Dec. 7, 1954 R. T. MEYER 2,696,329

DISPENSER FOR CARTON CONTENTS

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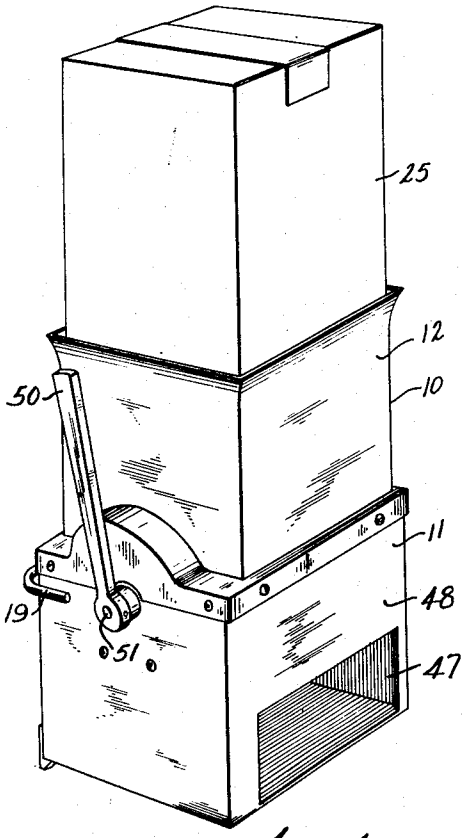


Fig. 1

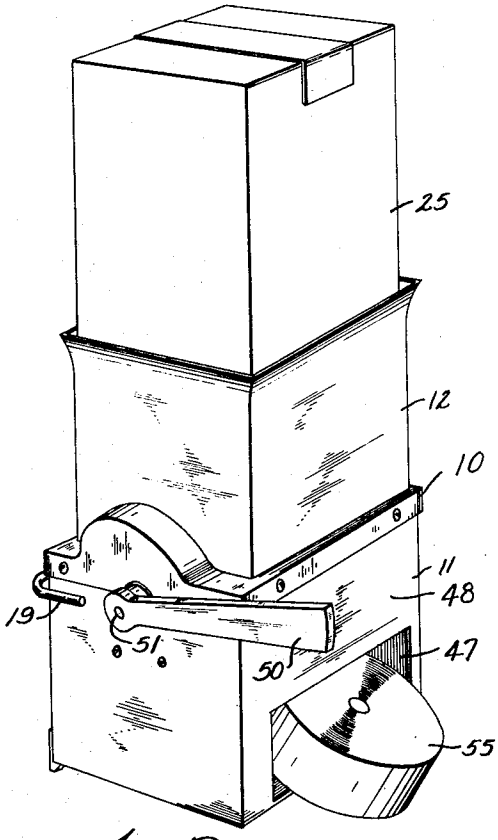


Fig. 2

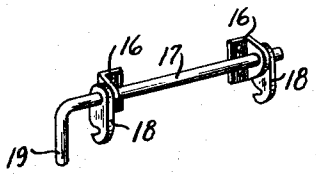
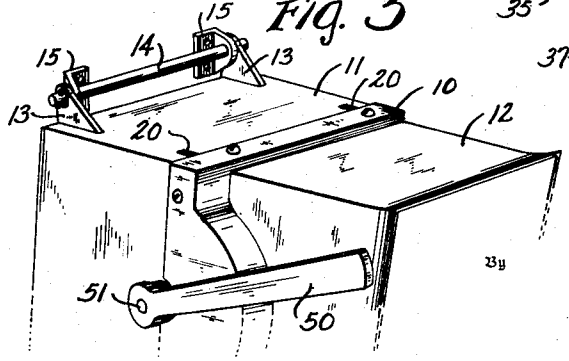


Fig. 3



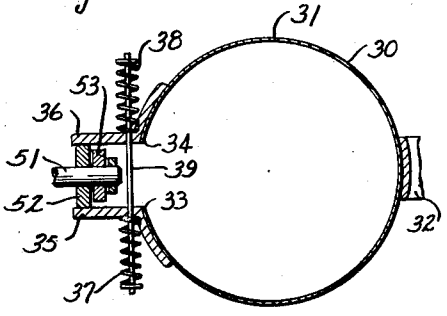


Fig. 4

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DISPENSER FOR CARTON CONTENTS

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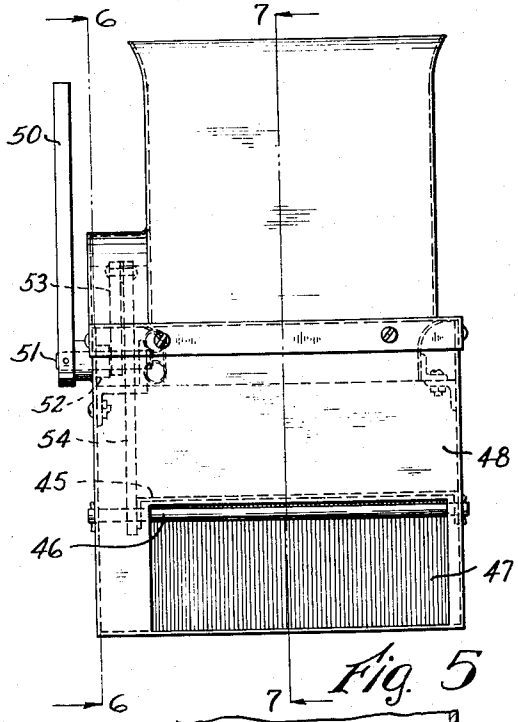


Fig. 5

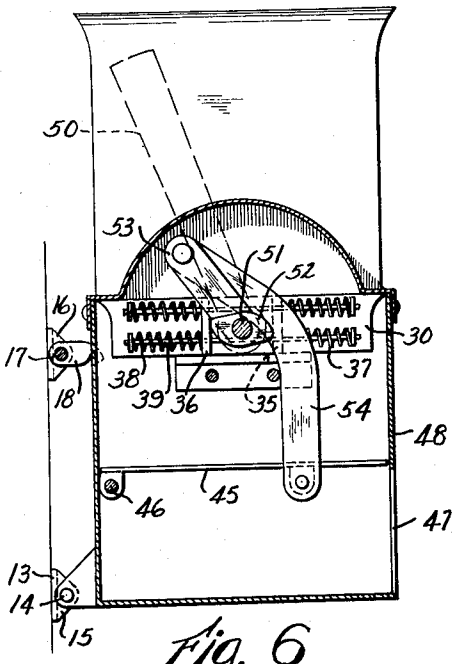


Fig. 6

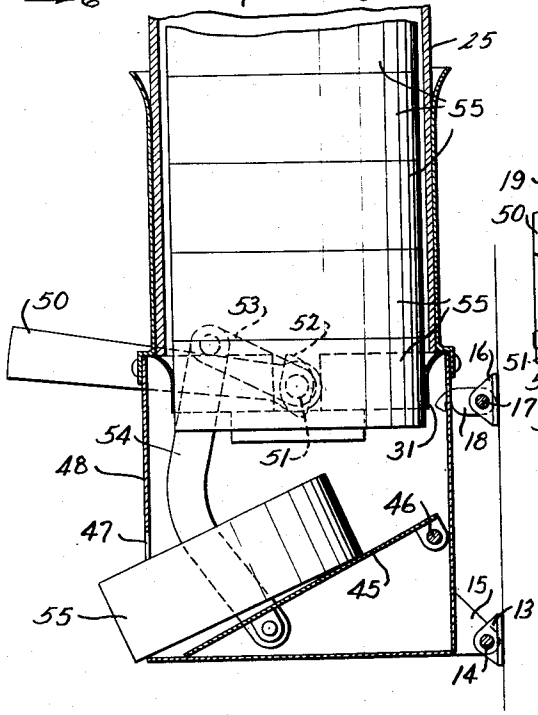


Fig. 7

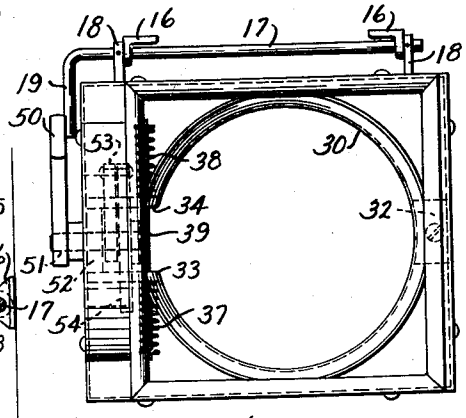


Fig. 8

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DISPENSER FOR CARTON CONTENTS

Robert T. Meyer, Green Bay, Wis.

Application September 21, 1949, Serial No. 116,917

3 Claims. (Cl. 221—298)

My invention relates to improvements in dispensers for carton contents.

The object of my invention is to provide a dispenser into which an entire carton filled with dispensable items may be fitted and from which single items out of the carton may be dispensed.

Another object of my invention is to provide a dispenser which may be adjusted from its normal dispensing position to a carton receiving position when refill is necessary.

A further object of my invention is to provide means in a dispenser for individual items to be fed from a hopper, whereby the hopper contents are held in the hopper while an individual item is being dispensed.

Further objects will be apparent from the following description.

In the drawings:

Figure 1 is a perspective of my dispenser with a carton in position for a dispensing operation.

Figure 2 is a view similar to Figure 1, but showing a dispensing lever in dispensing position and with an individual item partially ejected from the dispenser.

Figure 3 is a perspective of my dispenser apparatus in position for a carton receiving operation, portions of my dispenser being shown fragmentarily.

Figure 4 is a detail in horizontal section, showing my contractile retainer for carton contents and showing a portion of the actuator therefor.

Figure 5 is a front elevation of my dispenser, certain of the operating elements being shown in dotted lines.

Figure 6 is a section on line 6—6 of Figure 5.

Figure 7 is a section on line 7—7 of Figure 5, but showing a carton of individual items in position in the dispenser, the operating mechanism with its handle being in dispensing position.

Figure 8 is a plan view of my dispenser.

Like parts are designated by the same reference characters throughout the several views.

In the following description I shall exemplify the use of my invention with a rectangular carton of rolled, gummed tape items, but it will be understood that my dispenser may be shaped to receive cartons of different dimensions and used to dispense items from such cartons which have different physical characteristics.

In factories and other places where packaging operations require immediately accessible quantities of gummed tape, the rolls of tape must be held in "storage," shielded from dust and dirt but readily dispensible immediately adjacent the place where the gummed tape is to be used. I, therefore, provide my gummed tape dispenser **10** as a wall or table mounted apparatus. The lower boxlike dispensing chamber **11** and the upper hopperlike carton receiver **12** are mounted by means of a hinge and latch apparatus, shown most clearly in Figure 3. Apertured ears **13** extending rearwardly from the dispenser **10** receive a pintle **14** carried by a pair of brackets **15** mountable upon a wall. Spaced above the brackets **15** and likewise mounted upon the wall are brackets **16** to carry a cranklike pintle **17** upon which are rigidly mounted latches **18** so that as the crank end **19** of the pintle **17** is oscillated, the latches **18** oscillate with it. Thus, when the dispenser is hingedly swung upon pintle **14** to the position shown in Figure 6, crank **19** may be oscillated so as to present latches **18** in position to be received in latch openings **20** in the rear face of dispenser. The latches will then hold the dispenser **10** in erect position somewhat spaced from the wall, as shown in Figure 6. If it is desired that the dispenser

remain in an upright position, and that the receiver **12** shall be the only part of my device which shall swing for the loading operation, the receiver may be hingedly mounted on the dispenser.

Carton receiving hopper **12**, shaped to receive a carton **25**, as shown in Figures 1, 2 and 7 may be hingedly disposed in the position shown in Figure 3, so that the carton, previously opened by the removal of the top or bottom of the carton may be inserted with facility, even though the items in the carton are readily displaceable. The carton having been slidably inserted in the carton receiving hopper **12**, the dispenser may be swung to the position shown in Figure 7.

Within the dispensing chamber **11** and at the upper part thereof to receive the weight of the items tending to descend by gravity from carton **25**, I provide a contractile item support **30** shown most clearly in Figures 4, 6 and 8 where it will be seen that this item support **30** is a clamplike band **31**, weight supported by bracket **32** which leaves the contractile band **31** free to open and close for release or retension of the items. Free margins **33** and **34** of the contractile band **31** are provided with cam brackets **35** and **36** respectively, and these brackets with their respective band ends are urged in contracting direction by springs **37** and **38**, guided by rods **39**.

Below the item support **30** in the dispensing chamber **11**, a dispensing tray **45** is pivoted at the back of the chamber at **46** so that it may swing from a horizontal position, as shown in Figure 6 to a position on an incline, as in Figure 7, to dispense an item through dispensing opening **47** in the forward wall **48** of the dispensing chamber.

A mechanism under the control of an operating handle **50** accomplishes a complete dispensing operation. Rock shaft **51** is keyed to this handle and provides the axis about which the handle swings to the various positions shown in the drawings. The inner end of rock shaft **51** is provided with a band opening cam **52** disposed between the cam brackets **35** and **36**. Tray arm **53** keyed to the rock shaft **51** is connected by tray link **54** with the tray **45**, as shown in Figures 6 and 7. Since cam **52** has two lobes it will be seen that the single motion of lever **50** from the position shown in Figure 6 to the position shown in Figure 7 will permit the springs **37** and **38** to close the item support **30** and at the same time will hingedly lower tray **45** to a position shown in Figure 7. The return of the lever to the Figure 6 position will raise the tray to horizontal position and will spread the item support **30** to its open position.

The operation of my dispenser is therefore as follows: Assuming that the apparatus is disposed as shown in Figure 3, the user of my dispenser will cut the end from a carton **25** and thrust the open end of the carton into the carton receiving hopper **12**. Using the carton as a lever, the entire apparatus may be swung about pintle **14** to the position shown in Figure 6 and the lever end **19** of pintle may be used to position latches **18** in alignment with latch apertures **20** to perform a latching operation in the final movement of the apparatus to its upper position.

As the items **55** in the carton **25** descend by gravity, they are retained by the tray **45** in readiness for a dispensing operation. When the operator swings handle **50** to the position shown in Figure 2, the lobes of cam **52** will cease to bear against the cam brackets **35** and **36** and the contractile item support **30** will clampingly hold the particular item **55** which is positioned within it. At the same time the item immediately supported by tray **45** is permitted slidably to be dispensed as shown in Figures 2 and 7. Upon return of handle **50** to the position shown in Figure 1, tray **45** is again returned to horizontal position and the contractile item support **30** is opened to permit the next item **55** and the items thereabove to descend upon the tray **45**.

Thus, items **55** are stored conveniently at the location where they will be needed and they will be safely housed against accumulation of dust and dirt. The dispensing mechanism is reduced to a minimum of size and bulk since the carton supplies the housing necessary. Refill of the dispenser is a conveniently handled operation, since the dispenser is readily adjusted to a position in which the contents of the hopper will not spill while a new carton and its load of units is being inserted.

I claim:

1. A dispenser comprising a storage compartment, a dispenser chamber beneath the storage compartment and having a dispenser opening through which a dispensed unit is accessible, a tray partitioning the storage compartment from the dispenser chamber, said tray comprising a floor on which the dispensible units in the storage compartment are normally supported, said tray having a mounting on which the tray may be lowered for registration of a dispensible unit thereon with the opening in the dispenser chamber, a contractile band above the level of the floor and adjacent the dispensible unit next above the dispensible unit resting on the floor, resilient means biasing said band toward contraction upon the uppermost of said units, cam means holding said band open against the bias of said resilient means to permit normal descent of dispensible units toward said tray, a lever for lowering the floor in a dispensing cycle, and a connection from said lever to said cam means to release the cam means to permit contraction of the band when the floor is lowered whereby said band supports all units above the lowermost unit while the lowermost unit is lowered on said floor to a position when it is dispensible through said opening and until the floor is returned to support position between the storage compartment and dispenser chamber.

2. The device of claim 1 in which the contractile band has free ends, a mounting on a wall of said storage chamber connected to said band intermediate said free ends and springs comprising said resilient means and normally urging said free ends toward each other.

3. The device of claim 2 wherein the connection from said lever to said cam means comprises a link between said cam means and said tray, the tray mounting comprising a pivot on a wall of the dispenser chamber opposite the dispenser opening whereby actuation of said cam means actuates the link to positively lower the tray about said pivot simultaneously with the contraction of the band.

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