Oct. 17, 1967 L. M. SILVERMAN 3,347,016

APPARATUS FOR FILLING TRANSIT TOKEN PACKAGES OR THE LIKE

Filed Sept. 24, 1964 4 Sheets-Sheet 1

FIG. 1

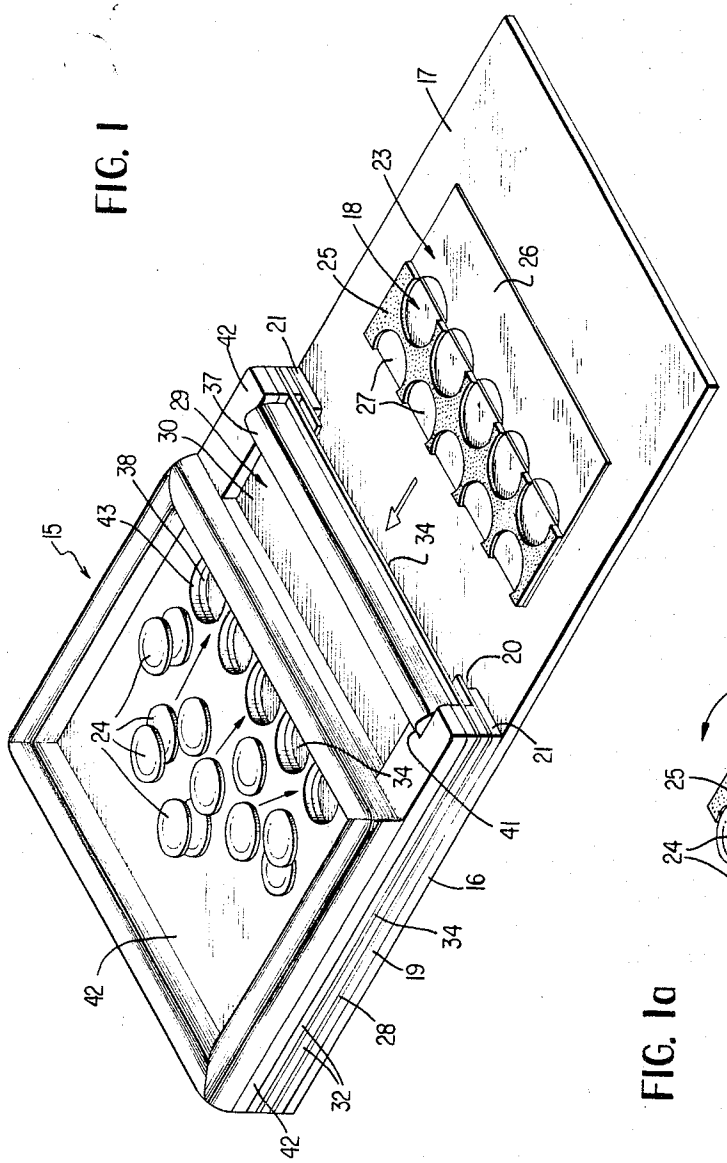
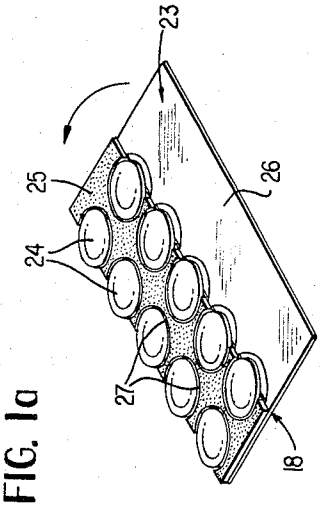


FIG. 1a



INVENTOR.
LOUIS M. SILVERMAN

BY B. P. Fishburne, Jr.

ATTORNEY.

Oct. 17, 1967 L. M. SILVERMAN 3,347,016

APPARATUS FOR FILLING TRANSIT TOKEN PACKAGES OR THE LIKE

Filed Sept. 24, 1964 4 Sheets-Sheet 2

FIG. 2

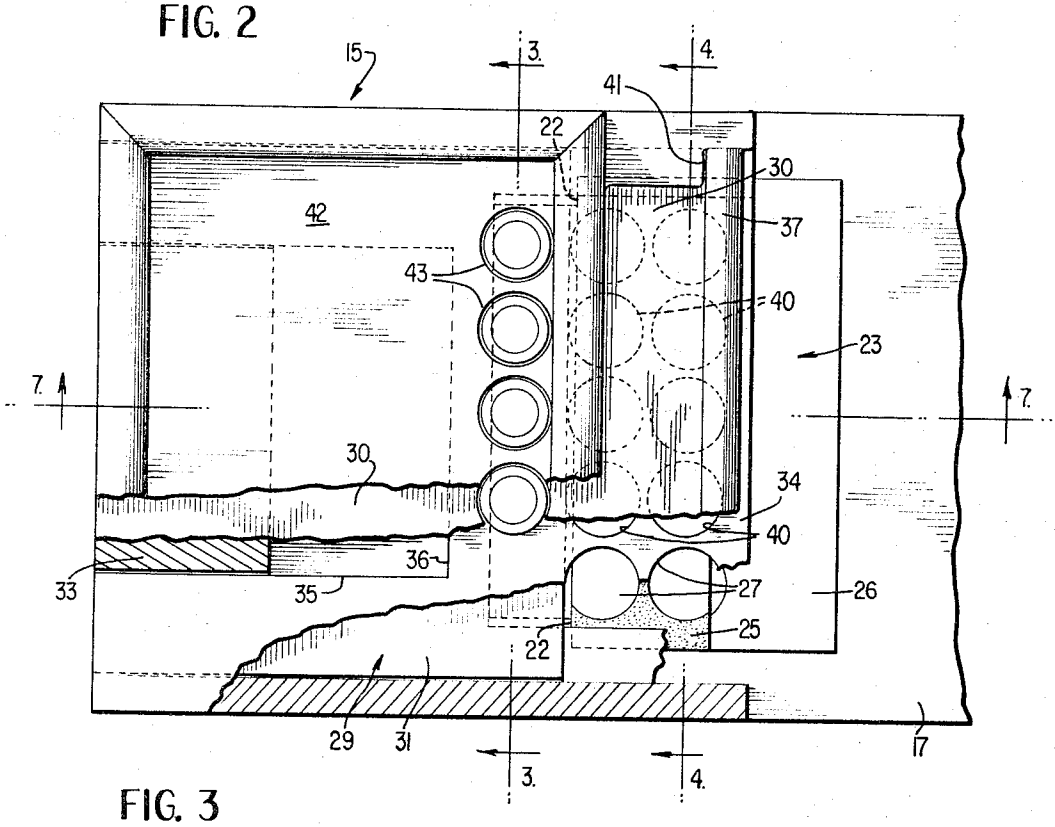


FIG. 3

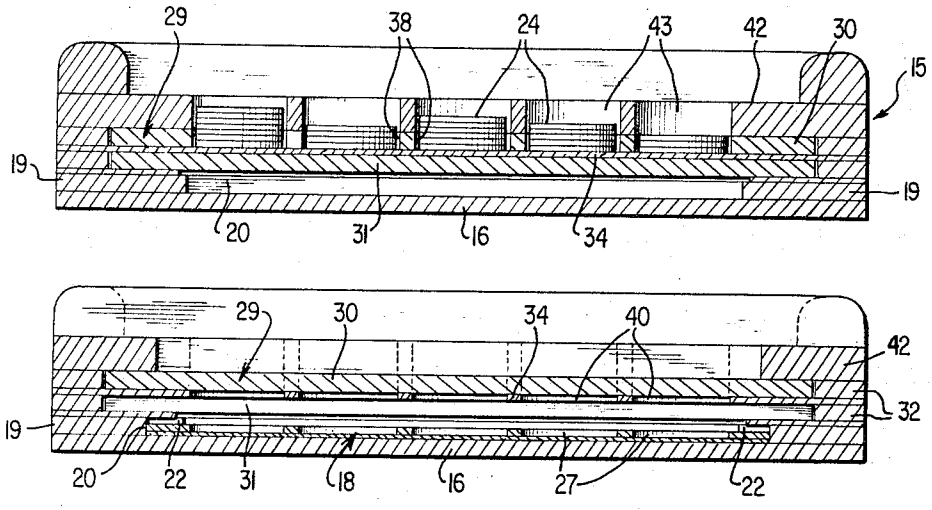


FIG. 4

INVENTOR.
LOUIS M. SILVERMAN

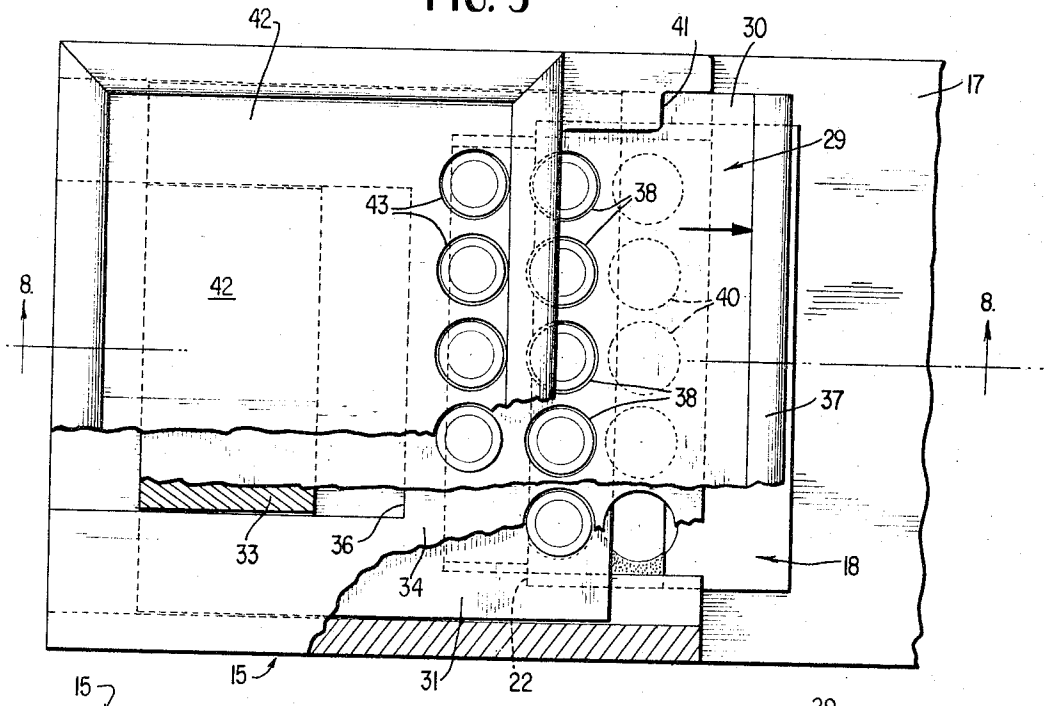
BY B. P. Fishburne, Jr.
ATTORNEY.

Oct. 17, 1967 L. M. SILVERMAN 3,347,016

APPARATUS FOR FILLING TRANSIT TOKEN PACKAGES OR THE LIKE

Filed Sept. 24, 1964 4 Sheets-Sheet 3

FIG. 5



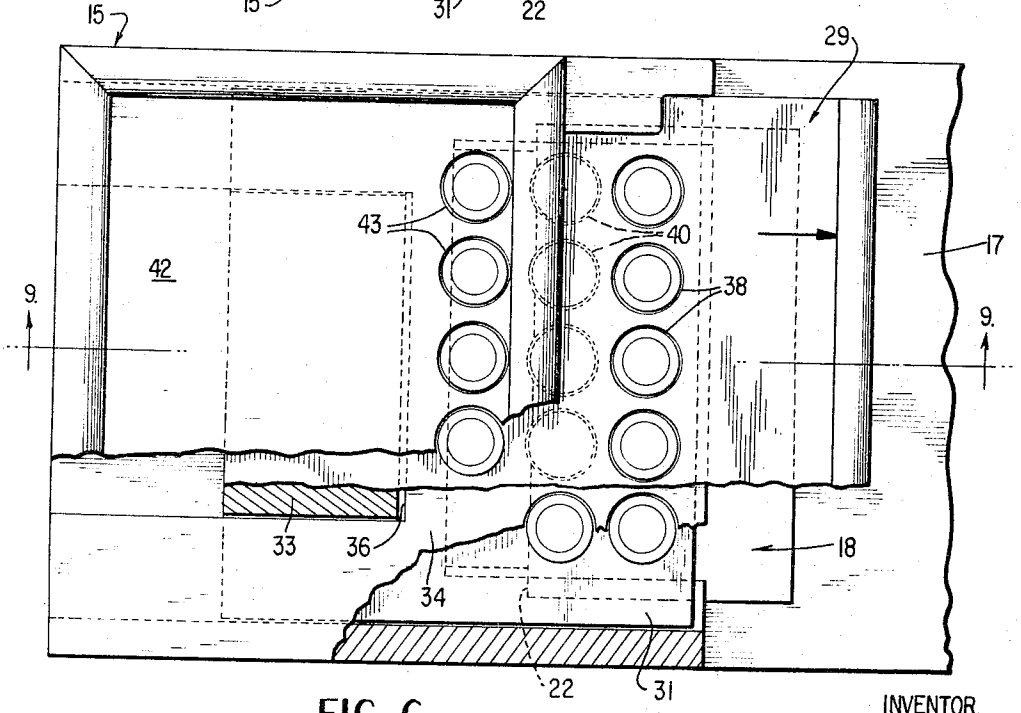


FIG. 6

INVENTOR.
LOUIS M. SILVERMAN

BY B. P. Fishburne, Jr.

ATTORNEY.

Oct. 17, 1967 L. M. SILVERMAN 3,347,016

APPARATUS FOR FILLING TRANSIT TOKEN PACKAGES OR THE LIKE

Filed Sept. 24, 1964 4 Sheets-Sheet 4

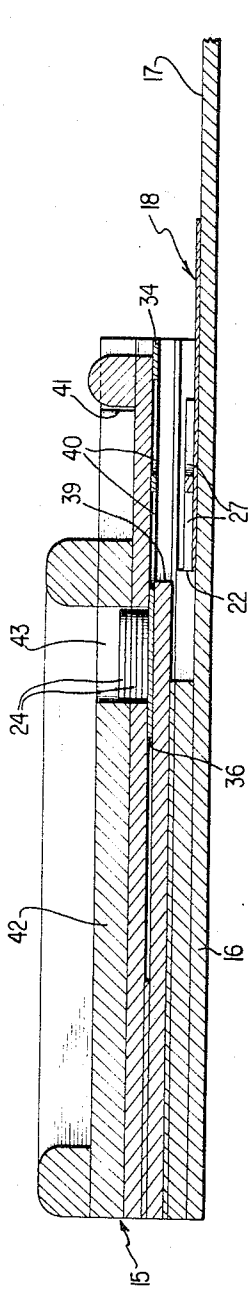


FIG. 7

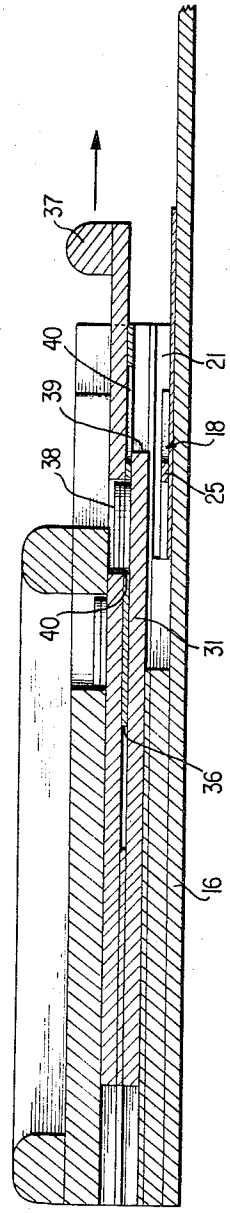


FIG. 8

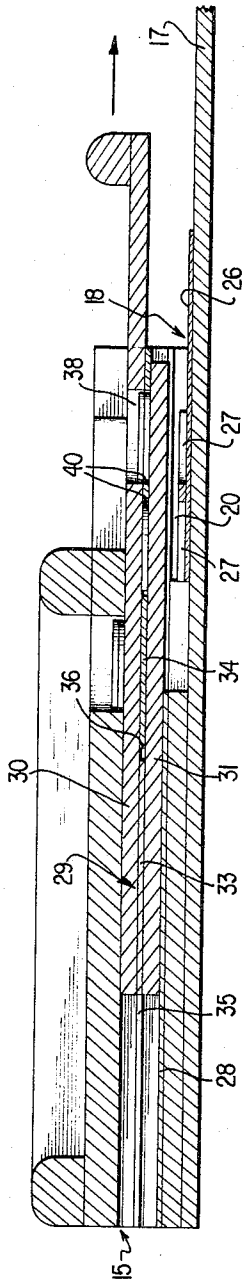


FIG. 9

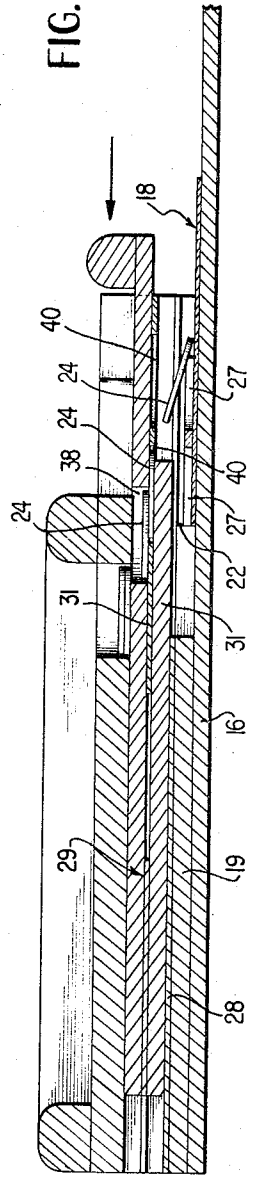


FIG. 10

INVENTOR.
LOUIS M. SILVERMAN

BY B. P. Fishburne, Jr.

ATTORNEY.

United States Patent Office 3,347,016
Patented Oct. 17, 1967

3,347,016

APPARATUS FOR FILLING TRANSIT TOKEN PACKAGES OR THE LIKE

Louis M. Silverman, Brooklyn, N.Y., assignor to Transitoke, Inc., Newark, N.J., a corporation of New Jersey

Filed Sept. 24, 1964, Ser. No. 398,997
9 Claims. (Cl. 53—246)

This invention relates to apparatus for filling transit token packages or the like.

It is highly desirable, from the standpoint of the transit company, its employees and passengers, to distribute tokens in packages. It is preferred that the packages be of the one-use disposable type, adapted to bear advertising indicia and of a size and shape to be conveniently carried in the pocket. Some such packages have been suggested by the prior art.

One difficulty with the above proposal resides in the problem of filling the token packages in a convenient, economical and expeditious manner and without loss of tokens. Where package tokens have been employed, one method of filling the token packages involved sending large numbers of tokens to an agent or contractor who fills the packages with tokens and returns them to the transit company. This of course requires distributing the packaged tokens to sales windows throughout the system, and the entire procedure is quite costly and has resulted in a great loss of tokens, either by accident or theft.

Ideally, there should be some simple means whereby the individual attendant or salesman at the individual booth or window can package the tokens as they are required for distribution to passengers. Such a packaging aid must be simple, compact, economical, easy to operate and reliable and efficient. Heretofore, such an apparatus has not been available for use by individual transit token salesmen, and this is a chief reason why the packaging of tokens has not been widely adopted in large cities.

It is therefore the object of this invention to provide a token packaging apparatus having all of the above-named desirable features and therefore rendering it completely practical and economically feasible to package and distribute packaged tokens at the individual booths along the system. The booth attendant will have ample time to operate the extremely simple package filling apparatus without interfering with his other customary chores. The package itself is so simple that once it is filled by the apparatus it need only be folded over and sealed and handed by the attendant to the customer or passenger.

The apparatus and the package may accommodate any convenient number of tokens, such as 10 tokens. However, the number of tokens dispensed by each operation of the apparatus and therefore the number of tokens packaged may vary under the invention.

Other specific objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings forming a part of this application and in which like numerals are employed to designate like parts throughout the same.

FIGURE 1 is a perspective view of the token package filling apparatus and an associated package according to the invention,

FIGURE 1*a* is a perspective view of the package after filling with the apparatus but prior to sealing,

FIGURE 2 is a fragmentary plan view of the apparatus, parts broken away and parts in section,

FIGURE 3 is a transverse vertical section taken on line 3—3 of FIGURE 2 and somewhat enlarged,

FIGURE 4 is a similar section taken on line 4—4 of FIGURE 2,

FIGURE 5 is a further fragmentary plan view of the apparatus with the dispensing slide structure thereof in an intermediate advanced position,

FIGURE 6 is a similar view showing the slide structure substantially fully advanced,

FIGURE 7 is a longitudinal vertical section taken on line 7—7 of FIGURE 2,

FIGURE 8 is a similar section taken on line 8—8 of FIGURE 5,

FIGURE 9 is a similar section taken on line 9—9 of FIGURE 6, and

FIGURE 10 is a similar longitudinal vertical section through the apparatus with the slide structure positioned to deposit a first row of tokens upon the package.

In the drawings, wherein for the purpose of illustration is shown a preferred embodiment of the invention, the apparatus shown in its entirety at **15** is rectangular and has a very low silhouette and is generally quite compact so as to take up minimum space on the counter of a transit station booth. The apparatus is lightweight and can be set aside out of the way or placed upon any flat supporting surface for use.

The apparatus **15** embodies a flat rectangular base plate **16** having a forward extension **17** upon which may be placed the prefabricated token package **18** to be filled by the apparatus.

Upon the base plate **16** is a second or spacer plate **19** of about the same thickness as the base plate and extending from the rear end of the base plate to approximately the longitudinal center thereof, as shown. The spacer plate **19** has a large rectangular recess **20** in its forward end of sufficient width to receive and guide the unfilled rectangular package **18** into the apparatus while resting upon the base plate **16**. In effect, the spacer plate **19** has a pair of side guide rails **21** at its forward end, between which the empty package **18** slidably enters the large rectangular recess **20**. Stop shoulders **22** are provided at the rear of the recess **20** and on opposite sides thereof to limit the inward movement of the package into the apparatus and to properly position the package therein.

As shown, the package **18** is essentially a flat rectangular sheet or card **23** of paper or the like, foldable on a longitudinal center line to a closed position after filling with tokens **24**, as indicated by the arrow in FIGURE 1*a*. Upon one-half or side of the card **23**, a pocketed strip **25** for the tokens is provided and suitably secured to the card **23**. The top face of the strip **25** is coated with pressure-sensitive adhesive to engage and hold the opposite side or flap **26** of the card in folded-over closed relation. The strip **25** has approximately the same thickness as the token contained within the pockets **27** thereof. The folding over and sealing of the flap **26** completes the package from which the several tokens **24** may be removed by pulling the same with the fingers from the opposite longitudinal side of the completed package. The package per se forms no part of this particular invention, which invention is concerned solely with the apparatus for filling the flat package as shown in FIGURES 1 and 1*a*.

As shown clearly in the drawings, the unfilled package **18** while engaging the shoulders **22** of spacer plate **19** has its pocketed strip **25** arranged entirely within the frontal opening or recess **20**, the unfolded flap **26** projecting partially outside of the recess **20** and lying upon the flat extension **17**, FIGURES 7–9.

Immediately above the spacer plate **19** there is preferably provided a thin stationary low friction bearing plate or strip **28** to facilitate the operation of a slide structure to be described. The strip **28** has its forward portion cut away adjacent the aforementioned recess **20**.

A two-part slide **29** having upper and lower plate sections **30** and **31** is mounted directly upon the strip **28** and between additional side guide rail members **32** which

are substantially coextensive with the underlying members **21**. These guide rail elements at the sides of the apparatus may be secured together upon the base plate **16** adhesively or in any other preferred manner. A sandwich-like structure is provided, as shown. The rear portions of slide parts **30** and **31** have a thin rectangular stop plate **33** sandwiched therebetween and rigid therewith. At the same elevation, a thin stationary pocketed plate **34**, preferably of low friction material, is arranged between the upper and lower parts **30** and **31** of slide **29**. The stationary element **34** is suitably held between the aforementioned rails **32** in clamped relation therewith. The rear portion of the stationary element **34** is cut away to form a large rear rectangular recess **35** therein, receiving the movable stop element **33** of the slide **29**. Forward movement of the slide **29** is arrested by engagement of stop element **33** with the forward edge **36** of recess **35**.

As shown in the drawings, the upper slide part **30** is considerably longer than the lower part **31** and includes a forward end finger grip **37** extending transversely thereacross. Considerably rearwardly of its forward end, the upper slide part **30** has a transverse row of equidistantly spaced circular token pockets **38** formed therethrough. The token pockets may be five in number or any convenient number transversely of the slide. The lower slide part **31** as shown clearly in FIGURES 7 through 10 underlies the row of pockets **38** at all times and in all positions of the slide and has its leading edge **39** terminating slightly in advance of the pockets **38**. It should be clearly understood that the entire slide **29** including elements **30**, **31**, **33** and the pockets **38** move as a unit longitudinally while the intervening pocketed plate **34** remains stationary and slides relative to the parts **30** and **31** between which it slidably intervenes. The stationary plate **34** extends longitudinally to the forward ends of the rails **21**, etc. and is provided near and rearwardly of its forward end with a pair of parallel transverse rows of spaced circular token pockets **40** corresponding in number and spacing to the pockets **38** of the single row in the slide. The two fixed rows **40** of pockets are arranged to register accurately in succession with the single row **38** of the slide so that tokens from the single row of pockets **38** may drop into the pockets **40** of the two rows in the plate **34**, as will be further described. The two rows of pockets **40** are also directly above and in superposed relation with the token pockets **27** of the package **18**.

Rearward movement of the slide **29** is positively limited by engagement of the finger grip **37** with stop shoulders **41** of an upper flat tray member or platform **42** which overlies the top part **30** of slide **29** and is suitably rigidly secured to the underlying rail members **32**, etc. The tray member **42** is relatively thick and has a single row of transversely spaced token pockets **43** formed therethrough, adapted to register with the slide token pockets **38**. As shown in the drawings, the tray pockets **43** are deep enough to accommodate a plurality of the tokens **24** and allow two or three such tokens to drop into the pockets **38** of the slide **29** when the two rows of pockets are in registration, FIGURES 1, 2 and 7. The row of pockets **43** is disposed at the front of tray member **42** to provide an adequately broad flat surface rearwardly of the pockets so that the user of the apparatus may manipulate a rather large number of tokens on the tray member and slide them into the pockets **43**.

The operation of the apparatus is as follows.

The apparatus is placed upon a flat counter surface or table and a sufficiently large number of tokens **24** are placed loosely on the tray member **42**. The package **18** is introduced into the recess **20** until the shoulders **22** are engaged. The slide **29** is arranged at the innermost position engaging the shoulders **41**. This assures registration of the pockets **43** and **38** of tray member **42** and slide part **30**, respectively.

These registering rows of pockets, FIGURE 3, are now filled or partly filled with tokens. The number of

tokens which the apparatus may accommodate in the rows of registering pockets is somewhat variable and will depend upon the thickness of tray member **42** and of the slide structure. Preferably, sufficient tokens can be placed in the tray pockets **43** and registering slide pockets **38** to fill several token packages by continuous operation of the slide **29** and without refilling the pockets **43**.

In any event, with the parts arranged as in FIGURES 2 and 7 and 3, the operator utilizing the finger grip **37** pulls the slide **29** forwardly, whereupon the parts will assume a position such as shown in FIGURES 5 and 8. The pockets **38** of the slide part **30** have now conveyed at least two of the tokens **24** from the bottom of each stack of tokens in the pockets **43** forwardly. In the drawings, for illustrative purposes, the pockets **38** have actually carried three tokens forwardly from the main stacks of tokens. At the point shown in FIGURE 8, the stacks of tokens in the pockets **38** will register with the first row of underlying stationary pockets **40**. These pockets **40** are deep enough to peel off one token each from the stacks in the pockets **38**, see FIGURE 8. The lower slide part **31** continues to support the tokens which are in the pockets **38** and **40**, FIGURE 8, etc.

Further advancement of the slide **29** to a position such as illustrated in FIGURES 6 and 9 will carry the remaining tokens in the slide pockets **38** into direct registration with the second row of pockets **40** in the stationary thin plate **34**. Immediately, another token will enter each of the pockets **40** in the second row thereof from the bottoms of the stacks in the pockets **38**. The lower slide part or plate section **31** now supports the tokens in each of the rows of pockets **40**, see FIGURE 9.

The operator has now moved the slide **29** to the forward limit of its travel controlled by engagement of the elements **33** and **36** as previously explained. The operator now begins to return the slide inwardly as shown by the arrow in FIGURE 10 and when this occurs, the lower slide part **31** begins to move rearwardly over the bottom face of the intermediate fixed plate **34**. Upon sufficient rearward movement of the slide **29**, FIGURE 10, the slide part **31** will uncover the forwardmost row of pockets **40** and the single tokens **24** in each of these pockets **40** will be delivered directly by gravity to the registering underlying pockets **27** of package **18**, thus filling one row of pockets in the package. Continued rearward movement of the slide **29** beyond the position shown in FIGURE 10 will cause the slide part **31** to uncover the tokens **24** in the second row of pockets **40** and when this occurs the last-named tokens **24** will be deposited directly into the second row of pockets **27** of the token package **18**. This completes the filling of the package **18** with tokens. The slide **29** is now fully returned to the position of FIGURE 7 so that the slide pockets **38** may pick up additional tokens for filling another package. If need be, additional tokens on the tray member **42** are not introduced into the pockets **43**. Any extra tokens remaining in the pockets **38** after the filling operation are merely returned to the position of FIGURE 7. One such extra token is illustrated in FIGURE 10. If preferred, the thickness of the part **30** may be such that only two tokens **24** are delivered forwardly therein. At least two tokens are required in the pockets **38** to fill the double row of token pockets in each package **18**.

Upon return of the slide to the position shown in FIGURES 1 and 7, the filled package **18** is simply removed forwardly from the opening **20** and folded over and sealed while on the extension **17**. Another package to be filled may then be immediately introduced into the opening or recess **20** and the mode of operation is repeated as above described.

The simplified apparatus enables a subway attendant or the like to quickly fill and seal a large number of the token packages, particularly during slack periods of business. These packages may then be quickly dispensed or sold to customers during the peak periods of business

and will entirely eliminate the tedious process of counting and dispensing various numbers of unwrapped tokens. The apparatus renders the procedure of selling packaged tokens entirely practical and economically feasible. As stated, the disposable package is an excellent medium for bearing advertising. It is constructed to be carried in the purse or pocket of the user.

Without any further description, it is thought that the advantages of the invention will be fully apparent to those skilled in the art.

It is to be understood that the form of the invention herewith shown and described is to be taken as a preferred example of the same, and that various changes in the shape, size and arrangement of parts may be resorted to, without departing from the spirit of the invention or scope of the subjoined claims.

Having thus described my invention, I claim:

1. An apparatus for delivering tokens in single token layers to token packages having rows of token pockets therein, each token pocket receiving a single token from the apparatus, the apparatus comprising a generally flat base member having a compartment for receiving and aligning a token package while the package rests upon the base member, a stationary plate spaced above the base member and having rows of pockets therein adapted to register with the pockets of said package and receiving tokens and delivering them by gravity to the pockets of the package, the pockets of the stationary plate adapted to receive a single token layer only at each operation, and a reciprocatory slide structure for transferring tokens from a source above the stationary plate to the pockets of the stationary plate, the slide structure including a non-pocketed slide plate arranged immediately below the stationary plate and between the latter and the base member, said slide plate shiftable back and forth into covering and uncovering relationship with the bottoms of the pockets in the stationary plate.

2. Apparatus for filling pocketed token packages with tokens comprising a base plate to support a pocketed token package with the pockets thereof facing upwardly and arranged in plural rows, a member on the top of said apparatus having a row of token pockets corresponding in number and spacing to one of the package row of pockets and each adapted to receive a plurality of tokens from the upper surface of the member, a slide structure on the apparatus intermediate the member and base plate supporting said package and including a pair of superposed parts movable as a unit, the upper slide part having a row of pockets adapted to register in one position with the pockets of the member to receive a plurality of tokens therefrom, the lower slide part underlying the pockets of the upper slide part, a fixed plate member arranged slidably between said upper and lower slide parts and having plural rows of token pockets, each adapted to register in succession with the pockets of the upper slide part when the slide is moved in one direction, the lower slide part then covering the bottoms of the pockets of the plural rows of the fixed plate member and supporting the tokens therein, reverse movement of the slide structure causing the lower slide part to uncover in succession the pockets of the fixed plate member so that the tokens therein are delivered by gravity one each into the pockets of said package on said base plate.

3. A delivery apparatus for delivering tokens from a bulk source to pocketed packages in a quick and orderly manner comprising a support member for a multiplicity of tokens having a group of token pockets formed therethrough each adapted to receive a stack of tokens, a reciprocatory slide immediately below the support member including a relatively long upper plate and a foreshortened lower plate spaced slightly below the upper plate and movable therewith, the upper plate of the slide having a group of token pockets formed therethrough adapted to register with the token pockets of the support member, an intervening thin stationary plate element between the upper and lower plates of the slide and having at least a group of token pockets formed therethrough adapted to register with the pockets of the upper plate of the slide in one adjusted position of the slide, the lower plate of the slide then underlying and supporting a single token in each pocket of said intervening plate element, reverse movement of the slide causing the tokens in the pockets of said plate element to be released by the lower plate of the slide for direct transfer to the pockets of the token package, said package being positioned under said slide and intervening plate element.

4. Apparatus for depositing transit tokens in packages comprising a flat base plate, a member spaced above the base plate and adapted to hold a multiplicity of tokens and having a group of token pockets each receiving a stack of tokens, a reciprocatory slide interposed between the member and base plate and spaced above the top face of the base plate so that a token package to be filled may be placed on the base member beneath said slide, said slide having a group of pockets to transfer tokens from the member pockets to said package and having a part supporting the tokens in the pockets of the slide, and a stationary member having pockets coacting with the slide to remove a single token from each pocket of the slide and delivering each such token to the package when the slide is moved in a reverse direction.

5. Apparatus for use in filling token packages comprising a base member adapted to receive a token package and having abutment means thereon to accurately position the package, a pocketed stationary plate above the base member and package adapted to receive tokens in the pockets thereof for delivery by gravity to the package directly therebelow, a source of tokens above said pocketed plate, and a slide for transferring tokens intermediate said source and base plate and having transfer pockets, said slide having an intermediate slot receiving the pocketed stationary plate and movable relative thereto, said slide having a part underlying said transfer pockets and also underlying said pocketed stationary plate, whereby movement of the slide in one direction will shift said underlying part to uncovering relation with the pockets of the stationary plate.

6. Apparatus for depositing transit tokens or the like in a preformed package having two rows of token pockets therein, said apparatus comprising a base plate to receive said package and a guide recess including stop means on said base plate to position said package accurately to receive the tokens in said pockets, and delivery means for tokens on said base plate above the guide recess and package including an elevated tray member for tokens having a row of pockets each adapted to receive a stack of tokens, a reciprocatory slide between the tray member and said package having a row of delivery pockets each receiving at least a pair of tokens from the bottoms of said stacks in one position of the slide, said slide having a bottom part underlying the pockets of the slide and spaced slightly therefrom, an intervening member fixed to the base plate and being relatively movable between the pockets of the slide and said bottom part and having a pair of rows of token pockets each adapted to receive one token from the bottom of the pockets of the slide in further adjusted positions of the slide, said last-named pair of pocket rows being directly over the pockets of the package, reverse movement of the slide causing the slide bottom part to progressively uncover the rows of pockets in said intervening member so that the tokens therein fall directly into the pockets of the package.

7. The invention as defined by claim 6, and a stop element on said slide engageable with a portion of the intervening fixed member to arrest outward movement of the slide, said tray member having a stop part to arrest inward movement of the slide.

8. An apparatus for filling token packages and the like comprising support means having a recess and posi-

tioning means for said package, a token tray on the support means at an elevation above the package and having pockets for stacks of tokens, a reciprocatory slide between the token tray and package and upon the support means and having pockets to receive tokens from the bottoms of the tray pockets when the slide is positioned in one extreme position on the support means, the slide having a narrow horizontal slot formed therethrough, a relatively stationary thin intervening plate member within said slot and anchored to the support means and having plural token pockets adapted to register with the pockets of the slide in certain adjusted positions thereof, the pockets of the plate member receiving single tokens from the bottoms of the pockets of the slide when the slide is in an intermediate adjusted position and a second extreme position, reverse movement of the slide uncovering the pockets of the intervening plate member and

allowing the single tokens therein to drop into pockets of said package.

9. The invention as defined by claim 8, and positive stop means to arrest movement of the slide when its pockets are registering with the pockets of said tray and intervening plate member substantially.

References Cited

UNITED STATES PATENTS

757,612	4/1904	Gilfillan	53—254 X
961,473	6/1910	Abbott	53—254 X

TRAVIS S. McGEHEE, *Primary Examiner.*

GRANVILLE Y. CUSTER, JR., *Examiner.*

R. L. FARRIS, *Assistant Examiner.*