No. 857,547. PATENTED JUNE 18, 1907.

A. H. W. WEBER.

EMPTYING DEVICE FOR COLLAPSIBLE TUBES.

APPLICATION FILED JAN. 8, 1906.

Fig. 1.

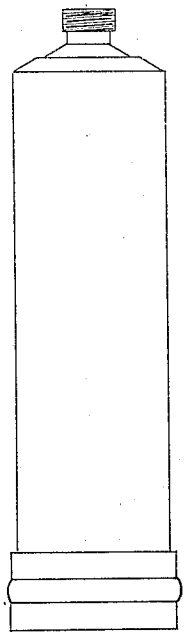


Fig. 2

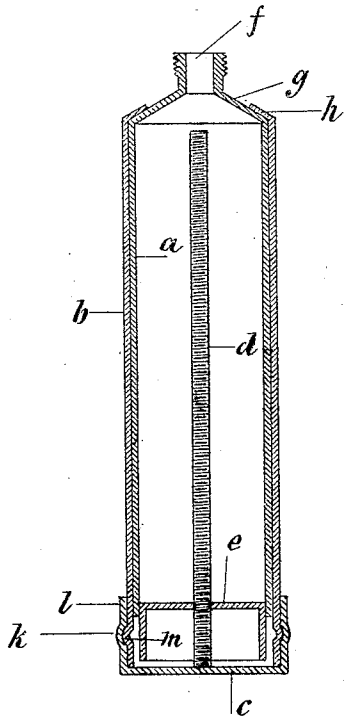
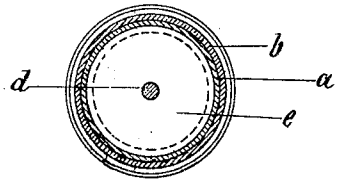


Fig. 3.



INVENTOR

Alfred Heinrich Wilhelm Weber

WITNESSES

W. P. Burke

Alvin E. White

By Richards & Co

ATTYS

UNITED STATES PATENT OFFICE.

ALFRED HEINRICH WILHELM WEBER, OF HAMBURG, GERMANY, ASSIGNOR TO P. BEIERSDORF & CO., OF HAMBURG, GERMANY.

EMPTYING DEVICE FOR COLLAPSIBLE TUBES.

No. 857,547. Specification of Letters Patent. Patented June 18, 1907.

Application filed January 3, 1906. Serial No. 295,119.

To all whom it may concern:

Be it known that I, ALFRED HEINRICH WILHELM WEBER, a subject of Germany, residing at Hamburg, Germany, have invented new and useful Improvements in Emptying Devices for Collapsible Tubes, of which the following is a specification.

This invention has for its object to enable the contents of collapsible tubes (such as are used to contain paints and other viscid or semi-liquid preparations) to be extruded with facility, yet without deformation of the tube as usual.

The invention consists of a device which is independent of the tube and is applied thereto after the latter has been filled, and which, when the tube has been emptied, may be removed, cleaned and applied to a fresh tube, the original tube being available for use over again after refilling. Thus the invention may be differentiated from other emptying devices by the fact that it is interchangeable or exchangeable and may be used for any number of filled tubes successively.

The invention is illustrated in the accompanying drawings in which,

Figure 1 is an elevation. Fig. 2 a sectional elevation, and Fig. 3 a transverse section.

In these drawings, *a* is the collapsible tube or container of the usual form; *b* a cylindrical sheet metal envelop or casing within which the tube *a* is received and through the open end of which the tube is prevented from escaping by the shoulder *g* of the tube engaging beneath an inturned flange *h* on the casing; *c* a rotatable cap constituting the bottom of the casing *b*; *d* a screw spindle (having threads of rather quick pitch) rising from the bottom or cap *c* and extending axially through the tube *a* to near the top thereof; and *e* a piston threaded on the spindle *d* and adapted to close the tube *a* which, after being filled, is left open so as to admit of the introduction of the piston *e* instead of being closed permanently in the usual well-known manner. The piston *e*, which is initially situated at the lower end of the tube as shown, is adapted to be caused to gradually traverse the entire length of the tube (in consequence of the rotation of the screw spindle *d* relatively thereto) and to force the contents of the tube out through the orifice *f*.

The cap *c* is held in place on the casing *b*, so as to be capable of being freely rotated thereon, by means of an annular groove *k* on the flange *l* of the cap adapted to be sprung over and to thus become detachably engaged with a corresponding annular bead or rib *m* on the casing.

In assembling the parts the filled tube *a* is first placed in the casing *b* and then, the piston *e* having been brought to the lower end of the screw spindle *d*, the latter is passed into the tube until the piston enters the lower end of the tube and bears against the material therein while the cap *c* becomes locked upon the outside of the tube, the parts thus assuming the position shown.

To empty the tube, the cap *c* (and with it the screw spindle *d*) is rotated to the required extent, thus causing the piston *e* (which is prevented from rotating by the pressure of the contents of the tube upon its upper surface) to move upward in the tube, whereof a corresponding proportion of the contents is consequently extruded through the orifice *f*.

By the employment of this device the tube is permitted to retain its original shape instead of being deformed and rendered useless by emptying operation as usual. When the tube is completely emptied the device may be removed therefrom cleaned and applied to a fresh tube. An essential feature of this invention is that the device described above may be used in connection with the tube already in trade and that the tubes to be used in connection with the improved device may be filled by means of the filling apparatus in use.

Having now particularly described and ascertained the nature of the said invention and in what manner the same is to be performed, I declare that what I claim is

The combination with a tube or container for paints and the like, of a second tube fitting outside the container and having an inturned flange at the top resting on the top of the container, a bead near the lower end of

said second tube, a removable rotary flanged bottom cap for the second tube, a bead on said cap flange adapted to spring over and interlock with the bead on said second tube, a screw spindle secured to said cap and extending up into the container and a piston engaging said spindle.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALFRED HEINRICH WILHELM WEBER.

Witnesses:

I. CHRIST. HAFERMANN,

ALFRED JOSEPH.