Aug. 14, 1945. W. W. WEICHSELBAUM 2,382,191

DISPENSING DEVICE

Filed July 5, 1944 2 Sheets-Sheet 1

Fig. 1.

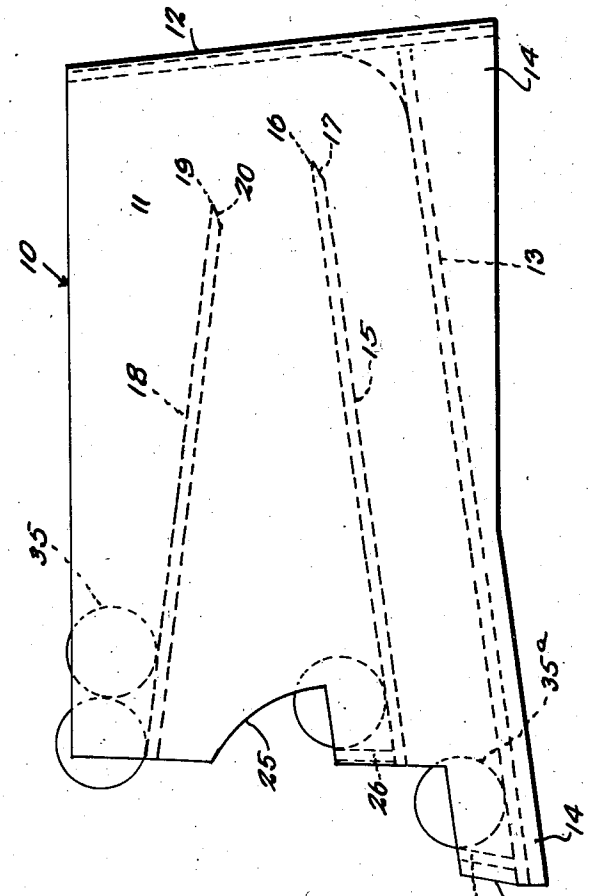
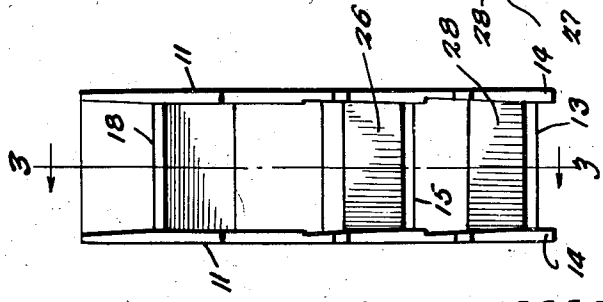


Fig. 2.



Inventor

WALTER W. WEICHSELBAUM,

By Clarence A. O'Brien and Harvey B. Jacobson

Attorneys

Aug. 14, 1945. W. W. WEICHSELBAUM 2,382,191

DISPENSING DEVICE

Filed July 5, 1944 2 Sheets-Sheet 2

Fig. 3.

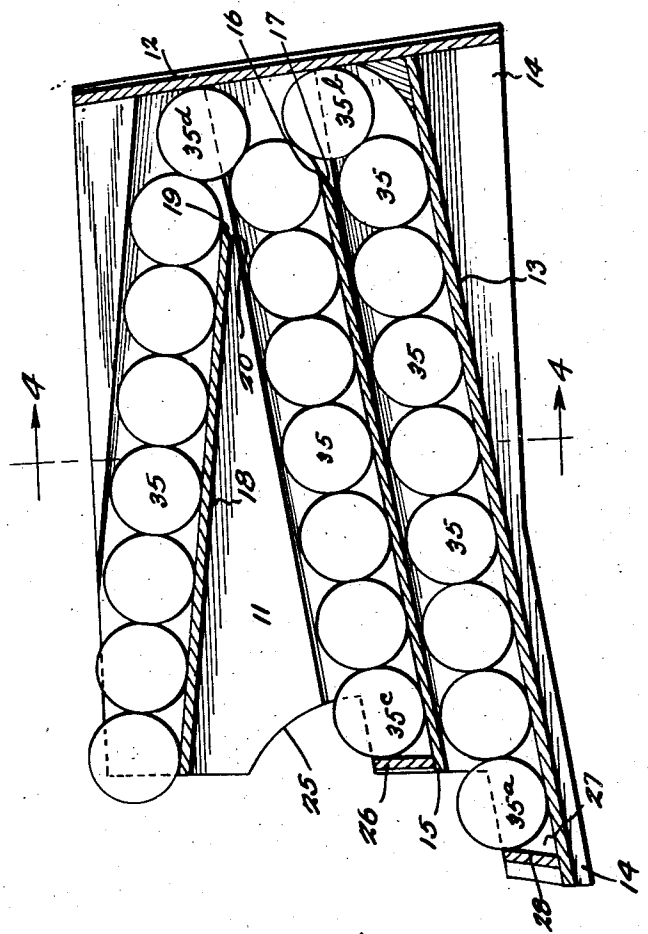
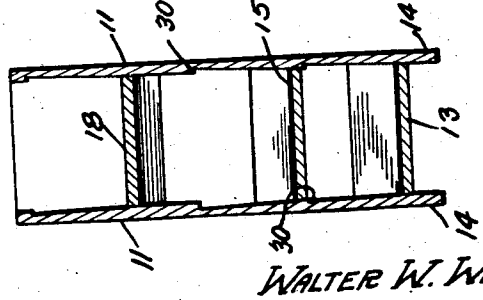


Fig. 4.



Inventor

WALTER W. WEICHSELBAUM,

By Clarence A. O'Brien and Harvey B. Jacobson

Attorneys

Patented Aug. 14, 1945 2,382,191

UNITED STATES PATENT OFFICE

2,382,191

DISPENSING DEVICE

Walter W. Weichselbaum, Gemmell, Minn.

Application July 5, 1944, Serial No. 543,516

3 Claims. (Cl. 312—45)

This invention relates to a dispensing device and more particularly to a device for dispensing cylindrical objects such, for example, as canned goods.

A primary object of this invention is the provision of a dispenser for canned goods so arranged that the cans are selectively moved from a plurality of storage and dispensing shelves in such manner that all of the canned goods within the device are successively positioned to facilitate removal by the consumer to preclude the possibility of any one can or series of cans remaining on the shelves for a sufficient period of time to permit deterioration of the contents thereof.

A further object is the provision of such a dispenser so dimensioned as to fit normally between shelves of customary height in a grocery store or the like.

A still further object is the provision of a dispenser so constructed and arranged that the contents thereof are always readily accessible to the consumer regardless of the number of cans or similar articles contained therein.

A still further object of this invention is the provision of an improved dispenser for canned goods or the like having no movable parts thus precluding the possibility of the device becoming inoperative through mechanical failure.

A more specific object is the provision of such a dispensing device so dimensioned as to accommodate the entire contents of a case of canned goods or the like.

A more specific object is the provision of a dispensing device provided with a plurality of inclined shelves and having apertures so positioned that the contents of an upper shelf may move to lower shelves and so dimensioned that the length of the lower shelves is unequal to a multiple of the diameter of the cans adapted for use with the device, whereby the rearmost can on the lowermost shelf is positioned between the rear wall of the device and the adjacent can, but at a height substantially higher than the other cans in the particular row so that the upwardly extending curved surface of the rearmost can serves as a guide, when the shelf with which it is associated is full, for successive cans to move into the next shelf above.

Other objects reside in the combinations of elements, arrangements of parts and features of construction, all as will be more fully pointed out hereinafter and disclosed in the accompanying drawings wherein there is shown a preferred form of this inventive concept.

In the drawings:

Figure 1 is a side elevational view of one form of device embodying this invention.

Figure 2 is a front elevational view of the device of Figure 1.

Figure 3 is a sectional view taken along the line 3—3 of Figure 2 as viewed in the direction of the arrows, and

Figure 4 is a sectional view taken along the line 4—4 of Figure 3 as viewed in the direction indicated by the arrows.

Like reference numerals refer to like parts throughout the several views of the drawings.

The dispensing device, generally indicated at 10, is comprised of a pair of side walls 11 and a rear wall 12, a shelf 13, inclined forwardly downwardly from rear wall 12, serving as a base therefor. Side walls 11 extend downwardly below both ends of inclined shelf 13 as indicated at 14 to provide side supports for the device. A second shelf 15 is secured between side walls 11 in parallel relation to base shelf 13 but terminates at a point 16 spaced from rear wall 12 by a distance slightly in excess of the diameter of an individual can. The end of shelf 15 is tapered on its underside as at 17, whereby cans may pass, under conditions to be described hereinafter, readily downward to shelf 13. A third shelf 18 is also positioned between side walls 11 but is inclined downwardly toward rear wall 12 thereof in a direction opposite to the angle of inclination of shelves 13 and 15, and terminates at a point 19 spaced from rear wall 12 a distance substantially in excess of the diameter of a can adapted to be contained within the device. Shelf 18 is also beveled on the underside of its extremity as at 20 to facilitate the passage of cans falling through the space between end 19 and rear wall 12 onto shelf 15.

Side walls 11 are provided with aligned notches 25 adjacent but positioned above shelf 15, a stop member 26 being positioned between the side walls at the end of the shelf and extending upwardly to the bottoms of notches 25, thus providing a recessed aperture through which the can at the end of shelf 15 adjacent stop member 26 may be readily grasped for removal. Extending portions 27 are also provided adjacent shelf 13, comprising integral parts of side walls 11, of a height less than the diameter of the cans in the receptacle, whereby the outermost can on shelf 13 is positioned outwardly with respect to the end of shelf 15 whereby ready access may be had thereto for removal from the dispensing device.

A stop 28 of a height substantially equal to the height of portions 27 is positioned adjacent the end of shelf 13 to prevent the cans from rolling

out of the receptacle. Suitable securing means are provided on the interior of side 11 for the support of shelves 13, 15 and 18. Such means may take the form of wedge-shaped protrusions 30 (see Figures 2 and 4) so designed as to grasp the edges of the shelves, the cut-away upper portions of the sides comprising the upper extremities of the wedges being of a space sufficiently far apart to permit ready passage of the cans between the sides. Preferably, protrusions 30 are so spaced that the cans or similar objects positioned between the side walls contact these side walls only at a point adjacent the shelves on which they are resting, thus avoiding the possibility of a can sticking in the device such as might be occasioned by the engagement of the top of its end walls with the side walls of the dispensing device and the resultant increased drag on the can. It may here be noted that the device is open at its top above shelf 18 and likewise, at the outer end thereof adjacent shelf 18, is similarly open to permit ready insertion of cans into the space so provided for filling the device.

In use, the device may be filled by placing a number of cans in the open top or into the open end adjacent the upper end of inclined shelf 18. These cans, generally indicated by the reference character 35, roll back to the open space between the extremity 19 and rear wall 12 and then fall downwardly through the space between extremity 17 of shelf 15 and rear wall onto lower shelf 13. The incline of the shelf causes the cans to roll toward the front of the device, the foremost can 35*a* being seated in the space between stop 28 and the lower end of shelf 15 whereby easy access may be had thereto. As additional cans are placed on top shelf 18 they continue to fall in the manner previously mentioned until shelf 13 is substantially full whereupon, due to the fact, as previously mentioned that the length of shelf 13 is not an equal multiple of the diameter of the cans the last can 35*b* lodges between the last of the cans on shelf 13 and end wall 12, its diameter being too great to permit the same to pass downwardly to rest on the floor of shelf 13, and its upper surface then serves to effectively close the space between the extremity 16 of shelf 15 and rear wall 12. As successive cans are fed on the shelf 18 they continue to drop through the space between extremity 19 thereof and end walls 12 but, upon striking the convex surface of can 35*b* they are directed downwardly onto shelf 15 until the foremost thereof, can 35*c*, rests against stop 26. When shelf 15 is filled the last can 35*d* fits between the end can on shelf 15 and rear wall 12 leaving a space between its side and the extremity 19 of shelf 18 insufficient to permit the passage of a can therethrough. Additional cans may now be inserted into the device until the shelf 18 is filled, whereupon the device is ready to be positioned for use as a handy canned goods dispenser.

The natural tendency of the user is now to remove can 35*a*, as this is the most readily accessible, whereupon the remaining cans roll forwardly until the next can abuts stop 28. Can 35*b* then drops into position beneath the extremity 17 of shelf 16. However, the abutment of can 35*d* with end wall 12 and the end cans on each of shelves 15 and 18 serve as an effective lock to prevent additional cans from falling to the lower shelf 13. Accordingly, the remaining cans now on shelf 13 may be removed until the shelf is empty whereupon in order to permit additional cans to drop to shelf 13, can 35*c* must be removed from shelf 15. This operation releases can 35*d* and permits the same and following cans to fall until shelf 13 is again full. If, at any time, while there are cans still remaining on shelf 13 the outermost can on shelf 15 is removed shelf 13 will be automatically refilled. Correspondingly, if a can is taken from shelf 15 while shelf 13 is full, can 35*d* will fall on can 35*b* and be held in position thereon by the weight of the following cans. Accordingly, as successive cans may be taken from shelf 15 this shelf will be refilled unless can 35*a* is removed from shelf 13 whereupon can 35*d* will drop into the position formerly occupied by can 35*b* and the lock reestablished. Cans may, of course, be removed from either shelf 13 or shelf 15 at any time but by the arrangement above described, it will be apparent that the cans, for example, on shelf 15 must be moved periodically in order that further cans may drop to shelf 13. Again due to the disposition of shelf 18 and the height of the side walls of the dispenser thereabove the inner cans on shelf 18 may not be removed until cans are taken from shelf 13 or shelf 13 and shelf 15, thus occasioning a constant turnover of the stock and precluding the possibility of any can or series of cans being passed over for a long period of time.

Obviously, the device may be made of any desired type of material or in any desired size to accommodate varying sizes of cans to facilitate the dispensing thereof. Likewise, additional cans may be positioned on shelf 18 at any time during the use of the device regardless of whether or not shelf 18 or shelf 15 is empty or shelf 13 is empty with at least one can removed from shelf 15. From the foregoing, it will now be seen that there is herein provided a dispensing device achieving all the objects of this invention, and others, including many advantages of great practical utility and commercial importance, which is sturdy and durable in construction, reliable in operation, and relatively simple and inexpensive to manufacture.

As many embodiments may be made of this inventive concept, it is to be understood that all matter herein is to be interpreted merely as illustrative and not in a limiting sense.

I claim:

1. In a dispensing device for cylindrical articles of predetermined diameter, in combination, a cabinet having side walls, a rear wall, a rearwardly inclined shelf forming a bottom secured to said side walls, means forming an aperture at the front of the device adjacent the lowermost point of said shelf, a second shelf above and parallel to said first shelf terminating at a point spaced from said rear wall, a third shelf above said second shelf inclined at an angle opposite the angle of inclination of said first and second shelves and terminating at a point spaced from said rear wall, whereby cylindrical articles placed on said third shelf will roll toward said rear wall, through the spaces between the ends of said third and second shelves to fill said first shelf, and, when said first shelf is full, through the space between said third shelf and said rear wall to fill said second shelf.

2. In a dispensing device for cylindrical articles of predetermined diameter, in combination, a cabinet having side walls, a rear wall, a rearwardly inclined shelf forming a bottom secured to said side walls, means forming an aperture at the front of the device adjacent the lowermost point of said shelf, a second shelf above and

parallel to said first shelf terminating at a point spaced from said rear wall, a third shelf above said second shelf inclined at an angle opposite the angle of inclination of said first and second shelves and terminating at a point spaced from said rear wall, whereby when cylindrical articles each of a diameter which is an unequal divisor of the length of the first and second shelves respectively are placed on said third shelf they will roll toward said rear wall, through the spaces between the ends of said third and second shelves and rear wall to fill said first shelf, and, when said first shelf is full, through the space between said third shelf and said rear wall to fill said second shelf, and whereby the last of said articles on the first shelf rests between the preceding article and said rear wall and extends upwardly into the space between the next shelf above and said rear wall to close said space and guide succeeding articles into said next shelf above.

3. In a dispensing device for cylindrical articles of predetermined diameter, in combination, a cabinet having side walls, a rear wall, a rearwardly inclined shelf forming a bottom secured to said side walls, means forming an aperture at the front of the device adjacent the lowermost point of said shelf, a second shelf above and parallel to said first shelf terminating at a point spaced from said rear wall, a third shelf above said second shelf inclined at an angle opposite the angle of inclination of said first and second shelves and terminating at a point spaced from said rear wall, whereby cylindrical articles placed on said third shelf will roll toward said rear wall, through the spaces between the ends of said third and second shelves and rear wall to fill said first shelf, and, when said first shelf is full, through the space between said third shelf and said rear wall to fill said second shelf, the articles being each of a diameter which is an unequal divisor of the length of the second shelf so that the last article on the second shelf is supported between the adjacent forward article and the rear wall and projects up into the space behind the third shelf and precludes the refilling of said first shelf until at least one of said articles is removed from said second shelf, said side walls being provided with a plurality of aligned inwardly disposed wedge-shaped tapered portions whereby the spacing of the side walls from each other is relatively less adjacent the top surfaces of said shelves than at points spaced therefrom a distance equal to the diameter of said cylindrical articles.

WALTER W. WEICHSELBAUM.