

March 5, 1935.

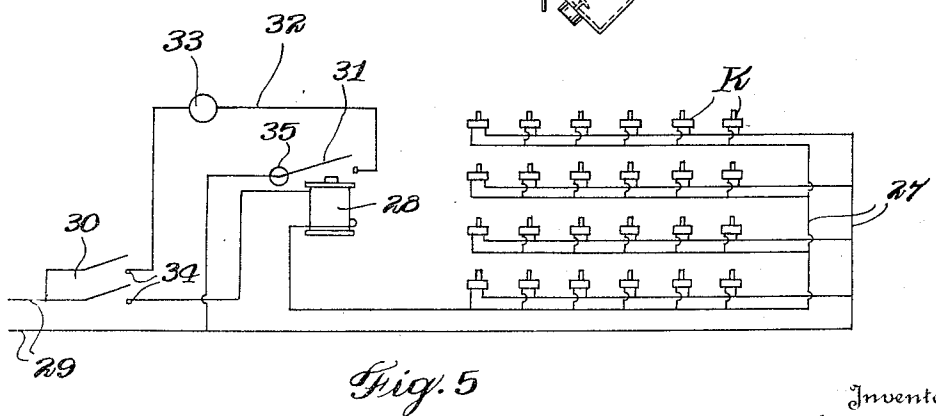
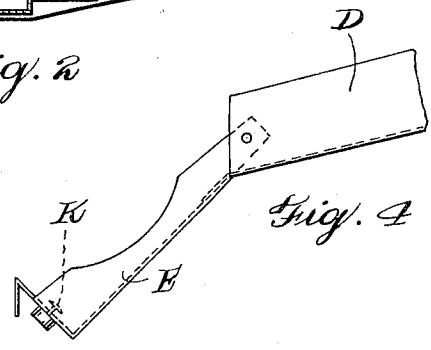
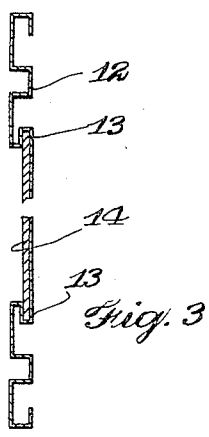
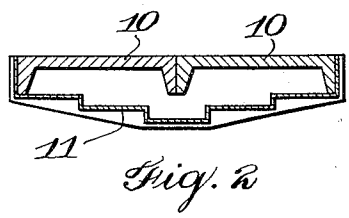
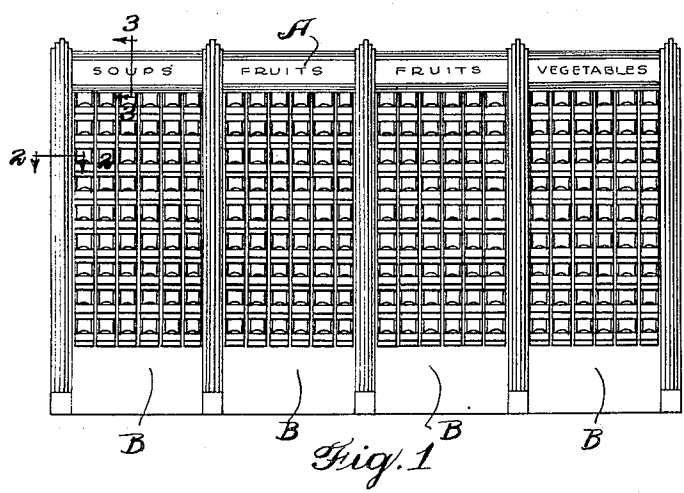
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1,993,451

DISPLAY AND STOCK RACK

Filed Sept. 19, 1931

5 Sheets-Sheet 1



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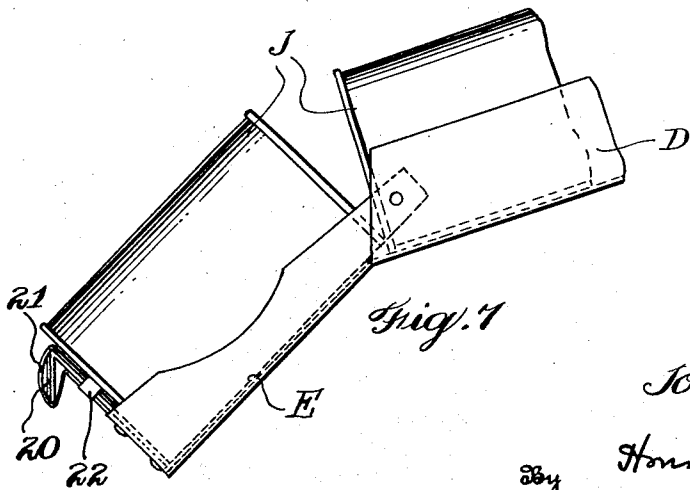
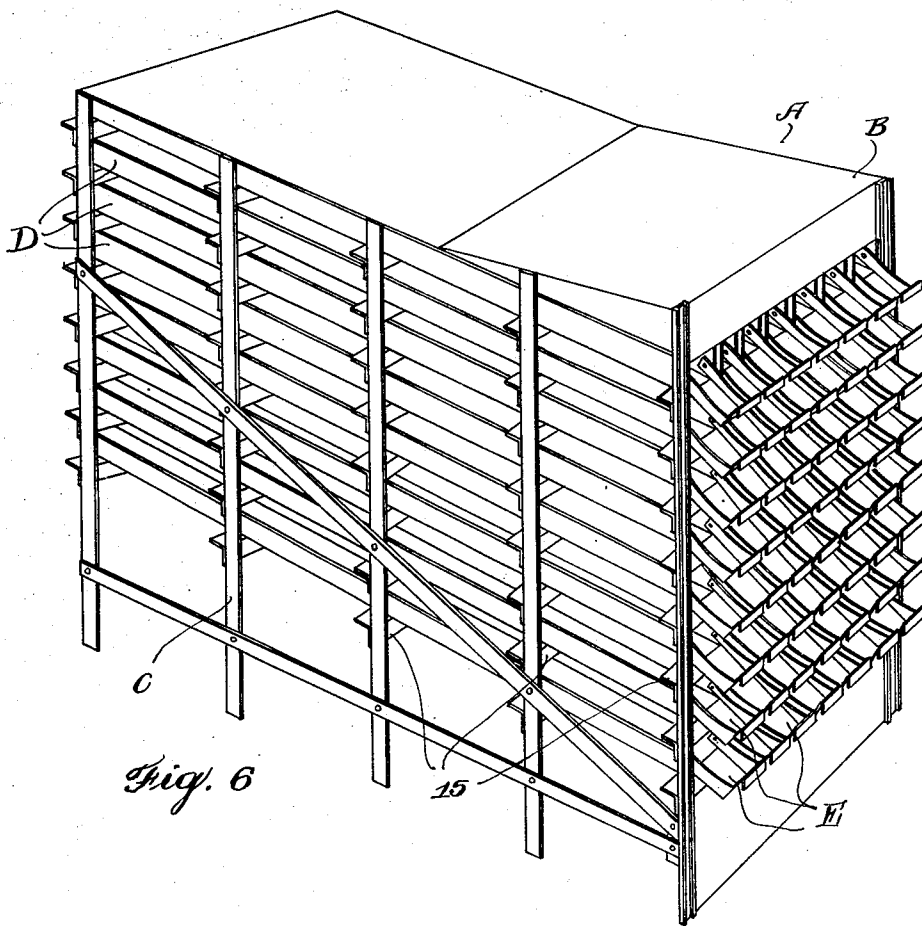
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DISPLAY AND STOCK RACK

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5 Sheets-Sheet 3

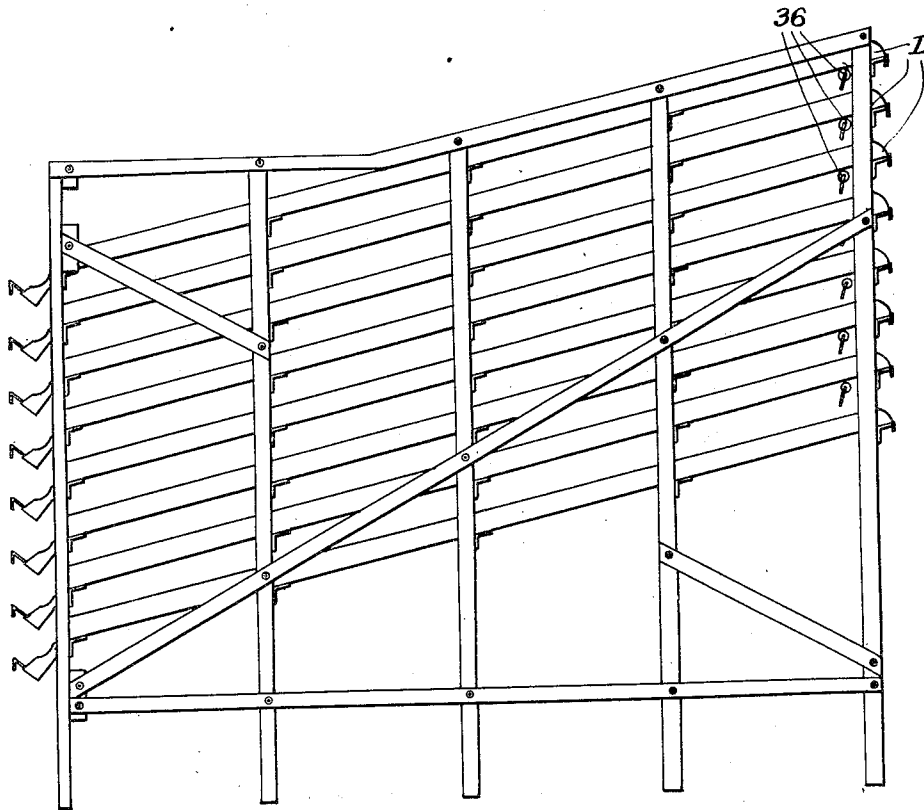


Fig. 8

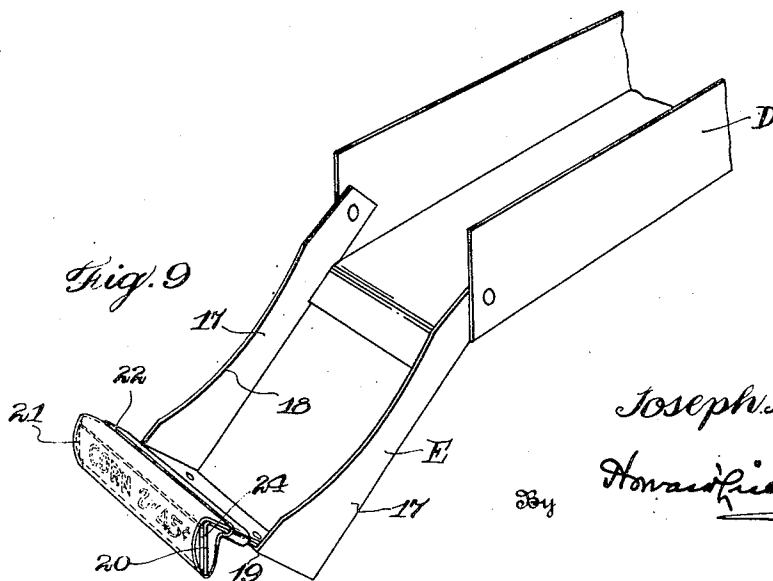


Fig. 9

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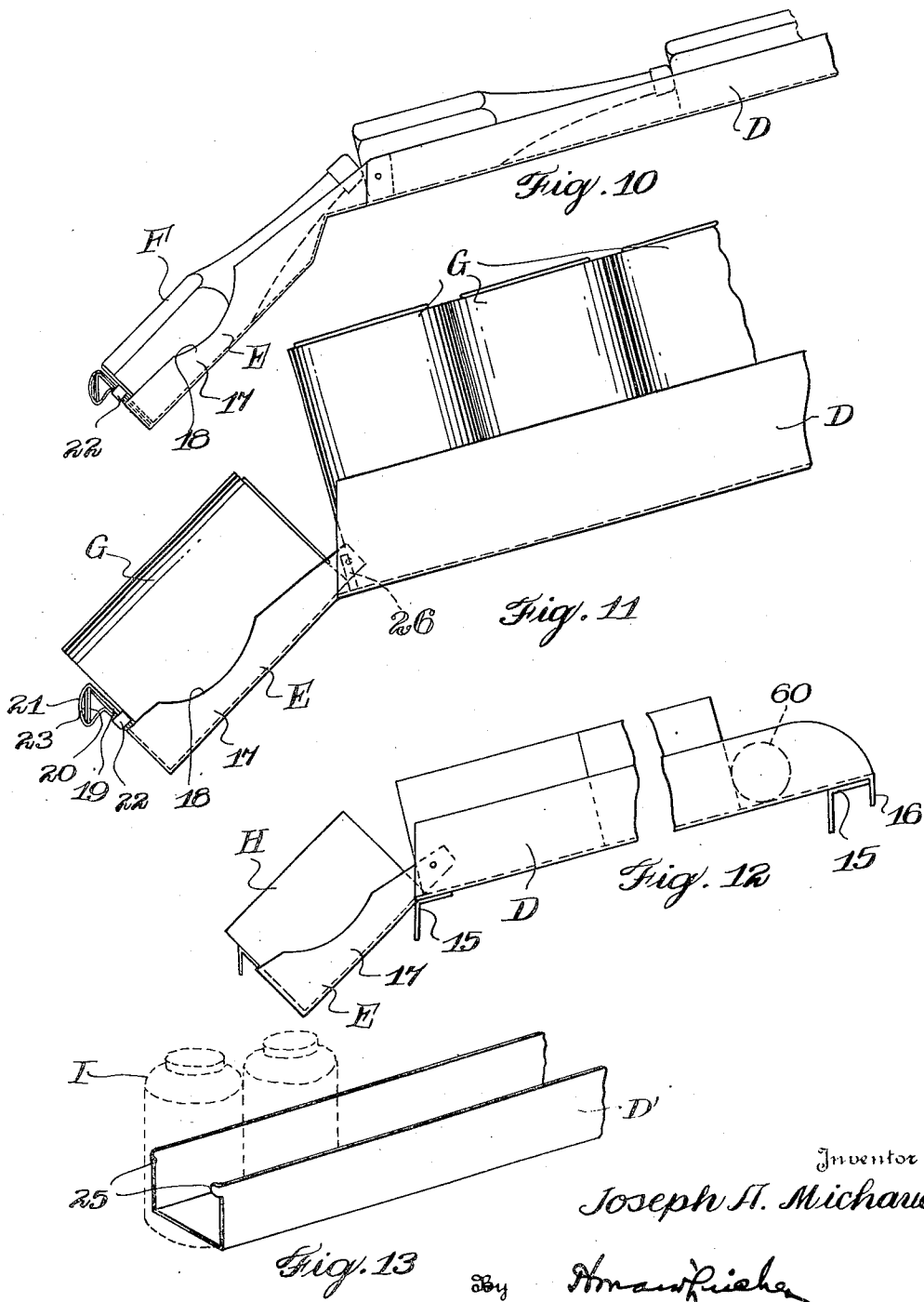
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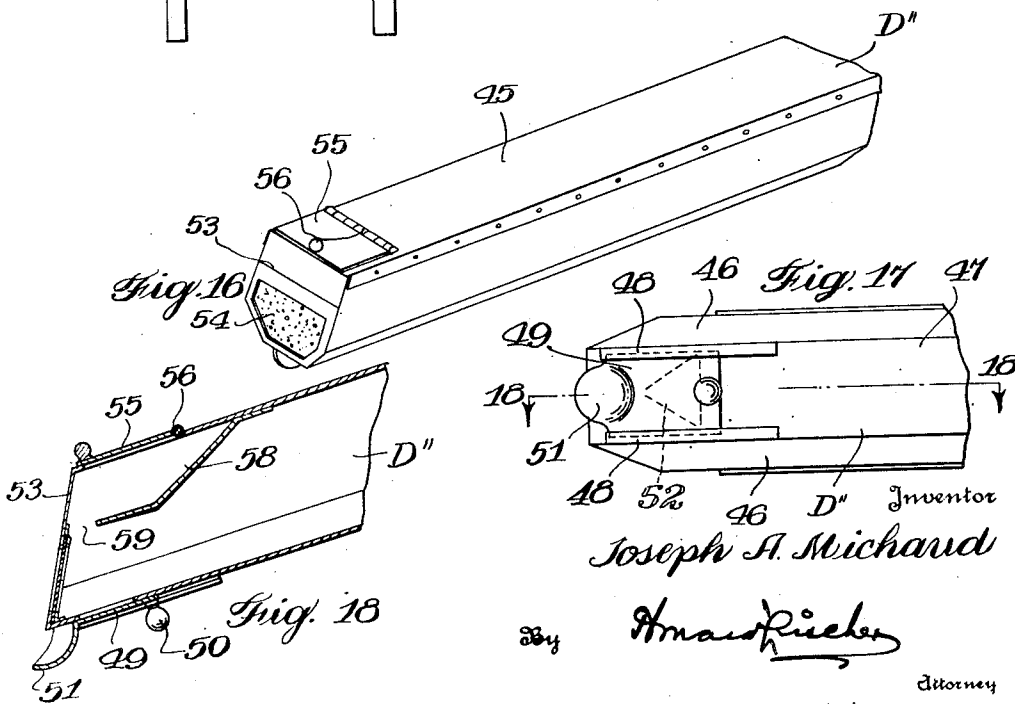
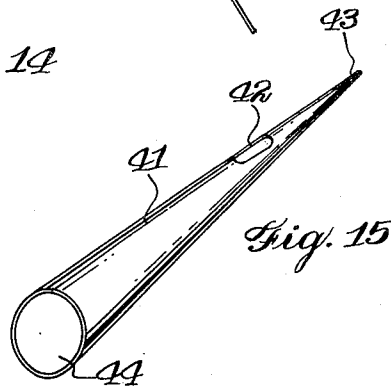
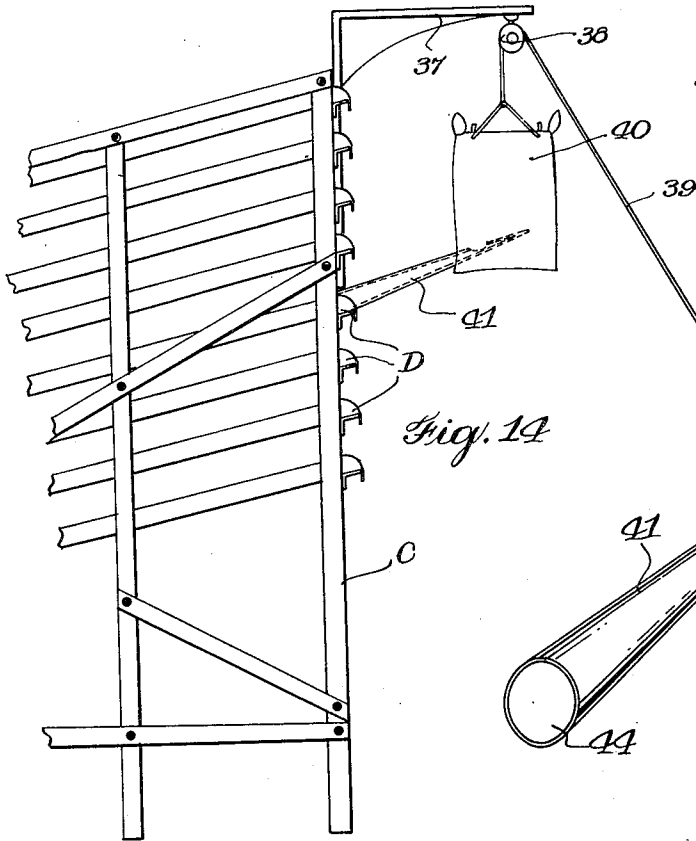
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DISPLAY AND STOCK RACK

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UNITED STATES PATENT OFFICE

1,993,451

DISPLAY AND STOCK RACK

Joseph A. Michaud, St. Paul, Minn.

Application September 19, 1931, Serial No. 563,747

3 Claims. (Cl. 312—42)

My invention relates to a display and stock rack which may be used to display the stock as well as storing a quantity of the same, so that it may be brought into display automatically as it is removed from the display portion of the rack.

A feature resides in providing a simple and yet very effective rack means for such articles as bottled goods, canned goods, packages, beans, peas, sugar, coffee, and other goods which may be carried in the display and stock rack so that the same may be conveniently sold directly from the stock rack and encouraging the customer to purchase the goods in view of the ready display of the same to select from.

It is also a feature to provide means whereby goods may be directed to the display rack from sacks having goods of a certain character which may be transferred directly from the sack through a suitable means into the various racks. A further feature resides in providing a means of signalling the removal of any of the goods from the rack and thereby permitting the proprietor to be notified of any goods being removed, so that the proprietor may protect himself against theft or the like.

I provide a rack having suitable troughs which may be readily removed, if it is desired, and changed for other troughs, these troughs acting to support the goods for display and also storage within the rack. The rack is constructed so that the front of the same is the display portion and a suitable fanciful structure may be provided with an indicating heading at the top of the various rack compartments to indicate the goods therein. Further, the back of the rack is adapted to be formed to receive the goods into the different troughs and a counter means may be provided which counts the articles slid into each of the troughs. The troughs are supported on an incline so that the goods will automatically move down into display position as they are removed from the front display portion of the rack and so long as there is goods in the respective troughs they will move down into display position as fast as they are removed therefrom.

The display and stock rack as it is herein illustrated is of a design to be used primarily in grocery stores, however, it should be understood that this is only one form in which the rack may be used as it will be apparent that it has various uses and functions to carry a stock of goods concealed and protected within the rack with a front display portion of an attractive nature where the goods may be readily accessible for the customer and for sale. The automatic feature of the rack

resides in bringing the goods into display in the front and keeping the stock of goods on display at all times in a neat and attractive manner.

These features and other details will be hereinafter more fully set forth.

In the drawings forming part of this specification:

Figure 1 is a front view of my display and stock rack.

Figure 2 is an enlarged section on the line 2—2 of Figure 1.

Figure 3 is an enlarged section on the line 3—3 of Figure 1.

Figure 4 is a detail of a portion of my display rack.

Figure 5 is a diagrammatic illustration of the electric wiring and connections for the signal provided with the display pockets of the display portion of the rack.

Figure 6 is a perspective of one section of the rack with the sides thereof removed.

Figure 7 is an enlarged detail of one of the display pockets showing goods in position to be displayed.

Figure 8 is a side view of one of the sections of the rack, having the outer side sheathing removed therefrom.

Figure 9 is an enlarged perspective detail of one of the display pockets.

Figure 10 is a side view of a portion of the rack showing the rack and display pocket holding bottles.

Figure 11 is a side view of a portion of the rack, showing cans carried by the same.

Figure 12 illustrates a detail, a portion of which is broken away of one of the troughs, showing packages supported thereby with an urging weight in the trough.

Figure 13 is a perspective of another form of the trough where cans or jars or similar articles may be used to be brought to the front in upright display without the drop pocket in front.

Figure 14 is a detail of a portion of the rack, showing a manner in which goods may be directed to the troughs of the rack from a supply sack.

Figure 15 is a chute designed to be used with the sacks for directing the goods to the troughs.

Figure 16 is a perspective view of a portion of the trough designed to be used with a transparent display front portion to indicate the goods in the trough, and a door for returning a portion of the goods to the trough.

Figure 17 is a bottom view of the front end of Figure 16.

Figure 18 is a longitudinal section on the line 18—18 of Figure 17.

The display and stock rack A may be formed in sections B which are formed with an angle iron frame C having front portions 10 at each corner of the respective sections B which may be covered by a decorative metal front 11 as indicated in Figure 2. The upper portion of the rack A may be provided with a decorative sheet iron frame portion 12 which is formed with recesses 13 into which a display card 14 is placed. This display card may be used as a title card for the various goods carried in the particular rack B and may be classified when the rack is used in a grocery store into such classifications as soups, fruits, vegetables, etc., in fact, any designating title may be used at the top of each section B acting as a display card 14.

The sections B are provided with cross members 15 upon which the adjustable or removable troughs D are placed for supporting the goods in the rack A. The sections B may be made up in any desired width and height and the cross members 15 are placed so that the troughs D may be inclined downward toward the front portion of the rack A to cause the goods within the troughs to slide automatically to the front of the display.

The troughs D may be made of sheet iron and formed so that they can be supported upon the cross members 15 with a depending back lip or shoulder 16 which holds the troughs from sliding forward on the members 15, otherwise the troughs may be free to be adjusted or moved on the cross members 15 or to be removed or replaced by other troughs in the frame C if it is desired. This provides a very practical construction for the display and stock rack A and permits the same to be changed from time to time if it is desired, without changing the frame C.

At the forward end of each of the troughs D I provide a display pocket E which is adapted to be inclined downward at rather an abrupt angle from the front end of the troughs D and is shaped with side walls 17 which may be cut out at 18 so that the goods such as the bottles F or cans G or packages H may be readily removed from the display pocket E. The lower end of the display pocket E is formed with a wall portion 19 which may be bent downward at the upper end to form the display card flange 20.

The flange 20 may be covered by a suitable transparent celluloid sheet, such as 21, which is held in place by the rubber binder 22. The celluloid sheathing covers the display card flange 20 and provides an opening 23 so that the display card 24 may be inserted in front of the flange 20. The card 24 may indicate the price of the particular goods adapted to be held in the pocket E. These cards may be readily replaced and they may be of any suitable display nature to correspond with the particular goods being displayed in the pocket E. The rubber band 22 acts as a shock absorber for the goods sliding down the trough D and into the pocket E.

When goods are placed in the troughs D, and it may be noted that these troughs may be waxed or treated to cause the goods to operate freely therein, they will slide down the trough to the display pockets E. Should the clerk or proprietor remove a package or article from the display pocket E, the next article will automatically slide into the pocket E and the bumper 22 will absorb the shock of the same so as to absorb the force of the goods entering into the pocket E.

I have found it practical in handling heavy articles such as syrup cans noted by the articles G in Figure 11, or other similar articles, to employ a shoulder pin 26 placed in the front end of the trough D so as to hold the cans G from dropping into the pocket E. In this case where the pin 26 is used, the first cans in the front of the trough D may be lifted out by hand and placed into the pocket E. It may be noted that in case of handling these syrup cans, they are positioned upright with the cover at the top so that should there be any slight leakage about the cover, it will not get out into the trough D. Otherwise these cans, such as G, could be laid down like the bottles in Figure 10 and carried down automatically in the trough D.

The trough D' illustrated in Figure 13 is made in the same manner as the other troughs D, excepting that it is provided with a pair of stop ears 25 at the front of the trough D' which stop the jars I either in display position at the front end of the trough D', or so that they may be lifted out into a display pocket such as E, like in Figure 11. The stop ears 25 might also be used on the trough D for handling cans such as G, if it is desired.

In the enlarged detail illustrated in Figure 7, I show the trough D with the display pocket E in position so that the cans or articles J may slide down automatically from the trough D into the display pocket E as the article J is removed from the display pocket E.

The display pockets E may be provided with a suitable electrical switch K and these switches are connected through the wires 27 with the solenoid 28 which is adapted to operate and to the source of electrical supply wires 29 through the switch 30. When a package is removed from the display pocket E, a circuit would be made through the switch K at the particular pocket from which the package was removed, operating the solenoid 28 to close the switch arm 31, which in turn closes a circuit through the wire 32 to a signal 33, which may be an alarm signal or a light when the switch 30 is closed against the terminals 34. When the switch 30 is open the signal is ineffective.

The operation of one of the switches K will operate the solenoid 28 to close the switch arm 31 and cause the signal 33 to remain in operation until the switch 31 is reset through the mechanism 35 into open position as illustrated in Figure 5. Thus with this signalling system in conjunction with the display pockets E, I provide a means so as to advise the proprietor of the store if any package has been removed from any of the display pockets E at any time. The circuits illustrated in Figure 5 are diagrammatic and while they have indicated a particular system where only one solenoid 28 is used to operate the single signal circuit 33, it is apparent that electric circuits may be provided either for each pocket or with signal lights for the individual pockets, or for each vertical row of pockets, or for each section such as B, all being operated under the same principle of indicating a signal upon the removal of a package from any of the display pockets E, even though a package will enter the pocket E automatically. Thus the proprietor may be advised against theft or removal from the display rack A.

The back of the display rack A may be closed by suitable doors, not illustrated, so as to shut the back in a manner to permit the same to be locked by any suitable means to prevent any

tampering with the back of the case or display rack A. In this way, the proprietor may keep track of his stock and have a complete check of the same at all times. Each trough D may be provided with a counter 36 at the rear end of the same which will count the articles or packages as they are slid into the respective troughs D and this permits the proprietor to be advised at all times as to the amount of stock which has been entered into the display rack by checking up with the counter 36 at any time.

The rack A may be provided with a bracket 37 which is adapted to support a pulley 38 or other suitable means so that goods may be elevated in sacks such as 40, held by a suitable cord 39, or any other suitable means, to the pulley 38, in position so that the contents of the sack 40 may be emptied into any of the respective troughs D as indicated in Figure 14. In emptying the sack 40 into one of the troughs D I provide a suitable chute 41 which may be made of a conical nature and provided with an elongated opening 42 near the pointed piercing end 43, while the enlarged open end 44 will be resting in the rear end of the trough D so that when the chute 41 is forced into the lower end of the sack 40 the contents of the sack 40 will drain out through the opening 42 out of the end 44 and into the respective trough desired to be filled with the goods from the sack 40. Thus, peas, beans and such articles, may be directed directly into the trough desired to display the same.

I prefer to provide the troughs which hold the peas, beans and other such similar goods, in the rack A to be made after the construction and pattern as illustrated by the trough D' in Figures 16 to 18, inclusive. Here it will be noted that I have provided a cover portion 45 for the trough D' which closes the same the entire length thereof and the trough D' may be closed by a suitable closure at the rear end, not illustrated in the drawings.

The bottom of the trough D' is provided with inwardly extending beveled walls 46 which extend longitudinally of the trough, and a flat bottom portion 47. Within the front end of the bottom 47 I provide guides 48 in which the dispensing plate 49 is slidably supported and by means of a suitable handle 50 attached to the plate, the same may be operated backward to a position so that the chute end 51 of the plate will come in gradual alinement with the V-shaped opening 52 in the opening 47 of the trough D'. It will be noted that the chute end 51 is so shaped as to gradually open the V-shaped opening 52 to permit the goods to slide out of the troughs D' gradually. This structure forms a means of conveying the goods from the trough D' directly into a sack and the amount of flow of the goods through the opening 52 is regulated by the position of the plate 49 in relation to the opening 52 of the chute end 51.

The front of the trough D' is provided with a closure 53, the lower portion 54 of which provides a window to display the goods which are supported within the trough D'. In this manner a display end is formed on the trough D' to indicate the goods contained within the trough so that the customer may readily view the same before purchasing.

In dispensing the goods from the trough D', the clerk may take out more than is desired, and after weighing the goods it may be determined that some of the same should be replaced back

into the trough D'. I have provided a means of permitting the clerk to replace any of the goods from the trough D' which it is desired, by means of the cover 55 which is hinged at 56 so that it may be lifted and the goods poured back in through the opening 57 into the front of the trough D. A guarded pocket portion 58 is formed directly below the opening 57 which has a small outlet opening 59 adjacent the front 53 so that the goods poured back into the pocket 58 will run back into the trough D' if not immediately, just as soon as some of the goods have been withdrawn from the opening 52 of the trough D'. This pocket 58 keeps a receiving compartment in the front end of the trough D' ordinarily free of any of the goods stored in the trough D', and thus I provide a means of replacing some of the goods if more than is desired is taken from the opening 52 by the clerk.

The simplicity of my display and stock rack A is of primary importance in that it provides a simple means of holding articles on display and in storage, always in readiness to automatically move into the display pockets and forming a far more attractive means of displaying the goods than has been accomplished heretofore insofar as I know, in the ordinary display of articles of the nature set forth, and I believe I have provided a display for groceries and other purposes of a very desirable nature. It is apparent that the display rack may be used for other purposes, such as handling packages in different industries to hold them in readiness to be used for filling orders, or for handling packages of certain characters where they must be put up and sent out upon a job, or even for handling mail packages where the same are somewhat uniform so as to be carried along in the respective chutes. It is quite apparent that my display and stock rack may be utilized to many advantages for various purposes. Its principles are of primary importance in carrying out the style and character of display as set forth, and I have found the same to be of a very practical nature in actual use and to provide a uniform display means which has the advantage of attracting the purchaser to the goods on display.

In accordance with the patent statutes I have described the principles and features of my display and stock rack, and while I have illustrated and set forth a particular design and use for the same, I desire to have it understood that I wish the invention to be interpreted within the scope of the following claims.

I claim:

1. An open display pocket for a display and stock rack in combination with a stock rack chute to receive articles therefrom and to display the same therein, said pocket comprising side and end walls into which goods are adapted to slide automatically from the chute, said pocket being pivoted to said chute in spaced relation to the lower end thereof and limited in its downward swinging movement by engagement with a portion of the chute, and cushion bumper means in said pocket.

2. In a storage and display device, a frame, a plurality of troughs in said frame extending forwardly at a downward incline and open at their front ends, sides on said troughs, pockets pivoted to the front ends of said troughs and projecting forwardly from the frame and sides on said pockets secured in overlapping relationship with said trough sides, said pockets being supported at a steeper incline than the troughs whereby articles

in the troughs may slide forwardly into the pockets and rest therein at a rearward incline permitting their labels to be easily read.

3. An open display pocket for a display and
5 stock rack in combination with a stock rack chute to receive articles therefrom and to display the same therein, said pocket comprising side and

end walls into which goods are adapted to slide automatically from the chute, said pocket being pivoted to said chute in spaced relation to the lower end thereof and limited in its downward swinging movement by engagement with a portion of the chute.

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