the blank the holes 27 and 28 are punched out, with the slide wires 19 subsequently being passed through the holes 27, and the brace wire 26 passing through the hole 28.

The follower 21 is urged forwardly by a spring 31 which is mounted on and encircles the brace wire 26, and extends between the leg 24 and the rear wire 18. This spring is of such a nature that it can be compressed substantially within the space provided by the brace 23 so that when the follower 21 is moved to its rearmost position, as shown in the right hand side of Fig. 3, it may slide directly against the rear wire 18. This is an important feature since it permits full use of

all the available space. If the spring were in front of the brace, the follower 21 could not move the last can 22 to the forward position. If the spring operated between the vertical portion 5 21 of the follower and the rear wire 18, it would not permit the follower to move to the extreme rear position and fewer cans could be inserted in the rack.

To prevent interference between the rows of cans guide wires 33 are provided, being of a broad U-shape and being welded at their ends to the front and back wires 17 and 18. The horizontal portion 13 and 14 of the end frame may be considered as guide wires also, so it is seen that 15 each row of cans slides on the slide wires 19 between a pair of guide wires.

The assembly of the rack is very simple and comprises three main steps. One step is the assembly of the dispensing device in which the 20 slide wires 19 and the brace wires 26 are welded to the top and bottom respectively of the back wire 18. The springs 31 are then slipped over the brace wires 26 and the followers applied to both the brace wire 26 and the slide wires 19. 25 The front wire 17 is then welded to the front ends of the wires 19 and 26 and the guide wires 33 are welded to the front and back wires 17 and 18.

The frame for the rack is formed in an independent step. Each of the end frames is formed 30 by bending a flat rod edgewise to a U-shape and welding the brace member 13 to its legs. The two bands 11 are shaped to rectangular form and the ends of each are joined together. Then the end frames are spot welded within the bands 11, 35 thus completing the frame structure.

When the dispensing device and frame have thus been completed, it is merely necessary to secure the dispensing device within the frame structure. This is done simply by inserting the 40 dispensing device in its proper position, applying two or preferably three brackets 16 over each of the front and back wires 17 and 18 and welding the ends of these brackets to the band 11. The rack is then complete.

In use, the display rack may be positioned in the open or it may be positioned within a case and have only its front exposed. In any event, a row of cans is placed in front of each follower, the follower being pressed back as successive cans 50 are put in front of it. As a can is removed from the front of each row, the follower will press the remaining cans forward against the band 11. This keeps the front face of the rack full of cans and thus not only maintains an attractive appearance but enables a purchaser to see at a 55 glance the full assortment of cans or other packages to make a choice therefrom. Such a rack as this is ideally suited for use as a spice and condiment rack in which the various spices and condiments sold by a given manufacturer may all be included in the same rack preferably in uniform cans with the full assortment displayed in a neat and attractive manner with possibly a different 60 spice in the cans of each row.

The disclosures of this application are illustrative and the invention is not to be limited by them. In fact, if modifications or improvements are not at once obvious, they may be devised in the course of time to make additional use of the broad ideas taught and covered by this application. The claims are intended to point out novel 70 features and not to limit the invention except as may be required by prior art.

I claim:

75 1. A display device comprising front and rear

wires, slide support wires extending between said front and rear wires and secured to the top thereof, a brace wire extending between said front and rear wires and secured to the bottom thereof, a follower sliding on said slide support wires and 5 including a forwardly extending brace having a downwardly extending leg at its front end sliding on said brace wire, and a spring carried by said brace wire and extending between said leg and said rear wire to urge said follower to a forward position, said spring being collapsible substantially within the length of said brace and said brace being substantially as short as the thickness of a package for which said display device is designed. 15

2. A display device comprising front and rear wires, slide support wires extending between said front and rear wires and secured to the top thereof, a brace wire extending between said front and rear wires and secured to the bottom thereof, a 20 follower sliding on said slide support wires having a bracing portion riding on said brace wire, and a spring carried by said brace wire, said spring being collapsible substantially within the length of said bracing portion and said bracing 25 portion being substantially as short as the thickness of a package for which said display device is designed.

3. A support and follower structure for a combination display and dispensing device for articles of substantial thickness, said structure including a frame and support means thereon, with said means adapted to slidably carry said articles thereon, a follower slidably carried by said support means including a back member for moving 35 said articles forwardly and a brace member for maintaining said follower in vertical position, said brace member extending forwardly from said back substantially the thickness of one of said articles, and a spring carried by said frame 40 longitudinally of the support means and compressed between the front end of said brace and the frame at the rearmost point of movement of said follower to urge the follower and consequently the article in front of the same forwardly 45 to the front of the frame, and being compressible to lie substantially wholly beneath said brace member.

4. A display device for carrying packaged goods and adapted to automatically present a package 50 for display after removal of a package therefrom, said device comprising a display level, including a plurality of package dispensing units and each of said units including a package follower having an upstanding pushing plate and a bracing portion integral therewith having a portion extending 55 forwardly from the bottom of the pushing plate and a portion extending downwardly from said forward portion, supporting rods for slidably carrying the pushing plate extending longitudinally 60 between the front and rear of the device and secured thereto, a stop at the front end of the unit to stop the forward movement of a package on the supporting rods, and a spring carried by each unit beneath the level of the supporting rods acting upon the bracing portion to urge the follower 65 from the rear toward the front of the device upon removal of a package from the unit to automatically push a package to take the position of that removed. 70

5. A display device for carrying packaged goods and adapted to automatically present a package for display after removal of a package therefrom, said device comprising a frame having a combination supporting band and package stop extending 75

5 across the front of the device, a plurality of dispensing units in the frame with each unit including a pair of spaced apart support wires extending longitudinally from the band to the rear of the frame, and a brace wire lying intermediate the support wires and parallel longitudinally thereto with said support wires and said brace wire each secured at its ends in said frame in a manner to maintain said three wires in rigid spaced relationship, a package follower slidably carried on said three wires, and a spring on said brace wire acting on said follower to urge it forwardly in the unit whereby to push forwardly one or more packages slidably carried on said support wires with the rear package engaged by the follower and with the front band acting as a stop to limit the forward movement of such one or more packages.

6. A combination display and dispensing device for packaged goods including a frame having a pair of U-shaped end members and a relatively wide band lying in a horizontal plane and secured between said end members and entirely around

the same, a plurality of dispensing units provided entirely within the confines of the band and positioned side by side across the frame between the end members, a front member rigidly supported on the rear side of the front portion of the band, and each dispensing unit including a pair of support wires each rigidly secured at one end to the top of said front member and extending rearwardly therefrom to a rigid fastening with said frame at the rear thereof for slidably carrying one or more packages thereon with said packages adapted to be urged forwardly to stop against the band, and a spring pressed follower having a pushing plate apertured to slide on said support wires and lie against the rearmost package on the wires, and a compressible spring carried longitudinally by said unit below the plane of the support wires acting on said follower to urge it forwardly toward the front portion of the band and longitudinal means on said frame provided below the plane of the support wires adjacent thereto for carrying said compressible spring.

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