

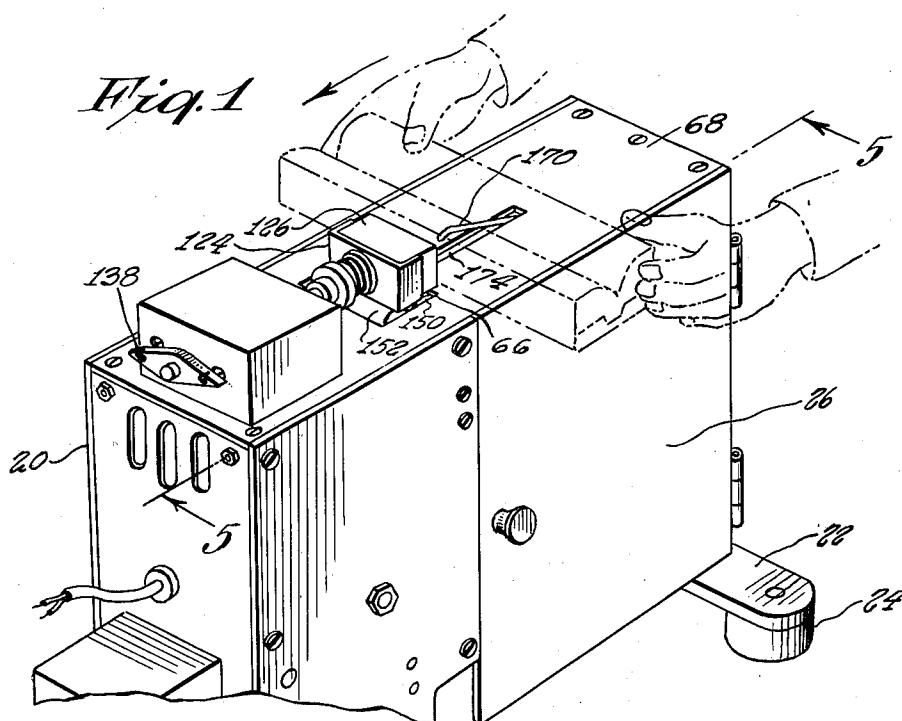
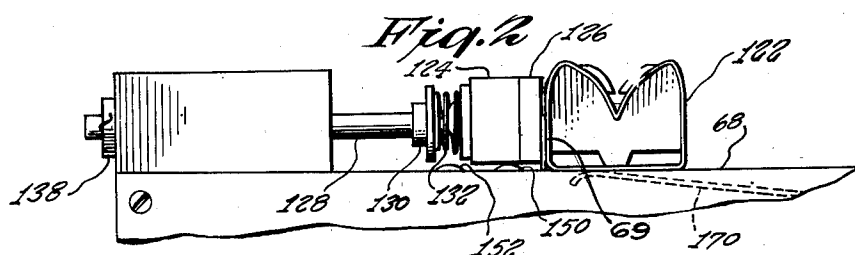
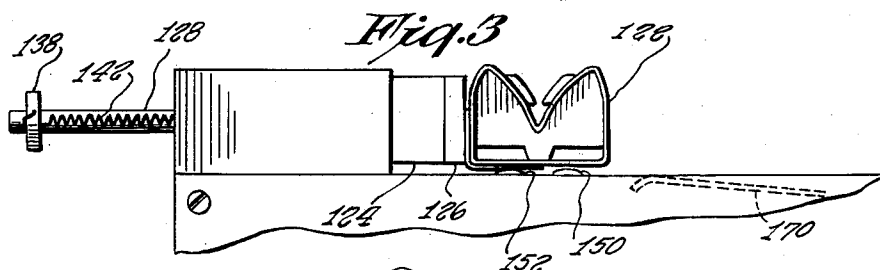
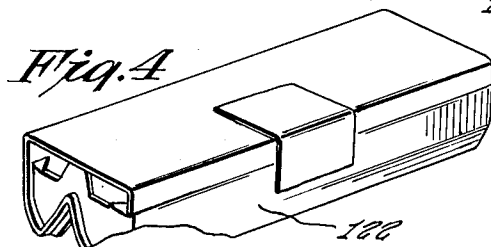
April 29, 1952

T. H. KRUEGER ET AL
TAPE DISPENSER AND APPLIER

2,594,316

Filed March 19, 1949

4 Sheets-Sheet 1



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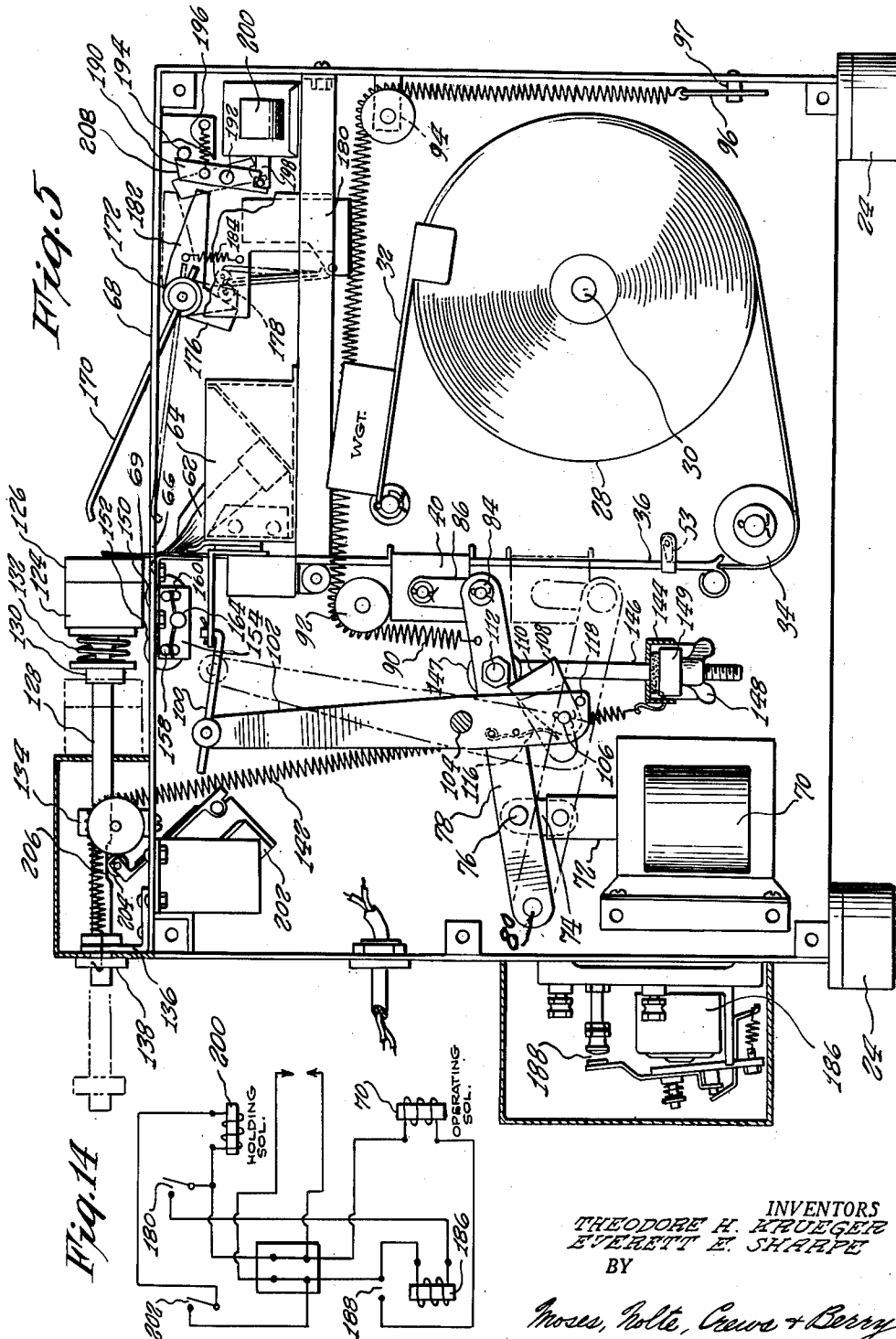
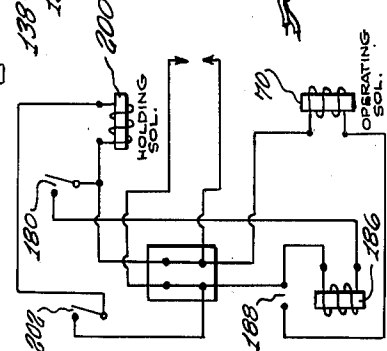


Fig. 1A



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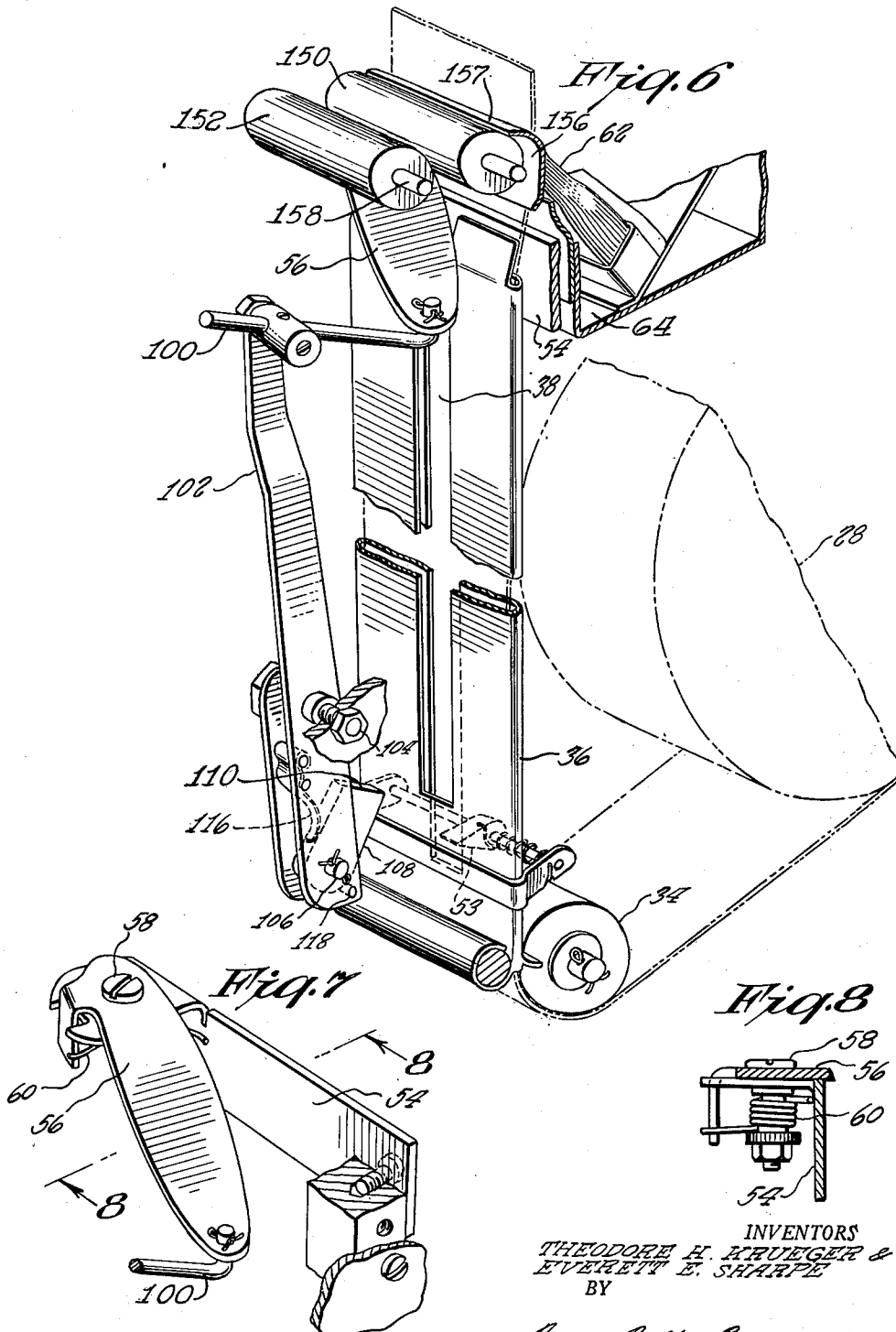
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4 Sheets-Sheet 3



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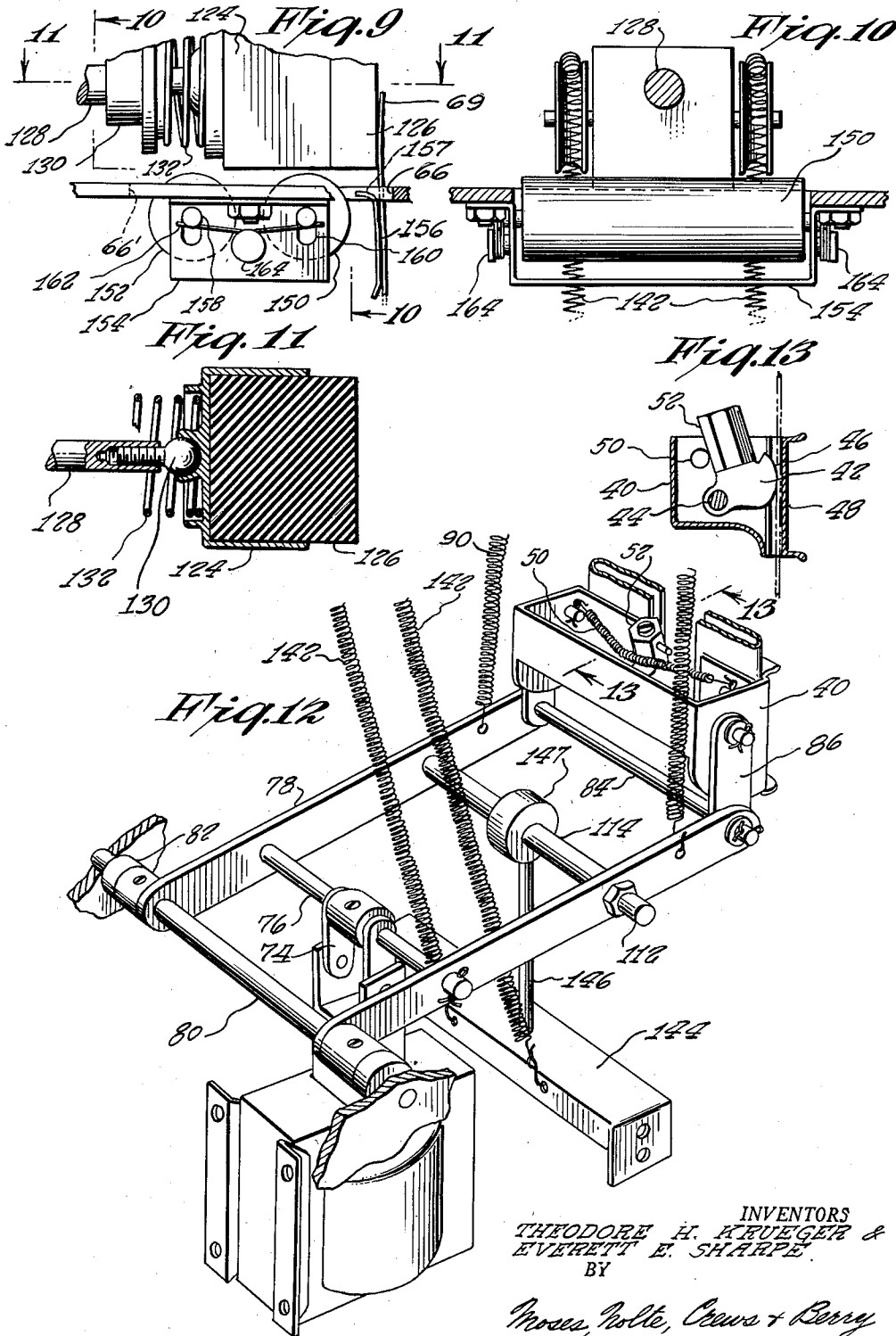
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4 Sheets-Sheet 4



UNITED STATES PATENT OFFICE

2,594,316,

TAPE DISPENSER AND APPLIER

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Application March 19, 1949, Serial No. 82,394

23 Claims. (Cl. 216—23)

1

This invention relates to tape dispensers and particularly to dispensers for serving adhesive tape for sealing boxes or packages.

In the dispensing of tape, particularly adhesive tape which may be used for sealing boxes or packages in rapid succession, it is important to provide means which will dispense the desired length of tape quickly and accurately. One of the problems involved is due to the inertia of the tape feeding devices, which if not properly controlled, may result in overthrow, whereby the accuracy of the feed is interfered with. This has been a particular problem in connection with power driven feeding devices utilizing an electric or other rotary motor. In devices utilizing an electric motor, for example, when the power is suddenly cut off, there is a tendency for the continued rotation of the motor armature and gears to produce overfeeding.

A primary object of the present invention is to overcome the objections noted above and in the accomplishment of this object, the invention contemplates the use of an electro-magnet or solenoid which feeds by direct action in place of a rotary motor which feeds through a system of gearing possessing substantial inertia. With the use of the solenoid, accurate throw of the mechanism is assured and consequently accurate feeding is produced.

In a preferred embodiment of the invention, in addition to utilizing the solenoid for accomplishing the feed of the tape, a cutter device is used which is operated in cyclical relationship to the feed.

This preferred embodiment of the invention also embodies means for applying lengths of tape fed by the feeding means to boxes or packages, the feeding and cutting cycle being initiated by the movement of the box or package to be sealed into the apparatus and its removal therefrom. Means are also provided to prevent operation of the apparatus except when the proper condition exists for such operation, so that there is no chance of the apparatus becoming fouled.

Other objects and advantages of the invention appear in the course of the following description of one preferred embodiment of the invention chosen to illustrate the principles thereof. Such embodiment is especially adapted to dispense dry gum tape which is moistened as it is dispensed. Obviously, the invention might be utilized to feed other types of tape, such as tape to which gum is applied as the tape is dispensed, pressure sensitive adhesive tape which requires no moistening, heat sealing tape, etc.

2

In the drawings:

Fig. 1 is a perspective view of one form of apparatus, showing in dotted lines a package, such as an egg carton, being sealed;

Fig. 2 is a side elevation of the upper part of the machine, showing the carton in position at the start of the operation;

Fig. 3 is a similar view, showing the carton moved to the limit position with the sealing strip applied thereto;

Fig. 4 is a perspective view of the sealed carton;

Fig. 5 is a vertical section on line 5—5 of Figure 1, showing the interior mechanism with the side plate of the casing removed;

Fig. 6 is a perspective view, showing the feeding, cutting, and moistening mechanism with parts broken away;

Fig. 7 is a perspective view of the cutting mechanism;

Fig. 8 is a transverse vertical section on line 8—8 of Figure 7;

Fig. 9 is a fragmentary view in side elevation, showing parts of the tape applying devices;

Figure 10 is a fragmentary vertical sectional view on line 10—10 of Figure 9;

Figure 11 is a horizontal sectional view on line 11—11 of Figure 9;

Figure 12 is a perspective view showing the feed solenoid, feed lever, and tape gripping member;

Figure 13 is a vertical sectional view on line 13—13 of Figure 12, showing the tape gripping clutch; and

Figure 14 is a wiring diagram of the apparatus.

Referring to the drawings in detail, 20 is the casing of the dispenser which may be mounted on supports 22 carrying rubber feet or pads 24. 26 is a hinged door which may be opened to permit inspection of the interior and for the purpose of inserting a tape roll 28, which is shown as rotatably mounted on an axle 30. For controlling the unwinding of the tape, a weighted brake lever 32 is conveniently provided. The tape is shown as passing under a guide roller 34 and up through a sheet metal tape channel or chute 36 (Figures 5 and 6), which is provided with openings 38 through its front and rear walls.

The tape is moved upwardly through the channel 36 by a tape feeding head 40 which is reciprocated up and down by mechanism to be described. Suitable means are provided for gripping the tape, such as the tape gripping cam 42 (Fig. 13) mounted on the pivot 44 in the head. The cam face 46 grips the tape and presses it against the back plate 48 on the upward movement of the

tape gripping head and slides freely over the tape on the downward movement of the head. A coil spring 50 is provided for holding the cam face lightly in contact with the tape. An adjustable counterweight 52 is also mounted on the cam by which the pressure of the cam face during the downward movement of the head may be adjusted. Obviously, owing to the eccentric relationship of the cam face with respect to the pivot 44, the tape will be firmly gripped during the upward movement of the head. A pawl 53 (Fig. 6) may be provided to prevent any possible backward movement of the tape. When the tape is moved upwardly, its upper end is projected out of the tape channel and past the cutter (Figure 7) which is shown as comprising a fixed ledger blade 54 with which cooperates a movable shear blade 56 pivoted at 58 and normally held in open position by spring 60. The means for operating the shear blade will be described below.

In the machine shown, the tape used is a dry gummed tape which is rendered adhesive by being moistened. For moistening the tape, a moistening brush 62 is provided which is mounted in a reservoir 64. Moisture is conducted up the brush by capillary action and spread over the gum on the tape as it is forced upwardly. The end of the tape is projected upwardly through a slot 66 in the top plate 68 of the casing, as shown at 69 in Figs. 2, 5 and 9.

For actuating the feeding head, a solenoid 70 is provided, the plunger 72 of which is connected through a link 74 to a rod 76 which is carried by two parallel lever arms 78 which are pivotally mounted on a transverse rod 80 carried in bearings 82 on the side walls of the casing (Figure 12). The free ends of the levers 78 are connected by a cross rod 84 which is connected by links 86 to the opposite ends of the reciprocating head 40. As the rod 76 to which the power of the solenoid is applied is much nearer to the fulcrum rod 80 than the ends of the levers which move the tape gripping head, it will be seen that a large range of the feeding movement is obtainable with a short movement of the solenoid plunger. As ample power is available in the solenoid, this promotes a favorable design of solenoid and a compact construction of apparatus. The levers 78 are biased in upward direction by springs 90. In order to utilize long springs which are desirable from the point of view of less variations in tension due to the throw of the levers 78 and greater durability, the springs 90 are carried over guide rollers 92, 94 and adjustably anchored at their ends by links 96 engaging pins 97 in the end wall of the casing. In the particular construction shown, the solenoid is used to move the tape feeding head downwardly a predetermined distance so that when drawn upwardly by the springs, a definite length of tape will be advanced. Obviously, if desired, the solenoid could be arranged to advance the head while the springs are used to retract it.

The cutter blade 56 is operatively connected with the tape feeding mechanism by means of a link 100 which is connected to the upper end of a cutter operating lever 102. The latter is mounted on a pivot 104, and pivoted to its lower end on a pivot 106 is a latch member 108 having an inclined cam face 110 which is engaged by a pin 112 on a cross shaft 114 carried by the levers 78 (Figure 12). The latch member 108 is normally biased to swing in a clockwise direction by a spring 116, its motion in that direction being limited by a stop pin 118. When the levers 78

are drawn downwardly by the solenoid, the pin 112 engages the face 110 on the latch member 108 and moves the cutter lever from the position shown in full lines in Figure 5 to the position shown in dotted lines, thus moving the blade 56 to shear the tape. The pin 112 will ride entirely past the lower edge of the surface 110 so that after the lever has moved over to do the cutting, it will be thrown back by the spring 60 on the blade 56 to the full line position, thus moving the shear out of the way for the next feeding operation of the tape. Upon the movement of the levers 78 and pin 112 upwardly on the tape feeding operation, the pin 116 will push the latch member 108 out of its way. After it has passed the latch member, the latter will be swung back by its spring to a position ready for engagement by the pin 112 on the next cutting operation.

It will be seen that when the end of the moistened tape is projected upwardly through the slot 66, it will be ready to have the side of the carton 122 pressed against it. An abutment is provided for pressing the end of the tape against the side of the carton. This abutment comprises a back 124 in which is mounted a yielding member which, in the present instance, comprises a block 126 of sponge rubber or other firm yielding material. The abutment is carried on the end of a push rod 128, it being preferably mounted on said rod by means of a ball and socket connection shown at 130 (Fig. 11). It is held approximately normal to the rod by a coil spring 132. This arrangement keeps the abutment in proper position for engagement by the carton but will permit a certain amount of yielding, so that it can properly orient itself for engagement with the carton wall, even though the latter may not be perfectly flat or presented at exactly right angles to the axis of the push rod. The push rod 128 is mounted to slide in guides 134, 136 (Fig. 5) and carries at its rear end a cross head 138 to the ends of which are attached springs 142. The cross head 138 acts as a stop to limit the motion of the push rod towards the right. In the construction shown, the lower ends of the springs 142 are anchored to a fixed cross bar 144. A rod 146 projecting downwardly from a collar 147 passes through a hole in this cross bar. This rod has an adjustable nut 148 on its lower end which carries a buffer 149 of resilient material which engages the underside of the cross bar 144, thus adjustably limiting the upward movement of the levers 78 and feeding head 40.

Mounted below the abutment 124 are one or more wiping rollers 150, 152, preferably made of rubber or other yielding material, which serve to wipe the lower end of the piece of tape against which the carton has been pushed, around the underside of the carton as it is advanced. The strip of tape will thus be applied around the corner of the carton, as shown in Figure 4. In the construction shown, (Fig. 9) the rollers 150, 152 are mounted in a box 154 which is attached to the underside of the top plate 68. The rollers to project above the plate through the rear part of the slot 66, which is separated from the front part through which the tape projects by a tape guide plate 156 (Figs. 6 and 9) having a curved flange for guiding the tape to the roller 150. The rollers are preferably yieldingly mounted. In the construction shown, the axles 158 of the rollers extend through slots 160 in the sides of the box 154. Springs 162 mounted on pins 164 projecting from the sides of the box bear against the axles

158 so as to yieldingly force the axles of the rollers upwardly.

With the construction described, it will be seen that as the carton is pushed against the projecting end of the tape, it will push the latter against the yielding block 126 on the abutment and will carry the tape and the abutment with it. This piece of tape has already been cut off by the action of the shear and the lower end of the tape will be wiped around the corner of the box by the rollers 150 and 152. The sealed carton is then removed, whereupon the abutment will be pushed back to its original position by the springs 142.

For setting the apparatus in motion, so that immediately after a carton has been sealed and removed, another piece of tape will be advanced and moistened, ready for sealing the next carton, a series of mechanical and electrical connections are provided. A trip lever 170 is mounted on a shaft 172 and is arranged to swing into a position above the top plate 68, as shown in full lines in Figures 1 and 5. A slot 174 is provided in the top plate and when the carton is placed upon lever 170, the latter is pushed down through the slot to the dotted line position shown in Figure 5. The shaft 172 also carries an arm 176 which engages a roller 178 on the operating arm of a switch 180, so that when the lever 170 is depressed, the switch 180 is closed. The shaft 172 carries a second arm 182 to which is attached a spring 184 which biases the lever and shaft so as to normally project the lever 170 above the surface of the plate 68.

Referring to the wiring diagram, Figure 14, it will be seen that depression of the lever 170 by placing the carton thereon, will close the switch 180. This will close the circuit through a relay 186, causing the latter to close the contacts 188 in the circuit of the operating solenoid 70. The latter will thus be energized and will pull down the levers 78 and tape feeding head 40. At the same time, the cutter will be tripped so as to shear off the piece of tape which is projecting upwardly in the front of the abutment 124 and has now been engaged by the side of the carton which has been placed in the machine and which has depressed the lever 170.

This is all the mechanism which is essential for normal operation of the apparatus if a carton is used of such size that if it is pressed against the abutment and moves the latter to the left, it is still wide enough to rest upon the lever 170 and hold it depressed. The lever then stays depressed until the carton is removed, whereupon it will fly up under the influence of the spring 184. This will move the arm at 176 away from the contact member 178 and permit the switch 180 to open, whereupon the relay 186 will break the contacts 188 and de-energize the solenoid 70. This will permit the springs 90 to pull up the levers 78 and tape feeding head 40 which will feed and moisten the end of the tape strip and leave it projecting in front of the abutment, ready for the next carton. Upon application of such next carton, the lever 170 will be again depressed, the moistened end of the strip will immediately be sheared off and the tape feeding head moved down, ready for the next feeding operation.

It is desirable to provide additional controls which will prevent the feeding of a second strip of tape until after the carton is entirely removed from the apparatus and the movable abutment has had time to return to its original position. Means are provided in the construction shown

for accomplishing this result. Such means include a trigger 190 (Figure 5) which is carried on a pivot 192 and is biased to swing in a clockwise direction against a stop 194 by spring 196. Connected to the lower end of the lever is the plunger 198 of a holding solenoid 200. In the circuit of the holding solenoid is a holding switch 202 on the operating arm of which is a contact roller 204 engaging the bottom surface of the push rod 128. The latter surface has a cam depression 206 therein. When the roller 204 is in the depression 206, the switch 202 is open and the circuit through the holding solenoid is broken. When, however, a carton is placed in position so as to depress the trip lever 170 and is pushed against the movable abutment so as to force the abutment and the push rod 128 to the left, then the depression in the push rod moves to the left beyond the contact roller 204 and the pressure of the push rod on the latter closes the switch 202. The holding solenoid 200 is thereupon energized and this swings the inclined upper end 208 of the trigger lever 190 under the end of the arm 182 which is now in the raised position shown in dotted lines in Figure 5, owing to the depression of the lever 170. The lever 170, therefore, cannot assume its raised position and the arm 176 is accordingly held against the contact 178 so as to keep the switch 180 closed, thereby keeping the main solenoid 70 energized and preventing the upward feeding movement of the tape feeding head 40. This condition obtains until the carton is removed and the movable abutment and push rod 128 have had time to move to the right to initial position, thereby permitting switch 202 to open and break the circuit through the holding solenoid. When that happens, the trigger lever swings out from under the end of the arm 182 and permits the lever 170 to rise, whereupon a further piece of tape is fed, ready for the next carton. Premature feeding of the tape and possible jamming or fouling of the machine is thus effectually prevented.

With the construction described, it will be seen that there are no rotary gears or motor armatures, the momentum of which might cause overfeeding of the tape. The tape is caused to be fed by a reciprocating head which moves through a predetermined distance under the controlled action of the solenoid and springs. This arrangement for feeding tape is most effective and is adaptable to use in various associations where a positive length of feed is required.

While we have illustrated and described in detail one preferred form of our invention, it is to be understood that changes may be made therein and the invention embodied in other structures. We do not, therefore, desire to limit ourselves to the specific construction illustrated, but intend to cover our invention broadly in whatever form its principles may be embodied.

We claim:

1. In an electrically operated tape dispenser, tape feeding means comprising a reciprocating tape gripper, a lever connected at one end to said gripper and pivoted to a fulcrum at the other end, an operating solenoid having a plunger connected to the lever at a point nearer the fulcrum of the lever than the distance from the fulcrum to the point of connection of the lever to the tape gripper whereby the range of movement produced by the solenoid is multiplied at the tape gripper, spring means for moving the lever and tape gripper in the opposite direction from which they are moved by the solenoid when energized, and adjustable

7

stop means for limiting the movement of the gripper by the spring means.

2. In an electrically operated tape dispenser, tape feeding means comprising a reciprocating tape gripper, a lever connected at one end to said gripper and pivoted to a fulcrum at the other end, and an operating solenoid having a plunger connected to the lever at a point nearer the fulcrum of the lever than the distance from the fulcrum to the point of connection of the lever to the tape gripper, whereby the range of movement produced by the solenoid is multiplied at the tape gripper, a shear cutter for cutting the tape, a pivoted lever arm operatively connected to the movable shear of said shear cutter, a cam member on said lever arm, and a cam operating member mounted on said gripper reciprocating lever for engagement with said cam member.

3. In an electrically operated tape dispenser, means for supporting a roll of tape, a guide channel for the tape, said guide channel having an opening in the front thereof, a reciprocating gripper head mounted to move along said guide channel, said gripper head carrying a gripper constructed to engage the tape through said slot in said guide channel, a lever mounted on a fixed pivot support at one end and connected to said reciprocating head by means of a pivoted connecting link attached to its other end, an operating solenoid having a plunger connected to said lever at a point between its pivotal support and its connection to the reciprocating head, and a spring connected to said lever for moving the same in the opposite direction from that in which the lever is moved when the solenoid is energized.

4. In an electrically operated tape dispenser and applier, tape feeding means comprising a reciprocating tape gripper and means for reciprocating said gripper through a predetermined range of movement, said means including an operating solenoid, a movable abutment for an object to which the tape is to be applied, means for guiding the fed tape across the face of said abutment, means for severing the piece of tape to be applied to the object, a tripping device separate from the movable abutment mounted in the path of the object to which the tape is to be applied, switch means operated by said tripping device for modifying the circuit through the operating solenoid, means for holding the tripping device in the position to which it is moved by an object engaging the same while the abutment is being moved by engagement of the object therewith, and means for releasing said tripping device for return to its initial position upon return of said movable abutment to its initial position.

5. In an electrically operated tape dispenser and applier, tape feeding means comprising a reciprocating tape gripper and means for reciprocating said gripper through a predetermined range of movement, said means including an operating solenoid, a movable abutment for an object to which the tape is to be applied, means for guiding the fed tape across the face of said abutment, means for severing the piece of tape to be applied to the object, a tripping device separate from the movable abutment mounted in the path of the object to which the tape is to be applied, switch means operated by said tripping device for modifying the circuit through the operating solenoid, a latch member for engagement with said tripping device, a holding solenoid for operating said latch member, a switch in the circuit of said holding solenoid, and means associated

8

with said movable abutment for operating said last named switch.

6. In a tape dispenser and applier, a table for supporting an object to which tape is to be applied, a movable abutment projecting at all times above the surface of the table so as to prevent movement of an object across the table in contact with the surface thereof, guide means for supporting and guiding the same for reciprocating movement in a limited path parallel to the surface of said table, means for feeding adhesive tape in front of the face of said movable abutment, and means associated with said table and abutment for wiping said tape around the corner of an object while the same is pressed against the tape and said movable abutment in a direction to move said abutment.

7. A construction as claimed in claim 6 in which said abutment comprises a thick sponge rubber contact block.

8. A construction as claimed in claim 6 in which said abutment is mounted on a reciprocating plunger and a yielding universal joint connection is provided between said abutment and said plunger.

9. A construction as claimed in claim 6 in which a roller is yieldingly mounted below said table with a portion of the periphery thereof projecting through an opening in the table adjacent to said abutment, said roller acting to roll the end of a piece of tape held between the abutment and an object to which the tape is to be applied against the side of said object facing the table.

10. In a tape dispenser and applier, a table for supporting an object to which the tape is to be applied, a movable abutment, guide means for supporting and guiding the same for reciprocating movement in a limited path parallel to the surface of said table, spring means for advancing said abutment to the forward limit of its path, said table having a tape opening therein adjacent to the position of the front face of the abutment when so advanced, means for feeding adhesive tape through said tape opening in front of the face of said movable abutment, a cutter located below the table for severing a piece of tape the upper end of which is projected through said opening in front of said movable abutment, and means associated with the table and abutment for wiping the trailing end of said severed piece of tape around a corner of an object while the same is pressed against the tape and said movable abutment, and caused to move said abutment against the resistance of said spring means, said abutment when in its rearward position serving as a stop to prevent further movement of the object along the table.

11. A construction as claimed in claim 10 in which the wiping means comprise at least one roller mounted for limited up and down movement below the table and having a portion projecting through an opening in the table, and spring means for urging said roller upwardly in said opening.

12. A construction as claimed in claim 10 having a power device for actuating the tape feeding means, a movable trip device normally projecting above the surface of the table in front of the tape opening where it will be contacted by an object supported on the table adjacent to the abutment, and an operative connection between said trip device and said power actuating means for controlling operations of said power actuating means.

13. A construction as claimed in claim 10 in

which the tape feeding means includes a reciprocating tape feeding head and a solenoid for actuating the same, a switch in the circuit of said solenoid, and a trip element for actuating said switch, said trip element having a portion normally projected above the surface of the table in position to be engaged by an object placed upon the table in front of said abutment and actuated by said object so as to change the condition of the switch in the solenoid circuit.

14. In a tape dispenser and applier, a table for supporting an object to which the tape is to be applied, a movable abutment, guide means for supporting and guiding the same for reciprocatory movement in a limited path parallel to the surface of said table, spring means for advancing said abutment to the forward limit of its path, said table having a tape opening therein adjacent to the position of the front face of the abutment when so advanced, means for feeding adhesive tape through said tape opening in front of the face of said movable abutment, a cutter located below the table for severing a piece of tape, the upper end of which is projected through said opening in front of said abutment, said abutment when in its rearward position serving as a stop to prevent further movement of the object along the table, and a trip device for controlling the operation of the tape feeding means, said trip device having a portion normally located above the surface of the table and in front of the movable abutment, where it will be contacted by an object placed on the table adjacent to said abutment.

15. A construction as claimed in claim 14, having an electric power device for actuating the tape feeding means, and a switch in the circuit of said electric power device, said switch being connected to the trip means engageable by the object, and spring means for restoring said trip means to its normal position when the object is removed from contact therewith.

16. In a tape dispenser and applier, a table for supporting an object to which the tape is to be applied, a movable abutment, guide means for supporting and guiding the same for reciprocatory movement in a limited path parallel to the surface of said table, spring means for advancing said abutment to the forward limit of its path, said table having a tape opening therein adjacent to the position of the front face of the abutment when so advanced, means for feeding adhesive tape through said tape opening in front of the face of said movable abutment, a cutter located below the table for severing a piece of tape the upper end of which is projected through said opening in front of said movable abutment, an electric power device for actuating said tape feeding means and cutter, a switch in the circuit of said electric power device, a trip device including a movable trip element, and spring means for projecting said trip element into a position above said table and in front of said abutment where it will be engaged by an object placed on the table and adjacent to said abutment and depressed against the action of said spring means, and an operative connection between said trip device and said switch.

17. A construction as claimed in claim 16, including a holding solenoid, a detent operated thereby for engaging with a part of said trip device to hold the trip element of said device in depressed position, a switch in the circuit of said holding solenoid and an element connected to

the movable abutment and movable therewith for actuating said last named switch.

18. In a tape dispenser and applier, a table for supporting an object to which the tape is to be applied, a movable abutment, a plunger carrying said abutment, a guide for said plunger for guiding the same for movement in a direction parallel to the surface of the table, spring means for urging said plunger and the abutment carried thereby in a forward direction, said table having a tape opening therethrough, means below the table for feeding the tape through said opening, a tape cutter below said table for cutting off a portion of the tape the end of which has been fed through said opening, electric power means for actuating said tape feeding means and cutter, a trip lever having a portion normally projecting above said table and in front of said abutment, where it will be engaged and depressed by an object placed on said table in front of said abutment, spring means for biasing said trip lever to its projected position, a switch in the circuit of said electric power device and a connection from said trip lever for actuating said switch.

19. In a tape dispenser and applier, a table for supporting an object to which tape is to be applied, a movable abutment, means for supporting the abutment for backward and forward movement in a limited path above the face of said table, said abutment projecting at all times above the face of the table so as to prevent the passage of an object across the face of the table in contact with the surface thereof, means for positioning adhesive tape in front of the forward position of said abutment where it will be pressed against the abutment by an object moved towards the same over the face of the table, and means for wiping the tape around the corner of an object when the same is pressed against the tape and moved in a direction to force the abutment towards its rearward position.

20. In a tape dispenser and applier, a table for supporting an object to which tape is to be applied, a movable abutment, means for supporting the abutment for backward and forward movement in a limited path above the face of said table, said abutment projecting at all times above the face of the table so as to prevent the passage of an object across the face of the table in contact with the surface thereof without encountering said abutment, means for positioning adhesive tape in front of the forward position of said abutment where it will be pressed against the abutment by an object moved towards the same over the face of the table, and means associated with the table for wiping the tape around the corner of an object when the same is pressed against the tape and moved in a direction to force the abutment towards its rearward position, said wiping means comprising a roller mounted below the table and having its periphery projecting slightly above the surface of the table at a position between the forward and rearward positions of the movable abutment.

21. In a tape dispenser and applier, a table for supporting an object to which tape is to be applied, a movable abutment, means for supporting the abutment for backward and forward movement in a limited path above the face of said table, said abutment projecting at all times above the face of the table so as to prevent the passage of an object across the face of the table in contact with the surface thereof, means for projecting the end of a piece of adhesive tape in front of the forward position of said abutment where

11

it will be pressed against the abutment by an object moved towards the same over the face of the table, and means for preventing the operation of said tape projecting means while the abutment is moved away from its forward position.

22. In a tape dispenser and applier, a table for supporting an object to which tape is to be applied, a movable abutment, means for supporting the abutment for backward and forward movement in a limited path above the face of said table, said abutment projecting at all times above the face of the table so as to prevent the passage of an object across the face of the table in contact with the surface thereof, spring means for urging said abutment to its forward position, said abutment being movable to its rearward position against resistance of said spring means by pressure upon its face, means for projecting the end of a piece of adhesive tape in front of the forward position of said abutment where it will be pressed against the abutment by an object moved towards the same over the face of the table in a direction to move said abutment to its rearward position, and means operatively connected with said movable abutment for preventing said tape projecting means from projecting a piece of tape so long as the movable abutment is moved away from its forward position and until the return of the abutment to such forward position.

23. In an electrically operated tape dispenser and applier, tape feeding means, electrical means for actuating said tape feeding means in a direction to said tape, a table for supporting an object to which tape is to be applied, a movable abutment, means for supporting the abutment for backward and forward movement in a limited

12

path above the face of the table, said abutment projecting at all times above the face of the table so as to prevent the passage of an object across the face of the table in contact with the surface thereof without encountering said abutment, said tape feeding means being mounted adjacent to said table and abutment in position to feed tape in front of the forward position of said abutment where it will be pressed against said abutment by an object moved towards the same over the face of the table, means for severing the piece of tape to be applied to the object, a tripping device separate from the movable abutment mounted in the path of the object to which the tape is to be applied, and switch means operated by said tripping device for modifying the circuit through the electrical tape feeding actuating means.

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