Oct. 20, 1953 F. SE BASTIAN 2,656,235

DISK-SHAPED PHONOGRAPH VENDING APPARATUS

Filed May 16, 1952 3 Sheets-Sheet 1

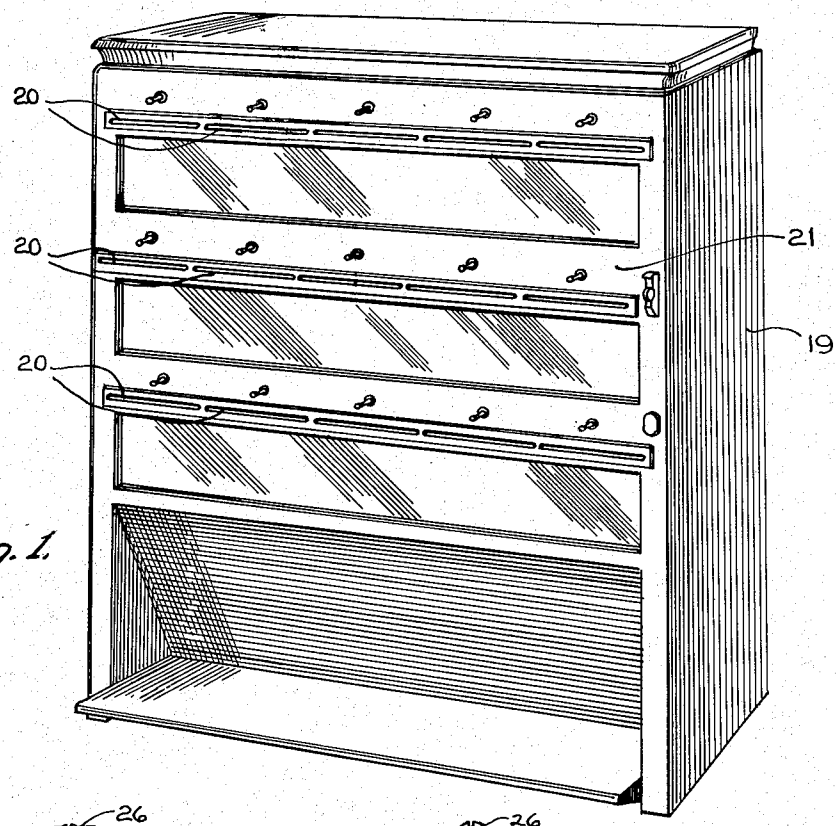


Fig. 1.

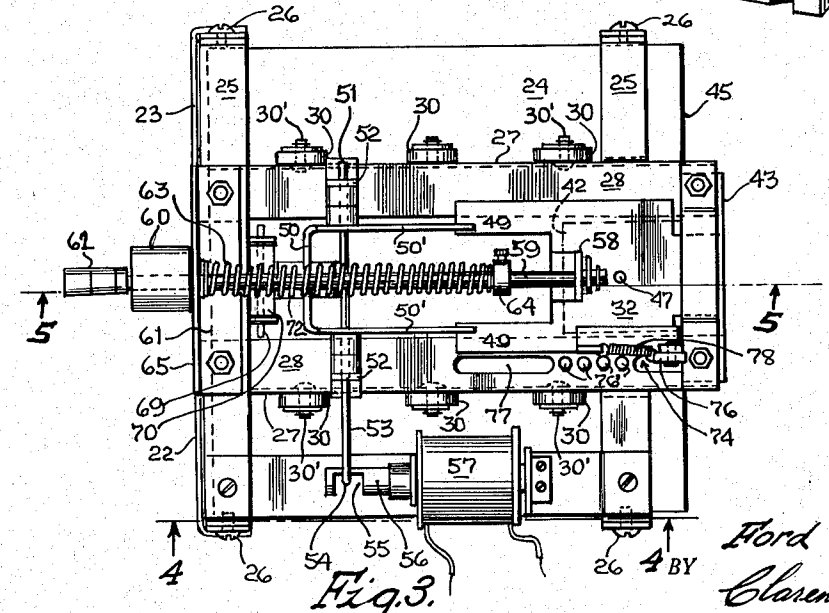


Fig. 3.

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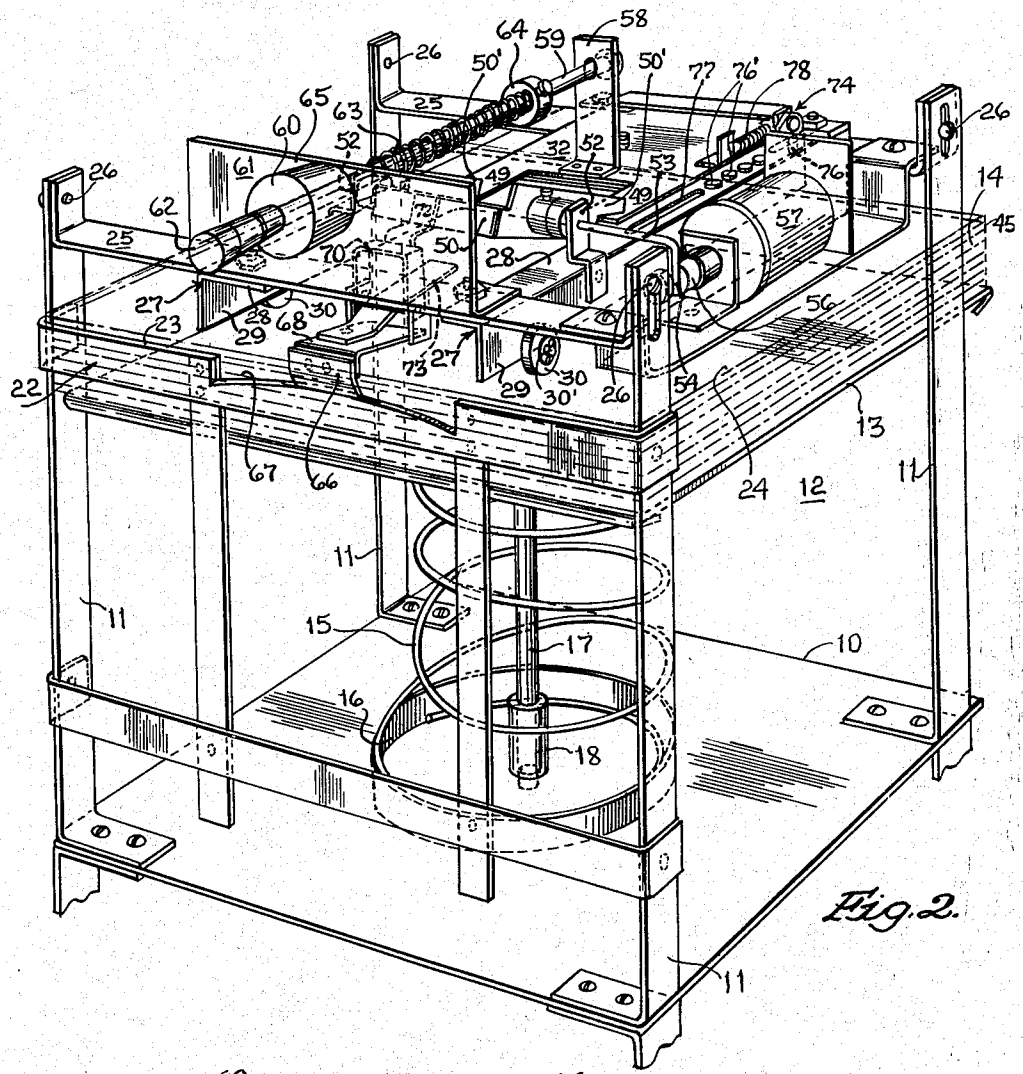


Fig. 2.

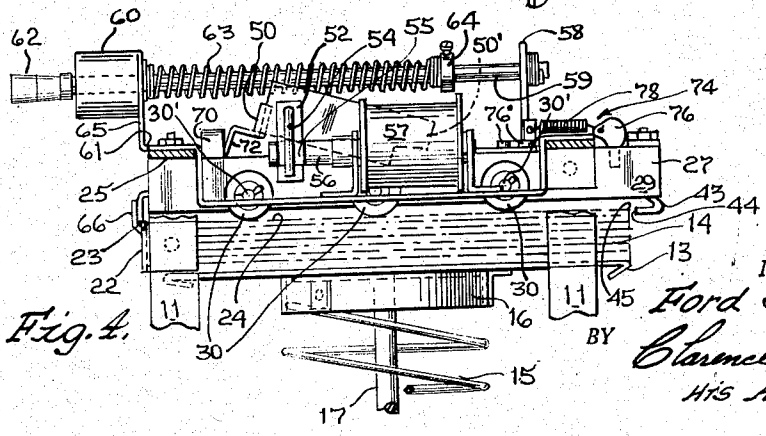


Fig. 4.

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DISK-SHAPED PHONOGRAPH VENDING APPARATUS

Filed May 16, 1952 3 Sheets-Sheet 3

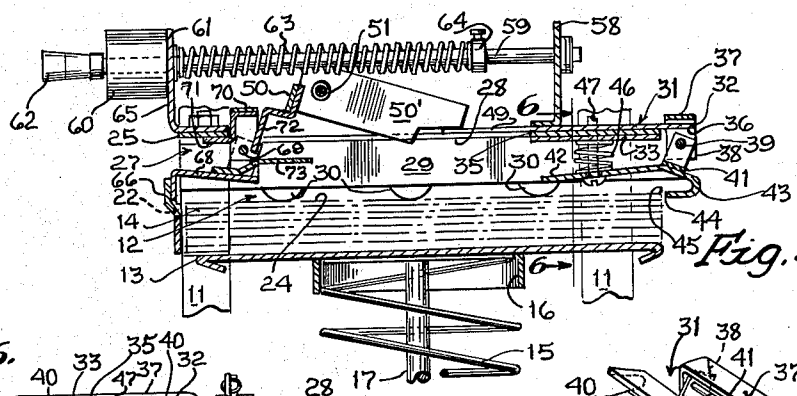


Fig. 5.

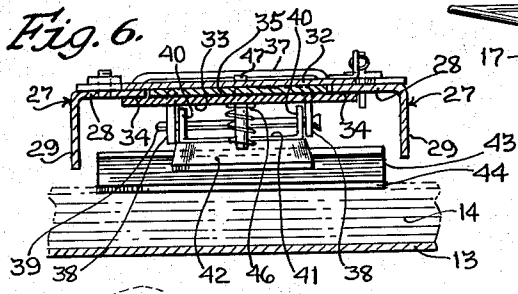


Fig. 6.

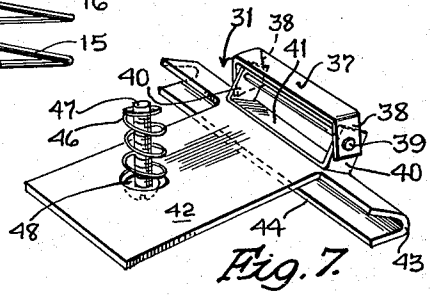


Fig. 7.

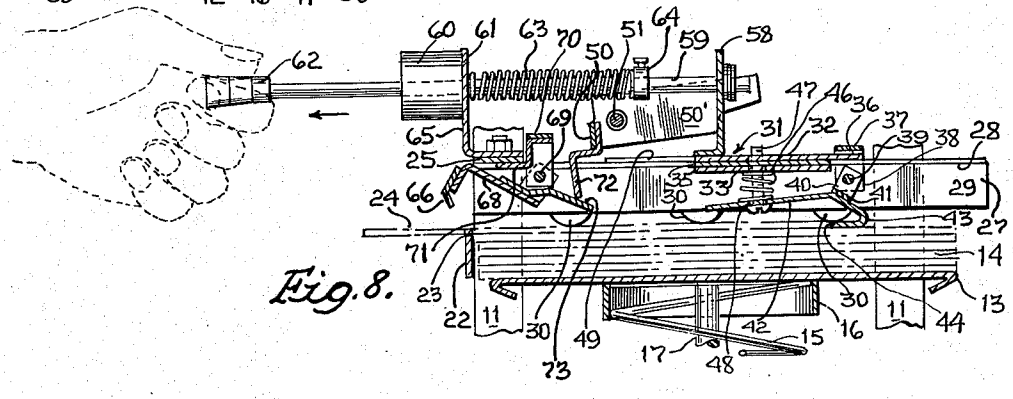


Fig. 8.

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Patented Oct. 20, 1953

2,656,235

UNITED STATES PATENT OFFICE

2,656,235

DISK-SHAPED PHONOGRAPH VENDING APPARATUS

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Application May 16, 1952, Serial No. 288,183

6 Claims. (Cl. 312—56)

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This invention relates to certain new and useful improvements in disc-shaped phonograph record vending apparatuses especially designed for vending a phonograph record of the disc-shaped type enclosed within a package, without tearing, marring or breaking the package or record contained therein.

An object of the invention is to provide such an apparatus which will effect the vending of the disc-containing package with the minimum degree of labor and effort upon the part of the operator; and which will move the package along a substantially straight line in a horizontal plane to a position where it may be readily and conveniently grasped by the operator.

A further object of the invention is to provide an apparatus of this character which is substantially compact in structure, comprising the minimum number of parts and one which can be economically manufactured and sold on the market for a reasonable price.

Other objects will appear hereinafter.

The invention consists in the novel combination and arrangement of parts to be hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings showing the preferred form of construction, and in which:

Fig. 1 is a perspective view of a cabinet within which are arranged a plurality of dispensing units;

Fig. 2 is a perspective view of one of the dispensing units;

Fig. 3 is a plan view of the same;

Fig. 4 is a sectional detail view taken substantially on line 4—4 of Fig. 3;

Fig. 5 is a sectional detail view taken substantially on line 5—5 of Fig. 3;

Fig. 6 is a fragmentary sectional detail view taken substantially on line 6—6 of Fig. 5;

Fig. 7 is a perspective view of a follower assembly embodied in the invention;

Fig. 8 is a sectional detail view similar to Fig. 5 but showing the parts arranged in different positions.

One of the objects of my invention as hereinbefore indicated is to provide an apparatus for vending a package containing a relatively flat disc-shaped phonograph record from the top of a stack of such packages. To accomplish this and other objects of my invention, I provide a plate 10 from the corners of which extend upwardly, supporting posts 11. These posts 11 provide a package storage chamber 12 in which is movable in a vertical plane a table 13 on which a stack

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of record-containing packages 14 are arranged. This table 13 is urged in an upward direction within the storage compartment 12 by an expansion spring 15 having its opposite end portions arranged within opposed cups 16 carried by the plate 10 and the table 13, respectively. A central guide post 17 is provided for the table 13. This guide post 17 is movable through a guiding sleeve 18 carried by the plate 10.

The plate 10 is mounted within a suitable cabinet 19, the front wall of which is provided with a dispensing slot 20. In the form of the cabinet shown in Fig. 1, the front wall provides a plurality of dispensing slots 20. The unit for dispensing a package containing a phonograph record, through these slots 20, is of common construction, the same being illustrated in perspective in Fig. 2. Corresponding posts of the posts 11 which are located adjacent the inside surface of the front wall 21 of the cabinet 19, have connected thereto in any suitable manner a transversely extending bar 22, the top edge 23 of which is disposed slightly below the plane of the bottom surface of the uppermost package 24 of the stack of record packages 14, so that such top package may freely slide over the top edge 23 for projection through the adjacent slot 20.

The vending apparatus positioned in the cabinet 19 is accessible through the back thereof, and may be loaded by manually depressing the table 13 in a downward direction against the action of the spring 15, thus exposing the storage chamber 12. The packages 14 are then stacked on the table 13 from the rear end of the apparatus.

Extending between the upper end portions of the posts 11 and in parallel relation with respect to each other, are relatively flat bars 25 adjustably secured to the upper end portion of the posts 11 by bolt and slot connections 26. Between these bars 25 are arranged oppositely disposed guide bars 27. These bars 27 are of enlarged formation in cross section to provide opposite parallelly extending horizontally arranged flanges 28. Carried by the depending flanges 29 of these bars 27 by suitable pivot pins 30' are rollers 30 which engage the top surface of the uppermost package 24 of the stack of packages 14. The flanges 28 support therebetween an ejector 31.

As the stack of packages 14 carried by the plate 13 is forced upward due to the action of the spring 15, the uppermost package 24 will engage the rollers 30, which rollers will prevent further upward movement of the stack of packages 14 and yet permit the package 24 to be ejected with the

least amount of frictional resistance, the rollers 30 merely rolling on the top side of the package 24 as it is thus ejected.

The ejector 31 comprises an upper plate 32 secured to a lower plate 33 in a manner such as to provide grooves 34 for the reception of the edge portions of the flanges 28, the plates 32 and 33 being spaced from each other by an intermediate plate 35. The top plate 32 has a rearwardly extending portion 36 to which is secured in any suitable manner a U-shaped bracket 37, the limbs 38 of which are connected by a pin 39 to the limbs 40 of a similar U-shaped bracket 41. The bracket 41 is secured in any suitable manner to a follower plate 42 having a reversely bent end portion 43 to provide a blade 44 for engagement with the adjacent edge portion 45 (Fig. 5) of the top package 24. This plate 42 is normally urged to the position shown in Fig. 5 by a spring 46 embracing a screw bolt 47 carried by the top plate 32 and which bolt 47 projects through an opening formed in plate 35 and an enlarged opening 48 formed in the follower plate 42. By adjusting the screw bolt 47, the blade 44 may be adjusted properly to engage the adjacent edge 45 of the top package 24.

The plate 32 provides two forwardly extending fingers 49 arranged in parallel relation with respect to each other. These fingers 49 are adapted to engage latch arms 50' formed as an integral part of a U-shaped bracket 50 pivotally carried and fixedly secured to a shaft 51. The ends of this shaft are journaled in suitable brackets 52 secured to the horizontal flanges 28. One end 53 of this shaft 51 is bent downwardly as at 54 to engage in a notch 55 of a plunger 56 of a solenoid 57. The bracket 50 is normally disposed in a position with its latch arms 50' in position to be engaged by the fingers 49. This arrangement prevents operation of the ejector 31 to project the top package 24 through the slot 20 until such time as the solenoid 57 is energized to pivot the shaft 51 in an anti-clockwise direction as viewed in Fig. 2, thereby to dispose the latch arms 50' from the path of movement of the fingers 49.

The ejector assembly 31 provides a stud plate 58 which is secured to the top plate 32 in any suitable manner. Secured to this stud plate 58 is an actuating shaft 59, the forward end of which moves through a suitable bearing 60 secured by a bracket 61 to the adjacent cross bar 25. This bearing 60 projects through the front wall 21 of the cabinet 19. On the outer end of the shaft 59 forwardly of the bearing 60 is a finger knob 62 adapted to be grasped by the hand of the operator during vending operation. The ejector assembly 31 is normally disposed in a rearward position with respect to the stack of packages 14 by means of an expansion spring 63 disposed between a fixed collar 64 and the upstanding wall 65 of the bracket 61.

A closure for the slot 20 is provided in the form of a plate 66. This plate 66 is normally disposed in a cut-out portion 67 provided in the adjacent bar 22 in the path of movement of the top package 24. This plate 66 prevents the insertion of an instrument or tool or the like in a fraudulent attempt to withdraw the uppermost package 24. During vending operation of the package this plate 66 is pivoted from the path of movement of the uppermost package 24. This is accomplished in the following manner: The plate 66 is carried by an arm 68 which is pivoted by a pin 69 to a bracket 70 in turn secured by

spot welding to an S-shaped bracket 71 also secured by spot welding to the bar 25 (Figs. 5 and 8). The plate 66 is normally disposed in the position shown in Fig. 2 and is moved from such position by engagement of a finger 72 with a rearwardly projecting extension 73 carried by the arm 68. This finger 72 is carried by and movable with the bracket 50.

A full-stroke device 74 is provided. This full-stroke device is of a well-known construction, comprising a latching pawl 76 adapted to engage between spaced latch heads 76' carried by the adjacent bar 27. In the bar 27, is formed an elongated slot 77 into which the pawl 76 is adapted to pass at the end of a full stroke, so that the pawl 76 may freely pivot in a direction to permit the return of the ejector to its inner or rearmost position. The pawl 76 is pivoted by the action of a spring 78.

It is intended that the energization of the solenoid 57 take place when a circuit is completed in a well-known manner to a power source, the completion of which circuit is effected by the deposit of a suitable coin. Such circuit has not been disclosed because it does not constitute any part of the present invention.

In use, the table 13 is moved downwardly against the action of the spring 15, to permit placing on the table a stack of packages 14 each containing a phonograph record of disc formation. The uppermost package 24 of the stack will be disposed by action of the spring 15 with its rear edge in alignment with the blade 44. When the solenoid 57 is energized, the plunger 56 will move in a direction to pivot the latch arms 50' in an upward direction from the path of movement of the fingers 49. At the same time the plate 66 is pivoted from the path of movement of the top package 24 of the stack of packages 14. The ejector 31 is now released for movement. The operator grasps the finger knob 62 and pulls the shaft 59 outwardly longitudinally through the bearing 60. This movement of the shaft brings the blade 44 into contact with the rear edge of the uppermost package 24 of the stack of packages 14, whereby continued movement of the ejector projects the uppermost package 24 through the slot 20 a sufficient distance to enable the operator to grasp the package and then manually withdraw the package from the cabinet 19.

By this simple and compact arrangement, packages containing flat phonograph record discs may be expeditiously vended to the public upon the deposit of the required coin.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to protect by Letters Patent of the United States is:

I. A machine for vending a package containing a relatively flat phonograph disc comprising a spring-elevated relatively flat supporting table disposed in a substantially horizontal plane and on which a stack of packages may be positioned, a guide structure above the table, a follower carried by the guide structure and movable in a horizontal plane over the stack of packages on

said table and including a blade adapted to engage an adjacent edge of said top package, means for manually moving said follower in a direction relative to said structure to remove said top package, latch means normally latching the follower against such movement, electromagnetic means for actuating said latch means to move said latch means from latched relation with respect to said follower, a movable blocking member normally disposed in the path of movement of said top package, and an operative connection between said blocking member and said latch means for effecting movement of said blocking member from blocking position with respect to said top package upon movement of said latch means by said solenoid from latched relation with respect to said follower.

2. A machine for vending a package containing a relatively flat phonograph disc comprising a spring-elevated relatively flat supporting table disposed in a substantially horizontal plane and on which a stack of packages may be positioned, a guide structure above the table and including roller elements engaging the top package of said stack of packages, a follower carried by the guide structure and movable in a horizontal plane over the stack of packages on said table and including a blade adapted to engage an adjacent edge of said top package, means for manually moving said follower in a direction relative to said structure to remove said top package, latch means normally latching the follower against such movement, electromagnetic means for actuating said latch means to move said latch means from latched relation with respect to said follower, a movable blocking member normally disposed in the path of movement of said top package, and an operative connection between said blocking member and said latch means for effecting movement of said blocking member from blocking position with respect to said top package upon movement of said latch means by said solenoid from latched relation with respect to said follower.

3. A machine for vending a package containing a relatively flat phonograph disc comprising a spring-elevated relatively flat supporting table disposed in a substantially horizontal plane and on which a stack of packages may be positioned, a guide structure above the table, a follower carried by the guide structure and movable in a horizontal plane over the stack of packages on said table and including a blade adapted to engage an adjacent edge of said top package, means for manually moving said follower in a direction relative to said structure to remove said top package, means for manually moving said follower in a direction relative to said structure to remove said top package, latch means normally latching the follower against such movement, electromagnetic means for actuating said latch means to move said latch means from latched relation with respect to said follower, a movable blocking member normally disposed in the path of movement of said top package, an operative connection between said blocking member and said latch means for effecting movement of said blocking member from blocking position with respect to said top package upon movement of said latch means by said solenoid from latched relation with respect to said follower, and means for adjusting the position of said blade relative to said adjacent edge of said top package.

4. A machine for vending a package containing a relatively flat phonograph disc comprising a spring-elevated relatively flat supporting table disposed in a substantially horizontal plane and on which a stack of packages may be positioned, a guide structure above the table and including roller elements engaging the top package of said stack of packages, a follower carried by the guide structure and movable in a horizontal plane over the stack of packages on said table and including a blade adapted to engage an adjacent edge of said top package, means for manually moving said follower in a direction relative to said structure to remove said top package, means for manually moving said follower in a direction relative to said structure to remove said top package, latch means normally latching the follower against such movement, electromagnetic means for actuating said latch means to move said latch means from latched relation with respect to said follower, a movable blocking member normally disposed in the path of movement of said top package, an operative connection between said blocking member and said latch means for effecting movement of said blocking member from blocking position with respect to said top package upon movement of said latch means by said solenoid from latched relation with respect to said follower, and means for adjusting the position of said blade relative to said adjacent edge of said top package.

5. A machine for vending a package containing a relatively flat phonograph disc comprising a spring-elevated relatively flat supporting table disposed in a substantially horizontal plane and on which a stack of packages may be positioned, a guide structure above the table and including spaced parallelly arranged guide bars having inturned horizontal flanges, a follower having parallel grooved portions for the reception of said horizontal flanges and movable longitudinally of said flanges in a horizontal plane over the stack of packages on said table and including a blade adapted to engage an adjacent edge of the top package of said stack, means for manually moving said follower in a direction relative to said structure to remove said top package, latch means normally latching the follower against such movement, electromagnetic means for actuating said latch means to move said latch means from latched relation with respect to said follower, a movable blocking member normally disposed in the path of movement of said top package, and an operative connection between said blocking member and said latch means for effecting movement of said blocking member from blocking position with respect to said top package upon movement of said latch means by said solenoid from latched relation with respect to said follower.

6. A machine for vending a package containing a relatively flat phonograph disc comprising a spring-elevated relatively flat supporting table disposed in a substantially horizontal plane and on which a stack of packages may be positioned, a guide structure above the table and including spaced parallelly arranged guide bars having inturned horizontal flanges and roller elements engaging the top package of said stack of packages, a follower having parallel grooved portions for the reception of said horizontal flanges and movable longitudinally of said flanges in a horizontal plane over the stack of packages on said table and including a blade adapted to engage an adjacent edge of the top package of said stack, means for manually moving said follower in a

direction relative to said structure to remove said top package, latch means normally latching the follower against such movement, electromagnetic means for actuating said latch means to move said latch means from latched relation with respect to said follower, a movable blocking member normally disposed in the path of movement of said top package, and an operative connection between said blocking member and said latch means for effecting movement of said blocking member from blocking position with respect to said top package upon movement of said latch means by said solenoid from latched relation with respect to said follower.

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