

Aug. 23, 1938.

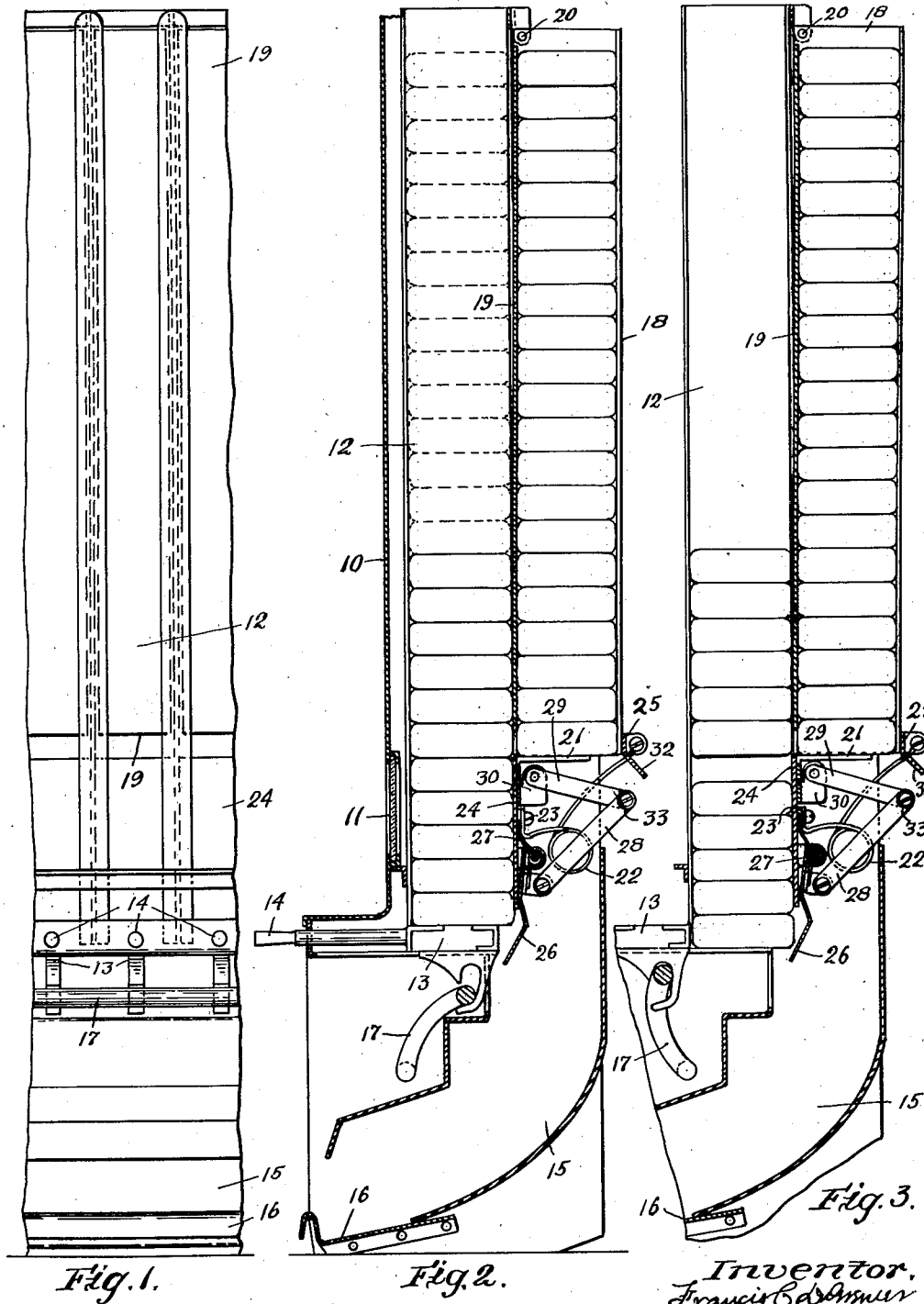
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2,128,181

DISPENSING MACHINE

Filed Dec. 1, 1937

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

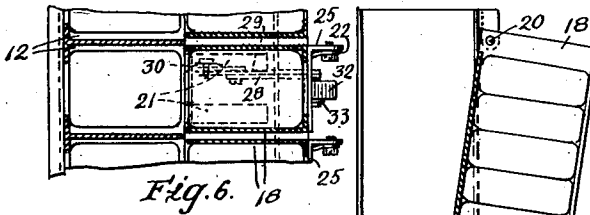


Fig. 6.

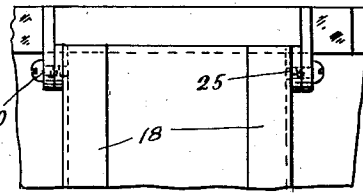


Fig. 7

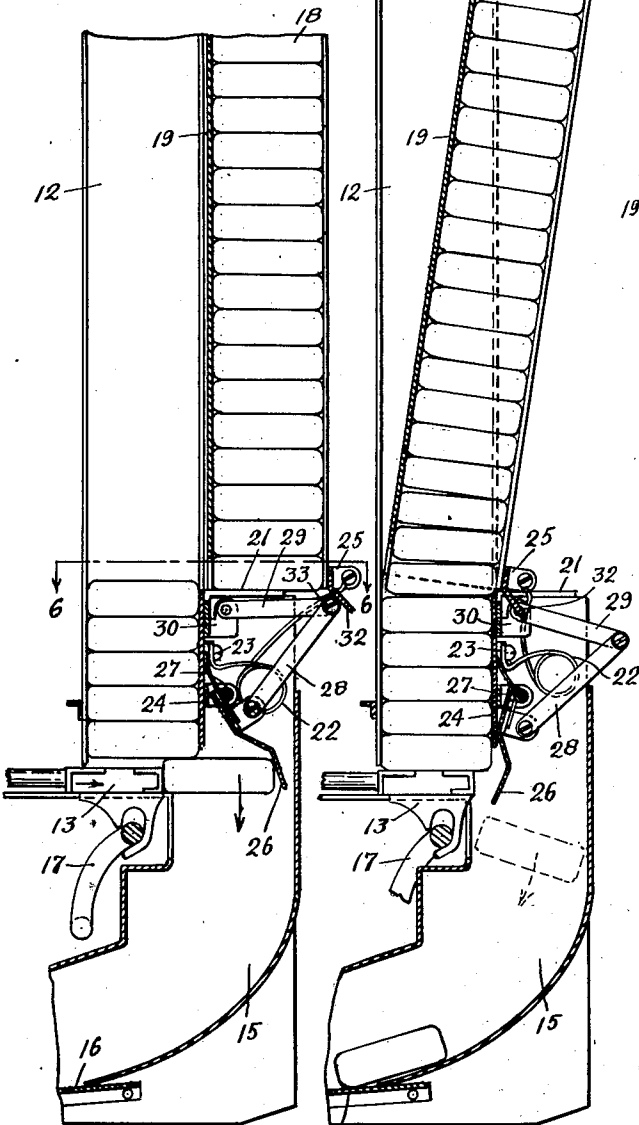


Fig. 4.

Fig. 5.

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UNITED STATES PATENT OFFICE

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DISPENSING MACHINE

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4 Claims. (Cl. 312-67)

This invention relates to that type of dispensing machines which are primarily designed to vend packages of uniform size as, for example, packages of cigarettes.

5 The type of machine for vending cigarettes now most generally employed comprise a series of vertically disposed compartments in which different brands of cigarettes are stacked and from which the bottom package of the stack of packages
10 therein is dispensed by a coin released ejector.

As such machines must be serviced from time to time to replace fresh packages for those which have been dispensed, it is desirable to have the capacity of these machines as great as possible for the size of the machine. Moreover the sales of
15 certain brands of cigarettes often greatly exceed the sales of other brands, so that, as all the compartments are usually of equal capacity, the supply in some compartments becomes exhausted
20 before it is exhausted in others. This difficulty has been avoided by employing two compartments for the best sellers, but this involves either an increase in the width of the machine or in a reduction in the number of different brands which
25 are vended.

An increase in size results in an increase in cost and is objectionable on account of the increased space occupied and it is desirable to have a machine vend as many of the popular brands as
30 possible.

The object of my invention is to provide a dispensing machine of the above described type, in which the capacity of some or all of the compartments may be substantially increased, or nearly
35 doubled without in any degree increasing the size of the cabinet in which the dispensing mechanism is enclosed and without increasing the manufacturing cost to the extent to which it would be increased by adding a sufficient number of compartments to increase the capacity to a corresponding extent.

I accomplish this object by providing a fixed, vertically disposed compartment adapted to contain a stack of packages, from the bottom of which
45 packages are dispensed in the usual manner and by providing in the rear thereof a supplemental compartment, also adapted to contain a stack of packages, which are normally sustained therein by a fixed support in the rear of the front compartment, said supplemental compartment being
50 pivotally supported at its upper end and being arranged to swing automatically into register, at its lower end, with the front compartment, when the packages in the latter have nearly all been

dispensed, so that the packages in the supplemental compartment may then be dispensed.

For a more complete disclosure of my invention, reference is now made to the following specification in connection with the accompanying
5 drawings in which:

Fig. 1 is a front elevation of a portion of a machine, embodying my invention.

Figs. 2, 3, 4 and 5 are sectional views of a package containing compartment showing certain
10 parts in different positions.

Fig. 6 is a sectional view at line 6-6 of Fig. 4.

Fig. 7 is a rear side elevation of the compartment.

While in practice machines of this type usually
15 are provided with from 4 to 8 packages containing compartments, as my invention may be illustrated in connection with a single compartment, only one of them is completely shown.

The machine is provided with an enclosing casing 10 having a window 11 arranged to permit
20 inspection of the packages in the lower portion of the vertically disposed package containing compartment 12 and an ejector 13 is provided at the bottom of the compartment having a handle 14,
25 the arrangement being such that, when the latter is released, the handle may be pulled out so as to withdraw the ejector 13 from the normal position beneath the stack, shown in Fig. 2, to permit the packages therein to move down by gravity, so
30 that the bottom package will fall in front of the ejector, as shown in Fig. 3. The handle will then be pushed inward, so that the bottom package will be pushed rearward and delivered into the package delivering passage 15, as shown in Fig. 4,
35 and will slide down onto the tray 16 where it may be secured by the purchaser, as shown in Fig. 5.

A locking arm 17, engages the ejector, which when released by mechanism not shown, permits
40 the above described operation.

According to my invention, I provide a supplemental compartment 18, the front wall 19 of which normally constitutes the corresponding portion of the rear wall of the front compartment 12, and said compartment 18 is mounted on a
45 pivot 20 at the upper end of wall 19 to swing forwardly, from the vertical position of Figs. 2 and 3, into the front compartment, as shown in Fig. 5, in which latter position it is slightly inclined from the vertical and has its lower end in
50 register with the lower portion of the front compartment, so that packages which have been stacked in the rear or supplemental compartment will be delivered to the lower portion of the front compartment.

A horizontally disposed supporting shelf 21 extends rearwardly from the top end of a fixed partition 24, which forms the lower portion of the rear wall of the front compartment, and said shelf acts to support the packages in the rear compartment when the latter is in its normal position shown in Figs. 2, 3 and 4.

A spring arm 22 is secured at 23 to one end to the fixed partition 24, and the opposite end of said arm is connected to an abutting plate 25, which is arranged to engage the rear wall of the rear compartment 18, said arm being so tensioned that it will act, when released, to swing compartment 18 forwardly to the position of Fig. 5. When, however, the front compartment contains a sufficient number of packages to support a package opposite the lower end of the front wall 19, the latter will be pressed against the package, which will hold the rear compartment in its vertical position, as shown in Figs. 2, 3 and 4.

As thus arranged, the downward feeding of the packages in the front compartment will be prevented, as illustrated in Fig. 3, and means are provided to release the pressure on the package temporarily, so that downward feeding therein will be permitted. Said means comprises a plate 26, which is mounted on a pivot 27 secured on the partition 24 and which extends opposite the passage in partition 24, thru which the package is forced as it is discharged into the delivery passage 15. A link 28 is pivotally connected at one end to plate 26, and at its opposite end to one end of link 29, the latter being pivoted at its opposite end to a bracket 30 on partition 24. A finger 32 extends obliquely downward from the plate 25 and is so arranged that when plate 26 is swung rearward by the package when discharged, as shown in Fig. 4, a roller 33 on the pivot of the joint between links 28 and 29 will be moved upward into engagement with finger 32 and, as a result, the plate 25 will be pushed away from the rear wall of the compartment 18, so that the lower end of front wall 19 will not be pressed against the package, thereby permitting the package which was engaged, and the packages above it, to move down by gravity for a distance equal to the thickness of the package which was ejected, as shown in Fig. 4.

As thus arranged the packages in the front compartment will be successively delivered until the topmost package moves down below the level of the lower end of the front side 19, and, when this occurs, there will not be any package in position to resist the action of spring arm 22, which will then act to swing the rear compartment forwardly into register with the lower portion of the front compartment, as shown in Fig. 5, so that, when the ejector is operated, packages will be fed from the rear compartment until all the packages therein have been delivered.

It will thus be apparent that nearly twice as many packages may be delivered by one package ejector, without servicing, as may be delivered by the ejector of a front compartment of equal height which is not provided with the supplemental compartment.

When arranged as above described, the supplemental compartment merely occupies space above space which is necessarily provided for the ejection of the package, so that the depth of the casing from front to rear does not need to be increased. That is, the supplemental compartment merely occupies space which would otherwise be waste space. Also, as thus arranged, the appearance at the front of the machine is not

changed, as the packages which may be seen thru the window 11 appear the same whether they are delivered from the front, or the rear compartment. The increased cost of adding a rear compartment is less than the cost of providing an additional front compartment and in practice the supplemental compartments are only provided for the compartments in which the best sellers are to be placed.

I claim:

1. In a dispensing machine having a vertically disposed fixed main compartment adapted to contain a stack of packages and a reciprocally movable ejector arranged when moved inwardly to deliver the packages successively from the bottom of the stack in the rear thereof, a supplemental package receiving compartment open at its lower end and arranged in the rear of said main compartment, a fixed support beneath said supplemental compartment for normally sustaining the packages therein, supporting means for said supplemental compartment permitting forward movement thereof into position to discharge the packages therein into the lower portion of said main compartment, means normally acting to move said supplemental compartment into said discharging position and normally restrained by the packages in the main compartment, and means arranged to be actuated by the ejector as it delivers a package from the bottom of the main compartment to move said supplemental compartment rearwardly sufficiently to disengage it from the packages in the main compartment and permit the packages therein to move downward.

2. In a dispensing machine having a vertically disposed fixed main compartment adapted to contain a stack of packages and a reciprocally movable ejector arranged when moved rearwardly to deliver the packages successively from the bottom of the stack in the rear thereof, a supplemental package receiving compartment open at its lower end and arranged in the rear of said main compartment, a fixed support beneath said supplemental compartment for normally sustaining the packages therein, supporting means for said supplemental compartment permitting forward movement thereof into position to discharge the packages therein into the lower portion of said main compartment, a spring normally acting to press said supplemental compartment forward and to hold a portion thereof against a package in the main compartment, whereby said supplemental compartment is held in its normal position, and means arranged to be actuated by said ejector when delivering a package to move said supplemental compartment rearwardly to permit the package engaged thereby to move downward.

3. In a dispensing machine having a vertically disposed fixed main compartment adapted to contain a stack of packages and a reciprocally movable ejector arranged when moved rearwardly to deliver the packages separately from the bottom of the stack in the rear thereof, a supplemental compartment disposed in the rear of said main compartment open at its lower end, and having its front wall forming a portion of the rear wall thereof, a fixed support beneath said supplemental compartment for normally sustaining the packages therein, said supplemental compartment being arranged to move into said main compartment to a position in which its lower end portion is in register with the lower portion of the main compartment and means normally acting to move said supplemental compartment

forwardly into said position, and to engage said front wall with a package in the main compartment, whereby said supplemental compartment is normally held in a retracted position and is permitted to be moved forwardly into said position within the main compartment when the topmost package therein moves below the lower end of said front wall, and means arranged to be actuated by the package as it is being delivered by the ejector to move said supplemental compartment rearwardly temporarily to permit a package with which it is engaged to move downward.

4. In a dispensing machine having a vertically disposed main compartment adapted to contain a stack of packages and a reciprocally movable ejector arranged, when moved rearwardly to deliver the packages separately from the bottom of the stack in the rear thereof, a supplemental compartment having its front wall forming the rear wall of said main compartment and open at its lower end, a pivotal support for said sup-

plemental compartment located at the upper end of said front wall and arranged to permit the supplemental compartment to swing into the main compartment to a position in which its lower end coincides with the lower end portion thereof, a support in the rear of the main compartment arranged to sustain the packages in the supplemental compartment when in its retracted position, a spring normally acting to swing said supplemental compartment into said position within the main compartment, whereby a package in the main compartment when sustained above the lower end of said front wall will hold the supplemental chamber in its retracted position, and means arranged to be actuated by each package as it is delivered by the ejector to move said supplemental compartment rearwardly temporarily to permit the package with which it is engaged to move downward.

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