

June 17, 1930.

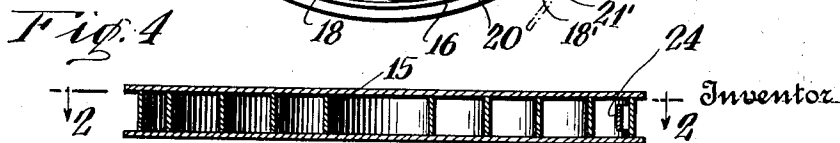
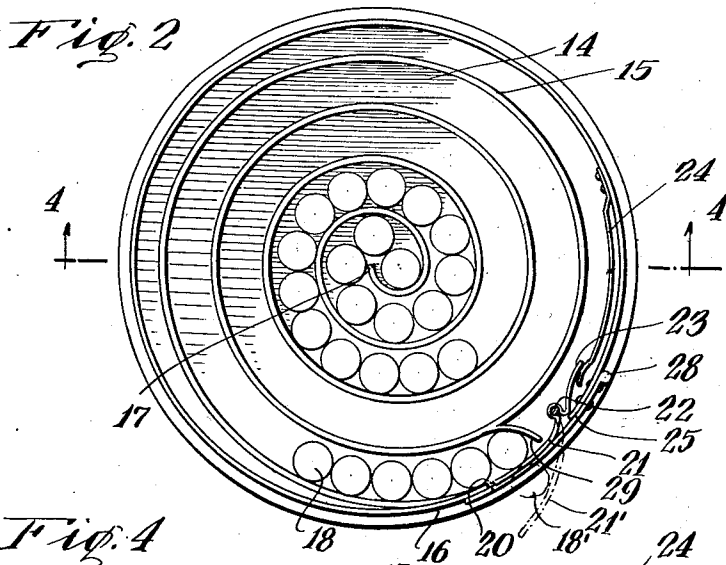
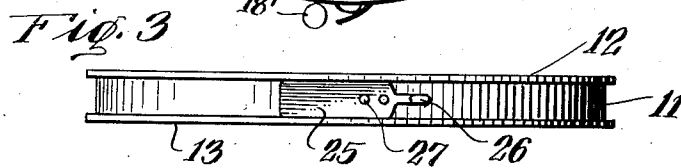
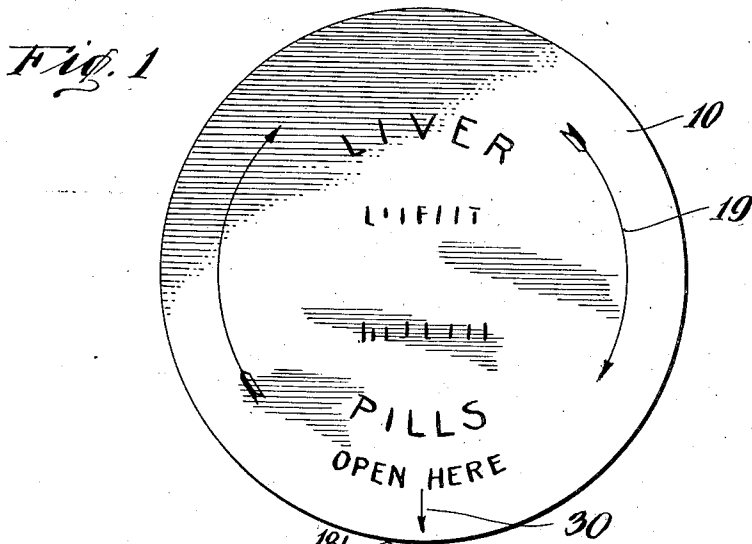
G. M. SACERDOTE

1,764,352

DISPENSING CONTAINER

Filed July 14, 1928

3 Sheets-Sheet 1.



Inventor

G. M. Sacerdote

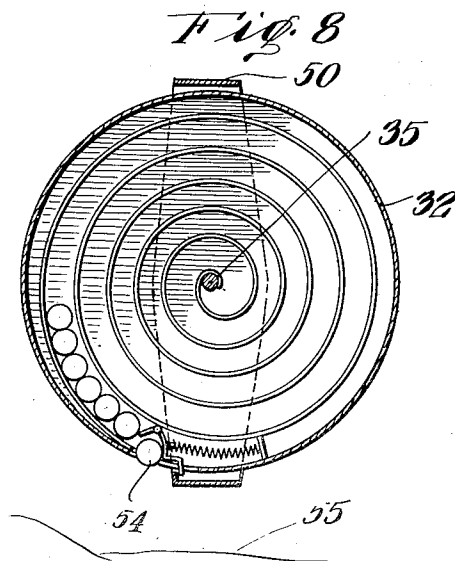
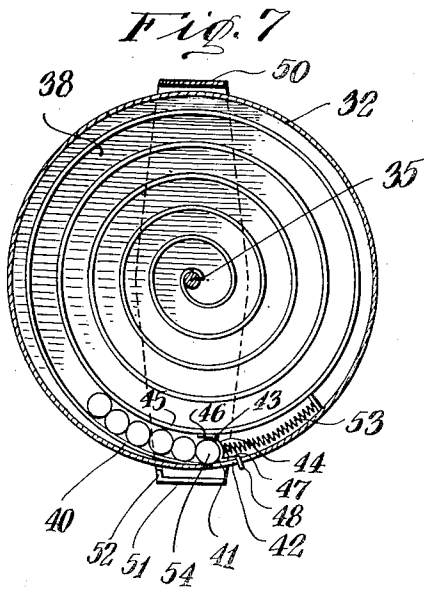
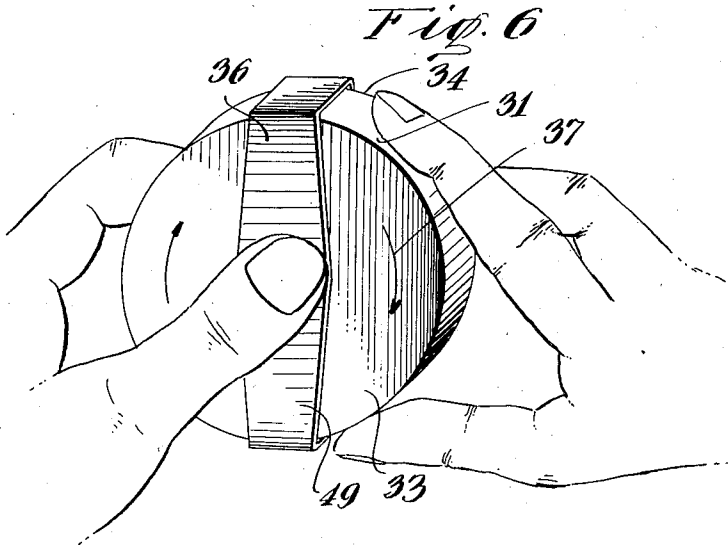
June 17, 1930.

G. M. SACERDOTE
DISPENSING CONTAINER

1,764,352

Filed July 14, 1928

3 Sheets-Sheet 2



Inventor

Guido M. Sacerdote

June 17, 1930.

G. M. SACERDOTE

1,764,352

DISPENSING CONTAINER

Filed July 14, 1928

3 Sheets-Sheet 3

Fig. 9

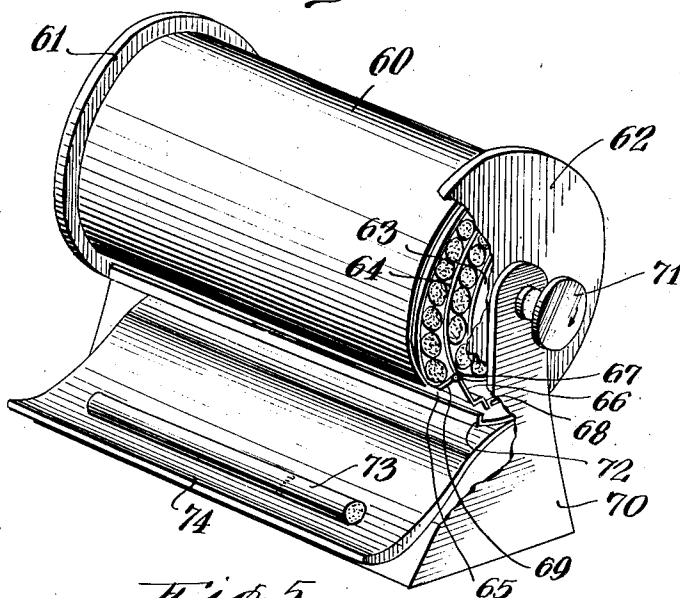
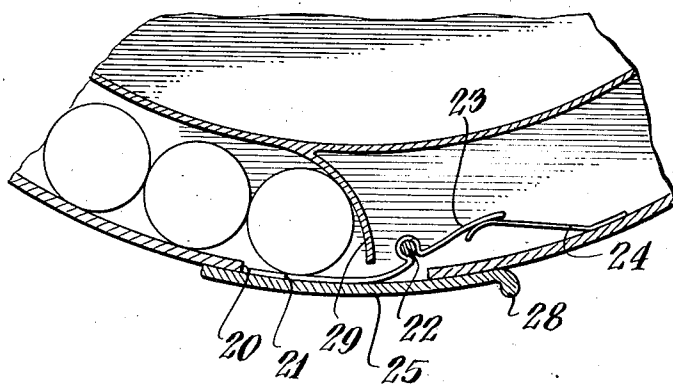


Fig. 5



Inventor

G. M. Sacerdote

UNITED STATES PATENT OFFICE

GUIDO M. SACERDOTE, OF NEW YORK, N. Y.

DISPENSING CONTAINER

Application filed July 14, 1928. Serial No. 292,652.

This invention relates to boxes and containers and more particularly refers to improvements in magazine containers for articles such as pills, tablets, cigarettes, pencils and so forth having a round or substantially round outline.

The primary object of this invention is to provide a novel and improved type of container for articles having a round or substantially round outline whereby one or more of said articles may be delivered through an opening provided therefor, positively preventing the possibility of clogging or wedging of the articles within the container.

Another object is to provide in a dispensing container for round or substantially round articles a novel and improved arrangement for distributing the articles within said container insuring free delivery of said articles at all times, together with means for automatically isolating and dispensing one of said articles each time the container is brought to a predetermined position.

A further object is to provide a novel and improved arrangement of spiral chamber for dispensing containers more particularly adapted to hold articles having a round or substantially round outline, which is applicable in connection with dispensing containers of various types and descriptions, adapted to handle a large variety of products.

A still further object is to provide a box or container particularly adapted for holding pills, tablets and the like, provided with a spiral chamber in which the pills or tablets may be serially arranged and from which they may be delivered in proper sequence through an opening provided therefor without requiring the necessity of opening the box or container.

Other objects and advantages of the present invention will more fully appear as the description proceeds and will be set forth and claimed in the appended claims.

Various embodiments of my invention are illustrated in the accompanying drawings in which:

Fig. 1 is a plan view of a box or container for pills and similar articles, embodying my invention;

Fig. 2 is a plan sectional view thereof;

Fig. 3 is a front view in elevation thereof;

Fig. 4 is a cross sectional view of the same through line 4—4 of Fig. 2;

Fig. 5 is a fragmentary front sectional view in elevation of the discharging portion of the box;

Fig. 6 is a view in perspective of a similar container adapted for automatic delivery of one pill each time the container is rotated about its shaft;

Fig. 7 is a front sectional view of the same showing the container about to reach its discharging position;

Fig. 8 is a plan sectional view thereof showing the container in the act of discharging one pill; and

Fig. 9 is a view in perspective partly sectioned of a cigarette dispensing container also embodying my invention.

Figs. 1 to 5 illustrate a container which may be produced by inexpensive methods and by the employment of relatively inexpensive materials, particularly adapted for packing pills and similar articles in a form permitting of discharging one or more pills from the container without opening the same; thus preserving the sanitary conditions of the package, at the same time insuring free and controllable delivery of the number of pills or tablets required and preventing spilling of the contents of the box.

Referring to said drawings, 10 designates a relatively shallow, preferably round box comprising a rim portion 11 and two sides 12, 13 connected thereto. The width or depth of the box is determined by the diameter or thickness of the articles to be enclosed therein, said width or depth being designed to leave a little clearance when the pills or tablets are enclosed in the box.

The space within the box is formed into a spiral channel 14 by a thin band of material 15 spirally arranged within the same; the distance between adjoining coils of the spiral just formed, or in other words the width of the spiral chamber being a trifle larger than the diameter of the pills or tablets, permitting free travel of the same therethrough.

In the arrangement shown the spiral band

or partition starts from rim or wall 11 at a point 16 and progresses inwardly in a clockwise direction to the center 17 of the box; so that if the spiral chamber thus formed is filled with pills or tablets 18 and the box is rotated in a clockwise direction as arrows 19 in Fig. 1 indicate, the pills tend to travel through the spiral chamber in a counter clockwise direction, and will issue one by one from said chamber if wall or rim 11 is open at the outer end of the spiral as shown at 20.

Opening 20 is normally closed by a shutter 21 which is pivotally mounted at 22 within the box so as to be tiltable in an outward direction. Said shutter is formed with an arm 23 projecting beyond pivot 22, and a spring 24 bearing against said arm 23 constantly urges said shutter to open to the position 21' shown in dotted lines.

However shutter 21 is normally held in its closed position by a door 25 abutting against the outer surface of rim or wall 11 and adapted to slide along the same. A suitable construction to this end may be obtained by providing rim or wall 11 with a segmental slot 26 through which may project pins or studs 27 extending from the surface of door 25.

The rear end of the door is formed with an outwardly projecting lug 28 by means of which the door may be moved in one or the other direction. In its normal position shown in Fig. 3 the door entirely conceals opening 20, forcing shutter 21 to obstruct the same against the action of spring 24. When the door is moved away from said position, in a counterclockwise direction with reference to Fig. 2, shutter 21 is gradually allowed to swing outwardly to the position shown in dotted lines at 21', opening a passage for a pill 18' which can thus be discharged from the box.

As long as the door is retained in its open position, all the pills or tablets contained in the downwardly directed tract of the spiral chamber leading to opening 20 will be discharged one by one through said opening, their rate of discharge being regulated by the extent to which shutter 21 has been allowed to project outwardly more or less opening or strangling the passage as will be understood; so that when the desired number of pills or tablets has been discharged the flow of the same can be promptly stopped merely by slightly moving door 25 in its closing direction.

The path of the pills or tablets being discharged from the spiral chamber is delimited by a partition 29 forming a stop for the spiral chamber preventing the pills or tablets contained therein to travel beyond opening 20 in a circumferential direction.

The type of container described is operated by rotating it between two fingers in the direction pointed out by the arrows 19, stopping it with the arrow 30 in correspondence of open-

ing 20 pointing downwardly, when sliding door 25 to its open position. A mode of operation which is somewhat easier to understand is provided if the container is rotatably mounted on a suitable support, and such a modified construction is illustrated in Figs. 6 to 8.

In the same the container 31 consists like in the previous case of a relatively shallow box formed by a rim or circular wall 32 and two parallel sides 33, 34, the box thus formed being rotatably mounted at its central point 35 on a yoke or support 36.

As shown in Fig. 6 said yoke or support provides a means of holding the device between the finger of one hand with the palm of the hand directly underneath the lower end of the yoke or support, so that the box or container may be easily rotated about a shaft 35 in the direction pointed out by arrows 37.

The device illustrated is designed for automatic discharge of one pill or tablet each time the box is rotated one revolution. Like in the previous case the inside of the box is formed into a spiral chamber 38 by a spiral band 39 starting at a circumferential point 40 and running inwardly along a spiral course leading to central shaft 35. Near the outer end of the spiral band the rim or wall 32 is provided with an opening 41 large enough to permit one pill or tablet to pass through.

In correspondence of said opening the extreme outer tract of the spiral chamber is obstructed by an ejector 42 which consists of a crank lever structure pivotally mounted at 43 where its radially directed member 44 meets the inner wall 45 of said outer tract. Said crank lever structure also comprises an arm 46 extending from its pivotal point of attachment along said inner wall in the direction of the rotation of the box that is, in the case illustrated, in a clockwise direction.

Radial member or arm 44 is bent rearwardly to form a segmental tract 47 and is then bent outwardly in a substantially radial direction to form a lug 48 projecting beyond the outer surface of rim or wall 32.

The frame or yoke 36 has a substantially rectangular section embracing the box, said structure being composed of two side members 49 joined by two transversal bridge members 50, 51. The lower bridge member 51 has one of its edges bent inwardly in a substantially radial direction to form a lug 52 projecting in the path of lug 48.

By virtue of this construction it is apparent that when the box is rotated in a clockwise direction as opening 41 passes across lug 52, lug 48 will come to meet lug 52; and as the rotation of the box continues lug 48 will be held stationary compelling the crank lever member of which it is a part to move angularly about its pivot 43 in a counterclockwise direction, until the outer edge of lug 48 will

clear the inner edge of lug 52 and the crank lever member will be free to snap back into its normal position by the action of a spring 53.

5 The angular movement of radial member or arm 44 which is thus produced gradually clears opening 41 towards the rear until the outlet thus provided for the end pill or tablet is sufficient to allow the discharge of said pill or tablet through said outlet. At the same time arm 46 which also moves angularly about pivot 43 together with arm or member 44, will act as an ejector forcing the pill or tablet outwardly through opening 41, as Fig. 8 clearly shows.

15 It is obvious therefore that each time the box completes one revolution a pill or tablet is automatically discharged therefrom falling into the palm 55, directly underneath, of the hand holding the frame or yoke 36.

20 My invention may also be applied in connection with articles such as cigarettes, pencils and so forth, having an elongated shape and a circular or substantially circular section. By way of example in Fig. 9 I illustrate a cylindrical cigarette container 60 closed at the two ends by two disks or flanges 61, 62 and formed into a longitudinal spiral chamber 63 by a web or band 64. Like in the previous case the wall of the container is provided with an opening in the form of a longitudinal slot 65 at a point in proximity of the outer end of the spiral band or web 64.

30 In correspondence of said point a crank member 66 is provided, pivoted on a shaft 67 extending longitudinally of the container, said crank member being formed with a radially extending lug 68 and with an ejecting arm 69.

40 The container is rotatably mounted on a supporting frame having two uprights 70, one at each end, and is operated by means of a knob 71 rotated on the container's shaft as will be understood.

45 Like in the previous case each time the container completes one revolution lug 58 strikes against a catch such as shown at 72 ejecting the outermost cigarette 73 contained in the spiral chamber or magazine in the manner previously explained. The supporting frame is preferably provided with an apron member 74 extending between the two uprights 70, receiving the cigarette thus discharged and retaining it until it is removed by the user.

55 It will be understood that a device embodying my invention may either be made of the refillable or non-refillable type as may be desired. For instance in the case of boxes intended for use in connection with medicinal specialties it may be preferable in many cases to close the box entirely except for the small outlet provided for the pills or tablets contained therein, while in the case of a cigarette dispensing device or the like it may be prefer-

able to make one of the ends of the container detachable so as to expose the spiral chamber and permit the refilling thereof.

70 It will also be understood that while for the sake of simplicity I make use of gravity for discharging the articles from the container, it is within the scope of this invention to provide means for gradually forcing the articles along the spiral chamber towards the outlet provided therefor if desired; such an arrangement being especially suitable when the articles contained in the spiral chamber have an angular outline preventing their rolling out of their own account. In this case the outlet need not necessarily be at the periphery of the container but may be provided at or near the center thereof, if desired, in which case the articles will be made to travel in an inwardly instead of in an outward direction through the spiral chamber.

80 The inventive idea lends itself to numerous applications each calling for some specific structure which may differ in its constructional details from those shown without departing from the scope of the invention. The drawings will therefore be understood as being intended for illustrative purposes only and not in a limiting sense.

85 I accordingly reserve myself the right to carry my invention into practice in all those ways and manners which may enter, fairly, into the scope of the appended claims.

I claim:

1. A container of the class described comprising two substantially parallel side walls and a peripheral wall extending therebetween, a partition extending between said two side walls, forming a tubular chamber adapted to retain in serial arrangement articles to be discharged from said container, and an outlet through one of the walls of said container, registering with the discharging end of said chamber, the width of said chamber substantially corresponding to the transverse dimension of said articles, and the distance between said two side walls substantially corresponding to the dimension of said articles in a direction at right angle to said transversal dimension.

115 2. A container of the class described comprising two substantially parallel side walls and a peripheral wall extending therebetween, a partition extending between said two side walls, forming a tubular chamber adapted to retain in serial arrangement articles to be discharged from said container, an outlet through one of the walls of said container, registering with the discharging end of said chamber, the width of said chamber substantially corresponding to the transversal dimension of said articles, and the distance between said two side walls substantially corresponding to the dimension of said articles in a direction at right angle to said

transversal dimension, and means controlling said outlet.

3. A container of the class described comprising two substantially parallel side walls and a peripheral wall extending therebetween, a partition extending between said two side walls, forming a tubular chamber adapted to retain in serial arrangement articles to be discharged from said container, an outlet through one of the walls of said container, registering with the discharging end of said chamber, the width of said chamber substantially corresponding to the transversal dimension of said articles, and the distance between said two side walls substantially corresponding to the dimension of said articles in a direction at right angle to said transversal dimension, and a spring actuated member controlling said outlet.

4. A container of the class described comprising two substantially parallel side walls and a peripheral wall extending therebetween, a partition extending between said two side walls, forming a spiro-tubular chamber adapted to retain in serial arrangement articles to be discharged from said container, and an outlet through one of the walls of said container, registering with the discharging end of said chamber, the width of said chamber substantially corresponding to the transversal dimension of said articles, and the distance between said two side walls substantially corresponding to the dimension of said articles in a direction at right angle to said transversal dimension.

5. A container of the class described comprising two substantially parallel side walls and a peripheral wall extending therebetween, a partition extending between said two side walls, forming a spiro-tubular chamber adapted to retain in serial arrangement articles to be discharged from said container, an outlet through one of the walls of said container, registering with the outer end of said chamber, the width of said chamber substantially corresponding to the transversal dimension of said articles, and the distance between said two side walls substantially corresponding to the dimension of said articles in a direction at right angle to said transversal dimension, and means controlling said outlet.

6. A container of the class described comprising two substantially parallel side walls and a peripheral wall extending therebetween, a partition extending between said two side walls, forming a spiro-tubular chamber adapted to retain in serial arrangement articles to be discharged from said container, an outlet through one of the walls of said container, registering with the outer end of said chamber, the width of said chamber substantially corresponding to the transversal dimension of said articles, and the distance between said two side walls sub-

stantially corresponding to the dimension of said articles in a direction at right angle to said transversal dimension, and a spring actuated member controlling said outlet.

7. A container of the class described comprising two substantially parallel side walls and a peripheral wall extending therebetween, a partition extending between said two side walls, forming a spiro-tubular chamber adapted to retain in serial arrangement articles to be discharged from said container, an outlet through one of the walls of said container, registering with the outer end of said chamber, a supporting frame, and means for rotatably mounting said container upon said frame, on an axis running transversely of said side walls.

8. A container of the class described comprising two substantially parallel side walls and a peripheral wall extending therebetween, a partition extending between said two side walls, forming a spiro-tubular chamber adapted to retain in serial arrangement articles to be discharged from said container, an outlet through one of the walls of said container, registering with the outer end of said chamber, a supporting frame, means for rotatably mounting said container upon said frame, on an axis running transversely of said side walls, a member controlling said outlet, and means integral with said frame, operating said member when said container reaches a predetermined position while it is being rotated in the discharging direction in relation to said frame.

9. A container of the class described comprising two substantially parallel side walls and a peripheral wall extending therebetween, a partition extending between said two side walls, forming a spiro-tubular chamber adapted to retain in serial arrangement articles to be discharged from said container, an outlet through one of the walls of said container, registering with the outer end of said chamber, a supporting frame, means for rotatably mounting said container upon said frame, on an axis running transversely of said side walls, a spring actuated member normally closing said outlet, and means integral with said frame, forcing said member open against the action of its spring, when said container reaches a predetermined position while it is being rotated in the discharging direction in relation to said frame.

10. A container of the class described comprising two substantially parallel side walls and a peripheral wall extending therebetween, a partition extending between said two side walls, forming a spiro-tubular chamber adapted to retain in serial arrangement articles to be discharged from said container, an outlet through one of the walls of said container, registering with the outer end of said chamber, a supporting frame, means

for rotatably mounting said container upon said frame, on an axis running transversely of said side walls, a pivotally mounted spring actuated member normally closing said outlet, and a catch integral with said frame, forcing said member open against the action of its spring, when said container reaches a predetermined position while it is being rotated in the discharging direction in relation to said frame.

side walls, an ejector controlling said outlet, and means integral with said frame, operating said ejector when said container reaches a predetermined position while it is being rotated in the discharging direction in relation to said frame.

14. A container of the class described comprising two substantially parallel side walls and a peripheral wall extending therebetween, a partition extending between said two side walls, forming a spiro-tubular chamber adapted to retain in serial arrangement articles to be discharged from said container, an outlet through one of the walls of said container, registering with the outer end of said chamber, a supporting frame, means for rotatably mounting said container upon said frame, on an axis running transversely of said side walls, a spring actuated ejector normally obstructing said outlet, and means integral with said frame, operating said ejector against the action of its spring, to discharge through said outlet one of the articles contained within said chamber when said container reaches a predetermined position while it is being rotated in the discharging direction in relation to said frame.

11. A container of the class described comprising two substantially parallel side walls and a peripheral wall extending therebetween, a partition extending between said two side walls, forming a tubular chamber adapted to retain in serial arrangement articles to be discharged from said container, an outlet through one of the walls of said container, registering with the discharging end of said chamber, the width of said chamber substantially corresponding to the transversal dimension of said articles, and the distance between said two side walls substantially corresponding to the dimension of said articles in a direction at right angle to said transversal dimension, and a member controlling said outlet, said member comprising means for ejecting through said outlet, one of the articles within said chamber when said member is moved in a predetermined direction.

12. A container of the class described comprising two substantially parallel side walls and a peripheral wall extending therebetween, a partition extending between said two side walls, forming a tubular chamber adapted to retain in serial arrangement articles to be discharged from said container, an outlet through one of the walls of said container, registering with the discharging end of said chamber, the width of said chamber substantially corresponding to the transversal dimension of said articles, and the distance between said two side walls substantially corresponding to the dimension of said articles in a direction at right angle to said transversal dimension and a spring actuated member normally obstructing said outlet, said member comprising means for ejecting through said outlet one of the articles within said chamber, when said member is moved to its discharging position against the action of its spring.

13. A container of the class described comprising two substantially parallel side walls and a peripheral wall extending therebetween, a partition extending between said two side walls, forming a spiro-tubular chamber adapted to retain in serial arrangement articles to be discharged from said container, an outlet through one of the walls of said container, registering with the outer end of said chamber, a supporting frame, means for rotatably mounting said container upon said frame, on an axis running transversely of said

15. A container of the class described comprising two substantially parallel side walls and a peripheral wall extending therebetween, a partition extending between said two side walls, forming a spiro-tubular chamber adapted to retain in serial arrangement articles to be discharged from said container, an outlet through one of the walls of said container, registering with the outer end of said chamber, a supporting frame, means for rotatably mounting said container upon said frame, on an axis running transversely of said side walls, a pivotally mounted spring actuated ejector normally obstructing said outlet, and a catch integral with said frame, operating said ejector against the action of its spring, to discharge through said outlet one of the articles contained within said chamber when said container reaches a predetermined position while it is being rotated in the discharging direction in relation to said frame.

16. A container of the class described comprising two substantially parallel side walls and a peripheral wall extending therebetween, a partition extending between said two side walls, forming a spiro-tubular chamber adapted to retain in serial arrangement articles to be discharged from said container, an outlet through one of the walls of said container, registering with the outer end of said chamber, a supporting frame, means for rotatably mounting said container upon said frame, on a horizontal axis running transversely of said side walls, and means for gravitationally discharging the outermost article within said chamber, when said container reaches a predetermined position while it is

being rotated in the discharging direction in relation to said frame.

17. A container of the class described comprising two substantially parallel side walls and a peripheral wall extending therebetween, a partition extending between said two side walls, forming a spiro-tubular chamber adapted to retain in serial arrangement articles to be discharged from said container, an outlet through one of the walls of said container, registering with the outer end of said chamber, a supporting frame, means for rotatably mounting said container upon said frame, on a horizontal axis running transversely of said side walls, a pivotally mounted spring actuated ejector normally obstructing said outlet, and a catch integral with said frame, operating said ejector against the action of its spring, to discharge through said outlet one of the articles contained within said chamber when said container reaches a predetermined position while it is being rotated in the discharging direction in relation to said frame.

GUIDO M. SACERDOTE.

25

30

35

40

45

50