Nov. 20, 1934. R. R. DE BUSSEY 1,981,783

DISPENSING AND DISTRIBUTING APPARATUS FOR PACKAGED AND THE LIKE GOODS

Filed March 22, 1933 3 Sheets-Sheet 1

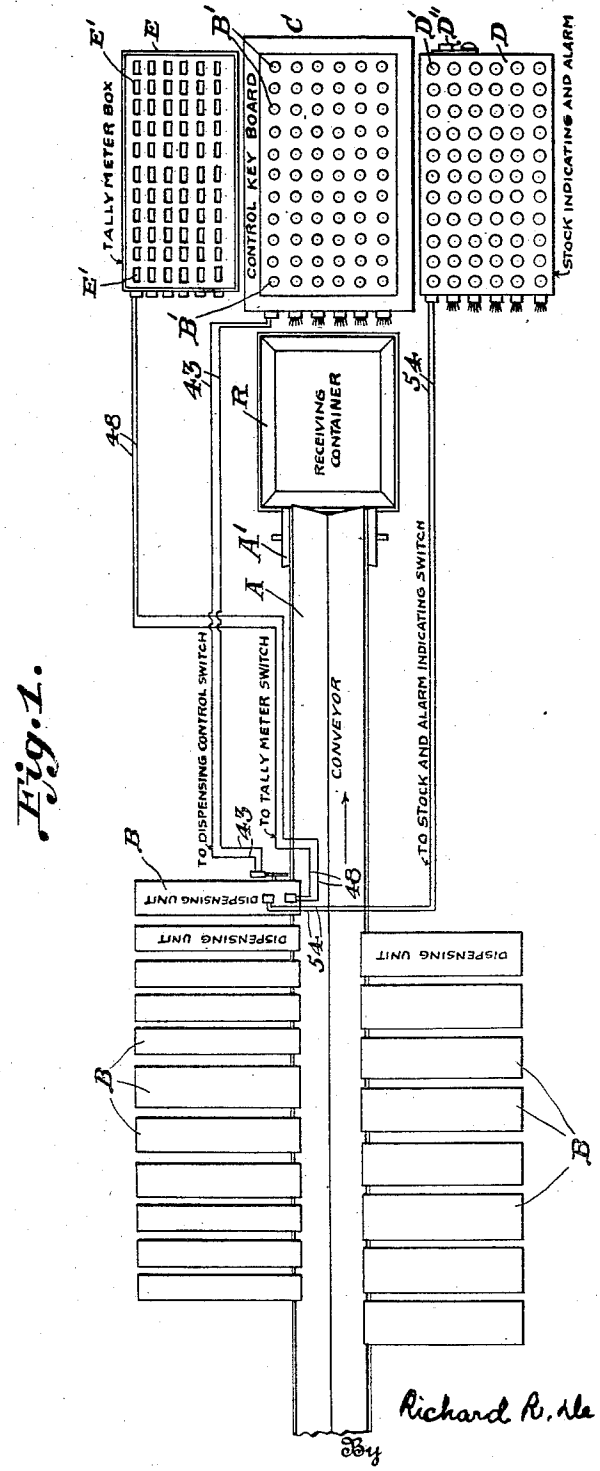


Fig. 1.

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DISPENSING AND DISTRIBUTING APPARATUS FOR PACKAGED AND THE LIKE GOODS

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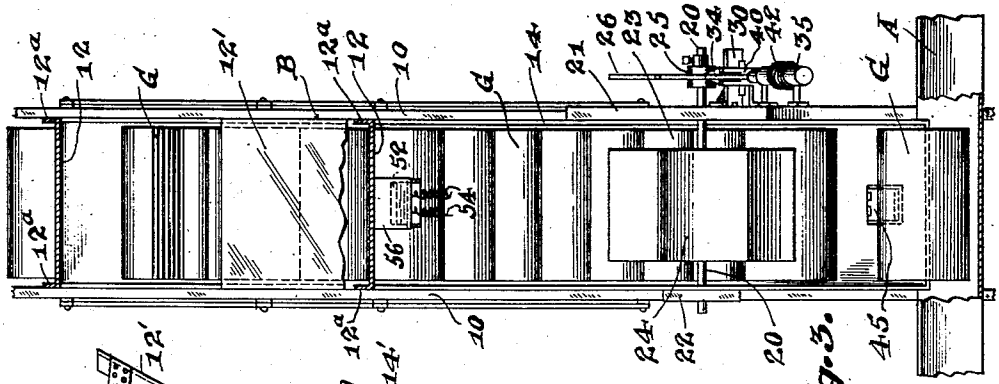


Fig. 3.

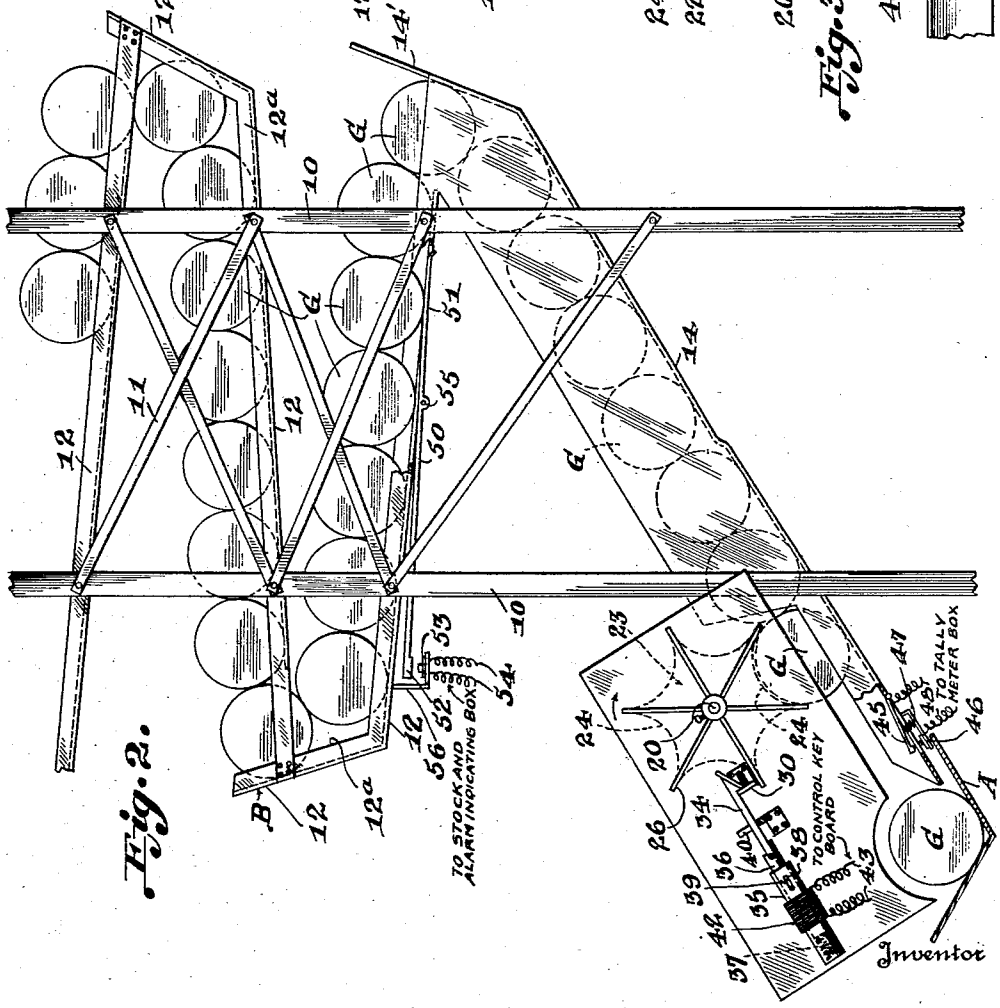


Fig. 2.

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DISPENSING AND DISTRIBUTING APPARATUS FOR PACKAGED AND THE LIKE GOODS

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Fig. 5.

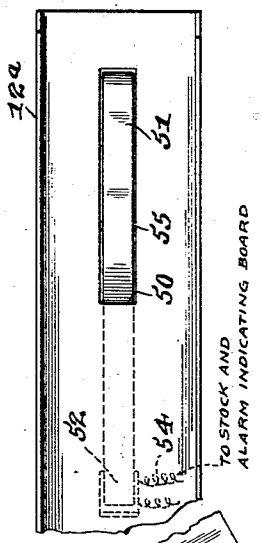


Fig. 6.

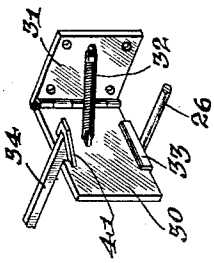


Fig. 7.

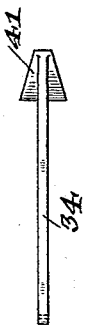
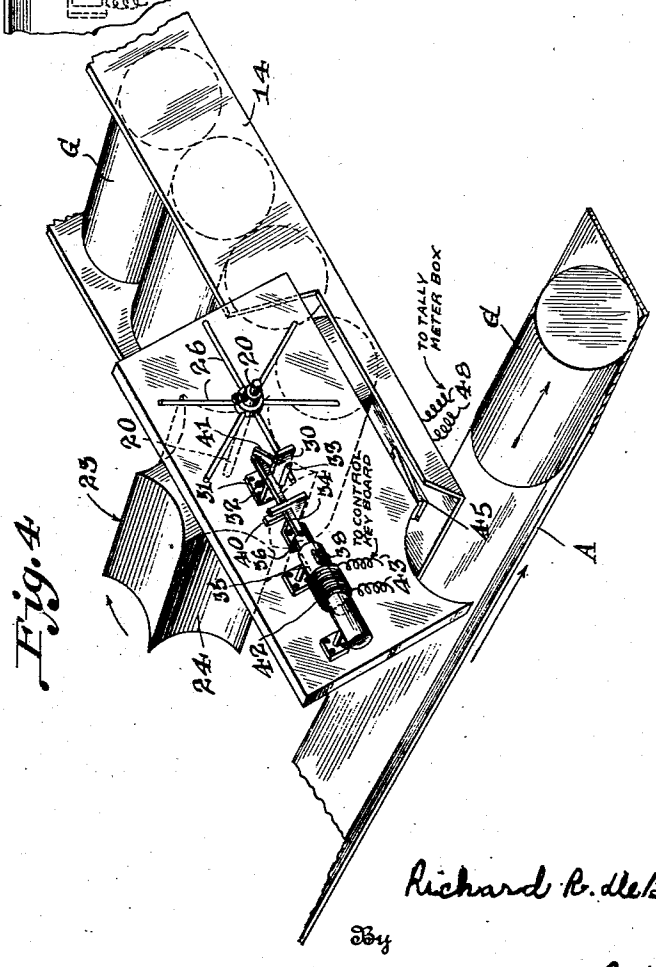


Fig. 4



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Patented Nov. 20, 1934 1,981,783

UNITED STATES PATENT OFFICE

1,981,783

DISPENSING AND DISTRIBUTING APPARATUS FOR PACKAGED AND THE LIKE GOODS

Richard R. De Bussey, Parkersburg, W. Va.

Application March 22, 1933, Serial No. 662,177

7 Claims. (Cl. 186—1)

This invention relates to certain improvements in dispensing and distributing apparatus for packaged and the like goods; and the nature and objects of the invention will be readily recognized and understood by those skilled in the arts to which it relates in the light of the following explanation and detailed description of the accompanying drawings illustrating what I at present believe to be the preferred embodiments or mechanical expressions of apparatus providing a dispensing and distributing system of my invention from among various other forms, arrangements, combinations and constructions of such apparatus of which the invention is capable within the spirit and scope thereof.

Fundamentally, the invention provides a dispensing and distributing apparatus forming a system by which packaged goods and the like can be stored and automatically, selectively dispensed and distributed to a remote point or points by a single operator positioned at a central operating location, preferably, although not necessarily, at a point of delivery or distribution of the packaged goods. The invention is particularly directed to the provision of such a dispensing and distributing apparatus which forms a system that is especially adapted to overcoming certain of the problems and difficulties encountered in retail stores, or other places where packaged goods must be stored, dispensed, and distributed. The invention is basically characterized by an apparatus and an arrangement thereof which includes a series of individual and selectively operated storing and dispensing units which are provided for receiving and storing the packaged goods and which units discharge a packaged article as desired and under the control and demand of the operator, upon a distributing apparatus or unit by which the article is conveyed to the desired point.

A main feature of the invention, therefore, is the provision of such an apparatus by which material savings in store space and in clerks necessary to handle and distribute the stock, are obtained, and, further, is to provide such apparatus of a readily flexible or adaptable character for mounting and installation to practically and efficiently meet the requirements and conditions of each particular store or other place of installation.

Another object and feature of the invention is the arrangement of such a dispensing and distributing apparatus and its operating and controlling means, so that a single operator can, from a central or other operating location, cause operation of the apparatus to selectively dispense and distribute to a desired remote point, any single article of a variety of packaged articles stored for distribution in the units making up the apparatus.

Another object and feature of the invention is to provide means in such a dispensing and distributing apparatus by which an accurate tally or counting of the number of packaged articles dispensed from the storage and dispensing units, is recorded at a central or convenient point, preferably, although not necessarily, at the operator location, so that the operator or others, can readily take inventory and be informed at any time as to the exact number of articles that have been dispensed and distributed.

Another object is to provide an arrangement in such an apparatus by which the operator is advised or signalled immediately when the stock or supply of the packaged goods in any particular dispensing unit of the apparatus, is low and requires replenishment, so that the operator can prevent exhaustion of the stock or supply of any of the packaged articles.

A further object and feature of the invention is to provide for the electrical control and operation individually and selectively by the operator, of the storage and dispensing units, and of the tallying or counting means, as well as the low stock signal; and also to provide mechanically and structurally simple mechanisms by which such electrical operation and control may be carried out efficiently and with a minimum possibility of stoppage or breakdown in the operation of the apparatus.

Another object and feature of the invention is to provide an arrangement and construction of the packaged article storing and dispensing units by which the packaged articles are fed to the dispensing point under gravity control, and by which there is further provided under the control of the operator, at his remote location, a feed mechanism that individually releases and dispenses the desired packaged articles, on the demand and at the call of the remote operator.

Another object of the invention is to eliminate by the storing and dispensing apparatus, the possibility of the articles remaining in stock too long so as to become shop worn or stale, through an arrangement and operation which insures that the oldest stock will be dispensed in advance of the newer stock.

With the foregoing general objects, features and results in view, as well as certain others that will be readily recognized from the following explanation, the invention consists in certain novel

features in construction and in combinations and relatively cooperative arrangements of the apparatus and mechanisms, and the several parts thereof, all as will be more fully and particularly referred to and specified hereinafter.

Referring to the accompanying drawings in which similar reference characters refer to corresponding parts throughout the several figures:

Fig. 1 is a view in top plan, more or less diagrammatically showing an arrangement and assembly of the dispensing and distributing apparatus and mechanisms making up the system of my invention, which is particularly adapted to dispensing and distributing canned goods in a store or the like.

Fig. 2 is a view in side elevation of one of the canned goods storing and dispensing units, together with the remotely controlled dispensing mechanism by which the cans can be individually dispensed or fed from the unit to the distributing mechanism.

Fig. 3 is a view in front elevation of the dispensing and storing unit of Fig. 2.

Fig. 4 is a perspective view of the lower or discharge end of the delivery chute or trough of a dispensing unit, with the operator controlled feed or discharge mechanism, and a portion of the conveyer belt of the distributing mechanism in cooperative relation therewith.

Fig. 5 is a view in top plan of a portion of one of the inclined storage racks, with the low stock indicating alarm switch and can operated lever thereof in operative mounted position thereon.

Fig. 6 is a detailed perspective view of the swinging spring controlled spoke holding member, together with the catch for swinging such member to spoke releasing position.

Fig. 7 is a detailed fragmentary view in top plan of the forward free end of the solenoid operated catch or latch.

I have selected and more or less diagrammatically illustrated in Fig. 1 of the drawings, a possible cooperative arrangement of dispensing and distributing mechanism to provide a system for dispensing and distributing packaged goods of the character of canned goods, that is particularly adapted as an installation for a store or other location where it may be desired to store and dispense and distribute as required and demanded, a variety of canned goods. It is to be clearly understood, of course, that the particular arrangement illustrated to provide the system of the invention, has been selected purely by way of an example for purposes of explaining the principles and features of the invention in order that those skilled in this art may readily comprehend the same. Obviously, various other arrangements of the dispensing and distributing units and of the associated control and stock indicating and tallying units can be provided or worked out within the scope of my invention, and it is not intended or desired to in all respects limit the physical and mechanical expressions of the invention to the particular arrangement of the illustrated example.

The dispensing and distributing system of the illustrated example may be considered as installed and arranged say, in a retail store, for dispensing a variety of canned or other packaged goods to a central point under the control and at the selective demand of an operator located at the central point for distribution.

For example, in the arrangement shown, there is provided a distributing mechanism or unit which includes an endless belt conveyer A or the like, mounted in the usual conventional or other desired manner over the rollers A', and which conveyer is driven continuously, if so desired, by a suitable source of power (not shown) in a usual or other desired manner as will be readily understood by those familiar with such conveyer arrangements.

This endless conveyer belt A has the upper ply or length thereof continuously moved by the rollers A' in the direction of the arrow in Fig. 1, and a suitable receiving container, receptacle or the like R, is mounted in position adjacent and across the discharge end of the conveyer belt in position to receive from the belt the cans carried thereby. Any of the suitable and well-known arrangements can be provided if desired for breaking the speed or fall of the cans as they are discharged from the conveyer into the receiving container R.

In accordance with the principles of the invention, a series of storage and dispensing units B, for storing and dispensing a variety of canned goods are arranged in position along opposite sides of the conveyer A, so as to discharge under the selective control of the operator, the desired canned goods onto the conveyer for transportation and distribution to the receiving container R located at a central point. These storage and dispensing units are preferably so arranged and are of a design to store and handle canned goods of various sizes and each is adapted to be supplied with canned goods of a certain kind or character.

This system is under the control of a single operator preferably although not necessarily located at the central point of distribution as defined and determined by the discharge end of the conveyer A and the receiving container R, and at this operator location there is provided a control keyboard C. This control keyboard C is provided with a series of keys or buttons B', each one of which controls the dispensing operation of one of the dispensing units B, so that at the central distributing location the operator can, by pressing one of the keys B' of the control board C that is operatively coupled to the dispensing unit in which are stored the particular kind of canned goods desired, cause such dispensing unit to deliver the desired can of goods to the conveyer A. Upon delivery of the desired can or cans to the conveyer A, it or they are then transported and discharged by the conveyer into the receiving container R. Thus, the operator from a central location can by proper manipulation of the various keys or buttons B' of the main control board, secure delivery to the receiving container R at the central point, of any desired can or cans of any required kind or character stored in the several dispensing units B.

The system of the invention includes an arrangement of mechanism for automatically indicating to the operator, preferably at the central location, the condition of the stock of canned goods in the various dispensing units B. This feature is carried out in the example hereof by a stock indicating and alarm annunciator or board D, which includes and mounts a series of signal lamps D' operatively connected with the dispensing units B, respectively, so as to visually indicate to the operator when the stock or supply of canned goods in any dispensing unit B falls below a certain predetermined number or quantity. These signal lamps D' have, of course, suitable identifying data thereon or on the board adjacent thereto

to indicate the particular dispensing unit with which they are connected.

While I happen to in this example use visual signals such as the electric lamps D', my invention is not so limited as it is intended, where found expedient, to substitute any suitable audible signal such as an electric bell. Similarly, other forms of sound or audible signals can be employed. Preferably, the stock indicating mechanism also includes where the visual signals D' are employed, an audible alarm in the form of an electric bell D'' which is so arranged and electrically connected into the circuits controlling the visual signal lamps that upon the closing of the circuit at any lamp, such bell D'' will ring to call the operator's attention to the indicating board and to the fact that the stock in a dispensing unit is low and should be replenished.

An arrangement of mechanism is also provided as a feature of, and cooperative element in this system, for recording or tallying the number of cans dispensed from each dispensing unit by the operator. This mechanism happens in the example hereof to take the form of a box or casing E within which are mounted a plurality of preferably electrically controlled and operated counters or meters E', each one of which is connected electrically to a particular dispensing unit B so that as each can leaves and is discharged from a dispensing unit onto the conveyer A, the meter E' connected with such dispensing unit will be operated to tally and record such can. This talley meter box E is preferably located and grouped at the central distributing location with the keyboard C and the stock indicating board D, although if desired, such meter box can be located at some other point convenient to inspection when taking inventory or checking up on the stock and the number of cans dispensed.

Each of the storage and dispensing units B, referring now to Figs. 2 and 3 of the drawings in particular, is designed and arranged for gravity rolling movement and discharge of the cans G stored therein, under the selective control of the operator from the control board C. For instance, such design and arrangement of a dispensing unit may include a main frame consisting of the spaced pairs of spaced vertical beams or posts 10, which are connected and inter-braced by any suitable trussing such as provided by the crossed braces 11 (see Fig. 2).

This inter-bracing 11, connects and forms opposite sides of the main frame, while a series of vertically spaced and slightly inclined can racks or trackways 12 are secured between, connect and space the pairs of inter-braced vertical posts 10, to form and complete the main frame and the storage space for receiving and holding the main supply of the cans G.

Each of the can receiving racks 12 projects at its opposite ends a distance beyond the vertical posts 10, and each is slightly inclined in the alternate or reverse direction to the direction of inclination of the adjacent racks next thereabove and therebelow, as will be clear by reference to Fig. 2 of the drawings. One end of each of these inclined storage and forwarding racks 12 provides the discharge end for the cans therefrom to the next adjacent oppositely inclined rack therebelow, while the opposite end of each rack forms the can receiving end adjacent, below and for receiving the cans from the discharge end of the can rack next thereabove. The receiving end of each can storage rack is provided with the upwardly extended and slightly outwardly inclined end wall 12' which extends a sufficient distance above and spaced outwardly from the discharge end of the rack next thereabove, so as to receive and guide the cans as they are discharged and roll by gravity from the rack thereabove into the rack therebelow. These alternately oppositely inclined can storage and feeding racks 12, and their receiving end walls 12' are each provided with the vertically disposed opposite side can guide walls 12a by which a trackway is formed to retain the cans in proper position as they roll by gravity downwardly from rack to rack.

A discharge or dispensing chute or trough 14 is positioned beneath the series of storage racks 12, and is inclined downwardly at a greater angle than the angle of inclination of the racks, this chute 14 having its upper or receiving end disposed below the discharge end of the lowermost rack 12 in position to receive cans G as they roll and are discharged by gravity from the lowermost rack 12. An upwardly and outwardly extended receiving end wall 14' is also provided at the upper or receiving end of chute 14 so as to guide the cans discharged from adjacent rack 12 into the trough 14 in proper position for gravity rolling downwardly therethrough.

A dispensing unit designed and arranged as described above is suitably positioned at one side of the conveyer A with the racks 12 and chute 14 disposed transversely with respect to the conveyer, and the lower or discharge end of the chute positioned over the conveyer and slightly spaced therefrom so that cans can roll by gravity from the lower discharge end of the chute onto the conveyer. Such position and arrangement of a dispensing unit B is clearly indicated in Figs. 2, 3 and 4, of the drawings, and the relative position of the series or plurality of dispensing units B in their relative positions along opposite sides of the conveyer A is diagrammatically indicated in Fig. 1. With this arrangement the supply of cans G is stored on the racks 12 and in the chute 14 with the cans positioned on their sides for gravity rolling from rack to rack onto the chute 14, and for gravity rolling discharge one by one from the chute 14 onto the conveyer A.

An independent mechanism is provided for each dispensing unit B which is under the control of the operator for delivery of the cans G from the chute 14, one by one onto the conveyer A, such mechanism being arranged to retain and hold the supply of cans in the storage racks and the chute against down gravity rolling movement until actuated by the operator to release a can for discharge. A possible form and arrangement of such a mechanism is disclosed herein in detail as applied and operatively mounted on one of the dispensing units B, such detail disclosure being made in Figs. 2, 3, 4, 6 and 7, of the drawings in connection with the dispensing unit B therein shown. As this operator controlled can releasing and dispensing mechanism is similar for each of the units B shown in Fig. 1, it will therefore be necessary to only describe it as applied to one of the units.

Referring now particularly to Figs. 2, 3 and 4, a shaft 20 is disposed transversely across and in position above the discharge end of the chute 14, and is supported and journaled in suitable bearings formed at one side by the panel or plate 21 and at the other side of the chute by support 22. The panel 21 and the support 22 are suitably secured and supported from the dispensing unit frame and the chute 14, or in any other desired manner. Fixed on the shaft 20, above the

chute 14 for successive engagement with the cans G as they are moved downwardly through the chute, is a can feed wheel 23, which is formed with a series of parallel and longitudinally disposed grooves or concave faces 24 thereacross and therearound. The feed wheel 23 is so positioned by the shaft 20 that one of the concave faces 24 always fits over and receives the lowermost can G in the chute 14, to thereby hold the lowermost can and the remaining cans in the chute and on racks 12, against downward movement under gravity action when the wheel 23 is held against rotation, as will be clear from Figs. 2 and 4 of the drawings. When free to rotate under the downward rolling action of the supply of cans in the chute 14, the wheel 23 will be rotated in the direction of the arrow in Fig. 2 to release the lowermost can and to bring the adjacent concave face 24 of the wheel into engagement over, receiving and holding the next can G in the chute against discharge. Thus, progressively, the wheel 23 is rotated by the downwardly moving cans in the chute and as it rotates, each can, as it moves downwardly, is received in a longitudinal groove or concave face 24 of the feed wheel, so that the cans are discharged one by one onto conveyer A.

The shaft 20 is extended outwardly beyond the panel 21 and is provided with a hub 25 suitably fixed thereon for rotation therewith, which hub carries a plurality of spokes or rods 26, that radiate therefrom at equally spaced distances therearound. There is provided one spoke or rod 26, for each concave face or longitudinal groove 24 on the feed wheel and these spokes or rods 26 are so positioned on the shaft with respect to the feed wheel as to lie in positions in planes passing through the meeting edges of the adjacent concave faces 24, respectively, as shown in Fig. 2, of the drawings.

The feed wheel 23, is releasably maintained against rotation in can holding position by a stop means which engages the spokes or rods 26 carried at the outer end of the shaft 20. This stop means is under the control of the operator and can be actuated to disengage a spoke to permit rotation of the feed wheel 23 under the gravity action of the cans G.

For instance, I have shown a swinging stop means 30, mounted on the panel 21, by a base 31, to which it is pivotally connected in position normally projecting outwardly from the panel transversely across the path of rotation of the spokes or rods 26 so as to be normally engaged by one of such spokes to hold the shaft 20 and feed wheel 23 against rotation. This stop member or arm 30 is pivotally mounted to its base 31 for swinging to position outwardly clear of the path of rotation of the spokes 26, to thereby permit rotation of the shaft 20, and the feed wheel 23. A contractile spring 32 (see Fig. 6) is secured between base 31 and the swinging stop member or arm 30 to normally maintain the member 30 in its outwardly swung spoke engaging and holding position. As the spokes 26 engage the underside of this swinging stop 30, I preferably provide a roller 33 freely rotatably journaled along the under edge of member 30 for rolling contact and engagement with the spoke members 26.

This swinging stop member or arm 30 is swung to spoke releasing and disengaging position by a suitable means under the control of the operator and which, in the example hereof, takes the form of an electrically controlled latch or catch member 34. A solenoid 35 is provided for actuating the catch or latch 34 and such solenoid is suitably mounted in position on panel 21 as shown in Figs. 2 and 4 of the drawings. The solenoid 35 includes the core member 36 slidably mounted therein and normally mounted in its outwardly projected position by the expansion spring 37 mounted within the solenoid casing at the inner end of the core 36. The core 36 is maintained for free longitudinal sliding movement, but is held against rotational movement in the solenoid by a pin 38 on the core slidably fitting in a longitudinal guide and stop slot 39 in the solenoid casing. The outer free end of the core 36 carries the catch or latch member 34 pivotally mounted thereon so that member 34 extends normally in longitudinal continuation of the core in a position with its free end hooked or caught over the upper side edge of the swinging stop member 30. A suitable supporting guide 40 is mounted on panel 21 intermediate the latch member 34 and supports this member in its position withdrawn from swinging member 30. As clearly illustrated in Figs. 6 and 7 of the drawings, the latch member 34 includes at its free end a head which provides the inclined under surface or face 41, for purposes appearing hereinafter.

The solenoid 35 includes the usual electrical winding or field 42 which is supplied with current and energized through the supply wires 43. By closing the circuit through wires 43, the solenoid is energized to draw core 36 inwardly against and compressing spring 37. Inward movement of the core 36 draws catch or latch 37 with it to swing the stop member outwardly from engagement by a spoke 26 to thereby release shaft 20 and feed wheel 23 for rotation. The arrangement of the latch member 34 and the swinging stop member 30 is such that the latch on inward movement by the solenoid is disengaged from the stop member 30 after the latter had been swung clear of spoke 26, by such upward moving released spoke which strikes against the head of the latch and knocks it free of member 30. By thus knocking latch 34 free of member 30, the return of the stop member is independent of the latch until the operator releases the solenoid plunger. Thereupon, spring 32 swings the stop member 30 back into normal position in time to engage the next spoke 26 to stop rotation of feed wheel 23 after release for discharge of the lowermost can in the chute 14. Upon deenergizing solenoid 35, the spring 37 projects the core 36 outwardly and moves the latch or catch forwardly into position again engaged over the swinging stop member. This is made possible by the pivotal mounting of the catch member 34 so that it can swing upwardly under the action of the inclined surface 41 of its head until it had been projected a sufficient distance to drop over and catch upon the member 30 in the normal outwardly projected position of core 36.

The electrical circuit for energizing and deenergizing the solenoid 35 is defined by the wires 43 at any given dispensing unit B, and connects such unit with one of the keys or buttons B' of the control board C. Any suitable or desired switch or other means for making and breaking the circuit through wires 43 is provided on the control board and actuated by the respective key or button B'. It is not considered necessary to disclose herein such a switch mechanism, which mechanism may be deemed to be conventional and included in the disclosure of each key or button B'. Similarly any suitable source of electrical current (not shown) is connected in

the usual manner for supplying current to the energizing circuits 43 for the respective dispensing units B.

A further feature of the invention is the provision in cooperative relation with the supply of cans in each dispensing unit B, of means for counting and recording at a remote point the number of cans dispensed or discharged from each unit. In carrying out this feature in the present example, I have provided at the discharge end of each chute 14, of a dispensing unit, an electrical switch or circuit maker and breaker which includes a pivoted switch arm 45 mounted in position on the chute 14 for engagement by each can G as it is released from the feed wheel and is discharged onto the conveyer A. A contact 46 mounted directly below the chute completes this switch, and the switch arm 45 that is normally maintained in upwardly swung position out of contact with member 46 by a spring 47, is forced into circuit closing contact with member 46 by the weight of a can passing thereover to swing such arm downwardly through an opening in the chute. Wires 48 are connected to the switch arm and member 46, respectively, and these wires, referring now to Fig. 1, extend to one of the tally meters E' mounted on the tally meter box E, the circuit defined by the wires 46 being supplied with electric current from any usual source and in the conventional manner, so that when the switch arm 45, engages contact member 46, the circuit is closed and the meter with which it is electrically connected is actuated to record the discharge of a can.

It will be understood of course that immediately a can has passed over switch arm 45, the circuit through wires 48 to the meter is broken by the upward swinging of the arm under the action of spring 47.

In order that the operator may be instantly advised when the supply of cans in any one of the dispensing units B becomes low, provision is made in each unit for automatically calling attention of the operator to the necessity for replenishing the stock in any unit. This may be accomplished, as in the example hereof, by providing each dispensing unit B with a can operated switch which controls a circuit to a visual and/or audible alarm or indicating signal on the board D (see Fig. 1). Referring to Figs. 2 and 5, such a switch may take the form of an elongated arm or lever 50 pivotally mounted intermediate its ends at the underside and longitudinally of one of the storage racks 12, say, the lowermost rack as shown in Fig. 2. A portion of the bottom wall of the rack 12 is cut away so that one end 51, of this arm is positioned extending therethrough for engagement by the cans in the rack to swing this end of the arm downwardly and raise the opposite contact closing end 52 from engagement with switch 53 to thereby open a circuit through the wires 54 which are coupled into such arm. The arm 50 may be pivoted on the pin or shaft 55 carried by the rack 12, while the switch 53 can be carried by a bracket or the like 56 depending from the rack 12 to properly position switch 53 with respect to contact end 52 of the arm 50. The wires 54 from the switch 53 of each dispensing unit B extend to one of the signals D' of the stock indicating board D and the circuit is suitably supplied with electric current so that when the supply of cans in a dispensing unit B has been depleted to such a number that no more cans remain on the lowermost rack 12, the contact end 52 of the swinging arm 50 will drop by gravity onto switch 53 and close the circuit through wires 54 to the respective alarm D' on the stock indicating board D, with which it is connected. In this way the operator is advised instantly when the supply of cans in any dispensing unit reaches a predetermined number. Preferably, as explained hereinbefore, an audibile signal D'' is connected into the various circuits 54 so that the closing of any one of them also causes the operation of such audible alarm.

With an installation such as diagrammatically disclosed in Fig. 1, the operator takes a position, for example, at the receiving container R and with the control board C conveniently at hand. If he desires a can from the innermost dispensing unit B at the right hand side of the conveyer when facing the units, he presses the key or switch button B' at the upper left-hand corner of the control board C, thereby closing the circuit through wires 43 to the solenoid 35 of the dispensing mechanism for that particular unit. Energizing of the solenoid swings the stop member 30 clear of the spoke 26 with which it is engaged and the weight of the cans thereagainst causes rotation of the feed wheel so that the lowermost can rolls onto the conveyer and is carried and discharged into the receiving container R. The pivotal latch 34 is drawn clear of swinging member 30 in sufficient time for spring 32 to return this member to normal spoke engaging position so that the next succeeding spoke 26 will strike and engage thereagainst and the shaft 20 with feed wheel 23 will be held against further rotation in position with one of its concave faces 24 receiving and holding the next succeeding can. The formation of the feed wheel 23 is such that the dividing wall between adjacent faces 24 will be interposed between the lowermost discharging can and the next can so as to prevent discharge of more than one at a time for each rotation of the feed wheel a distance between adjacent spokes 26.

As each can is discharged, from this particular dispensing unit B, the tally meter E' will be actuated, through closing of the circuit 46, to record and tally such discharge, so that at any time by reference to the meter with which any unit B is in circuit, it is possible to determine the number of cans that have been dispensed from such unit.

In the foregoing manner, and by the system of the invention arranged as typified by Fig. 1, a single operator is thus able to dispense and distribute to a single point for delivery any number of any variety or characters of canned or other types of packaged goods. At the same time, and through the arrangements of mechanism hereinbefore described, the operator at the central and remote point is instantly advised when the supply of the goods being dispensed from any particular dispensing unit B, reaches a point sufficiently low in number to require replenishment, through the medium of the stock indicating board D. Similarly, either at the central operator point or at some other point, a constant record is maintained of the number of cans or other packages dispensed and distributed from each unit B, by the meter E' in the tally meter box E.

While a single conveyer is disclosed in the present example, the invention contemplates to meet the requirements of any particular installation, by any other desired conveyer arrangement

which may include a plurality of conveyers forming groups of dispensing units, to a centralized delivery point or points. Where the exigencies of installation require it, the invention includes the location of the dispensing units above or below the distribution or delivery points for the goods, and the use of vertical conveyers for lowering or raising the goods, as the case may be, from the dispensing units to the centralized point or points of distribution and delivery.

Similarly, it is within the contemplation of the invention to substitute for the type of conveyer here shown, a gravity distributing chute or chutes, as the broad legal equivalent.

It is also evident that various other arrangements, combinations, variations, modifications, and constructions might be resorted to without departing from the spirit and scope of my invention, and hence I do not wish to limit myself in all respects to the exact and specific arrangements of mechanisms and elements or their construction as disclosed herein.

What I claim is:

1. A canned goods storage and dispensing unit including an inclined discharge chute for gavity rolling of cans therethrough and successive discharge therefrom, a freely rotatable can holding and releasing feed wheel at the discharge end of the chute for engaging successively the lowermost can in the chute as the wheel is rotated under the gravity rolling action of the cans discharging successively therepast, a member rotated by rotation of said feed wheel and including radially disposed arms therearound, one for each position of the feed wheel engaged over a can, a stop member yieldably maintained in normal position engaging one of the arms of said member to maintain the feed wheel against rotation and hold the cans against discharge, and operator controlled mechanism for tripping said stop member to disengage one of said arms to release the feed wheel for a partial revolution to free the lowermost can for discharge, said stop member after tripping instantly released by contact of said tripping mechanism with an arm of said member to move independently of said operator controlled mechanism, to position to engage the next arm and stop rotation of the wheel holding the succeeding can in position for discharge.

2. In a canned goods storing and dispensing unit including an inclined discharge chute for gravity rolling of cans therethrough and successive discharge therefrom, a freely rotatable can holding and releasing wheel at the discharge end of the chute for engaging successively the lowermost can in the chute as the wheel is rotated under the gravity action of the cans rolling successively therepast, a member including radially disposed arms extending therefrom and spaced therearound, said member operatively coupled with and rotated by rotation of said feed wheel, there being one of said arms for each position of the feed wheel when engaged over a can, a swinging stop member in normal position engaged by one of the arms of said member to maintain the feed wheel against rotation and hold the cans against discharge, said swinging stop member being yieldably mounted in its normal position for engagement by an arm of said member, a solenoid having a core normally projected therefrom with the solenoid de-energized, a latch member pivotally mounted on the outer free end of said solenoid core and normally engaged over said swinging stop member, and an operator controlled electric circuit for energizing said solenoid to move said core and latch to swing said stop member from engagement with an arm of said member for rotation of said feed wheel and discharge of a can, the said latch member, when actuated by the solenoid, releasing the stop member for swinging to normal position to engage the next successive arm of said member to stop the feed wheel in position engaged over and holding the succeeding can from discharge.

3. In a canned goods storage and dispensing unit, means for the successive discharge of cans therefrom, including a freely rotatable can holding and releasing feed wheel for engaging successively each can for discharge from the unit, a member rotated by rotation of said feed wheel and including radially disposed arms therearound, one for each position of the feed wheel engaged over a can, a stop member yieldably maintained in normal position engaging one of the arms of said member to maintain the feed wheel against rotation and hold the cans against discharge, and means for tripping said stop member to disengage one of said arms including a solenoid having a core normally projected therefrom with the solenoid de-energized, a latch member pivotally mounted on the outer free end of said solenoid core and normally engaged over said swinging stop member and said latch having means thereon for contact against an arm of said member upon energizing the solenoid to cause the latch to swing the stop to arm disengaging position, whereby on rotation of said member the latch is swung to position disengaging the stop for return of said stop member to normal arm engaging position.

4. In a canned goods storage and dispensing unit, means for the successive discharge of cans therefrom, including a freely rotatable can holding and releasing feed wheel for engaging successively each can for discharge from the unit, a member rotated by rotation of said feed wheel and including radially disposed arms therearound, one for each position of the feed wheel engaged over a can, a stop member yieldably maintained in normal position engaging one of the arms of said member to maintain the feed wheel against rotation and hold the cans against discharge, and means for tripping said stop member to disengage one of said arms including a solenoid having a core normally projected therefrom with the solenoid de-energized, a latch member pivotally mounted on the outer free end of said solenoid core and normally engaged over said swinging stop member, whereby upon energizing said solenoid the latch member swings said stop member to arm disengaging position and means on said latch for contact by an arm of said member upon rotation thereof to swing the latch on its pivot to stop member releasing position for swinging to normal arm engaging position for stopping rotation of said feed wheel.

5. In a canned goods storage and dispensing unit, means for the successive discharge of cans therefrom, including a freely rotatable can holding and releasing feed wheel for engaging successively each can for discharge from the unit, a member rotated by rotation of said feed wheel and including radially disposed arms therearound, one for each position of the feed wheel engaged over a can, a stop member yieldably maintained in normal position engaging one of the arms of said member to maintain the feed wheel against rotation and hold the cans against

discharge, and means for tripping said stop member to disengage one of said arms including a solenoid having a core normally projected therefrom with the solenoid de-energized, a latch member pivotally mounted on the outer free end of said solenoid core and normally engaged over said swinging stop member, and said stop swung to arm disengaging position by said latch, when said solenoid is energized, for partial rotation of the feed wheel and means for releasing said stop for swinging to normal arm engaging position for stopping rotation of the feed wheel, including a head on the outer free end of said latch provided with a surface for contact by an arm of said member upon rotation thereof whereby said latch is moved on its pivot releasing said stop member to swing to normal arm engaging position.

6. In a canned goods storage and dispensing unit, means for the successive discharge of cans therefrom, including a freely rotatable can holding and releasing feed wheel for engaging successively each can for discharge from the unit, a stop member normally holding said feed wheel against rotation, a solenoid operatively associated with said stop member for moving the same to feed wheel releasing position when energized, and means on said stop member operating means for contact with said feed wheel whereby said stop member will return to normal feed wheel engaging and can holding position independent of the operation of said solenoid.

7. In a canned goods storage and dispensing unit, means for the successive discharge of cans therefrom, including a freely rotatable can holding and releasing feed wheel for engaging successively each can for discharge from the unit, a member rotated by rotation of said feed wheel and including radially disposed arms thereabout, one for each position of the feed wheel engaged over a can, a stop member yieldably maintained in normal position engaging one of the arms of said member to maintain the feed wheel against rotation and hold the cans against discharge and operator controlled mechanism for tripping said stop member to disengage one of said arms to release the feed wheel for a partial revolution to free a can for discharge, and means on said tripping mechanism for contact with said disengaged arm whereby said stop member will return to normal arm engaging and can holding position independent of said operator controlled stop member tripping means.

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