

Feb. 12, 1952

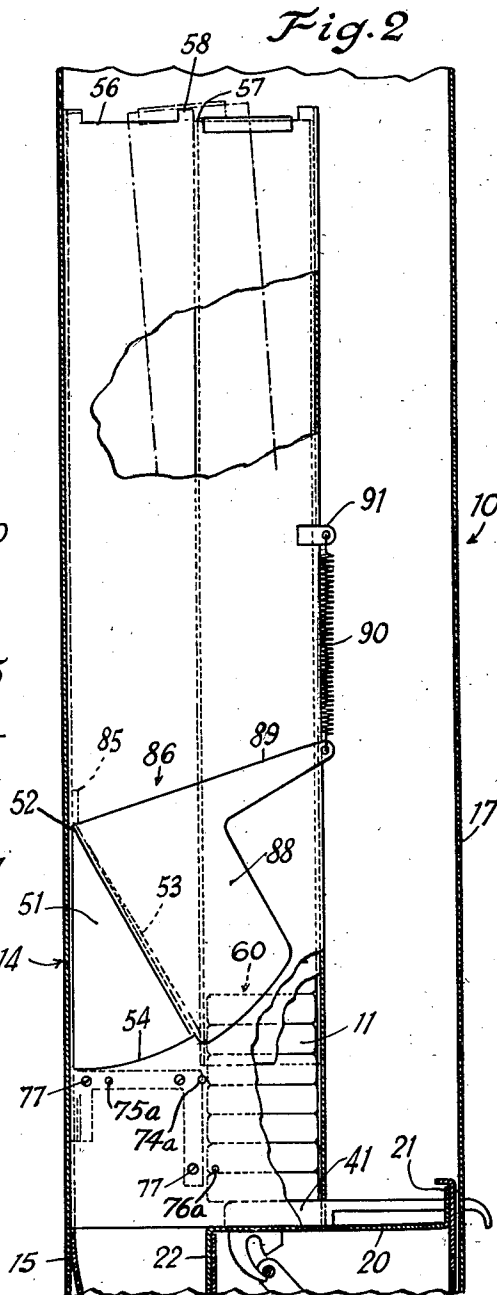
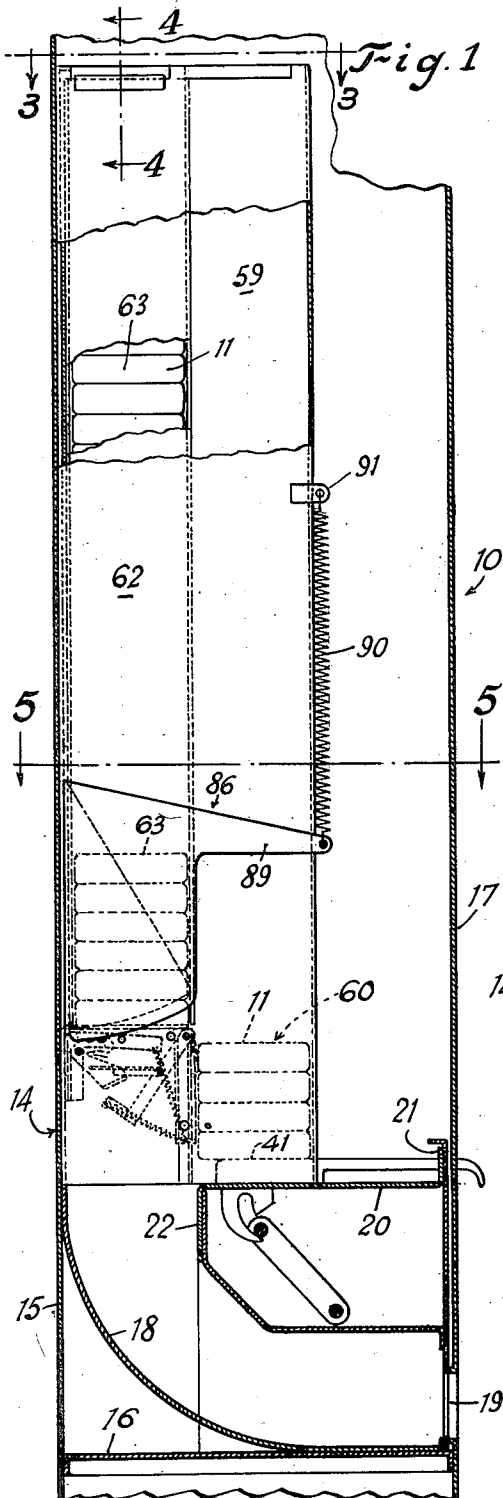
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MAGAZINE STRUCTURE FOR DISPENSING DEVICES

Filed May 16, 1946

6 Sheets-Sheet 1



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MAGAZINE STRUCTURE FOR DISPENSING DEVICES

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Fig. 3

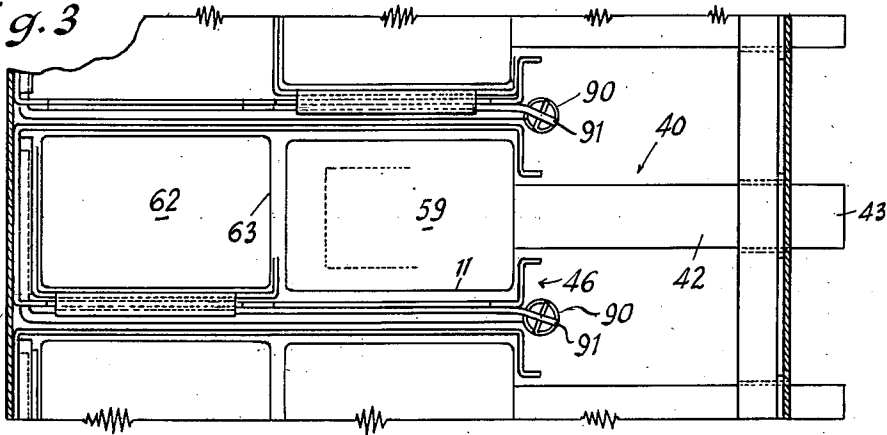


Fig. 5

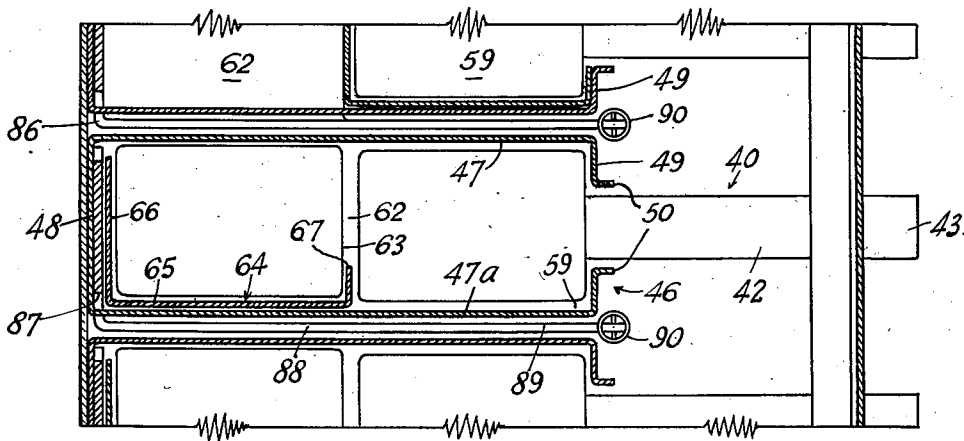
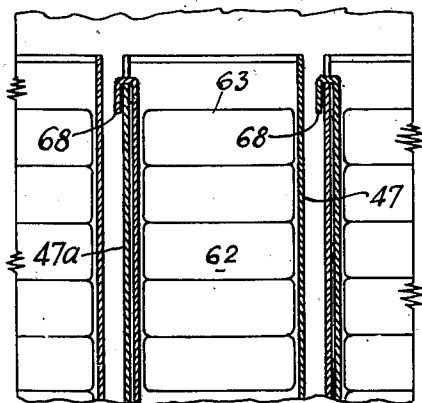


Fig. 4



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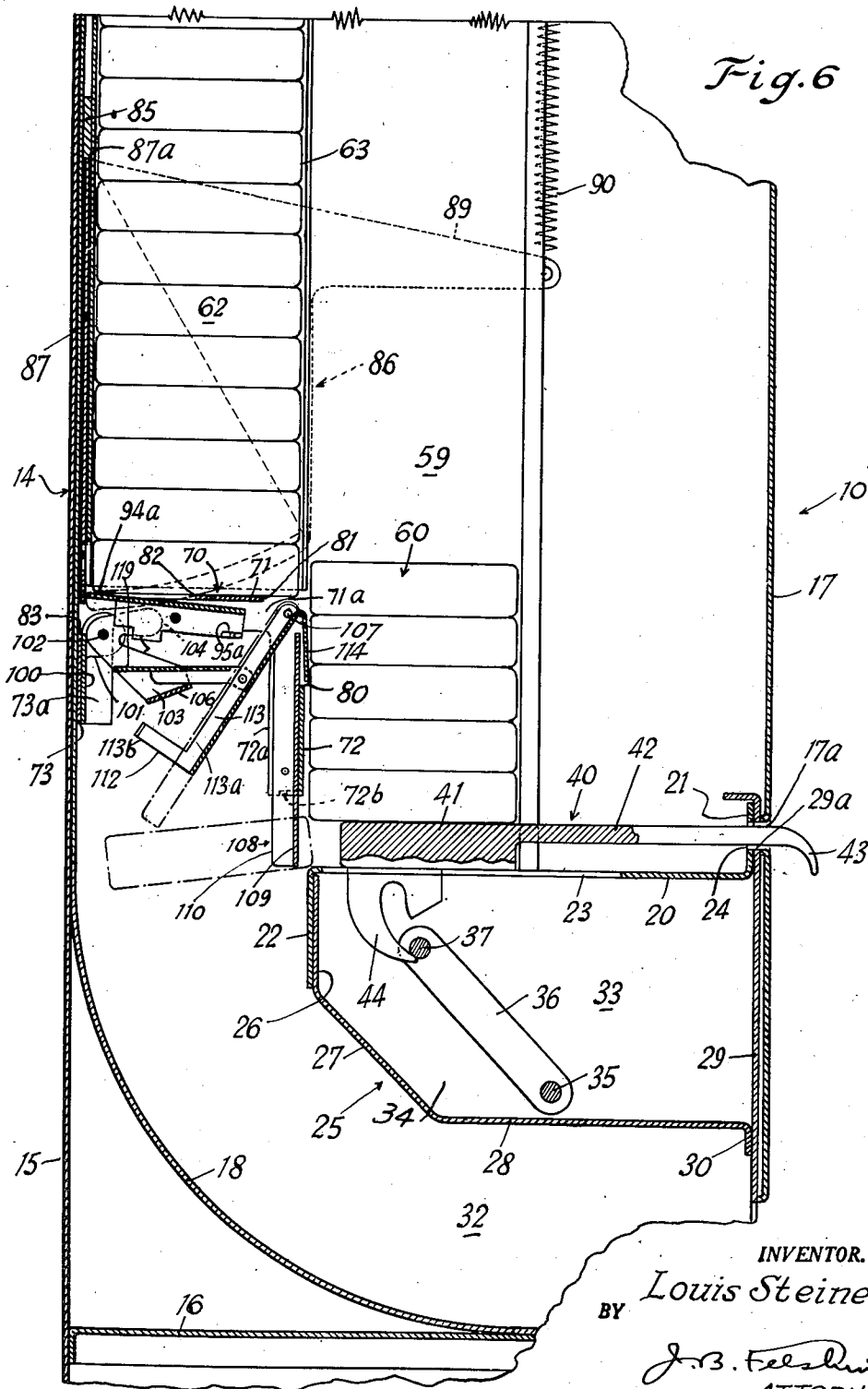
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Fig. 10

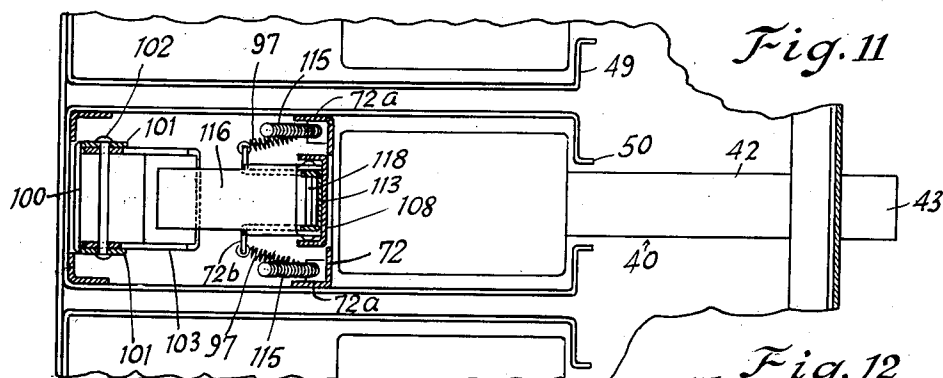
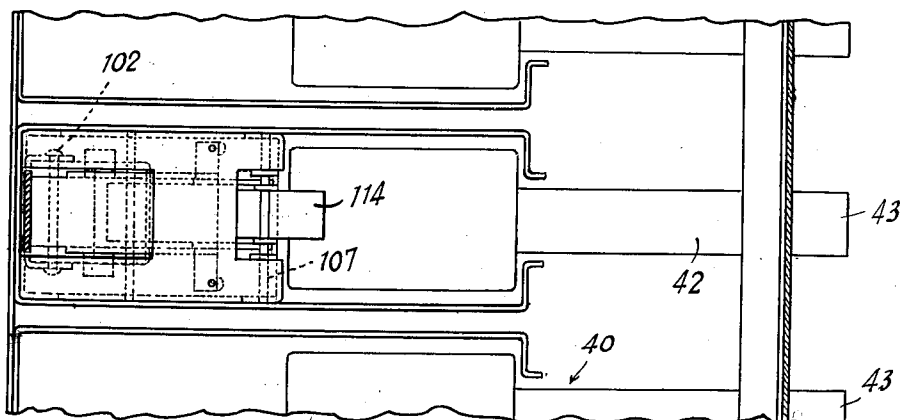


Fig. 12

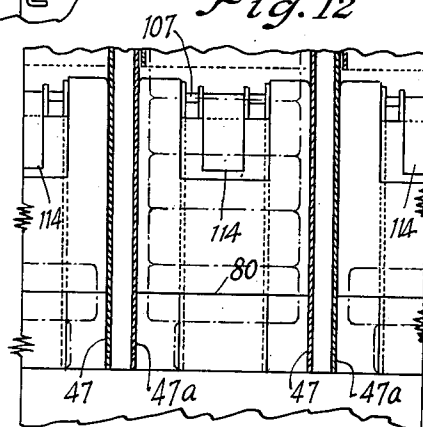
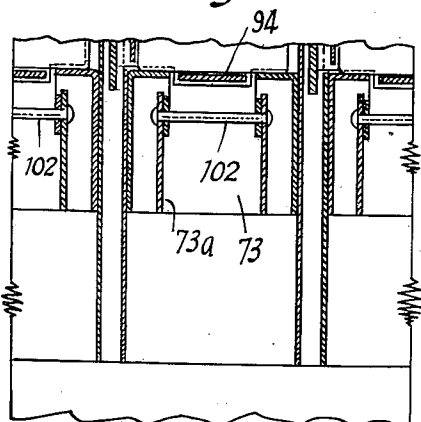


Fig. 13



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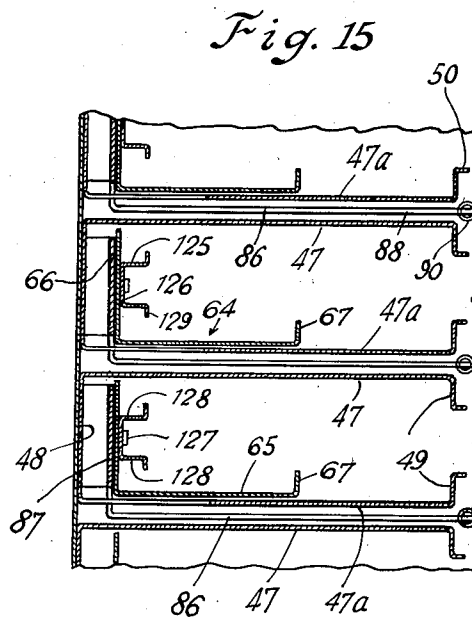
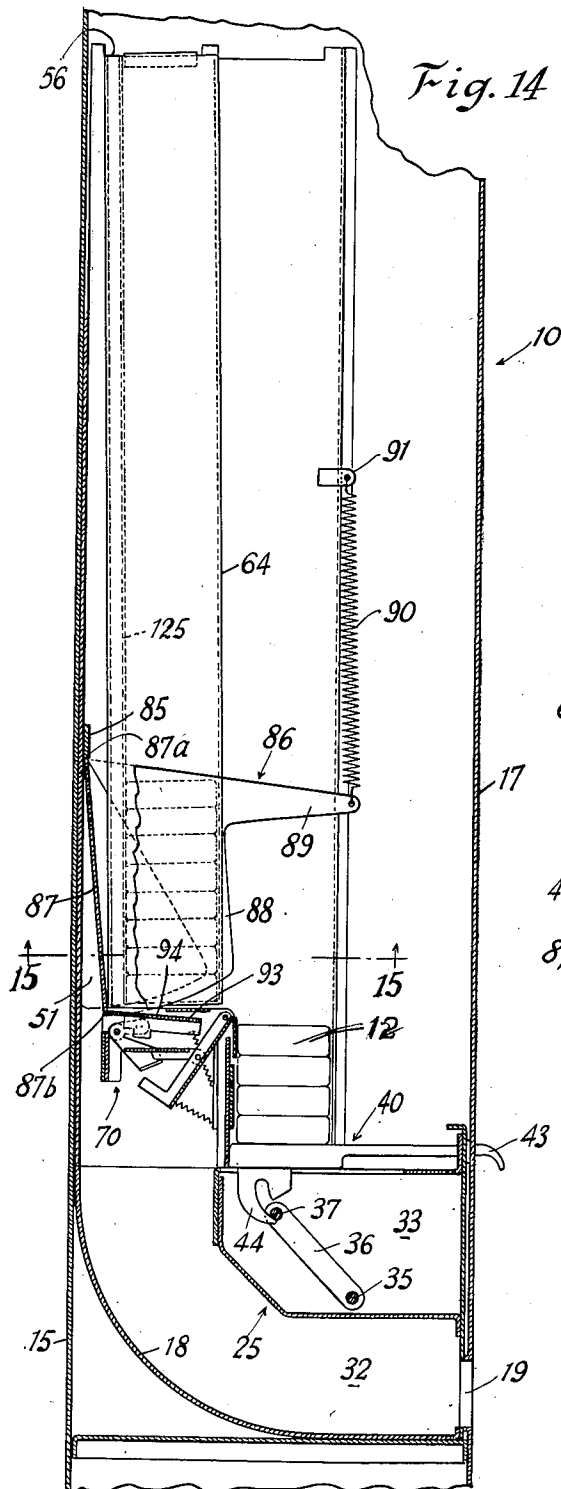
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MAGAZINE STRUCTURE FOR DISPENSING DEVICES

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6 Sheets-Sheet 6



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MAGAZINE STRUCTURE FOR DISPENSING DEVICES

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Application May 16, 1946, Serial No. 670,134

10 Claims. (Cl. 312-42)

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This invention relates to dispensing devices. It is particularly related to a dispensing device including means to support a pair of columns of articles to be dispensed, and a single dispensing mechanism so arranged as to dispense articles from one column, and when said column is depleted to a predetermined extent, the articles from the other columns are automatically shifted to augment the first column so that said latter articles may be dispensed by said dispensing mechanism.

An object of this invention is to provide in a device of the character described, highly improved means for shifting the articles in the reserve column to the depleted dispensing column.

Another object of this invention is to provide in a device of the character described, a reserve chute to hold a reserve column of articles, a spring tensioned member tending to push said chute into the dispensing space, releasable means to retain said spring actuated member from pushing said chute into said space, and means controlled by the extent of depletion of articles from the dispensing column, to release said member and permit the same to push said chute into said space, the construction being such furthermore that the entire chute is bodily shifted into said dispensing space when said member is released.

Yet another object of this invention is to provide a device of the character described which may be easily adapted for dispensing either packages of regular size cigarettes or packages of king size cigarettes.

Still a further object of this invention is to provide a compact and durable device of the character described, which shall be relatively inexpensive to manufacture, easy to assemble, sure and positive in operation, easy to service, and which shall yet be practical and efficient to a high degree in use.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements, and arrangement of parts which will be exemplified in the construction hereinafter described, and the scope of the application thereof will be indicated in the following claims.

In the accompanying drawing, in which is shown various possible illustrative embodiments of this invention,

Fig. 1 is an elevational cross-sectional view of a device embodying the invention showing the same arranged to dispense packages of king size cigarettes;

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Fig. 2 is a view similar to Fig. 1, showing the reserve chute in the dispensing space and with the retaining mechanism removed;

Fig. 3 is a cross-sectional view taken on line 3-3 of Fig. 1;

Fig. 4 is a cross-sectional view taken on line 4-4 of Fig. 1;

Fig. 5 is a cross-sectional view taken on line 5-5 of Fig. 1;

Fig. 6 is an enlarged cross-sectional view of the lower portion of the device, corresponding to Fig. 1;

Fig. 7 is an elevational cross-sectional view of a portion of the device showing the position of the parts when the articles in the dispensing columns have been depleted below a predetermined point, so that when the next article is dispensed, the reserve column will be shifted to the dispensing column;

Fig. 8 is a view similar to Fig. 7, but showing the position of the parts after the shift has taken place;

Fig. 9 is a view similar to Fig. 8 but showing the position of the parts when the next article is being dispensed;

Fig. 10 is a cross-sectional view taken on line 10-10 of Fig. 7;

Fig. 11 is a cross-sectional view taken on line 11-11 of Fig. 7;

Fig. 12 is a cross-sectional view taken on line 12-12 of Fig. 8;

Fig. 13 is a cross-sectional view taken on line 13-13 of Fig. 7;

Fig. 14 is a view similar to Fig. 1, but showing the device converted to dispense packages of regular size cigarettes; and

Fig. 15 is a cross-sectional view taken on line 15-15 of Fig. 14.

Referring now in detail to the drawings, 10 designates a device embodying the invention for dispensing articles. In the drawing, the device is shown as dispensing packages 11 of king size cigarettes or packages 12 (see Fig. 14) of regular size cigarettes, it being understood however that said device may dispense suitable articles other than cigarette packages.

Device 10 comprises an outer casing 14 having a rear wall 15, a bottom wall 16, and side walls (not shown). Said casing may have a top wall and a removable front wall 17 which may be removed to service the device.

In the bottom of the casing is a curved guide 18 for dispensing articles. The front wall has an opening 19 through which the dispensed articles are removed by the customer. Within the casing is a horizontal wall 20 having an upturned

flange 21 at its front end, and a downturned flange 22 at its rear end spaced from the rear wall of the casing. Wall 20 has formed therein a plurality of parallel slots 23 running from front to rear and flange 21 is formed with slots 24 therein aligned with slots 23.

Attached to wall 20 is a sheet metal casing member 25 (Fig. 6) having a vertical wall 26 contacting flange 22, an inclined wall 27 inclined downwardly and forwardly therefrom, and a horizontal wall 28 spaced above the bottom wall 16. A vertical wall 29 contacts flange 21 and the forward flanged end 30 of horizontal wall 28. Wall 29 has slots 23a therein registering with slots 24 and the front wall 17 has slots 17a therein registering with slots 24, 29a.

Between member 25 and wall 18 is a dispensing chamber 32 defined by said member and the curved guide 18. Member 25 together with walls 20 and 29 form a chamber 33. At the ends of said chamber 33 are side walls 34. Supported by said side walls 34 is a horizontal shaft 35. On shaft 35 are a pair of parallel radial arms 36 interconnected at their outer ends by a horizontal rod 37. Arms 36 are rotatable about the axis of shaft 35. Any suitable means may be provided to prevent rotation of arms 36 unless predetermined coins are inserted into the machine.

Slidably mounted on wall 20, in alignment with each slot 23, is an article pusher 40. Each pusher 40 comprises a block-like portion 41 contacting the top of wall 20, and a bar 42 extending forwardly therefrom projecting through slots 24, 29a, 17a. Bar 42 is formed with a hook 43 at its forward end adapted to be engaged by a customer for pulling the pusher when the proper coins are inserted into the machine. Extending downwardly from portion 41, and slidable in slot 23, is a hook 44 engaging rod 37. Thus, a coin release mechanism (not shown) may be employed with the shaft 35 to prevent the actuation of the pusher bar until proper coins have been received by said release mechanism. Any suitable spring may be provided to return arms 36 and hence bar 40 when said bar is released after having been pulled.

Within the casing are a plurality of vertical, parallel chutes disposed side by side formed by members 46 (Fig. 5) which rest on horizontal wall 20. Each member 46 has parallel walls 47, 47a and an interconnecting rear wall 48. Said rear wall contacts rear wall 15 of the casing. Extending inwardly toward each other from the front ends of side walls 47, 47a are flanges 49 formed with forwardly extending lips 50. Each wall 47a is formed with a segmental shaped cut-out 51 (Fig. 2) having its apex 52 at the rear wall 48. Said cut-out extends from said rear wall to a radial edge 53 inclined downwardly and forwardly from apex 52. Said cut-out also has an arcual edge 54. The purpose of the cut-out 51 will be explained hereinafter.

Side walls 47a of said chute members 46 each have smaller notches 56, 57 in their upper edges, forming a projection 58 therebetween. The front part of each member 46 constitutes a chute or chamber 59 for a column 60 of packages to be dispensed. Column 60 rests on portion 41 of bar 40. Any number of chute members may be provided and each is centered relative to one of the pusher bars 40. The rear portion of each member 46 forms a chute or chamber 62 for a reserve column 63 of articles to be dispensed.

Suspended in each chute 62 is a shiftable chute member 64 for receiving the reserve column 63.

Member 64 comprises a wall 65 adjacent wall 47a, a wall 66 at right angles to the wall 65 and spaced adjacent wall 48, and another wall or flange 67 disposed between chambers 62, 59. Side wall 65 of each member 64 has at its upper end a turned down hook portion 68 disposed within notch 56, so that said member is suspended and hangs in vertical position.

Means are provided to support the column 63 within chute member 64. To this end, there is fastened to the inner surfaces of walls 47, 47a, a supporting member 70. Said member 70 may be made of stamped sheet metal. It has a top wall 71, a front wall 72 and a rear wall 73 (Figs. 8, 9 and 13). Extending from said walls are side flanges 71a, 72a, 73a, respectively, which contact said walls 47, 47a. Flanges 72a have formed at their lower ends apertured horizontal ears 72b for a purpose hereinafter appearing (Fig. 9). Said walls 47, 47a are each provided with a pair of horizontally aligned front and rear holes 74, 75, and with a hole 76 below hole 74 offset forwardly with respect thereto (Fig. 9). Flanges 71a, 72a are provided with corresponding holes to receive screws 77 or other fastening devices for fastening said member 70 to said walls 47, 47a (Fig. 2). With the supporting member 70 in the position shown in Fig. 6, the machine is adapted to dispense larger articles such as packages of king size cigarettes. Said supporting member 70 may be attached to said walls in a forwardly shifted position to adapt the machine for dispensing regular sized cigarettes as will be more fully explained hereinafter. To this end, said walls 47, 47a are formed with additional holes 74a, 75a, 76a, horizontally aligned with the holes 74, 75, 76, respectively and equally spaced therefrom (Fig. 2). When it is desired to support member 70 in a forward position, the screws 77 are threaded through the holes 74a, 75a, 76a, instead of through the holes 74, 75, 76.

The upper edge 80 of front wall 72 is disposed below top wall 71. Top wall 71 has a front edge 81 disposed rearwardly of front wall 72, and a rear edge 82 disposed forwardly of rear wall 73. The upper edge 83 of rear wall 73 is disposed below top wall 71 (Fig. 6). Front wall 72 of support 70 is substantially aligned with flange 67 of chute member 64. The reserve column 63 of articles to be dispensed rest upon top wall 71 of the supporting member. It will be understood that there is one support 70 for each reserve column. The lower ends of chute members 64 are just above said top walls.

Means are provided to shift chute members 64 together with the reserve columns 63 forwardly into dispensing chambers 59. To this end, there is fixed to the inner surface of each rear wall 48, a horizontal stop bar 85 (Figs. 2 and 14). Mounted for rotation on each wall 47a is a member 86 for shifting chute member 64. Said member 86 comprises a back wall 87 normally contacting the inner surface of wall 48. The upper edge 87a of wall 87 contacts the under edge of stop bar 85. Wall 87 passes through slot 51, and extending therefrom at right angles, is a wall 88, disposed parallel to wall 47a and located between a pair of adjacent chute members 46. Wall 88 has an arm 89 extending in its plane to a point forwardly of flanges or walls 49. Each arm 89 is connected by a coil tension spring 90 to a bracket 91 fixed to wall 47a at a point above said arm. Spring 90 tends to rotate member 86 in a counterclockwise direction, looking at Fig. 2, through the angle of slot 51. During such

rotation, member 86 pivots about edge 87a of its wall 87. The forwardmost point of slot 51 is located between the reserve and dispensing chambers. When member 86 is thus rotated by spring 90, the lowermost edge of the wall 87 of member 86 contacts the back wall 66 of the chute member 64 and causes the latter to swing on its suspending hooks 68 from its normal vertical position in the reserve chamber 62 toward the dispensing chamber 59. In this movement the forward edges of the hook 68 adjacent the projections 58 are raised from the supporting notches 56 until said hooks clear said projections at which time the hooks, by the force exerted by the spring 90 through member 86, are caused to slide forwardly across the projections 58 (Fig. 2) and drop into the forward notches 57, thus carrying the entire chute member 64 into the dispensing chamber 59.

Upon release of member 86 the spring 90 exerting an upward pull on arm 89 causes a forward and upward push adjacent the lower end of member 64 which first causes a tilting movement of member 64 in a counterclockwise direction about substantially its upper left corner, looking at Fig. 14. When member 64 has been sufficiently tilted to clear finger 58, the impetus of the spring 90 pushing in an upward and forward movement on member 64 will cause the whole member to jump over the finger 58 to a position where the hook 68 enters the notch 57. The pressure of the lower end of wall 87 against the back wall of member 64 is in a forward and upward direction. Furthermore, the lower edge of back wall 87 slides upwardly relative to the back wall of member 64, as member 86 pivots about the pivotal point 52. Under the impetus of the spring 90 such action is effective to cause member 64 to jump into the forward position of the chute as soon as the lip 68 clears the finger 58.

Means are provided to retain chute member 64 from being so shifted until the dispensing column is depleted to a point below the upper edge 80 of front wall 72, which is of course also below top wall 71 of said support. To this end, wall 87 projects, as at 87b (Fig. 7), below wall 71. Releasable means is provided to engage said end 87b to retain member 86 against rotation by said spring 90. Said releasable means includes a lever 93 comprising a top wall 94, and parallel side flanges 95 extending downwardly therefrom. Said flanges are formed with outwardly projecting flanges 96 disposed below said top wall. Lever 93 is pivoted to the support 70 below the top wall 71 by means of a horizontal pivot shaft 97 (Figs. 7 and 8) received in suitable openings in flanges 71a. The forward edge 94a of top wall 94 engages edge 87b to retain the wall 87 of member 86 against wall 48. Flanges or side walls 95 are formed at their forward ends with apertured ears 95a, for the purpose hereinafter appearing. Interconnecting ears 95a with ears 72b are coil tension springs 97 which serve to tend to rotate the lever 93 in a clockwise direction, as viewed in Figs. 7 and 9, to retain said lever in engagement with member 86.

Attached to the inner surface of wall 73 is a bracket 100 formed with apertured ears 101 supporting a transverse shaft 102 (Figs. 9 and 13). Rotatably mounted on said shaft 102 is a bell crank 103. Said bell crank comprises arms 104 engaging the upper surfaces of flanges 96 of member 93, and arms 105 interconnected by wall 106 (Fig. 9).

Flanges 71a support a horizontal pivot shaft

107 located at the upper end of flanges 72a and hence also above edge 80. Pivotally mounted on said shaft 107 is a channel shaped member 108 having a web 109 contacting wall 72 and flanges 110 at right angles thereto. Member 108 is swung in a clockwise direction when an article is dispensed from the dispensing column. Said member 108 projects below wall 72 to a point below the upper surface of pusher bar 40 so as to be contacted by the articles pushed out of the dispensing column as shown in Fig. 9.

Also pivoted on shaft 107 is a lever 112, provided with an arm 113 of channel shape and an arm 114 at an angle normally disposed thereto within the cut-out in wall 72 above its edge 80 and in engagement with the articles in the dispensing column as shown in Figs. 8 and 9. Arm 113 is retained in downwardly and rearwardly inclined position when arm 114 engages said articles. Arm 113 has flanges 113a and an extending yoke 113b connected by light coil tension springs 115 with ears 72b.

Pivoted to flanges 113a of arm 113 is a trigger 116 (Figs. 7 and 8). Said flanges support a pivot shaft 118 on which said trigger is pivoted. Said trigger 116 has a top wall 119 and side flanges 120, the latter being apertured to receive said shaft 118. The lower edges of said flanges ride on wall 106 of member 103. Said flanges have rear end shoulders 121.

When there are articles in the dispensing column above arm 114, movement of member 108 due to ejection of articles from said column does not trip the bell crank 103 because said member 108 may move without moving member 112, and for the further reason that movement of the latter would not affect the bell crank inasmuch as the trigger 116 would only ride on wall 106.

However, when articles in the dispensing column are depleted to a level below arm 114, lever 112 will swing, because of the tension of spring 115, in a counterclockwise direction to the position shown in Fig. 7.

When the lever 112 swings to the position of Fig. 7, trigger 116 is pulled forwardly and drops down so that wall 119 rests on wall 106, and shoulders 121 of flanges 120 engage the forward edge of said wall 106. When the bar 40 is thereafter pulled forward and released it will move rearwardly and the block 41 will eject a package of cigarettes in the manner shown in Fig. 9. The package being ejected swings lever 108 which in turn swings lever 112 and the trigger 116 swings the bell crank in a clockwise direction to depress lever 93 and release member 86 to permit rotation thereof to shift the chute member 64 in the manner above described and thus move the reserve column to the top of the depleted dispensing column. The newly moved packages then engage arm 114 and again swing lever 112 in a clockwise direction to the position of Fig. 8 and the trigger again rides up on wall 106 as illustrated in Fig. 8.

The next time an article is dispensed, lever 108 will again be swung as shown in Fig. 9.

In Figs. 14 and 15 the device embodying the invention is shown converted for dispensing articles of smaller size, for example the packages 12 of regular sized cigarettes. As shown in said figures, the supports 70 have been shifted forwardly and attached in place as described hereinabove. The brackets and levers mounted thereon, as described above, are not changed.

Member 86, under the influence of spring 90, will pivot to swing the rear chute 64 to the inclined position shown in Fig. 14, and in such posi-

tion the lower end 87b of rear wall 87 of said member will engage the rear end of lever 93 to retain said member from shifting the chute 64 to the front or dispensing chamber. The upper end of the chute 64, while being at a slight angle, will still be engaged within notch 56.

A spacer member 125 may be attached to the inner side of the rear wall 66 of the chute 64 to adapt said chute for use with packages of regular sized cigarettes. Said spacer member has a rear web 126 which may be attached to wall 66 by means of screws or rivets 127. Extending forwardly from web 126 are parallel walls 128 from which there extend outwardly parallel, aligned flanges or wings 129. Regular size cigarettes may be placed within the chutes 64 between the spacer 125 and flange 67 and in the dispensing chamber between flange 67 and flanges 49. At the upper end of said dispensing chamber, the cigarettes may be pushed slightly backward because of the tilt of chute 64. However, when the lever 93 is tripped, member 86 will move the entire rear chute 64 into the dispensing chamber and thus cause the transfer of the reserve column of cigarettes into the dispensing chamber in the manner hereinbefore described.

It will thus be seen that there is provided a device in which the several objects of this invention are achieved, and which is well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention, and as various changes might be made in the embodiments above set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawing is to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In a dispensing device, a chute comprising a pair of parallel vertical walls interconnected by a rear wall, a rear chute within said first chute and suspended from one of said parallel walls and located at the rear of said first chute, one of said parallel walls being formed with a slot, means to swing said rear chute to the front part of the first chute, and including a member having a wall disposed between the rear chute and the rear wall of the first chute and pivoted to the latter at its upper end, said wall of said member passing through said slot, and said member having an arm disposed outside of said first chute and parallel thereto, and spring means connected to said arm and adapted to swing said member about its pivot.

2. In a dispensing device, a chute comprising a pair of parallel vertical walls interconnected by a rear wall, a rear chute within said first chute and suspended from one of said parallel walls and located at the rear of said first chute, one of said parallel walls being formed with a slot, means to swing said rear chute to the front part of the first chute, and including a member having a wall disposed between the rear chute and the rear wall of the first chute and pivoted to the latter at its upper end, said wall of said member passing through said slot, and said member having an arm disposed outside of said first chute and parallel thereto, spring means connected to said arm and adapted to swing said member about its pivot, and releasable means engaging said member to prevent pivotal movement thereof.

3. In a dispensing device, a chute comprising a pair of parallel vertical walls interconnected by a rear wall, a rear chute within said first

chute and suspended from one of said parallel walls and located at the rear of said first chute, one of said parallel walls being formed with a slot, means to swing said rear chute to the front part of the first chute, and including a member having a wall disposed between the rear chute and the rear wall of the first chute and pivoted to the latter at its upper end, said wall of said member passing through said slot, and said member having an arm disposed outside of said first chute and parallel thereto, spring means connected to said arm and adapted to swing said member about its pivot, releasable means engaging said member to prevent pivotal movement thereof, and means effective upon dispensing articles from the front of said first chute to release said releasable means to permit said member to shift said rear chute to the front part of said first chute.

4. In a dispensing machine, a chamber for articles to be dispensed, a pivoted member having a tongue projecting into said chamber, articles within said chamber being adapted to engage said tongue, said pivoted member including an arm located outside of said chamber, a reserve chute located adjacent said chamber, means to shift said reserve chute into said chamber, releasable means to retain said shifting means from shifting said reserve chute into said chamber, means on said arm of said pivoted member to release said retaining means, but being inoperative to release said retaining means when articles in the chamber engage said tongue, means to dispense articles from the lower end of said chamber, means movable each time an article is dispensed from said chamber, said arm of said pivoted member being out of the way of said movable means when articles in the chamber engage said tongue, said pivoted member being swingable, when the remaining articles in said chamber are below said tongue, to a position where dispensing of an article from said chamber will cause the movable means to move said arm of said pivoted member, and said releasing means being effective to release said retaining means when said pivoted member is moved by said movable means.

5. In a dispensing device, a front chamber for articles to be dispensed, a reserve chute adjacent said chamber and adapted to contain reserve articles, means to shift said reserve chute into said chamber, releasable means to retain said shifting means from shifting said reserve chute into said chamber, means to release said retaining means, means arranged to operatively engage said releasing means only when the articles in said chamber are below a predetermined height, means to eject articles from the lower end of said chamber, and a member moved by each article in the ejection thereof from said chamber to actuate said releasing means to release said retaining means when articles in said chamber are below said predetermined height, but being ineffective to actuate said releasing means when articles in said chamber are above said predetermined height.

6. In a dispensing device, a chute comprising a pair of parallel walls interconnected by a rear web, one of said walls being formed with a plurality of spaced notches in its upper end, a rear chute within said first chute, said rear chute having a wall adjacent said notched wall, a flange extending therefrom parallel to and adjacent said web, a second flange parallel to and spaced from the first flange, a projection on the

upper end of said rear chute, said projection being received by one of said notches for supporting said rear chute, a wall of said first chute being formed with a segmental slot, means to transfer said projection from one of said notches to another and thus change the position in which said rear chute is supported, said means comprising a member having a wall disposed between said web and the first flange of said rear chute and being pivoted at its upper end to said web, said wall of said member extending through said segmental slot, the apex of said slot being adjacent the upper end of said wall of said member, said member having an arm extending at right angles to its wall and located parallel to a wall of said first chute and exteriorly of said chute, spring means to rotate said member about its pivot, means to engage the lower end of said wall of said member to retain said member against pivotal movement, means to dispense articles disposed within the front of said chute, means controlled by operation of said dispensing means for releasing said retaining means, and means controlled by presence of articles within the front of said chamber above a predetermined height therein to render said releasing means inoperative.

7. In a dispensing device, a chamber adapted to contain articles to be dispensed, a reserve chute adapted to contain reserve articles and located adjacent said chamber, spring controlled means adapted to shift the reserve chute into said chamber, a lever engaging said spring controlled means to retain said means in inoperative position, a pivoted bell crank having one arm in engagement with said lever, a pivot member having a tongue projecting into said chamber and adapted to be engaged by articles within said chamber above a predetermined height, said pivoted member having an arm disposed outside of said chamber, a trigger pivoted to said last-mentioned arm and resting on another arm of said bell crank, means to dispense the lowermost article in said chamber, a pivoted depending member having a portion located in the path of articles dispensed from the main chamber and adapted to be swung thereby, engagement of articles in said chamber with said tongue being effective to retain the arm of said pivoted member out of engagement with respect to said depending member as the latter is swung by articles dispensed from said chamber, said pivoted member being adapted to swing, when the remaining articles in said chamber are below said tongue, to a position where the arm of said pivoted member swings against said depending member, and said trigger having a shoulder adapted to engage said other arm of said bell crank when the pivoted member is in the last-mentioned position thereof, whereby upon dispensing the next article from said chamber, said depending member is swung and also swings said pivoted member to cause said shoulder on the trigger to rotate said bell crank for turning said lever and thereby releasing said spring controlled means to permit the latter to shift the chute into said chamber.

8. In a dispensing device, a chamber adapted to contain articles to be dispensed, a reserve chute adapted to contain reserve articles and located adjacent said chamber, spring controlled means adapted to shift the reserve chute into said chamber, a lever engaging said spring controlled means to retain said means in inoperative position, a pivoted bell crank having one

arm in engagement with said lever, a pivot member having a tongue projecting into said chamber and adapted to be engaged by articles within said chamber above a predetermined height, said pivoted member having an arm disposed outside of said chamber, a trigger pivoted to said last-mentioned arm and resting on another arm of said bell crank, means to dispense the lowermost article in said chamber, a pivoted depending member having a portion located in the path of articles dispensed from the main chamber and adapted to be swung thereby, engagement of articles in said chamber with said tongue being effective to retain the arm of said pivoted member out of engagement with respect to said depending member as the latter is swung by articles dispensed from said chamber, said pivoted member being adapted to swing, when the remaining articles in said chamber are below said tongue, to a position where the arm of said pivoted member swings against said depending member, and said trigger having a shoulder adapted to engage said other arm of said bell crank when the pivoted member is in the last-mentioned position thereof, whereby upon dispensing the next article from said chamber, said depending member is swung and also swings said pivoted member to cause said shoulder on the trigger to rotate said bell crank for turning said lever and thereby releasing said spring controlled means to permit the latter to shift the chute into said chamber, a bracket on which said lever, bell crank, pivoted member, and depending member are mounted, and means to attach said bracket within said device in a plurality of positions whereby to permit dispensing of articles of various sizes.

9. In a dispensing machine, a chamber for articles to be dispensed, a pivoted member having a tongue projecting into said chamber, articles within said chamber being adapted to engage said tongue, said pivoted member including an arm located outside of said chamber, a reserve chute located adjacent said chamber, means to shift said reserve chute into said chamber, releasable means to retain said shifting means from shifting said reserve chute into said chamber, means on said arm of said pivoted member to release said retaining means, but being inoperative to release said retaining means when articles in the chamber engage said tongue, means to dispense articles from the lower end of said chamber, means movable each time an article is dispensed from said chamber, said arm of said pivoted member being out of the way of said movable means when articles in the chamber engage said tongue, said pivoted member being swingable, when the remaining articles in said chamber are below said tongue, to a position where dispensing of an article from said chamber will cause the movable means to move said arm of said pivoted member, and said releasing means being effective to release said retaining means when said pivoted member is moved by said movable means, a bracket, said retaining means, releasing means and pivoted member being mounted on said bracket, and means to fix said bracket in said machine in a plurality of positions.

10. A dispensing device comprising, a chute having a front portion therein within which articles to be dispensed may be stacked one upon another, a horizontally movable inner chute suspended within said first chute in a rear portion thereof for containing a reserve supply of said

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articles, said first-mentioned chute having spaced notches therein and said inner chute having a suspending hook adapted to be received by one or the other of said notches, an ejecting mechanism for dispensing the articles from said front portion, a pivoted member disposed between said first chute and said inner chute, means for pivoting said member against said inner chute to bodily move the latter forwardly and to disengage said hook from one of said notches and cause it to move into the other thereof, and a latch normally held in retaining engagement with said member by the articles in the front portion of said first-mentioned chute and being movable to disengage said member when the level of articles in said front portion has been reduced to

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a predetermined level whereupon said member will be pivoted as aforesaid to move said inner chute and the contents thereof into said front portion.

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The following references are of record in the file of this patent:

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