

(12) UK Patent Application

(19) GB (11) 2 214 898 A

(43) Date of A publication 13.09.1989

(21) Application No 8802723.0

(22) Date of filing 06.02.1988

(71) Applicant
Kiu Chung Au
8D Kam Po Court, DD215, Lot 939, Sai Kung,
Hong Kong

(72) Inventor
Kiu Chung Au

(74) Agent and/or Address for Service
Urquhart-Dykes & Lord
5th Floor, Tower House, Merrion Way, Leeds, West
Yorkshire, LS2 8PA, United Kingdom

(51) INT CL⁴
B65H 57/18, B26D 1/12 5/00, B65H 35/08 75/32

(52) UK CL (Edition J)
B8M MB2 M4B M6 M7
B4B B5D B5Q1

(56) Documents cited
None

(58) Field of search
UK CL (Edition J) B4B B5Q1 B5Q4, B8M MA2 MA3
MB10 MB2 MB3 MB6
INT CL⁴ B26D 1/00 5/00, B65H 20/00 35/00 57/00
75/00

(54) Tape dispenser

(57) A dispenser for holding and dispensing tape 91 comprising a housing 1 having a feed-out location (11, Figure 1), an arm member 4 disposed within and pivotally connected to the housing for advancing the tape to the feed-out location and a trigger member 3 hingedly connected to the housing. When external force is applied to the trigger member, it pushes the arm member towards the feed-out location where the arm member is engaged to a stop means provided on the housing and the tape may be rolled over a target surface. The arm member disengages from the stop means and returns to its normal position when the trigger member is pulled backwards. A pin (49, Figure 1) or arm member 4 engages in a slot (54, Figure 1) in cutter 5 rotatably mounted on the housing such that tape is severed by blade 52 as the arm member returns to its normal position.

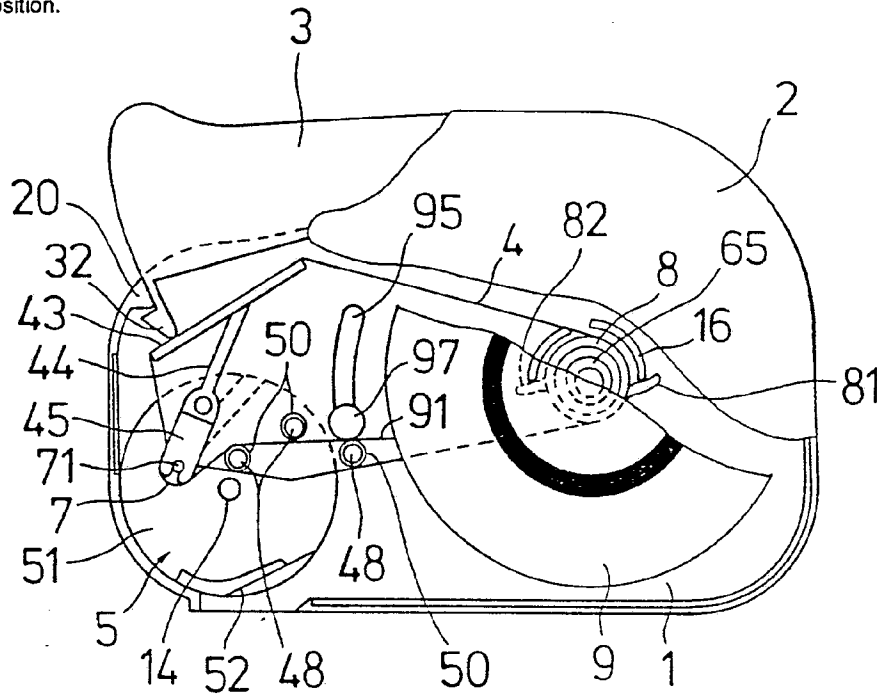


FIG. 3

GB 2 214 898 A

7'

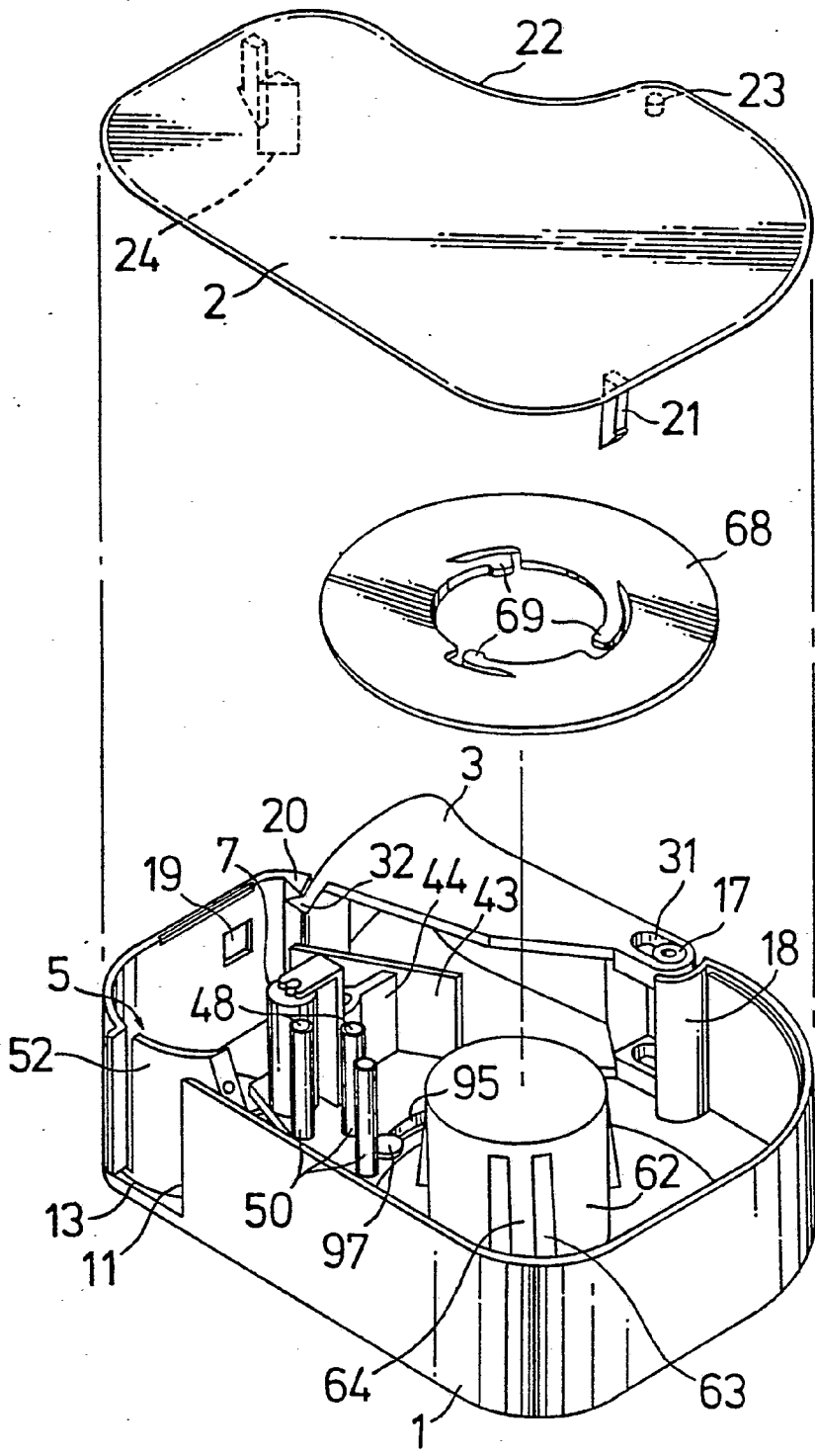


FIG. 2

3/5

2214898

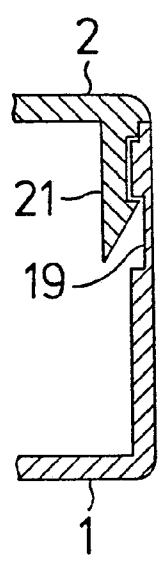


FIG. 2-1

4/5

2214898

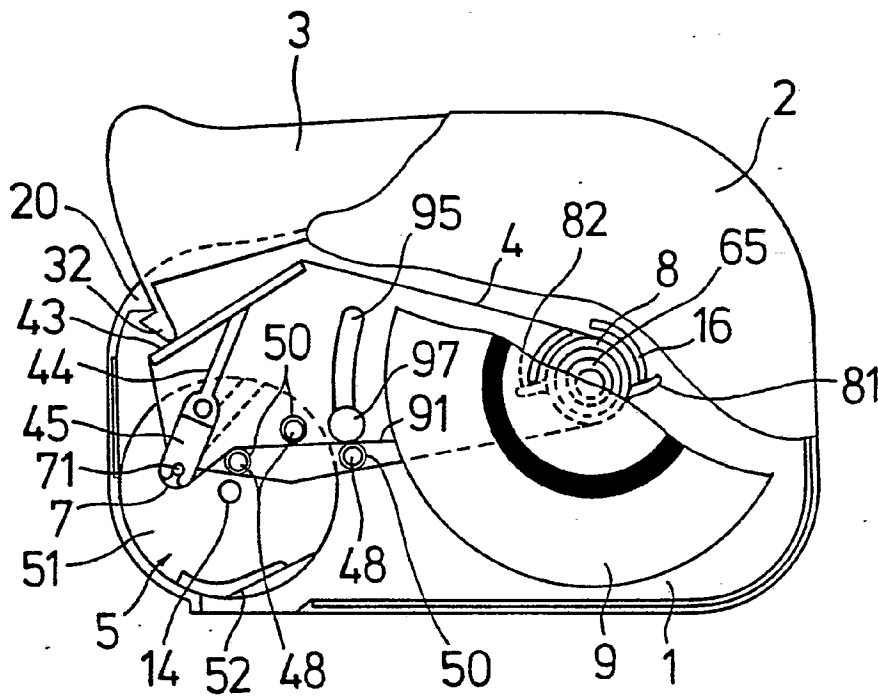


FIG. 3

5/5

2214898

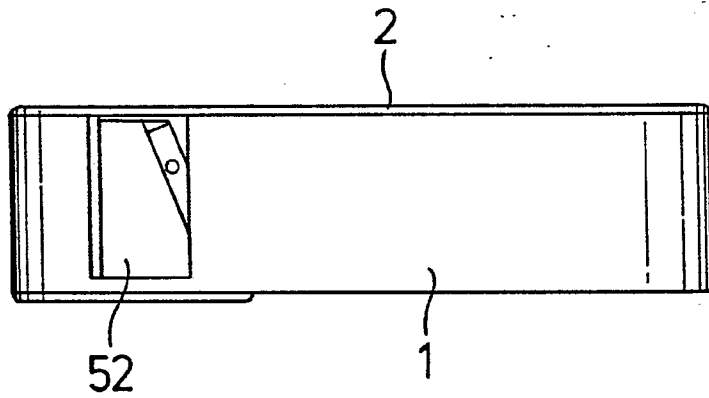


FIG. 4

TAPE DISPENSER

The present invention relates to a tape dispenser and in particular to a small portable tape dispenser which is light in weight, handy, simple to use, easy to operate and meets the novel and industrial requirements.

5 Tape dispensers are known in prior art. One disadvantage of the prior art is that they are usually large in size and heavy in weight. Another drawback is that a user needs to pull the tape out by hands and to tear the tape from the dispenser with the use a cutting device. This
10 involves manipulation of a user to operate the tape dispenser and such operation is rather inconvenient. Furthermore, the tape being exposed to the environment is subject to contamination and decay.

The creator of the present invention has now
15 created a small, space saving, portable, easily operable and novel tape dispenser which may be readily adapted by users.

It is an object of the present invention to provide a new tape dispenser characterized in that it is light in weight, handy and easy in operation.

20 It is another object of the present invention to produce a tape dispenser which is simple in structure, small in size, easy to assemble, low in manufacturing cost and suitable for mass production and industrial application.

A specific embodiment of the invention will now
25 be described by way of example with reference to the

accompanying drawings wherein:-

Figure 1 is an exploded view of the tape dispenser according to the present invention;

Figure 2 is an assembled view of the tape dispenser as illustrated in Figure 1;

Figure 2-1 is a fragmentary sectional view of the housing and the cover showing their snap-fitting relationship;

Figure 3 is a sectional view of the tape dispenser; and

Figure 4 is a front elevation of the tape dispenser.

Referring now to Figures 1 and 2 which depict an exploded and an assembled view of a tape dispenser respectively. The tape dispenser comprises a housing 1, a cover 2, a trigger member 3, a carry-out arm member 4, a cutter 5 and a tape support member 6. The housing 1 has an opening 11 and a cutout portion 12. Incorporated to the inner surface of the planular side wall of the tape dispenser is a circular recess 13 with a pin 14 axially provided with respect to the circular recess 13.

A tubular member 15 and a stop means 16 are provided integrally on the inner surface of the planular side wall.

A tubular member 17 and an arcuate member 18 are

provided integrally on one side of the cutout portion 12. The cover 2 is adapted to be snap-fitted to the housing 1. The cover 2 can be fitted tightly to the housing 1 by means of a generally spear-shaped hook member 21 which is adapted to snap onto a recessed groove 19 incorporated to the inner surface of the wall of the tape dispenser (see Figure 2-1).

The configuration of the cover 2 conforms to the configuration of the housing 1. An orientation pin 23 is provided on the bottom surface of the cover 2 and is adapted to be received in the tubular member 17 of the housing 1. A stop means or projection 24 preferably of triangular or trapezoidal section is further provided on the bottom surface of the cover 2. In the course of operation, the projection 24 is adapted to engage to the hook or leg portion 32 of the trigger member 3 such that the cutter 5 may be temporarily held in a stationary position.

Cutter 5 is adapted to be received in the recess 13 of the housing 1. Cutter 5 has a circular base 51 with an axially projecting curved support member 52 integrally provided thereon. A blade is secured to the support member 52 by means of two orientation lugs integrally provided on the support member 52. An aperture 53 is provided on the circular base 51 at the center thereof and is adapted to receive the pin 14 therethrough. A slot 54 is incorporated

to the base 51.

The carry-out arm member 4 has a tubular member 41 and a stop means 42 disposed on one end thereof. Stop means 42 takes the form of an arcuate wall the curvature of which conforms to and extends around the tubular member 41. The tubular member 41 is adapted to receive the tubular member 15 which defines an axis upon which the carry-out arm member 4 may pivot. Integrally provided on the other end of the carry-out arm member 4 is a slide plate 43 to which a push member 44 is connected.

The front end of the push member 44 is incorporated with a bearing 45 having two bearing members 46 and 47. Bearing member 46 receives journal 71 provided on one end of the roller 7. The journal 71 provided on the other end of the roller 7 is fitted to the bearing member 47 which is incorporated to the carry-out arm member 4. Three guide pins 48 are arranged on the upper surface of the baseplate of the carry-out arm member 4. A pin 49 is provided on the bottom surface of the baseplate of the carry-out arm member 4. This pin 49 is adapted to receive and slide along the slot 54 of the cutter 5. An arcuate slot 95 is provided on the baseplate of the arm member 4 to receive therein a pin 96 integrally provided on the inner surface of the housing 1. A pin head 97 is connected to the pin 96 to limit the movement of the arm member 4 relative to the

housing 1.

The tape dispenser further comprises a trigger member 3. The top surface of the trigger member 3 is curved in shape. Two elliptic openings 31, 31 are disposed on opposite side of the trigger member 3 at one end thereof. An arcuate leg portion 32 is disposed on the other end of the trigger member 3. The two elliptic openings 31, 31 are adapted to receive the tubular member 17 of the housing 1 therethrough in such a manner that the trigger member 3 is positioned at the cutout portion 12 and is pivotable about pivot axis defined by the tubular member 17. The leg portion 32 of the trigger member 3 is normally engaged to the stop means 20 of the housing 1 whereby the trigger member 3 is retained in position at the cutout portion 12. The edge portion of the leg portion 32 is abutted against the slide plate 43.

The tape support member 6 consists of an annular flange 61 and a cylindrical tape support member 62. Three cutout portions 63 are arranged at equal interval along the periphery of the support member 62. Each cutout portion 63 has a resilient plate or tongue 64 provided along the center thereof. A spindle 65 is disposed within the cavity of the cylindrical support member 62. The spindle 65 is adapted to be inserted into the tubular member 15. The tape support member 6 is capable of supporting the common type of tape and

is freely rotatable over the carry-out arm member 4. A generally annular tape cover member 68 is adopted to clamp over the upper portion of the cylindrical support member 62 by means of three resilient arms 69 to further prevent the roll of tape from exposing to contamination and moisture.

A spring 8 is fitted around the tubular member 15. One end 81 of the spring 8 is secured to the stop means 16 of the housing 1 whereas the other end 82 of the spring 8 is secured to the stop means 42 of the carry-out arm member 4. The employment of spring 8 renders the carry-out arm member 4 to be biased in a retreated position.

Referring to Figures 3 and 4, when external force is applied to the trigger member 3 by a finger of a user, the leg portion 32 of the trigger member 3 presses against the carry-out arm member 4, the pin 49 of the carry-out arm member 4 drives the cutter 5 to rotate clockwise as the pin 49 moves along the slot 54 of the cutter 5.

When the roller 7 moves along with the carry-out arm member 4 to an advanced position, it carries the free end of the tape towards the opening 11 thereby allowing the tape to be pressed against a target surface and rolled across a target object.

Hence, tape 91 will be dragged out from the roll of tape 9 as the roller 7 brings the tape against the target surface. The three guide pins 48, each having a fabric tube

50 rotatably mounted thereon, are used to hold and to prevent the unwound portion of the tape from displacement. When the trigger member 3 is released, carry-out arm member 4 returns to the retreated position under the influence of the spring 8, cutter 5 rotates in the counterclockwise direction thereby cutting the tape 91.

Another feature of the tape dispenser is that when the trigger member 3 is pressed driving the roller 7 out towards the opening 11 of the housing 1, the leg portion 32 of the trigger member 3 engages to the stop means 24 of the cover 2 thereby preventing the return of the carry-out arm member 4 as the trigger member 3 is released. This permits the tape to be dragged out at any desired length.

By pressing the trigger member 3 backwards along the elliptic openings 31, 31, the leg portion 32 of the trigger member 3 disengages from the stop means 24 of the cover 2 rendering the carry-out arm member 4 to retreat thereby cutting the tape.

The tape dispenser as illustrated hereinbefore is therefore a novel, practical small tape dispenser.

CLAIMS

1. A dispenser for holding and dispensing tape, comprising:
 - a. a housing adapted to receive and rotatably hold a roll of tape, said housing having a feed-out portion through which said tape as it is unwound may pass out of said housing;
 - 5 b. an arm member being disposed within and pivotally connected to said housing for advancing the tape towards said feed-out portion, said tape advancing arm member being biased by spring biasing means in a retreated position;
 - 10 c. trigger means being hingedly connected to said housing whereby when an external force is applied thereto said trigger means pushes said arm member to an advanced position where the tape, at the feed-out portion, may be adhered to a target surface;
 - 15 d. said trigger means having at one end an elongated aperture of elliptic section to receive a pin provided on the housing and at the other end a leg portion to engage to a stop means provided on the housing whereby at said advanced position said leg portion engages to said stop means preventing retreat of said arm member, said leg
20 portion disengages from said stop means when said trigger means is pulled backwards about its elliptic aperture; and
 - e. cutting means being rotatably mounted to said housing adjacent said feed-out portion for cutting the tape, said
25 cutting means being in operative relation to said arm

member such that the tape when retreating from the feed-out portion is cut by said cutting means.

2. A dispenser as claimed in claim 1, wherein said dispenser further comprises a cylindrical tape support member rotatably
5 mounted to said housing for supporting thereon a roll of tape, at least one resilient means is provided on the outer periphery of said cylindrical tape support member for tightly urging the roll of tape so that it can be held stationary relative to said support member.

10 3. A dispenser as claimed in claim 2, wherein said cylindrical tape support member is provided with a spindle extending longitudinally within said support member, said spindle is adapted to be received in a tubular member integrally provided on the inner surface of said housing,
15 said spindle defines a pivotal axis upon which said tape support member may pivot.

4. A dispenser as claimed in claim 2 or 3, wherein said cylindrical tape support member is incorporated with an annular flange portion at the base portion thereof, said
20 annular flange portion overrides at least a portion of said tape advancing arm member.

5. A dispenser as claimed in claim 1, wherein said tape advancing arm member comprises a baseplate bore against a side wall of said housing, at least one guide pin extending
25 perpendicularly from said baseplate, each having a fabric

tube rotatably mounted thereon, and a roller member rotatably connected to said arm member for rolling the tape onto a target surface at desired lengths.

6. A dispenser as claimed in claim 5, wherein three guide
5 pins are incorporated to the tape advancing arm member, one being positioned on one side of the unwound tape and two on the other side thereof.

7. A dispenser as claimed in claim 5, wherein said baseplate
10 has an arcuate slot to receive therein a pin integrally provided on the inner surface of the housing, said pin has a pin head connected thereto for limiting movement of said arm member with respect to said housing.

8. A dispenser as claimed in claim 1, wherein said dispenser
15 further comprises an annular tape cover means adapted to couple to said cylindrical tape support member, said annular tape cover means having a plurality of resilient arms provided at the inner periphery thereof.

9. A dispenser as claimed in claim 1, wherein said cutting
20 means comprises a circular base, an arcuate wall extending vertically from said circular base and a blade secured to said arcuate wall in a slanted position.

10. A dispenser as claimed in claim 9, wherein said circular
base is provided with a slot means operatively coupled to a
pin provided on the bottom surface of the baseplate of the
25 tape advancing arm member whereby advance of said arm member

turns said cutting means in a clockwise direction away from the feed-out portion and retreat of said arm member turns said cutting means in an anticlockwise direction thereby cutting the tape.

5 11. A dispenser as claimed in claim 1, wherein said stop means is of triangular section.

12. A dispenser as claimed in claim 1, wherein said stop means is of trapezoidal section.

10 13. A tape dispenser substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.

15

20

25