

Feb. 28, 1967

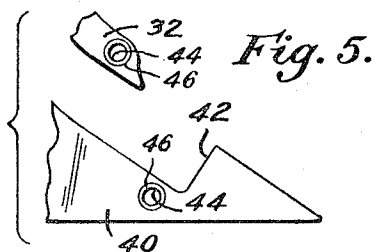
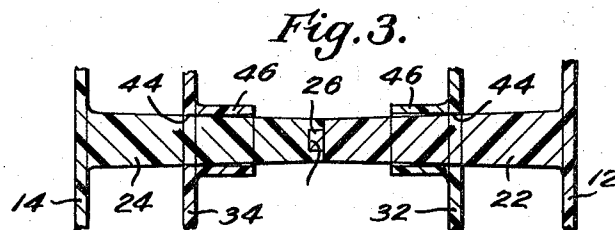
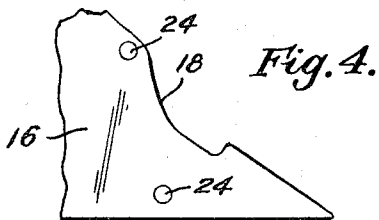
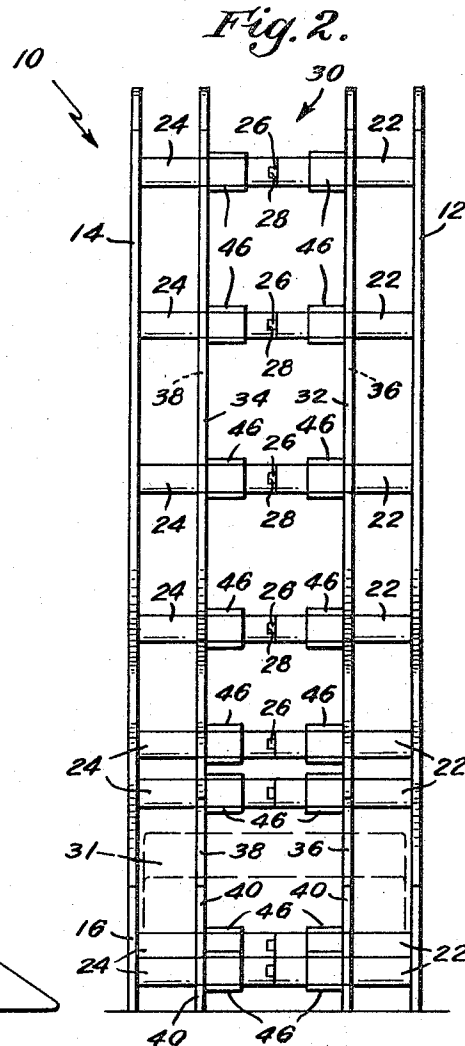
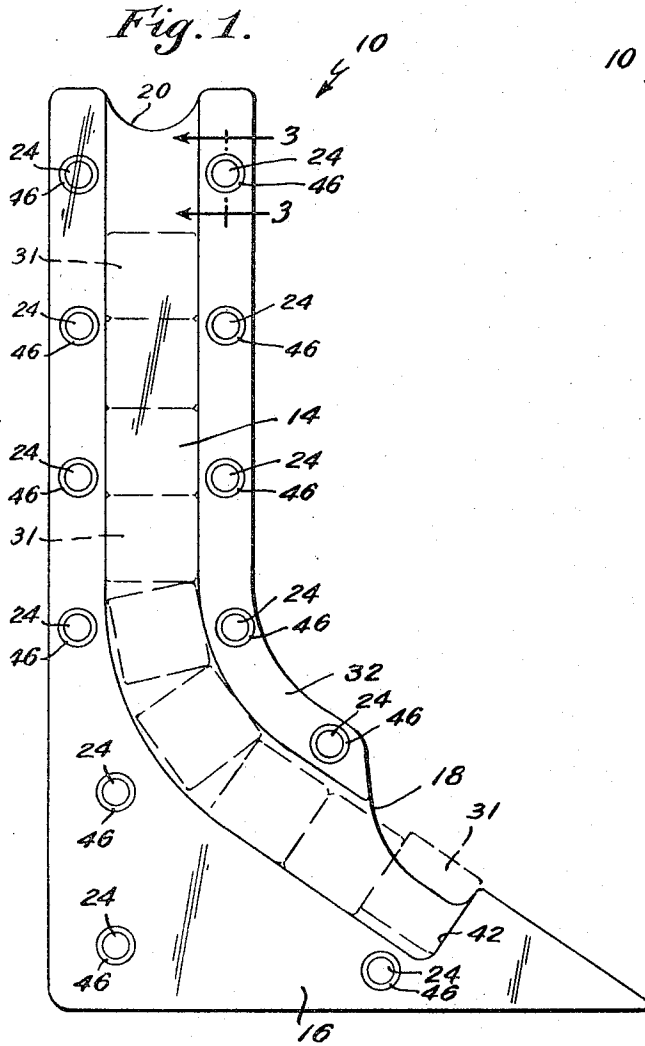
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3,306,688

ARTICLE DISPENSING RACK

Filed April 5, 1965

4 Sheets-Sheet 1



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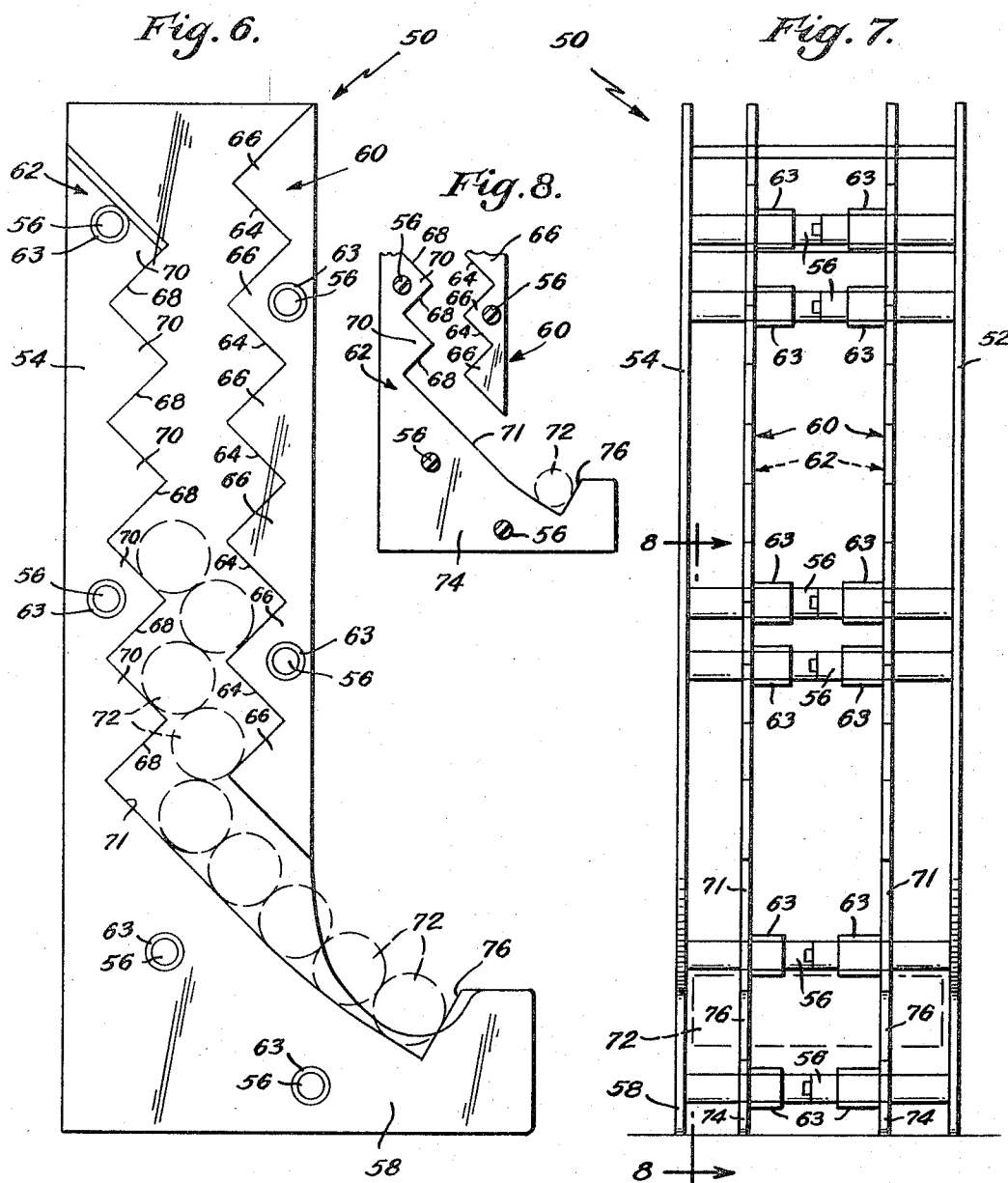
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ARTICLE DISPENSING RACK

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4 Sheets-Sheet 2



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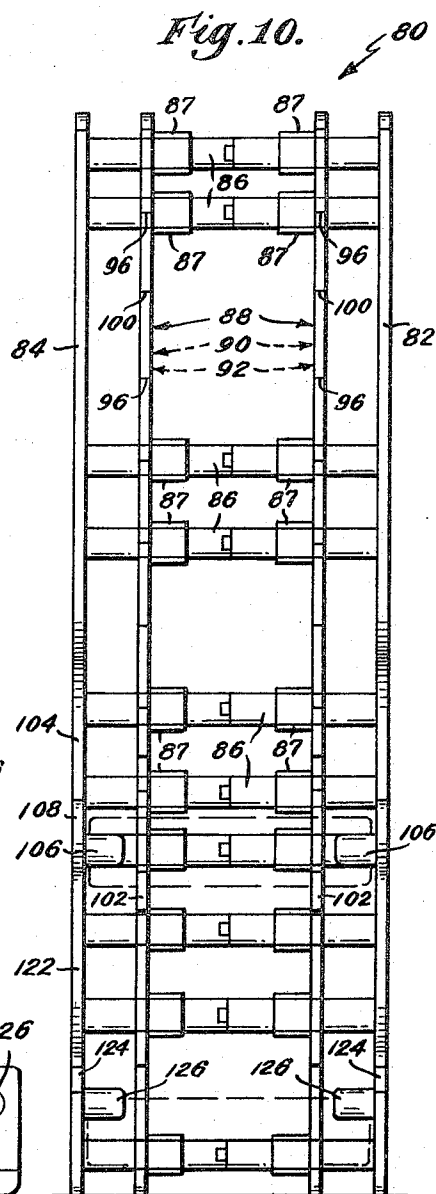
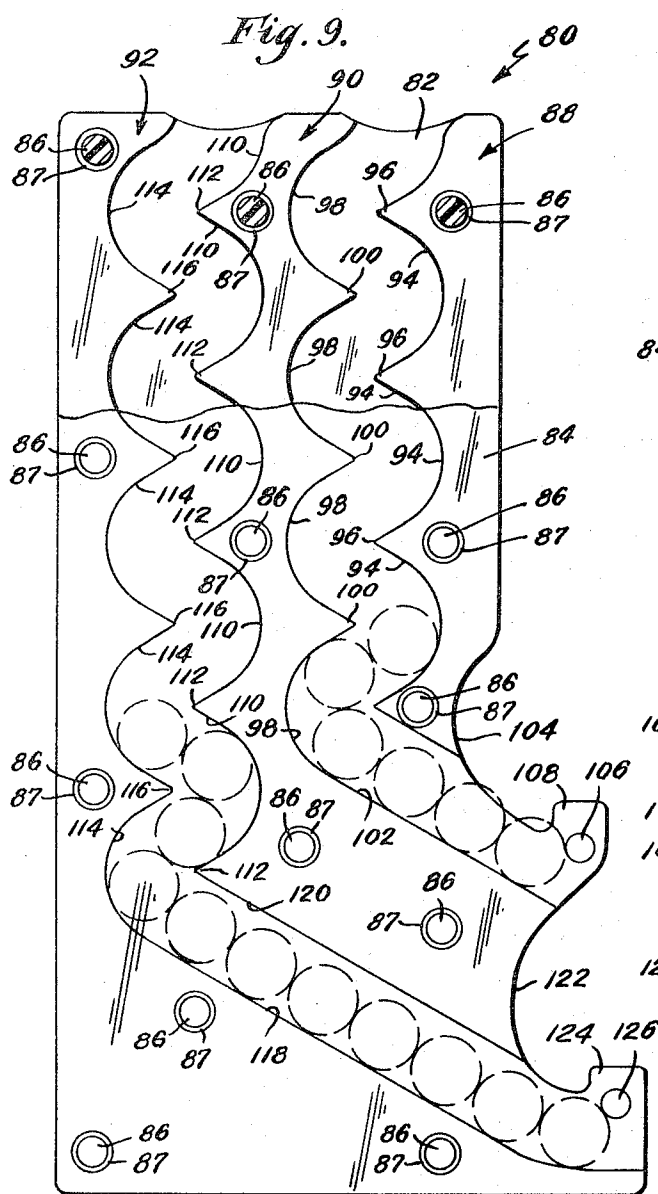
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ARTICLE DISPENSING RACK

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4 Sheets-Sheet 3



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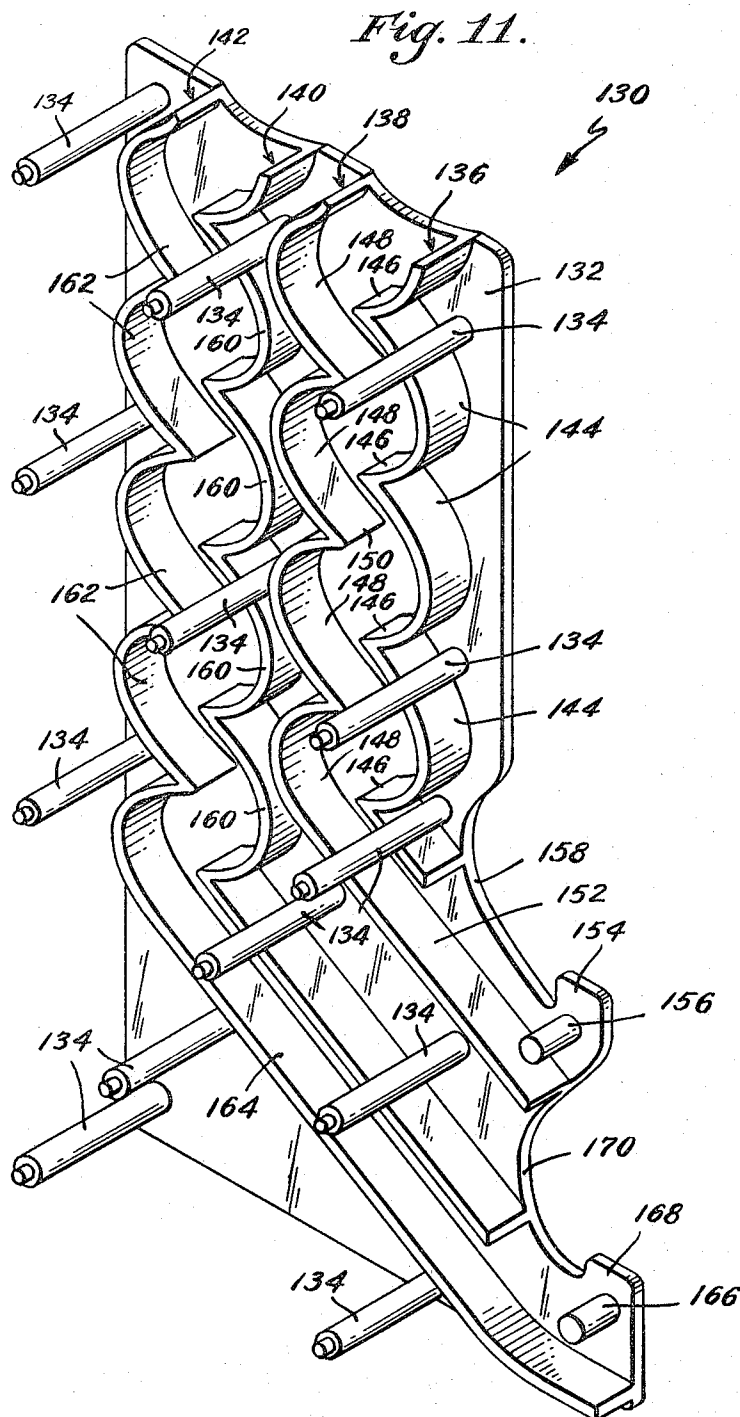
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ARTICLE DISPENSING RACK

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4 Sheets-Sheet 4



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3,306,688

ARTICLE DISPENSING RACK

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6 Claims. (Cl. 312-42)

The present invention relates to an article dispensing rack. More particularly, the present invention relates to a dispensing device that includes an article holding magazine therein, the magazine including an upper portion for dispensing the articles in a generally vertical direction and a lower portion for directing the articles in a downwardly inclined direction to a dispensing station.

The present invention is designed for use as a counter display in a commercial establishment and has application in the dispensing of various types of articles, such as those articles having a cylindrical configuration, or other articles such as boxes having a cross sectional shape that is square or rectangular. In the basic form of the invention, the dispensing device is provided with spaced side walls that are disposed in parallel relation. Spacer members interconnect the side walls for locating them in their spaced-apart position, and at least one article holding magazine is defined between the side walls. The holding magazine includes a first portion that defines a path through which an article is directed in substantially a vertical direction and further includes a second portion that is joined to said first portion and that defines a path that communicates with the path in the first portion. The path in the second magazine portion through which the articles are directed is substantially inclined, wherein the articles are moved downwardly to a dispensing station for removal from the device.

In one form of the invention the magazine is defined by a first pair of spaced parallel inner plates that are also inwardly spaced from and parallel to the side walls of the device. A second pair of spaced, parallel inner plates are also provided that are inwardly spaced from and parallel to the side walls and that are further located in spaced alignment with the first pair of inner plates, the second pair of plates being spaced rearwardly from the first pair to define the magazine portions. Formed in the opposing edges of the aligned plates are a plurality of grooves, the grooves in one of the plates being staggered with respect to the grooves in the opposed plate. The staggered opposed grooves thus define a passage that is substantially zigzag in configuration, the edges that define the grooves forming surfaces for receiving the weight of the articles as they descend substantially vertically in the passage from the loading station to the dispensing station.

In another embodiment of the invention, the zigzag passage is defined by opposed plates or sections in which curved grooves are formed, the sections being joined to the side walls of the dispenser. The grooves of each section or plate are interconnected and are vertically staggered with respect to grooves in an opposed plate so as to provide the downwardly extending, zigzag passage.

The side walls and the inner plates as constructed in one form of the invention, are mounted on the spacer members in a manner as previously described in copending application Serial No. 431,093, filed February 8, 1965. In the aforesaid copending application, and as described herein, the inner plates are positioned on the spacer members by hubs that are molded integrally on the inner plates, the positioning of the plates being determined by tapering the spacer members as molded, and by further tapering the interior of the hubs, in which the spacer members are received.

It is therefore an object of the present invention to provide a rack for dispensing a plurality of articles therefrom.

2

Another object of the invention is to provide a dispensing rack that is formed essentially of plastic materials and that includes at least one magazine that is defined by opposing sections in which a substantially vertical portion and an inclined portion of the magazine are formed.

Still another object is to provide a dispensing device for small articles that includes a magazine defined by opposed sections, the sections being formed as part of spaced inner plates that are inwardly positioned with respect to side walls of the device.

Still another object is to provide a dispensing device that includes a magazine defined by opposed sections or plates that have curved grooves formed therein and that are joined to the side walls of the device.

Still another object is to provide a dispensing device that is formed with a magazine that includes a passage for receiving articles therein and for directing the articles from a loading station downwardly to a dispensing station, the passage being formed in a substantially zigzag direction so as to prevent direct movement of the articles from the loading to the dispensing station.

Still another object is to form a passage in a dispensing device, that is defined by a plurality of grooves therein, the grooves being formed in opposed edges of the passage, the opposed grooves being vertically staggered with respect to each other, so as to define a zigzag passage on the surfaces of which the articles are received as they descend in the passage from a loading station to a dispensing station, thereby causing the weight of the articles to be distributed on the passage surfaces.

Other objects, features and advantages of the invention will become obvious 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 invention:

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

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

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

FIG. 4 is a fragmentary elevational view of a detail of one of the side walls of the dispensing rack illustrated in FIG. 1;

FIG. 5 is a fragmentary elevational view of a pair of inner plates of the dispensing rack shown in FIG. 1 and that define a lower magazine portion;

FIG. 6 is a side elevational view of a modified form of the invention;

FIG. 7 is a front elevational view of the dispensing device illustrated in FIG. 6;

FIG. 8 is a fragmentary elevational view of a pair of inner plates that define the magazine portions of the dispensing device shown in FIG. 6;

FIG. 9 is a fragmentary elevational view of a further modified form of the invention;

FIG. 10 is a front elevational view of the dispensing device illustrated in FIG. 9; and

FIG. 11 is a perspective view of a still further modified form of the invention showing the zigzag passages of the magazines as defined by sections that are joined to the inner surface of a side wall of the dispensing device.

Referring now to the drawings, the dispensing devices illustrated in the various embodiments are designed to store and dispense a variety of articles that are normally located in the magazine of each device with the longitudinal axes of the articles disposed generally horizontal. As will be described hereinafter, the articles to be dispensed are moved from a loading station to a dispensing station through the magazine, the magazine being located within the side walls of the dispensing device.

Referring now to FIGS. 1 through 5, one form of the invention embodied herein is illustrated and is generally indicated at 10. The dispenser 10 includes spaced side walls 12 and 14 that are preferably molded of a clear plastic material. The side walls 12 and 14 are constructed substantially identically and include an upper portion, the configuration of which is substantially rectangular, and further include a lower portion that is formed as an integral part of the upper portion and extends forwardly with respect thereto to define a foot portion indicated at 16. The upper edge of the foot portion of each side wall is provided with a notch 18 that provides for side access to the lowermost article in the dispenser that is located at the dispensing station. The bottommost edges of the foot portions 16 are flat and thus define means for supporting the dispenser 10 in an upright position. The uppermost edges of the side walls 12 and 14 are formed with grooves 20 that provide for easy insertion of the articles to be dispensed at the loading station of the unit.

In order to locate the side walls 12 and 14 in their proper spaced-apart position, each of the side walls is molded from a plastic material and has a plurality of spaced pins integrally joined thereto. The pins that are molded to the side wall 12 are indicated at 22, while the pins that are integrally molded to the side wall 14 are indicated at 24. Since the side walls 12 and 14 are molded substantially similar, the pins 22 and 24 are located in aligned relation and are joined at the midpoints thereof to define a plurality of horizontal spacer members. Since the pins 22 and 24 as molded to their respective side walls have a tapered configuration that provides for extraction thereof from the molds in which they are formed, the degree of taper is predetermined, the purpose of which is to position inner plates with respect to the side walls, as will be described hereinafter. In order to join the pins 22 and 24 at the ends thereof, the pins 22 have central projections 26 molded thereon, while the pins 24 are formed with central sockets 28 in the outer edges thereof. The sockets 28 are adapted to receive the projections 26 therein, the projection and socket connection for each of the pins 22 and 24 being heat sealed to positively secure the pins 22 and 24 together, thereby defining the spacer members for locating the side walls 12 and 14 in their spaced-apart parallel position.

In order to guide the articles from the upper located loading station to the lower located dispensing station in the dispenser, a magazine generally indicated at 30 is formed between the side walls 12 and 14 and is located such as to receive the articles, indicated at 31 in FIG. 1, in horizontal stacked relation, wherein the lowermost of the articles is presented at the dispensing station for the removal therefrom. In the form of the invention illustrated in FIGS. 1 through 5, the magazine 30 includes an upper portion that is generally vertical and a lower portion that is generally inclined, the upper and lower magazine portions being formed between a plurality of parallel, aligned inner plates. As shown in FIGS. 1 through 5, the inner plates include a pair of spaced front plates 32 and 34, the upper portion of which is substantially vertical and the lower portion of which curves forwardly, terminating adjacent to the notch 18 (see FIG. 5). Spaced rearwardly with respect to the plates 32 and 34 in parallel relation and aligned therewith, are rear plates 36 and 38. The upper portions of the rear plates 36 and 38 are also vertical, the lower portions thereof extending forwardly and terminating in foot portions 40, as indicated in FIG. 5. The foot portions 40 are further provided with an abutment or stop 42 in the upwardly facing edge thereof for limiting downward movement of the articles to be dispensed, and thus defining the dispensing station for the unit. The ends of the packages or articles 31 as indicated in FIG. 2 extend beyond the inner plates 32, 34 and 36, 38 and are dimensioned so as to be confined within the side walls 12 and 14. It is

seen that the opposing edges of the inner plates which define the magazine passages form tracks over which the articles are moved, the upwardly facing edges of the foot portions 40 of the rear plates 36 and 38 being inclined for assisting in transferring the articles to the dispensing station as indicated.

As previously described, the inner plates 32, 34 and 36, 38 are located in spaced relation with respect to each other and with respect to the side walls 12 and 14 of the dispenser 10. In order to locate the inner plates in the position as illustrated, each of the inner plates is formed with a plurality of openings 44 therein. On the inner wall of the inner plates are molded hollow hubs 46, each of which communicates with an opening 44. Since the inner plates are preferably molded of a plastic material, the hubs 46 are integrally molded thereon, the openings in the hubs being somewhat tapered to provide for extraction of the inner plates from their mold. In the assembly of the inner plates in the dispenser 10, the plates are placed in position by projecting the pins 22 and 24 formed on the side walls 12 and 14 through the openings 44 and communicating hubs 46. This assembly step would, of course, be accomplished prior to the joining of the pins 22 and 24 at the outer ends thereof. By preforming the pins 22 and 24 with a predetermined taper, as described, and by further preforming the openings in the hubs 46 with a predetermined taper, the inner plates may be positioned on the pins 22 and 24 at a precise location. After positioning the inner plates on the spacer members that are defined by the pins 22 and 24, the hubs 46 are then heat sealed to their respective pins. It is understood that the inner plates will be located in spaced-apart location so that the opposing edges of the aligned plates define the magazine passage for receiving the cylindrical articles 31 therein.

In use of the device, the articles to be dispensed are loaded into the magazine at the upper end of the dispenser or at the loading station thereof. The articles fall downwardly through the magazine as defined by the inner plates, the lowermost article coming to rest against the stops 42. The remaining articles in the magazine are disposed in vertically stacked relation; and, as the lowermost article is removed from the dispenser at the dispensing station, the weight of the stack forces the next lowermost article against the stop 42, and the dispensing operation is thereafter repeated.

Referring now to FIGS. 6, 7 and 8, a modified form of the invention is illustrated and includes a dispenser generally indicated at 50. The dispenser 50 is provided with spaced parallel side walls 52 and 54 that are interconnected in their spaced-apart position by spacer members 56 of the type illustrated and described in connection with the dispenser 10. The side walls 52 and 54 include upper portions that are substantially rectangular in configuration and further include lower portions that extend forwardly with respect to the upper portion to define a foot portion 58. The bottommost edges of the foot portions 58 are flat and thus define means for supporting the dispenser 50 in an upright position.

The dispenser 50 also includes a magazine therein for receiving a plurality of articles and for directing the articles from a loading station to a dispensing station in a downwardly directed path. The magazine includes an upper portion having a generally vertical passage extending therethrough and a lower portion in which an inclined passage is formed that communicates with the generally vertical passage, the inclined passage directing the articles to a forwardly positioned dispensing station. Contrary to the magazine illustrated in FIGS. 1 through 5, the magazine for receiving the articles in the dispenser 50 includes a generally vertical passage that directs the articles therethrough in a circuitous direction, thereby providing surfaces on which the packages are received, which surfaces, in effect, prevent the entire weight of the stacked articles from being exerted on the lowermost articles in

5

the stack. The circuitously directed passage that defines the article receiving surfaces is formed, in the invention illustrated in FIGS. 6 through 8, by pairs of inner plates indicated at 60 and 62. The plates 60 are disposed forwardly with respect to the position of use of the dispenser 10 and are mounted on the spacer members 56 by means of hubs 63 in the manner as shown and described in the form of the invention illustrated in FIGS. 1 through 5. As further shown in FIGS. 6 and 8, the inner plates 60 which are laterally spaced from each other and with respect to the side walls 52, 54 are defined by a plurality of depressions in the form of grooves 64. The grooves 64 are formed by cutting a plurality of teeth 66 in the inner vertical edges of the plates 60, the angle defined by the junction of the teeth 66 and the notches 64 being substantially 90°.

The inner plates 62 that are located in parallel, aligned relation with the plates 60 are formed with a plurality of grooves 68 that are similar to the grooves 64 and define teeth 70. In order to form the circuitous path for travel of the articles through the magazine, the grooves 68 are located such that the junction of the teeth 70 bisects or is disposed in opposed relation with respect to the opposite grooves in the plates 60. The resulting passage as defined by the grooves 64 and 68 is circuitous or zigzag in direction and is disposed generally vertically so that the articles deposited in the dispenser at the loading station are caused to move downwardly by gravity, contacting the edges of the grooves as they move through the passage toward the dispensing station. In order that the articles may be properly directed to the dispensing station, the lower portion of the magazine passage is inclined as defined by the inclined edges 71 formed in the plates 62 and corresponding edges spaced therefrom that are formed in the plates 60. The articles are thus directed onto the edges 71 and move by gravity to the dispensing station.

As shown in FIG. 6, it will be seen that as the articles to be dispensed indicated at 72 are loaded into the dispenser 50, they will be disposed in stacked relation, the lower inclined portion of the magazine directing the articles to the forwardly positioned dispensing station. The inner plates 62, as shown in FIG. 8, are provided with forwardly projecting foot portions 74, each of which is formed with a forward stop 76 for locating the bottom-most article at the dispensing station. As the articles 72 are loaded into the dispenser 50, they will locate in stacked relation in the zigzag passage as defined by grooves 64 and 68. The edges of the grooves are engaged by the articles 72 and form arresting means for distributing the weight of the articles in the passage. Thus, the entire weight of the articles is prevented from being exerted on the articles located in the lower portion of the magazine. The lowermost article 72 disposed against the stop 76 may then be easily lifted from the dispensing station as desired and without disturbing the remaining articles in the stack. After each article is removed from the dispenser, the next lowermost article 72 will then be forced by the weight of the stack to the dispensing station.

Referring now to FIGS. 9 and 10, a still further modified form of the invention is illustrated as defined by a dispenser generally indicated at 80. The dispenser 80 includes side walls 82 and 84 that are interconnected in spaced-apart relation by spacer members 86. The spacer members 86 are joined to the side walls 82 and 84 during the molding thereof and include an interconnecting socket and projection as illustrated and described in connection with FIGS. 1 through 5. The lowermost edges of the side walls 82 and 84 are flat and define the means for supporting the dispenser 80 in an upright position.

Contrary to the forms of the invention described hereinabove in FIGS. 1 through 5 and in FIGS. 6 through 8, the dispenser 80 includes a forward and a rearward magazine in which the articles to be dispensed are located, wherein the dispensing capacity of the unit is substantially increased. The magazines in which the article receiving

6

passages are formed are defined by pairs of inner plates that are spaced interiorly of the side walls 82 and 84. As shown in FIG. 9, a pair of inner plates 88 are mounted on appropriate spacer members 86 and define one edge of the forward magazine. A second pair of plates 90 mounted on appropriate spacer members 86 are spaced from and are aligned with the plates 88 to complete the formation of the forward magazine. A third pair of inner plates 92 located rearwardly of the plates 90 and aligned therewith cooperate with the plates 90 to form the rearward magazine. As described hereinabove the pairs of plates are mounted in the assembly by formation of hubs 87 thereon, the hubs being received on the spacer members 86.

As shown in FIG. 9, the opposing edges of the pairs of plates 88, 90 and 92 are formed such as to define a magazine passage that extends downwardly in a generally vertical direction but that is circuitous or zigzag in the path thereof, which conformation provides for restricting the downward movement of the articles contained in the magazines. More specifically, the inner edges of the plates 88 are formed with grooves 94 the junction of which are indicated at 96. The slope of the curve that defines the grooves may be varied and will determine the rate of descent of the articles that pass through the magazine and will further determine the amount of surface contact of the articles with the edges of the grooves when the articles are stacked in the magazine. The edges of the plates 90 that are located in opposition to the plates 88 are formed with similar grooves 98, the junctions 100 of the adjacent grooves 98 being located approximately opposite the midpoint of the grooves 98. Similarly, the junctions 96 are located opposite the grooves 98 at approximately the midpoint thereof. The opposing grooves 94 and 98 are thus disposed in staggered relation and the resulting passage is in zigzag formation to define a circuitous path for the articles passing therethrough. The lowermost portion of the forward magazine includes an inclined passage, the lower edges 102 of which are formed on the inner intermediate plates 90. The opposite edges on the plates 88 cooperate with the edges 102 to define the lower inclined passage of the forward magazine. The outer lower edges of the plates 88 further include a concave portion 104 that provide for gripping the ends of the articles as they are located at the dispensing station. In order to retain the lowermost of the articles at the dispensing station in the forward magazine, spaced stops 106 are formed on projections 108 that are formed as part of the side walls 82 and 84, the stops 106 extending in a horizontal direction for a sufficient distance to contact the forward face of the article that is disposed at the dispensing station.

The rear magazine as defined by the pairs of plates 90 and 92 is substantially similar to the forward magazine and includes a passage that is formed in the plates 90 and 92 that corresponds to the previously described forward magazine passage. As shown in FIG. 9, the rearwardly extending edges of the plates 90 are formed with a plurality of grooves 110 that junction at 112. The oppositely extending edges of the plates 92 are formed with similarly constructed grooves 114 that junction at 116, the junctions 116 being disposed opposite substantially the midpoint of the grooves 110. Correspondingly, the junctions 112 are disposed opposite substantially the midpoints of the grooves 114, the grooves 110 and 114 thereby being staggered vertically to form a zigzag or circuitous path for the articles as they descend vertically in the rear magazine. The lowermost portion of the rear magazine is defined by an inclined passage as indicated in FIG. 9, edges 118 that are formed on the plates 92 defining a trackway over which the articles move in downward inclined relation toward the dispensing station. It is seen that the opposing edges 120 formed on the plates 90 cooperate with the edges 118 to define the inclined lower portion for the rear magazine. As described above in connection with the forward magazine, the side walls

82 and 84 are formed with the concave portions 122 that provide access to the articles located at the dispensing station of the rear magazine. The side walls 82 and 84 are further formed with upwardly extending projections 124, to the inner surfaces of which stops 126 are joined. The lowermost of the articles in the rear magazine engages the stops 126 and is thus retained thereby at the dispensing station. As each of the lowermost articles are removed from the dispensing station, the weight of the stack of articles causes the next lowermost article to move downwardly into engagement with the stops 126. As described hereinabove, the conformation of the passage defined by the grooves 110 and 114 provides for engagement by the articles with edges of the grooves and since the articles are maintained in contact with a portion of the grooves as they are retained in the magazine passage in stacked relation, the total weight of the articles in the magazine is thus relieved on the lowermost article, and the article located at the dispensing station may then be easily removed therefrom without disturbing the remaining articles in the stack.

Referring now to FIG. 11, a still further modified form of the invention is illustrated, although only half of a dispenser generally indicated at 130 is shown. It will be understood that the remaining half of the dispenser is formed identically to that illustrated in FIG. 11 and will cooperate therewith to define forward and rear magazines for directing the articles to be dispensed from a loading station to a dispensing station.

As shown in FIG. 11, a side wall 132 is provided to which pins 134 are integrally molded. The pins 134 cooperate with similarly formed pins on the opposing side wall to define the spacer members for locating the side walls in their spaced-apart position as described hereinabove. The magazines that are formed between the side walls and into which the articles to be dispensed are loaded, are defined by pairs of opposing sections or plates indicated at 136, 138, 140 and 142. The plate 136 is joined directly to the inside surface of the side wall 132 and includes a plurality of curved grooves 144, the junctions of which are indicated at 146. The oppositely located plate 138 includes a plurality of grooves 148 that are curved to define grooves that junction at 150. The junctions 146 are located substantially opposite the midpoint of the grooves 148, and similarly the junctions 150 are located opposite the midpoint of the grooves 144, the grooves 144 and 148 thus defining a zigzag passage through which the articles to be dispensed descend in a circuitous path. The lowermost portion of the plate 138 includes an inclined track 152 on which the articles move to the dispensing station. The forward portion of the side wall 132 is also formed with an upwardly extending projection 154, to the inner surface of which a stop 156 is joined. The stop 156 is engaged by the lowermost article in the stack and extends sufficiently inwardly of the side wall 132 to retain the article at the dispensing station. The side wall 132 further includes a concave forward portion 158 that provides for access to the articles located at the dispensing station.

The rearwardly positioned magazine as defined by the plates 140 and 142 is constructed similarly to the forward magazine and includes the grooves 160 and 162 respectively that are located in substantially staggered relation so as to define the zigzag path for guiding the articles descending therethrough in a circuitous path to the dispensing station. A lowermost inclined track 164 is joined to the lower end of the plate 142 and is somewhat longer than the inclined track 152 of the forward magazine. The inclined track 164 directs the articles to a dispensing station where the lowermost article engages a stop 166 that is fixed to the inner surface of a projecting portion 168 of the side wall 132.

As previously described, the oppositely located side wall is constructed and arranged similarly to the side wall 132 and includes the plates as illustrated in FIG. 11

that cooperate with the previously described plates to define the forward and rearward magazines. The articles that are deposited at the loading end of the dispenser 130 descend vertically in a circuitous path toward the dispensing stations. The articles as stacked in the magazines engage the curved grooves of the magazines and thus are prevented from exerting the total weight thereof on the lowermost of the articles in the stacks. The articles thus located at the dispensing station may be lifted without disturbing the remaining articles in the magazines.

In all forms of the dispensing units embodied herein, the component parts thereof are molded from a plastic material and are joined together by the heat sealing thereof. The walls are preferably of clear plastic so as to provide visual access to the interior of the dispensing units, although it is understood that various pigments can be used in the plastic materials to impart ornamental aspects to the dispensers. Although not shown, each of the dispensing units will be provided with some form of a plate on which advertising or identifying indicia may be imprinted. As herein described, the dispensers of the present invention have application for the dispensing of articles of various cross sectional configurations such as cylindrical articles and boxes having rectangular or square cross sectional configurations.

In the form of the invention in which the spaced inner plates are employed, that is, the constructions illustrated in FIGS. 1 through 10, it is understood that containers or boxes having reduced or enlarged tail or head sections may be introduced therein and dispensed therefrom. In this connection the inner plates would be spaced sufficiently from the side walls to accommodate the reduced or enlarged head or tail section of the articles being dispensed, the intermediate body portion of each article then being received on the opposed edges of the plates that define the magazine passages.

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.

What is claimed is:

1. In a dispensing device, spaced side walls disposed in parallel, vertical planes, means interconnected to said side walls for locating them in their spaced-apart position, an article holding magazine located between said side walls and including an upper magazine portion that is located substantially vertical and directing an article deposited at a loading station at the upper end thereof in a generally vertical downward direction, a lower magazine portion communicating with said upper magazine portion and being generally inclined so as to direct the articles received thereon from said upper magazine portion in a downwardly inclined direction to a dispensing station, said magazine being defined by a first pair of spaced parallel inner plates that are also inwardly spaced from and parallel to said side walls, and a second pair of spaced parallel inner plates that are inwardly spaced from and parallel to said side walls and that are further located in alignment with said first pair of inner plates but are spaced rearwardly therefrom to define said magazine portions.

2. In a dispensing device as set forth in claim 1, said locating means including a plurality of spacer members that are defined by tapered pins that are joined to the inner surfaces of said side walls, each tapered pin joined to a side wall being joined at the outer end thereof to the outer end of a pin that is joined to the other side wall, each pair of said joined pins defining a spacer member, a plurality of collars joined to each of said

9

plates and receiving said spacer member therein, the tapered portions of said spacer members defining the location of said collars that are received thereon, wherein said plates are located in their proper spaced-apart position.

3. In a dispensing device, spaced side walls disposed in parallel, vertical planes, means interconnected to said side walls for locating them in their spaced-apart position, an article holding magazine located between said side walls and including an upper magazine portion that is located substantially vertical and directing an article deposited at a loading station at the upper end thereof in a generally vertical downward direction, a lower magazine portion communicating with said upper magazine portion and being generally inclined so as to direct the articles received thereon from said upper magazine portion in a downwardly inclined direction to a dispensing station, said magazine being defined by a first pair of spaced parallel inner plates that are also inwardly spaced from and parallel to said side walls, and a second pair of spaced parallel inner plates that are inwardly spaced from and parallel to said side walls and that are further spaced rearwardly from said first pair of inner plates to define said magazine portions therewith.

4. In a dispensing device, spaced side walls disposed in parallel, vertical planes, means interconnected to said side walls for locating them in their spaced-apart position, an article holding magazine located between said side walls and including an upper magazine portion that is located substantially vertical and directing an article deposited at a loading station at the upper end thereof in a generally vertical downward direction, a lower magazine portion communicating with said upper magazine portion and being generally inclined so as to direct the articles received thereon from said upper magazine portion in a downwardly inclined direction to a dispensing station, said upper magazine portion being defined by opposed plates, each of which has a plurality of grooves formed therein, the grooves in one of said opposed plates being staggered with respect to the grooves in the other

10

opposed plate, wherein a zigzag passage is defined for directing said articles through said upper magazine portion in a circuitous path, and said lower magazine portion being defined by opposed plates that form a downwardly inclined passage, said downwardly inclined passage communicating with said zigzag passage and receiving said articles therefrom and directing them to said dispensing station, said opposed plates of said upper and lower magazine portions being defined by a first pair of inner plates that are secured to said locating means in spaced relation with respect to each other and with respect to said side walls and a second pair of inner plates that are secured to said locating means in spaced relation with respect to each other and with respect to said side walls.

5. In a dispensing device as set forth in claim 4, a third pair of inner plates secured to said locating means in spaced relation with respect to each other and with respect to said side walls, said third pair of inner plates cooperating with one of the other pairs of inner plates to define a second magazine that is located in parallel relation to said first magazine.

6. In a dispensing device as set forth in claim 4, said second pair of inner plates that are secured to said locating means being disposed in coplanar alignment with respect to said first pair of inner plates.

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