

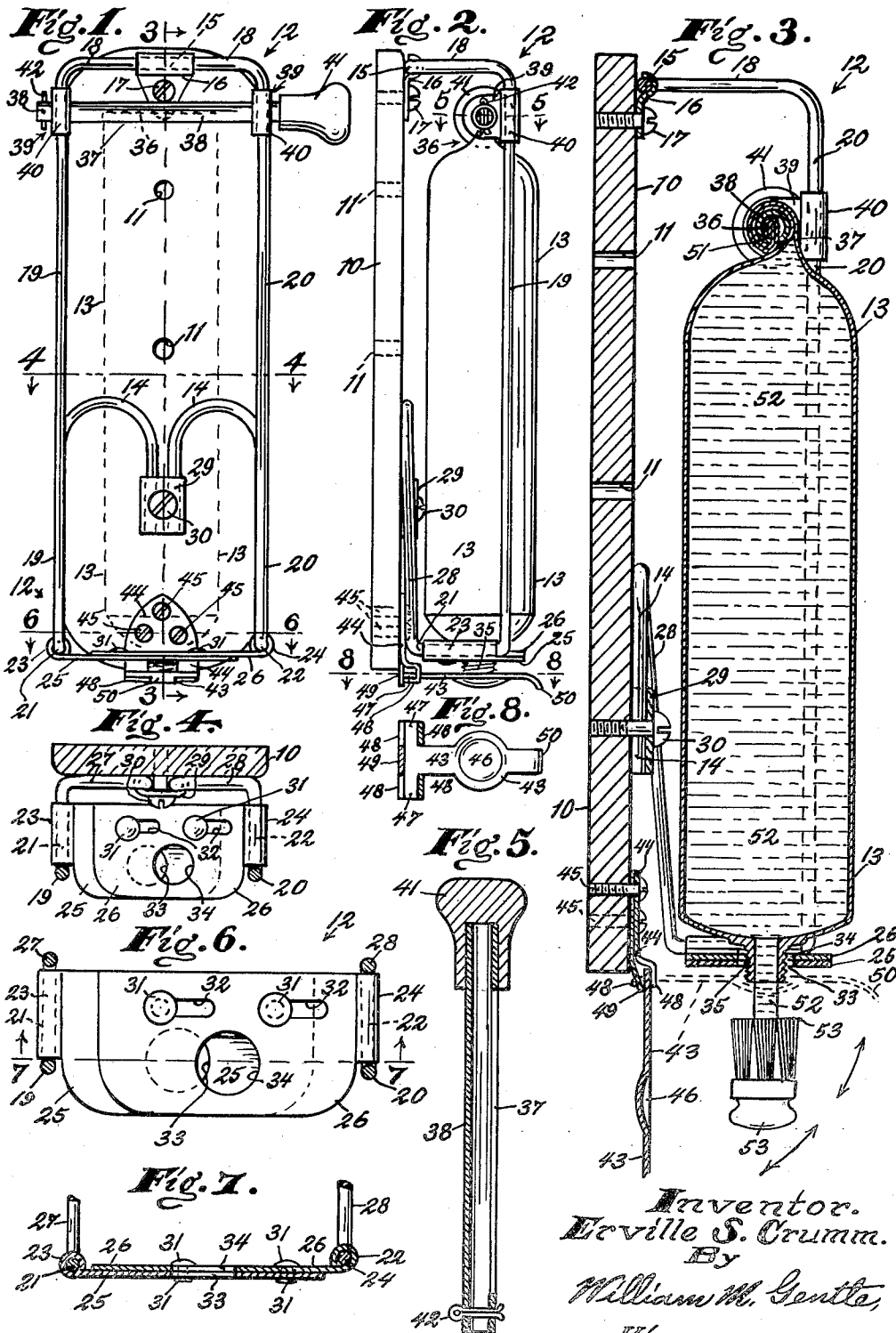
Nov. 10, 1936.

E. S. CRUMM

2,060,178

TUBE PRODUCTS DISPENSER

Filed Nov. 16, 1935



Inventor.
Erville S. Crumm.
By
William M. Gentie,
His Attorney.

UNITED STATES PATENT OFFICE

2,060,178

TUBE PRODUCTS DISPENSER

Erville S. Crumm, Hermosa Beach, Calif., assignor
of one-fourth to Edwin F. Crumm, Whittier,
Calif., and one-fourth to Joseph M. Crumm,
St. Joseph, Mo.

Application November 16, 1935, Serial No. 50,176

2 Claims. (Cl. 221—60)

This invention relates to a tube product dispenser and the principal object is to provide a simple means for firmly holding a filled collapsible tube and dispensing its contents in an economical, convenient and sanitary manner. To that end I provide a dispenser with jaws arranged to hold a collapsible tube vertically and inverted with its discharge end downward and in position to be opened and closed by a hinge-supported stopper, and also I provide a hollow shaft for engaging the other end of the collapsible tube that can be rotated to discharge the contents of the tube as it is needed.

A feature of invention is shown in mounting a pair of jaws on the lower ends of spring wire guides the tension of which forces the jaws to grip and hold the discharge end of a tube; which also function as guides to the bearings of a winding shaft so that as the contents of a tube are dispensed the guides permit the shaft to descend from the sealed end toward the discharge end of a tube.

A feature of invention is shown in constructing my dispenser so the flexible tubes are held out from a support in a clear view of the user; which arrangement of parts aids greatly in attaching the collapsible tubes to the dispenser and removing them from it when all of their contents have been used.

Another feature of invention is shown in the construction and mounting of the hanging spring wire guides whereby they are formed of a single strand of wire bent and supported so they perform the double function of applying tension to the jaws to hold the discharge ends of the collapsible tubes and also support and guide the bearings of the winding shaft.

Another feature of invention is shown in the construction of the tube stopper whereby it is held under tension both while in its closed and open positions.

Other objects, advantages and features of invention may appear from the accompanying drawing and detailed description thereof.

The accompanying drawing illustrates my invention, in which:

Figure 1 is a front view of a tube products dispenser that is constructed in accordance with this invention, showing by dotted lines a collapsible tube supported by the dispenser.

Fig. 2 is a side view of the dispenser showing by full lines a collapsible tube supported in the dispenser, and also showing a stopper held under tension in position to close the discharge outlet from the tube.

Fig. 3 is an enlarged section on line 3—3, Fig. 1, showing a relatively large tube supported by the dispenser, in position for use.

Fig. 4 is a section on line 4—4, Fig. 1, showing in more detail how the jaws for engaging the discharge end of a tube are connected to the hanging spring wire guides so they are under tension when engaged in holding a tube.

Fig. 5 is an enlarged section on line 5—5, Fig. 2, showing the detailed construction of the winding shaft.

Fig. 6 is a section on line 6—6, Fig. 1, showing the clamp jaws in a closed position; parts omitted.

Fig. 7 is a section on line 7—7 of Fig. 6 showing the jaws in an open position.

Fig. 8 is a section on line 8—8, Fig. 2, showing a plan view of the hinged stopper.

In detail my tube products dispenser includes a plate or backing-board 10 that is provided with screw holes 11 so it can be rigidly secured to any suitable support, preferably the casing of a toilet cabinet.

The support 12 for the collapsible tubes 13 includes a spring wire 14 of a predetermined length which has its center portion 15 secured by a clip 16 and screw 17 to the upper end of the board 10.

The upper end portions 18 of the wire are bent outwardly and sidewise to the board 10 to form supports for the hanging guide portions 19 and 20 that, at their bottom ends, are bent inwardly toward the board to form the stirrups 21, 22 on which the sleeve ends 23, 24 of the jaws 25 and 26 are pivotally mounted. Then the wire 14 is extended upwardly and inwardly from the stirrups 21, 22 into hangers 27, 28 that are then curved inwardly and extended downwardly and are secured by a clip 29 and screw 30 to the board 10 at its center and adjacent its lower end.

The foregoing parts are constructed and arranged so that the vertical guides 19 and 20 are suspended and spring supported so they can be moved slightly toward and from one another to apply tension to the jaws 25, 26 that are pivotally connected at opposite ends to their respective stirrups 21, 22 by the sleeves 23, 24.

The jaws 25, 26 are slidably connected by rivets 31 secured in the lower jaw 25 and extending up through slots 32 in the upper jaw 26. The lower jaw 25 has a center opening 33 that, by the tension of the spring guides 19 and 20, is normally held out of register with an opening 34 through the central portion of the upper jaw 26, and these openings 33—34 are brought into reg-

ister by manually forcing the guides toward one another.

The openings 33—34 are forced into register when a collapsible tube 13 is to be placed in the dispenser. The tube is inverted and placed vertically between the guides with its discharge end downward and the threaded hollow stem 35 extended downwardly and through the openings 33—34 so that when manual pressure is released on the spring guides they will have a tendency to move back to their normal position and cause the jaws to grip the stem 35 and hold it securely in place.

The upper sealed end 36 of the tube 13 is inserted in an elongated slot 37 in the cylindrical wall of a hollow shaft 38 so that when the shaft is given a partial rotation in either direction the collapsible tube will be secured to the shaft so that thereafter the contents of the tube can be discharged by further rotation of the shaft.

The shaft 38 is mounted in the bearings 39 that are integral with their respective sleeves 40, slidably mounted on the guides 19, 20; and the shaft 38 is preferably provided at one end with a knob 41 so it can be manually rotated when desired. Also the shaft 38 is mounted so there is a slight endwise play between the knob 41 and a cotter pin 42 at the other end of the shaft to permit a relatively free movement of the guides toward and from one another to open and close the jaws 25, 26.

The usual cap to the threaded stem 35 is removed when a tube is placed in the dispenser, and the discharge outlet through this hollow stem is normally closed by a stopper 43 that has one end pivotally connected to a hinge-like hanger 44 that is secured by screws 45 to the bottom end of the plate or wall-board 10, and this stopper 43 is preferably provided with a depressed seat 46 in which the stem 35 is seated when the stopper is in a closed position.

The back end of the stopper 43 is integral with its side lugs 47 that are extended into the hooks 48 of the hanger 44, and a spring 49 is arranged under the hanger to apply pressure to the stopper 43 when in its open and closed positions; and also the forward end of the stopper 43 is provided with the usual finger-piece 50 to facilitate moving it to an open position.

The hollow shaft 38 has a slot 37 large enough so the overlapped end of the tube 13 can be easily inserted until the edge 51 is within the shaft, so the tube will be coiled on the shaft when it is rotated or turned by the knob 41.

It is obvious that when the stopper 43 is in its open position the contents 52 of the tube 13 can be discharged on a tooth-brush 53, as diagrammatically indicated in Fig. 3.

My tube products dispenser is used as hereinbefore fully described.

I claim as my invention:

1. A tube products dispenser including a plate adapted to be secured to a support, integral spring wire guides secured to said plate so they are spaced apart and held in a suspended vertical position, stirrups integral with the lower ends of said guides, overlapping interlocking jaws pivotally connected to said stirrups that are adapted to be clamped on the discharge end of a collapsible tube to hold it inverted and in a vertical position, said guides adapted to apply tension to hold said jaws clamped on said tube, sleeve-like bearings slidably mounted on said guides, a hollow shaft mounted in said bearings that has a slot through its cylindrical wall through which the sealed end of the collapsible tube can be extended and then secured by a rotation of said shaft, a knob for rotating said shaft to discharge the contents from the collapsible tube, a stopper, and a hinge connection between said stopper, and a hanger on the bottom end of said board.

2. A tube products dispenser including a plate adapted to be secured to a support, integral spring wire guides secured to said plate so they are spaced apart and held in a suspended vertical position, stirrups integral with the lower ends of said guides, overlapping jaws pivotally connected to said stirrups that are adapted to be clamped on the discharge end of a collapsible tube to hold it inverted and in a vertical position, said guides adapted to apply tension to hold said jaws clamped on the discharge end of said tube, sleeve-like bearings slidably mounted on said guides, a hollow shaft mounted in said bearings that has a slot through its cylindrical wall through which the sealed end of the collapsible tube can be extended and secured by a rotation of said shaft, a knob for rotating said shaft to discharge the contents from the collapsible tube, a stopper having a seat into which the discharge end of said tube can be extended, a hanger secured to the bottom end of said plate, a hinge connection between said hanger and stopper, and a spring for applying tension to the hinged end of said stopper in its open and closed positions.

ERVILLE S. CRUMM.