

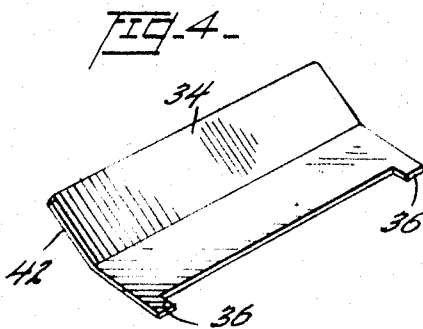
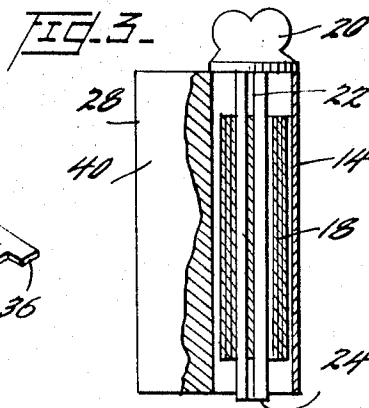
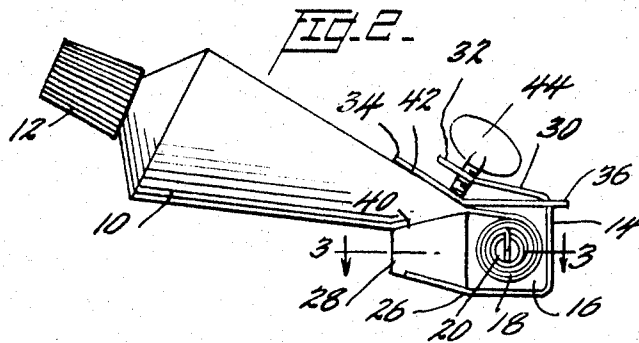
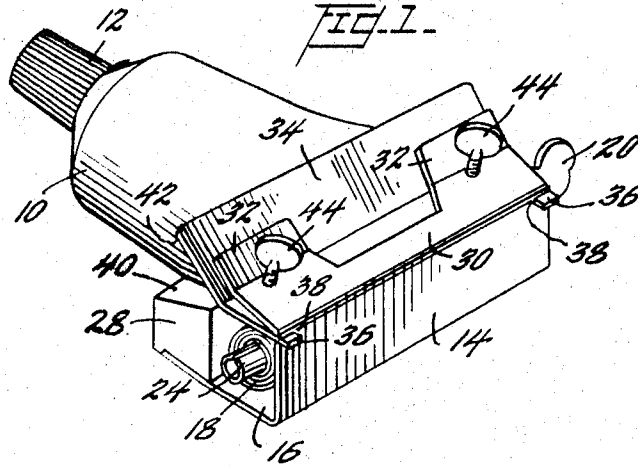
Aug. 26, 1969

H. H. PIGGUSH

3,463,359

COLLAPSIBLE TUBE SUPPORT AND COILER

Filed Nov. 15, 1967



INVENTOR

Henry H. Piggush,
Misegades & Douglas
BY Keith Misegades
ATTORNEYS

1

3,463,359

COLLAPSIBLE TUBE SUPPORT AND COILER

Henry H. Piggush, 194 W. River St.,
Bourbonnais, Ill. 60914

Filed Nov. 15, 1967, Ser. No. 683,232
Int. Cl. B65d 35/28, 35/34

U.S. Cl. 222-103

5 Claims

ABSTRACT OF THE DISCLOSURE

The invention is a collapsible tube support and coiler comprising an elongate channel, an elongate slotted key receiving the closed end of the tube and insertable into the channel and a pair of oppositely divergent walls for compressing the tube walls as the tube is drawn into the channel by rotation of the key, the invention being characterized by the provision of open ends for the channel so that the key and spent collapsible tube may be withdrawn for replacement of the tube without dismantling the invention, and by one of the walls being movably mounted and provided with lock means for securing the tube firmly in the device.

BACKGROUND OF THE INVENTION

The invention relates generally to collapsible tube supports and coilers and more particularly to a housing for receiving the closed end of the tube, and storing by coiling the tube therein as the contents of the tube are spent. In general, such devices are not new. U.S. Patent No. 2,643,028 issued to J. S. Clark indicates a housing having a rotatable key therein for receiving the closed end of a tube, and a narrow slot for squeezing the tube as the key is rotated to dispense the contents of the tube. U.S. Patent No. 2,214,507 issued to J. J. Manning indicates a similar structure with the addition of a casing about the entire tube.

Further development includes U.S. Patent No. 2,808,963, issued to J. Farrow, which shows a device similar to that disclosed by the Clark patent, but with the addition of a positive key bearing to prevent lateral displacement thereof in the housing. Finally, U.S. Patent No. 3,219,238 issued to A. E. Borkenhagen et al., indicates a support and rotating key for the closed end of the tube, with the addition of a roller at one side of the tube, and a pivoting variably wedged plate to the other side of the tube to facilitate dispensing of the tube contents as the spent tube is wound about the key.

Each of the inventions suffers two essential drawbacks. First, no means is provided for removal and replacement of the spent tube without substantial difficulty or disassembly of the support housing. Secondly, there is no provision for a positive lock means for firmly engaging the tube in the support when the contents of the tube are partially spent, so that the tube may be squeezed by hand to dispense a small portion of the contents without operating the device.

The instant invention overcomes these deficiencies by providing a tube housing with open ends, so that the key and tube may be easily removed for replacement of the tube. Additionally, a movable guide plate is provided bearing against a side wall of the tube, and includes a lock means for firmly engaging the tube in the housing.

Many previous devices are made for wall mounting. I consider this disadvantageous since the only place on a wall available for mounting may be awkwardly and inconveniently located, especially if the device is operated by persons of various heights. Such devices preclude use by travellers.

2

SUMMARY

The essence of the invention is a collapsible tube support including an elongate channel, a key insertable into the channel and adapted to coil the spent portion of the tube therein, and a guide member and a movable guide plate for compressing the tube into a flattened state as it is spent, the invention being characterized by the provision of open ends for the channel for easy removal of the tube and key, and lock means associated with the channel and guide plate, for compressing the plate against the tube for firmly securing the tube in the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

Details of construction and operation according to a preferred embodiment of the invention will become readily apparent by reference to the following drawings wherein:

FIGURE 1 is a perspective view of the invention, showing a partially spent collapsible tube secured therein, FIGURE 2 is a side elevational view of the structure illustrated in FIGURE 1;

FIGURE 3 is a sectional view of the invention and tube, taken along lines 3-3 of FIGURE 2; and

FIGURE 4 is a perspective view of the movable guide plate of the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings by reference character, there is shown an ordinary collapsible tube 10, such as a toothpaste tube, having a flattened closed end and a dispensing mouth, closed by an internally threaded cap 12. Obviously, the tube 10, per se, forms no part of the instant invention.

The invention proper comprises an elongate support channel 14, generally U-shaped in cross section, defining an internal storage area 16 for receiving the coiled, spent portion 18 of the tube 10. A key 20 is slotted at 22; the flattened end of the tube may be inserted through open end 24 of key 20. Simple rotation of the key accomplishes coiling of the spent portion 18 of the tube 10 within storage area 16.

One side wall 26 of channel 14 includes an enlarged guide member 28 which abuts against a side wall of the tube 10. The configuration of guide member 28 may be as shown, and formed of wood, plastic or metal or, alternatively may be a part of the stamping of channel 14, bent to the proper dimensions. The other side wall 30 of channel 14 is cut as shown in FIGURE 1 to form a pair of ears 32, 32. A movable guide plate 34 is inserted beneath wall 30, and includes a pair of end projections 36, 36, received in mating slots 38, 38 of channel 14, to prevent lateral dislodgement of plate 34.

Guide member 28 and plate 34 have divergent inner faces 40 and 42, respectively, which serve to compress tube 10 into a smooth flattened state for coiling about key 20. Each ear 32 is provided with a lock pin 44, threadably inserted through ear 32, for holding tube 10 between plate 34 and guide member 28.

The operation of the invention is relatively simple. Key 20 is applied to the closed end of tube 10 as outlined above. Then key 20 is inserted into channel 14, with tube 10 fitting between guide member 28 and plate 34. Pins 44, 44 may be tightened against plate 34 to secure tube 10 against the guide member 28. The contents of tube 10 may then be dispensed in the ordinary manner as by squeezing the side walls of tube 10.

Once a portion of tube 10 is spent, the invention may be grasped with the hand about channel 14, the thumb pressing against plate 34 in the open area between ears 32, 32 (FIGURE 1). Key 20 may then be wound to

3

flatten tube 10 between member 28 and plate 34, and coil tube 10 about key 20.

Alternatively, contents of tube 10 may be dispensed as just described each time a small quantity of contents is needed. That is, the invention may be grasped with the thumb pressing against plate 34, and key 20 turned slightly to compress the side walls of tube 10 between guide member 28 and plate 34 to dispense contents of the tube. Then tube 10 may be closed.

Tube 10, once spent, may be replaced with a fresh tube merely by loosening pins 44, 44 and extracting tube 10 and key 20 from channel 14. The only part of the invention requiring removal is key 20, so that parts will not be lost. The old tube is discarded and a new tube is placed on key 20 and into channel 14 as described above.

It is readily apparent from the foregoing that I have invented a new and highly useful device in the art of collapsible tube supports and thus I am not to be limited to the exact construction as hereinbefore provided except as may be deemed to be.

I claim:

1. A collapsible tube support and coiler comprising:
 - (a) an elongate housing, generally channel shaped in cross-section, including a pair of oppositely disposed side walls defining a storage area therebetween;
 - (1) one of said side walls including an outwardly divergent, guide member;
 - (2) the other of said side walls overlaying an outwardly divergent guide plate, a pair of projections being formed on the interior end of said plate, and a pair of mating slots being formed in said housing for said projections, whereby lateral dislodgement of said plate in said housing is prevented, said plate and member being ar-

4

ranged to compress tube contents toward the discharge end of said tube;

(b) a key for coiling the spent portion of said collapsible tube, insertable into said storage area; and

(c) means defining oppositely disposed, open ends for said storage area, said key being structurally dissassociated from said housing, whereby said key and tube may be withdrawn from said housing through one of said open ends to effect replacement of said collapsible tube.

2. The device of claim 1 wherein positive lock means are provided on said other side wall for compressing said plate against the tube to secure the tube between the guide member and plate.

3. The device of claim 2 wherein said lock means comprises a pair of threaded pins, threadably received through said other side wall and abutting said plate.

4. The device of claim 1 wherein said guide member comprises an enlarged, elongate block of substantial thickness, the interior face thereof substantially closing said storage area.

5. The device of claim 1 wherein said key includes means defining a slot therealong for receiving the closed end of said tube.

References Cited

UNITED STATES PATENTS

2,051,332	8/1936	Ervin	222—97
2,534,708	12/1950	Goodheart	222—103
2,536,867	1/1951	Barnett	222—97
2,790,579	4/1957	Woldorf	222—103

ROBERT B. REEVES, Primary Examiner

N. L. STACK, Jr., Assistant Examiner