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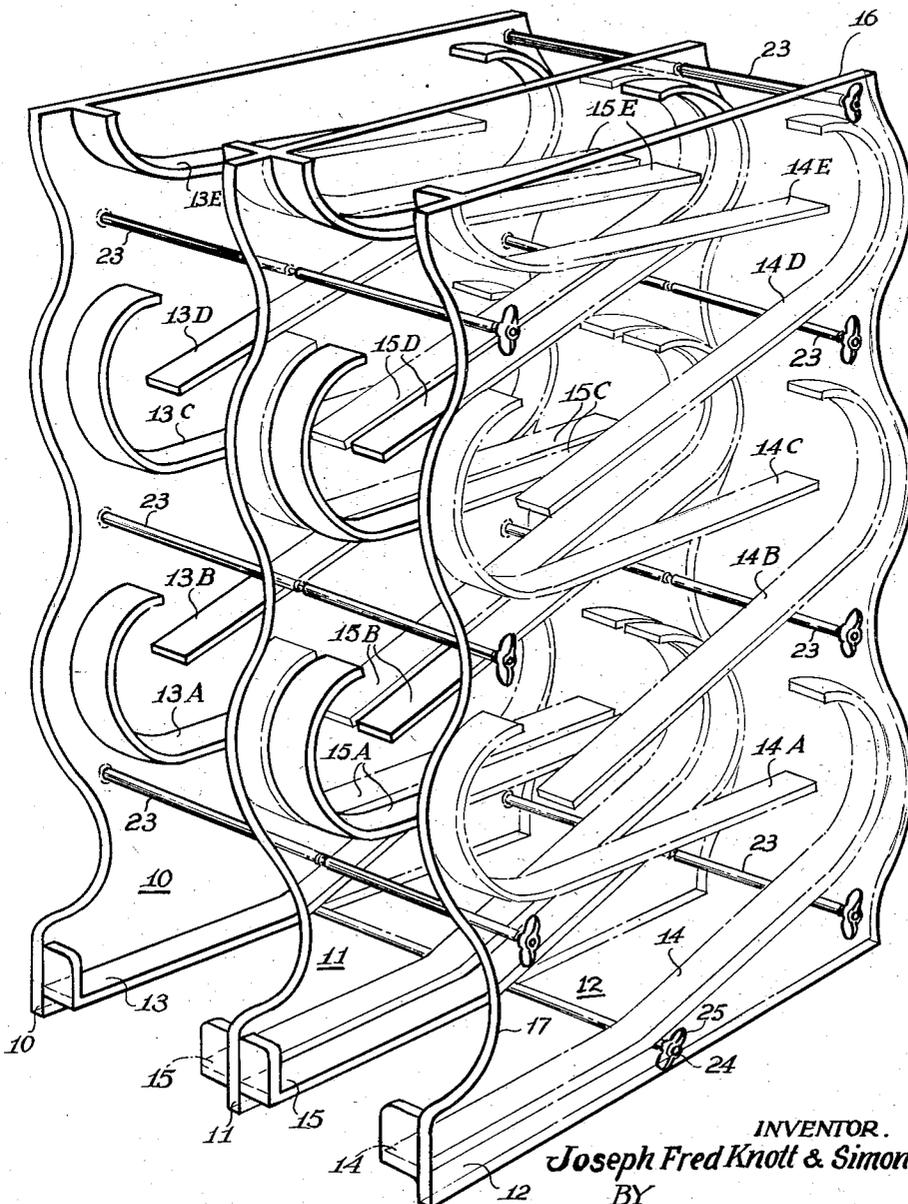
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BIN DISPENSER

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3 Sheets-Sheet 1

Fig. 1



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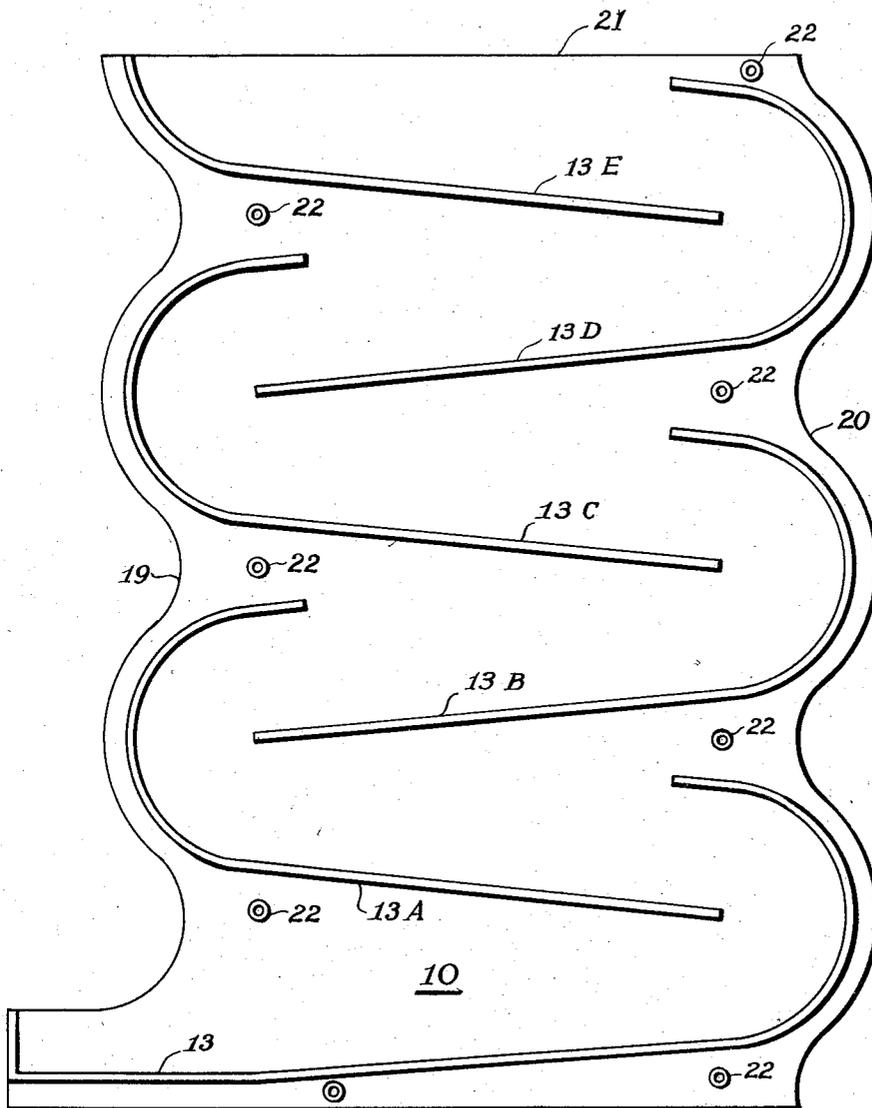
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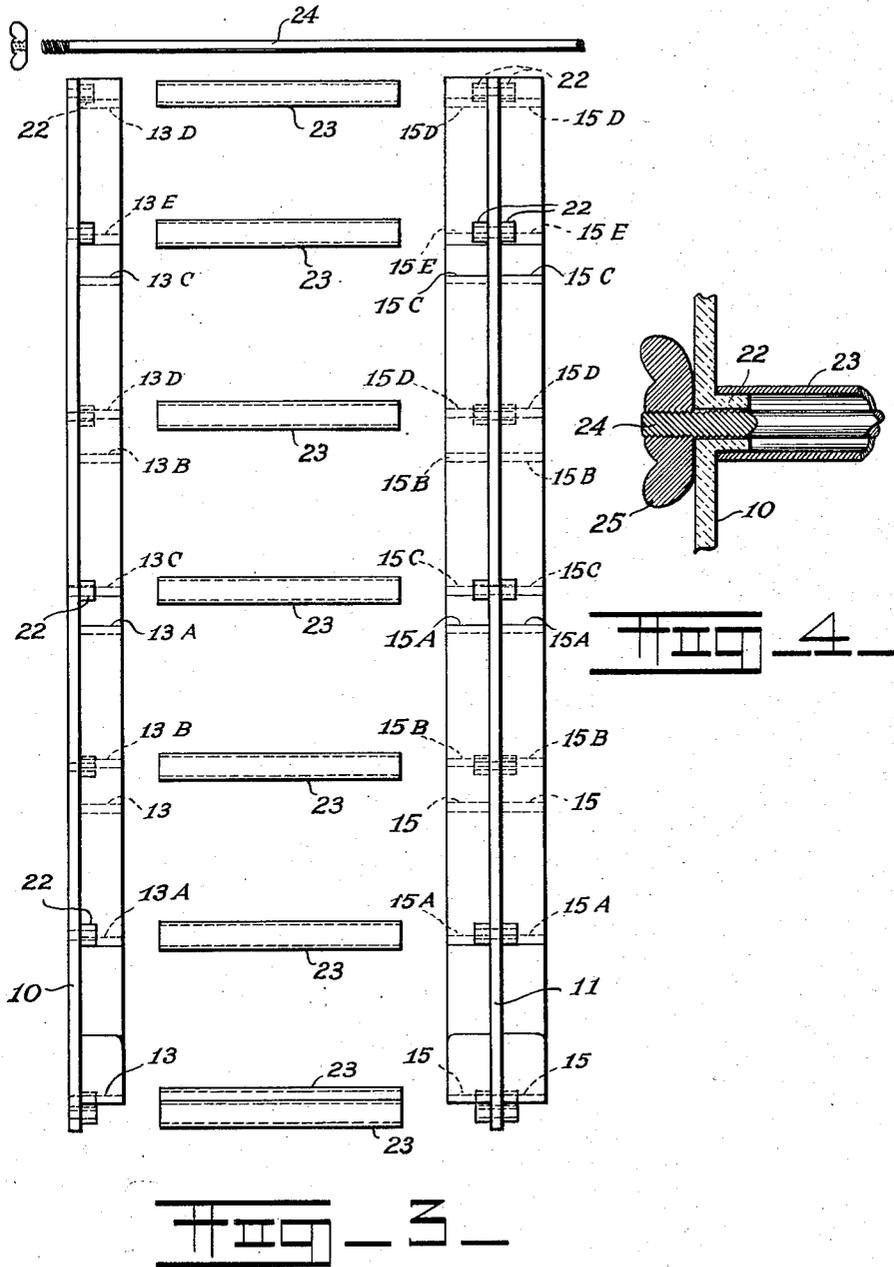
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BIN DISPENSER

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7 Claims. (Cl. 211-49)

This invention relates to a dispenser and more particularly to a dispenser in which canned goods and the like may be placed for continuous dispensing to a predetermined point.

The principal object of the invention is the provision of a bin dispenser.

A further object of the invention is the provision of a bin dispenser formed of a plurality of substantially identical members, assembled in spaced side-by-side relation to form one or more storage and bin dispensers.

A still further object of the invention is the provision of a bin dispenser which may be formed of molded plastic parts and is capable of being positioned on a store counter in a retail store to simultaneously hold a stock of a given product and continuously dispense the same to self-serving shoppers.

A still further object of the invention is the provision of a bin dispenser formed of a relatively few parts which can be easily assembled to encompass a desired number of storage and delivery bins whereby a number of varieties of a product such as, for example, baby food, may be conveniently positioned and delivered.

A still further object of the invention is the provision of a bin dispenser in which various sizes of containers may be accommodated through the assembly of the bin dispenser to encompass various spaces between the principal units thereof.

A still further object of the invention is the provision of a bin dispenser which may be inexpensively formed from two principal molded sections and a plurality of identical spacing members to accommodate canned goods in one or a desired plurality of bins.

The bin dispenser disclosed herein comprises an improvement in the art of retail merchandising and particularly that pertaining to retail grocery stores.

As known in the art, the advent of the so-called super market has made it necessary for canned goods to be stocked on store counters in such markets so that it may be conveniently handled by the prospective purchaser. There is no great problem in stocking merchandise shelves and counters with canned goods of normal size. A problem does exist in attempting to stock small sized containers such as those in which baby foods are customarily packed. These small glass jars or metal cans are difficult to handle particularly in stacking and the prospective purchaser frequently upsets a stack thereof with the resultant damage and inconvenience.

The problem has become acute to the point that the producers of such baby foods have undertaken to keep the retail stores' stock in position in the conventional stacks and to the end that attractive uniform displays of the merchandise may be had. Such practice is costly to the manufacturer and it is not particularly desirable from the retailers' point of view as they must contend with personnel not under their control stocking the shelves and displays in their premises and frequently to the disadvantage of other merchandise. Additionally, the re-

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tailers' inventory control of the item stocked is dependant upon the manufacturer's representatives rather than upon his own employees and the retailer is, therefore, concerned with the problem of improving the stocking and display of such merchandise as well as rendering it more convenient to the prospective purchaser.

The present invention comes as a solution to such problems as it comprises a dispenser of attractive appearance which presents the product attractively and uniquely and, more importantly, it maybe placed on the top shelf of a counter such as used in a super market so that the goods therein are readily available to the prospective purchaser and at the same time it in no way interferes with the display of adjacent merchandise. More importantly, the retailer's own stock boys can re-stock the bin dispenser with little or no effort and the principal difficulty hereinbefore found, that of danger in handling, is completely eliminated as a prospective purchaser can secure his requirements from the dispenser with no danger of upsetting a stack of loosely piled containers.

The broad idea of positioning items of merchandise in a bin has heretofore been proposed but the complicated constructions developed for the purpose have rendered the same incapable of use from an economical standpoint whereas the present disclosure relates to a bin dispenser which may be inexpensively formed from a minimum of identical parts whether one bin or a dozen are required and the same parts may be used to form bins having different spacings to accommodate different sizes of containers, if desired.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being the intention to cover all changes and modifications of the example of the invention herein chosen for purposes of the disclosure, which do not constitute departures from the spirit and scope of the invention.

The invention is illustrated in the accompanying drawing, wherein:

Figure 1 is a perspective view of the bin dispenser formed of transparent plastic material.

Figure 2 is a plan view of one of the vertical sections of the dispenser shown in Figure 1.

Figure 3 is a front view of two of the vertical sections of the dispenser shown in Figure 1 and illustrates the various interconnecting means thereof in exploded relation.

Figure 4 is an enlarged cross sectional detail through one of the interconnecting members of the bin dispenser.

By referring to the drawings and Figure 1 in particular it will be seen that a bin dispenser has been illustrated which comprises a plurality of vertically positioned plate-like body members 10, 11 and 12 assembled in horizontally spaced relation to one another so that oppositely disposed track units 13, 14 and 15 formed thereon are able to receive and retain cylindrical objects such as containers of baby food and the like.

The vertically positioned plate-like body members 10 and 12 are identical with one another with the exception that the body member 10 has track units 13 on one of its sides while the body member 12 has track units 14 on the opposite side with respect thereto. The vertical body member 11 has track units 15 on both of its sides. It will thus be seen that the track units 13 on the inside of the body member 10 are in horizontal registry, although spaced horizontally, with respect to the track units 15 on the adjacent side of the body member 11.

It will be seen that the track units 14 on the inner sides of the body member 12 are in horizontal registry

although spaced horizontally with respect to the track units on the opposite side of the body member 11. The construction disclosed in Figure 1 of the drawings therefore provides two roll down racks or trackways, each of which will receive and retain and continuously deliver a plurality of cylindrical containers such as the one shown in broken lines in the lower right hand portion of Figure 1.

Still referring to Figure 1 of the drawings it will be seen that the track units 13, 15—15 and 14 are multiplied, in effect, vertically on the members 10, 11 and 12, respectively, so that the track unit 14 runs along the inner lower surface of the member 12 with a substantially horizontal forward end portion and a major portion inclined upwardly from the front to the back thereof and terminating in an upwardly and forwardly curving end section.

A second track unit 14A formed on the inner side of the member 12 is spaced vertically above the initial track unit 14. It is of a shorter length than the track unit 14 and it is provided with an upwardly and rearwardly curved end in oppositely disposed relation to the upwardly and forwardly curved end on the initially mentioned track unit 14. The oppositely disposed pattern of track units continues upwardly, the successive upward layers being indicated by the numerals 14B, 14C and 14D and 14E.

The track units 14A and 14C are identical in size and arrangement and positioned with the exception that they are spaced vertically. The track units 14, 14B and 14D are identical with the exception that they are spaced vertically and with the further exception that the track unit 14 has a forwardly extending portion on its forward end which comprises a point of delivery such as indicated by the positioning of the representation of the cylindrical container.

The track unit 14E is identical with the track units 14A and 14C with the exception that the upwardly and inwardly curved end section is cut off midway thereof and at a point even with the top surface 16 of the member 12. The front and back edges 17 and 18 of the body member 12 are curved to comply with the general formation of the track units and particularly the upwardly and inwardly curving end sections thereof.

The body member 10 is exactly like the body member 12 except that the track units 13, 13A, 13B, 13C, 13D and 13E are formed on the opposite side of the body member 10 with respect to the body member 12 so that a pair of the body members 10 and 12 may be positioned in horizontally spaced relation and form a single roll down track or trackway (not shown). Alternately, the pair of body members 10 and 12 may be spaced further with respect to one another, as illustrated in Figure 1 of the drawings, and an intermediate member such as the member 11 positioned therebetween so that two vertical roll down racks or trackways are formed.

The vertical member 11 has track forming units 15, 15A, 15B, 15C, 15D and 15E formed in oppositely disposed relation on its sides which register horizontally and in spaced relation to the track units 13 and 14, 14A, 14B, 14C, 14D and 14E heretofore referred to. It will thus be seen that in the two-bin dispenser as illustrated in Figure 1 of the drawings the three basic vertical members 10, 11 and 12 are utilized to form two adjacently positioned roll down racks or trackways, each of which will receive, retain and continuously deliver a plurality of cylindrical containers.

In Figure 2 of the drawings a side view of the vertical member 10 may be seen. It will be observed that its front edge is curved to follow the curving end sections of the track units 13A, 13B, 13C, 13D and 13E and as such is indicated by the numeral 19, the back edge by the numeral 20 and the top by the numeral 21.

Those skilled in the art will recognize that the plan

view comprising a side elevation of the member 10 in Figure 2 of the drawings will be exactly the same as the plan view of the member 11 with the track units 15, 15A, 15B, 15C, 15D and 15E and also the same as the side view of the member 12 with track units 14, 14A, 14B, 14C, 14D and 14E and with the exception that in the latter instance the said track units would appear in lighter lines as being in the inner or opposite sides of the transparent body member.

In Figure 3 of the drawings the body member 10 is illustrated with the track units 13 thereon. The body member 11 is illustrated with the track units 15 thereon and a plurality of apertured circular bosses 22 will be seen to be formed on the inner side of the body member 10, the outer sides of the body member 11 and the inner side of the body member 12, which apertured circular bosses are adapted to receive and retain the ends of the tubular spacing members 23—23. Tie rods 24—24 are positioned through the apertured bosses 22 and the members 10, 11 and 12 lying within the spacing members 23—23. Butterfly nuts or similar fasteners 25 are applied to their outermost ends, as shown in Figure 1 of the drawings and in enlarged detail in Figure 4 of the drawings, to hold the assembly together.

It will be seen that when the assembly is thus rigidly held together, cylindrical containers may be placed in the uppermost portions of the bins thus formed. The containers will progressively roll downwardly on the track units 13E, 15E and 14E, over the track units 13D, 15D and 14D being guided thereonto by the upwardly and forwardly curving end portions thereof and subsequently across the track configurations 13C, 15C and 14C, 13B, 15B and 14B, 13A, 15A and 14A, and ultimately onto the track units 13, 15 and 14 where they will roll to foremost position as illustrated in Figure 1 of the drawings which comprises a delivery point.

It will be observed that the height of the unit plus the length of each of the plurality of track units therein enables a considerable quantity of cylindrical containers (for example, jars of baby food) to be received and retained in magazine fashion in each of the bins of the device.

It will further be seen that when the foremost container is removed from the delivery point, the next successive container will roll into delivery position and each of the containers in the device will move one position.

Those skilled in the art will recognize that the three basic molded plate-like members 10, 11 and 12 plus the indicated number of spacing members 23 and tie rods 24 will permit the formation of a bin dispenser with any number of bins desired, thereby achieving one of the principal objects of the invention.

It will also be apparent that the structure is relatively free of maintenance as periodic replenishing of the containers therein comprises the sole servicing necessary.

Dust and foreign objects entering the device are not retained thereby due to the fact that each of the bins is substantially open vertically therethrough and is thereby self-cleaning as well as being readily available for attention if necessary.

It will thus be seen that the several objects of the invention have been met by the bin dispenser disclosed herein.

Having thus described our invention, what we claim is:

1. A dispensing bin comprising vertical horizontally spaced molded plates each having a front edge, a bottom track unit integral with each of the opposing inner faces of the blades adjacent to the bottoms thereof, said track units being in spaced parallel relation and cooperating to form a complete trackway, each track unit comprising a substantially horizontal forward end portion and an upwardly and rearwardly inclined portion terminating in an upwardly and forwardly curving arcuate part, a vertically spaced series of other track units integral with the inner

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face of each of the plates above the said bottom unit thereon and comprising in upward progression from the bottom unit alternate forwardly and upwardly inclined and rearwardly and upwardly inclined straight portions each having a free transverse end edge with the forwardly inclined portions each terminating at its other end in an upwardly and rearwardly curving arcuate part and the rearwardly inclined portions each terminating in an upwardly and forwardly curving arcuate part, each of said transverse end edges being located at approximately the radial center of an arcuate track unit part, the said other track units on one plate being parallel with those on the other plate and forming complete trackways leading downwardly to the first trackway, each of said plates having a lower portion of the front edge extending forwardly and the said substantially horizontal forward end portions of each bottom track unit being continued along the inner side of the forwardly extending portion and terminating in an upturned stop, and transverse elongate connectors between and detachably connected to the plates and rigidly holding the plates in predetermined spaced parallel relation.

2. The invention according to claim 1, wherein each of said plates has an apertured boss integral therewith at the end of each connector and each connector comprises a tubular member receiving a boss in each end, a tie rod extending through each tubular member and passing at each end through an apertured boss to the outer side of the adjacent plate and means removably attached to at least one end of each tie rod on the outer side of the plate to secure the tie rod against removal.

3. The invention according to claim 1, wherein each plate and the units thereon are all molded in one piece.

4. The invention according to claim 1, wherein each plate and the units thereon are all molded in one piece of a transparent material whereby all articles in the bin may be seen.

5. A dispensing bin comprising vertical horizontally spaced molded end plates and at least one intermediate molded plate, each plate having a front edge, a bottom track unit integral with the inner side face of each end plate and with both side faces of the intermediate plate, each track unit comprising a substantially horizontal forward end portion and an upwardly and rearwardly inclined portion terminating in an upwardly and forwardly curving arcuate part, all of said track units being in parallel relation and cooperating to form two complete trackways, a vertically spaced series of other track units integral with each of said faces of the plates above the bottom

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track unit thereon and comprising in upward progression from the bottom rack unit alternate forwardly and upwardly inclined and rearwardly and upwardly inclined straight portions each having a free transverse end edge with the forwardly inclined portions each terminating at its other end in an upwardly and rearwardly curving arcuate part and the rearwardly inclined portions each terminating at its other end in an upwardly and forwardly curving arcuate part, each of said transverse end edges terminating at approximately the radial center of an arcuate track unit part, the said other track units on the end and intermediate plates having a parallel relationship and forming between the intermediate plate and each end plate complete trackways leading downwardly to the first trackways, each of said plates having a lower portion of the front edge extending forwardly and the said substantially horizontal forward portion of the bottom track unit for each end plate being continued along the forwardly extending portion of each plate and terminating in an upturned stop, and removable, elongate connectors between the end plates and the intermediate plate connecting the plates in separable relation whereby the spacing between the plates and the width of the trackways may be changed by substituting connectors of a different length.

6. The invention according to claim 5 wherein each plate and the units thereon are all molded in one piece.

7. The invention according to claim 5 wherein each plate and the units thereon are all molded in one piece of a transparent material whereby all articles in the bin may be seen.

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