Dec. 24, 1940. D. L. GORBATENKO 2,226,282

MULTIROLL TAPE DISPENSER UNIT

Filed Oct. 5, 1939

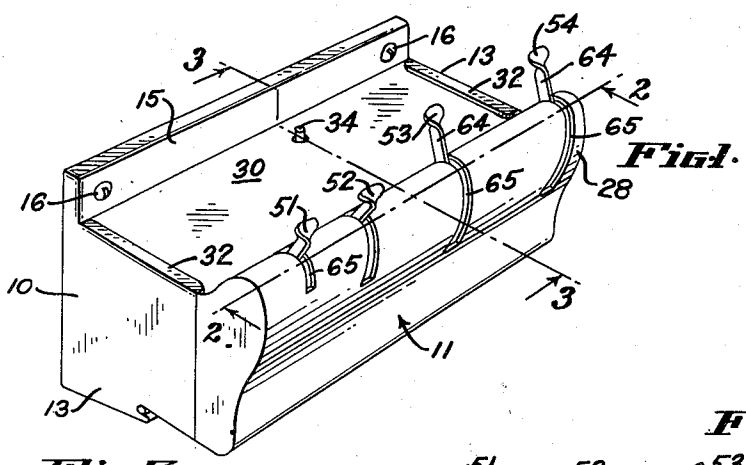


Fig. 1.

Fig. 2.

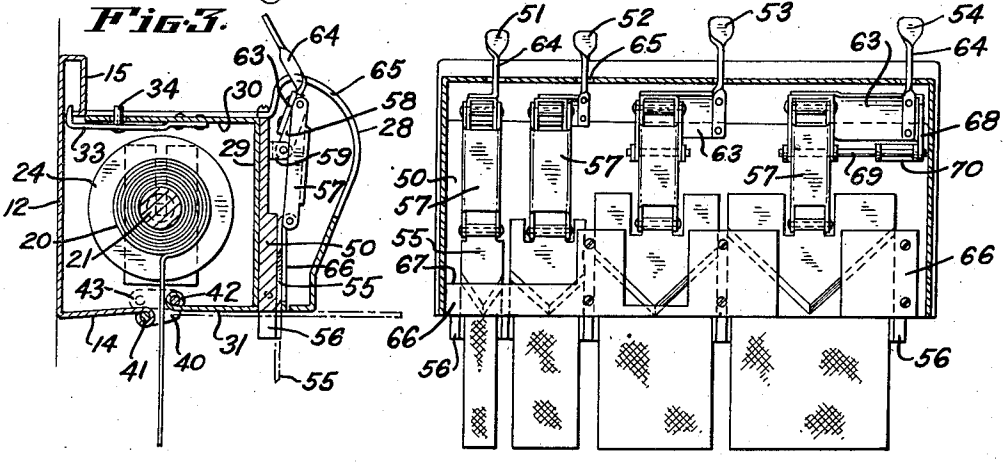


Fig. 3.

Fig. 5.

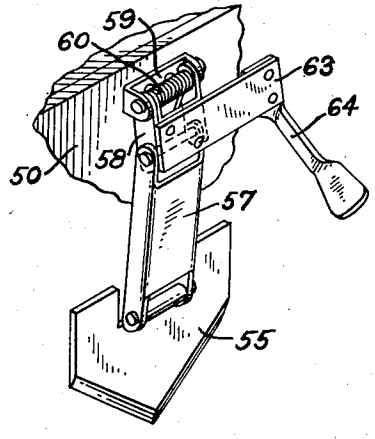
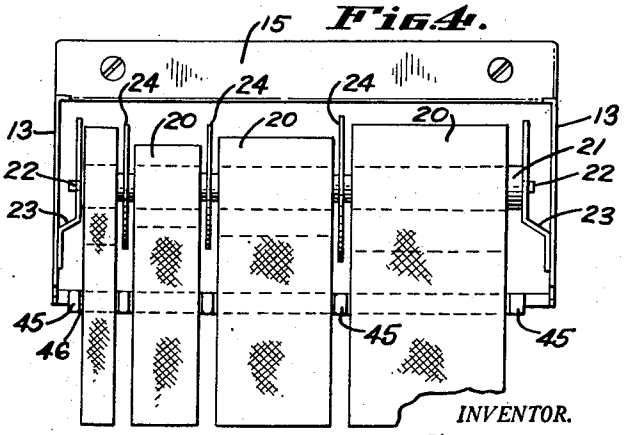


Fig. 4.



INVENTOR.

DIMITRI L. GORBATENKO.

BY Jas. M. Naylor

ATTORNEY.

Patented Dec. 24, 1940 2,226,282

UNITED STATES PATENT OFFICE

2,226,282

MULTIROLL TAPE DISPENSER UNIT

Dimitri L. Gorbatenko, San Francisco, Calif., assignor to Dimgor Corp., San Francisco, Calif., a corporation of California

Application October 5, 1939, Serial No. 298,021

13 Claims. (Cl. 164—4.7)

This application is a continuation in part of the co-pending application of Dimitri L. Gorbatenko and Albert J. Allgoewer, Serial No. 245,100, filed December 12, 1938.

This invention relates to tape dispensers and has for its principal object the provision of means whereby a plurality of rolls of adhesive or surgical tape may be maintained for convenient use in hospitals, doctors' offices, gymnasiums and the like and whereby desired lengths of the selected width of tape may be severed from the rolls as needed.

In general terms the invention comprises a container adapted to support and cover a plurality of rolls of adhesive or surgical tape and having a plurality of cutting means selectively movable from inoperative to operative positions to sever a desired length of tape as it is withdrawn from a roll of the desired width.

In hospitals, doctors' offices, gymnasiums and in fact in all places where adhesive tape is frequently used, there has been a long felt need for some simplified structure which would contain a plurality of rolls of tape of different widths; cover them against possible contamination from dust and dirt and frequent handling, and which would permit of the convenient severing of desired lengths of tape of the different widths when needed. It is a well-known fact that up to the moment the common practice has been to provide a plurality of rolls of tape on a rod bracketed to the wall, which rolls are exposed, and from which lengths of the tape are severed by some separate cutting means such as, for example, scissors. That the present invention meets the need above stated will become quite apparent as this specification proceeds. Likewise, other objects of the invention will become apparent and the novelty thereof will be particularly pointed out in the appended claims.

In the drawing forming a part hereof,

Fig. 1 is a perspective view of the multiroll tape dispenser forming the subject-matter hereof,

Fig. 2 is a vertical section along the line 2—2 of Fig. 1.

Fig. 3 is a vertical section along the line 3—3 of Fig. 1,

Fig. 4 is a front elevation of the tape roll supporting means, and

Fig. 5 is a fragmentary perspective of one of the cutting elements of the device.

The device forming the snbject-matter hereof consists of two divisible parts, namely, a tape supporting unit 10 and a tape cutting unit 11.

The tape supporting unit is shown to best advantage in Figs. 1, 3 and 4, wherein it will be noted that there is provided a back 12, side wings 13 and a half-bottom 14, which, as in the preferred form illustrated, may be formed from a single piece of sheet metal or other material bent into the designated shape. The upper edge of the back 12 is bent inwardly upon itself to form a flange 15 by which the unit may be secured to a vertical surface by means such as the screws 16 (see Fig. 3).

The conventional rolls of tape 20 are co-axially supported on a rod 21 having reduced and squared ends 22. The ends of the rod are retained against rotation by the slotted brackets 23 secured on the inner faces of the wings 13 (see Figs. 3 and 4). Suitable spacers 24 on the rod 21 prevent contact between the tape rolls 20.

It will thus be seen that each of the rolls 20 is free to turn on the rod 21 independently of the other rolls, as the tape is fed therefrom.

The tape cutting unit 11 is best shown in Figs. 1 and 3 as comprising a bulged housing 28, being ear-shaped in cross-section, for the cutting elements about to be described, secured to a front 29, there being a top 30 and a half-bottom 31, which, with the above-described housing elements of the tape supporting unit, are adapted to make a completely enclosed dispenser.

The tape and cutting units, as stated, are separable so that access may be had to the rod 21 for refilling the machine without dismantling the structure or removing it from the surface to which it is attached. To this end the top 30 is slidably received between the side wings 13, the latter having inwardly turned flanges 32 for purposes of snug fit, and the former having a spring hook 33 adapted to engage the inner edge of flange 15 on back 12 (see Fig. 3). A pin 34 on the hook 33 projects through the top 30 as a means of disengaging the hook in the separation of the two units.

It will be noted from Fig. 3 that the opposed edges of the half-bottoms 14 and 31 are spaced apart to define a slot 40 through which the tape is fed from the supply rolls 20. As a supplement to the connection of the two units provided in the spring hook 33, the units are locked together at the edges of the half-bottoms 14 and 31 in the manner illustrated in Fig. 3. The edges of both of the half-bottoms 14 and 31 are turned to envelop the re-inforcing rods 41 and 42, respectively. A latch 43 (see dotted lines in Fig. 3) on the end of rod 42 is adapted to engage the end of rod 41 and thus lock the half-bottoms 14 and 31 together.

Guide members 45, projecting from a bar 46 secured at the edge of half-bottom 14, are provided as a means of maintaining alignment of feed of the tape from the supply rolls 20 (see Fig. 4).

The cutting elements are mounted on a panel 50 within the housing 28. In the preferred form illustrated four elements generally designated by the numerals 51, 52, 53 and 54, are shown. Inasmuch as they are basically the same a description of element 51 will suffice. A pointed blade 55 is slidably retained, on a raised portion of the panel, between a pair of guides 56 formed as integral parts of the panel 50. The ends of the guides extend beyond the bottom edge of the panel (see Figs. 2 and 3) and serve as guides, centering the tape in the cutting operation, as will become more apparent when the operation of the device is explained.

Movement of the blade 55 from inoperative to operative positions is effected by links 57 and 58 connected together for pivotal action and pivotally connected, respectively, to the back end of the knife 55 and a bracket 59 on panel 56. A spring 60 in the connection between link 58 and bracket 59 normally urges link 58 to a substantially vertical position (see Fig. 3) and hence through the linkage described draws blade 55 into its inoperative position (Fig. 2).

As an expedient means of actuating the knife there is provided a bar 63, secured on link 58, having a lever 64 projecting therefrom. As shown in Figs. 1, 2 and 3, the levers 64 extend through the housing 28 and move in the slots 65 therein.

Lateral movement of the knives 55 away from panel 50 and out of guides 45, is prevented by keeper plates 66, screwed to guides 45 and cut away, as at 67, to permit free movement of links 57 (see Fig. 2).

Due to the size of the knife 55 in cutting element 54 and the necessary added length of its stroke in the cutting operation, plus the need for insuring its constant alignment, the bar 63 is substantially longer than in the other elements and is provided with a leg 68 projecting in a plane parallel to link 58 and connected to the panel 50 for pivotal movement. The connection consists in extending the pin 69, in the connection of link 58 to bracket 59, through a second bracket 70, on the end of which pin leg 68 is secured (see Fig. 2).

The operation of the device is as follows: Having first disconnected unit 11 by releasing the latch 43 and spring hook 33, rolls of tape are placed on rod 21, and the latter is put in position between the brackets 23. The free ends of the tape are then drawn from the rolls to a point beyond guides 45. Unit 11 is then connected to unit 10 and hook 33 and latch 43 are engaged. In dispensing, the free end of the selected width of tape is drawn across half-bottom 31 and between guides 56 (see dotted lines in Fig. 3) and the corresponding lever 64 is pulled downwardly to actuate the knife 55. When thus severed the fee end of the tape falls into the vertical dependent position shown in Fig. 3 in readiness for grasping in subsequent dispensing operations.

It is believed apparent that the device shown and described herein embodies very desirable features in so far as cleanliness, safety and efficient and convenient operation are concerned. Obviously the invention may take many forms in addition to that disclosed herein and for that reason the device herein referred to is to be regarded as an example only.

The invention claimed is:

1. A multiroll tape dispenser comprising, a rod rotatably supporting a plurality of tape rolls, a housing for the rod and tape rolls thus supported, a slot in the housing through which the free ends of the tape may be pulled as fed from the rolls, a plurality of cutting elements, one for each of the tape rolls, supported exteriorly of said housing, said cutting elements being movable from inoperative to operative positions to sever desired lengths of the tape fed through the slot in the housing.

2. A multiroll tape dispenser comprising, a rod rotatably supporting a plurality of tape rolls, a housing for the rod and tape rolls thus supported, a slot in the housing through which the free ends of the tape may be pulled as fed from the rolls, a plurality of cutting elements, one for each of the tape rolls, said cutting elements being movable from inoperative to operative positions to sever desired lengths of the tape fed through the slot in the housing, and yieldable means normally urging the cutting elements into their inoperative positions.

3. A multiroll tape dispenser comprising, a housing wherein are supported a plurality of tape rolls for independent rotation, a slot in the housing through which the free ends of the tape may be pulled as fed from the rolls, a plurality of cutting elements, one for each of the rolls, said cutting elements being movable from inoperative to operative positions to sever desired lengths of the tape fed through the slot in the housing, and yieldable means normally urging the cutting elements into their inoperative positions.

4. A multiroll tape dispenser comprising, a housing wherein are supported a plurality of tape rolls for independent rotation, a slot in the housing through which the free ends of the tape may be pulled as fed from the rolls, a plurality of cutting elements, one for each of the rolls, said cutting elements being movable from inoperative to operative positions to sever desired lengths of the tape fed through the slot in the housing, means for actuating the cutting elements, and yieldable means normally urging the cutting elements into their inoperative positions.

5. A multiroll tape dispenser comprising, a housing wherein are supported a plurality of tape rolls for independent rotation, a slot in the housing through which the free ends of the tape may be pulled as fed from the rolls, a plurality of cutting elements, one for each of the rolls, said cutting elements being movable from inoperative to operative positions to sever desired lengths of the tape fed through the slot in the housing, means for guiding the cutting elements as moved into operative positions, and means for centering the tapes for their respective cutting elements.

6. A multiroll tape dispenser comprising, a housing wherein are supported a plurality of tape rolls for independent rotation, a slot in the bottom of the housing through which the free ends of the tape are dependent from the rolls, a plurality of cutting members, one for each of the tape rolls, mounted on the face of the housing and movable from inoperative to operative positions to a point below the bottom edge of said housing, yieldable means normally urging said cutting elements into inoperative position, guide means for each of said cutting elements, and ex-

tensions of said guide means extending below the bottom edge of said housing.

7. A multiroll tape dispenser comprising, a housing wherein are supported a plurality of tape rolls for independent rotation, a slot in the bottom of the housing through which the free ends of the tape are dependent from the rolls, a plurality of cutting members, one for each of the tape rolls, mounted on the face of the housing and movable from inoperative to operative positions to a point below the bottom edge of said housing, yieldable means normally urging said cutting elements into inoperative position, guide means for each of said cutting elements, extensions of said guide means extending below the bottom edge of said housing, a cover for the cutting elements having slots therein, and levers having operating connections with each of the cutting elements projecting through each of said slots.

8. A multiroll tape dispenser comprising, a housing wherein are supported a plurality of tape rolls for independent rotation, a second housing detachably connected to the first and having as integral parts thereof the top, front and part of the bottom of the first named housing, a plurality of cutting elements, one for each of the tape rolls, supported within the second named housing for movement from inoperative to operative positions, yieldable means normally urging the cutting elements into their inoperative positions, means for actuating the said cutting elements, a slot in the bottom of the first named housing through which the free ends of the tape are dependent from the rolls, and a slot in the bottom of the second named housing through which the cutting elements project when moved into operative position.

9. A multiroll tape dispenser comprising, a housing wherein are supported a plurality of tape rolls for independent rotation, a second housing detachably connected to the first and having as integral parts thereof the top, front and part of the bottom of the first named housing, a plurality of cutting elements, one for each of the tape rolls, supported within the second named housing for movement from inoperative to operative positions, a slot in the bottom of the first named housing through which the free ends of the tape are dependent from the rolls, a plurality of slots in the second named housing, levers having operative connections with said cutting elements projecting through said slots, and a longitudinally extending slot in the bottom of the second named housing through which the cutting elements project when moved into operative position.

10. A multiroll tape dispenser comprising, a housing wherein are supported a plurality of tape rolls for independent rotation, a second housing detachably connected to the first and having as integral parts thereof the top, front and part of the bottom of the first named housing, a plurality of cutting elements, one for each of the tape rolls, supported within the second named housing for movement from inoperative to operative positions, a slot in the bottom of the first named housing through which the free ends of the tape are dependent from the rolls, a plurality of slots in the second named housing, levers having operative connections with said cutting elements projecting through said slots, a longitudinally extending slot in the bottom of the second named housing through which the cutting elements project when moved into operative position, and guides in the longitudinally extending slot in the second named housing for the cutting elements, said guides projecting beyond the bottom of said housing.

11. A multiroll tape dispenser comprising, a housing, means within the housing for supporting a plurality of tape rolls for independent rotation, a slot in the housing through which the free ends of the tape may be pulled as fed from the rolls, and cutting means, one for each of the rolls of tape selectively movable from inoperative to operative positions in relation to their respective rolls to sever desired lengths of tape fed through the slot in the housing.

12. A multiroll tape dispenser comprising, a housing, means within the housing for supporting a plurality of tape rolls for independent rotation, a slot in the housing through which the free ends of the tape may be pulled as fed from the rolls, a plurality of cutting elements one for each of the tape rolls supported exteriorly of the said housing, said cutting elements being movable from inoperative to operative positions in relation to their respective rolls to sever desired lengths of the tape fed through the slot in the housing.

13. A multiroll tape dispenser comprising, a housing, means within the housing for supporting a plurality of tape rolls for independent rotation, a slot in the housing through which the free ends of the tape may be pulled as fed from the rolls, a plurality of cutting elements one for each of the tape rolls supported exteriorly of the said housing, said cutting elements being movable from inoperative to operative positions to sever desired lengths of the tape fed through the slot in the housing, and yieldable means normally urging the cutting elements into their inoperative positions.

DIMITRI L. GORBATENKO.