Nov. 3, 1925. 1,559,704

G. E. HUBBARD

FILLER TUBE AND PLUG

Filed Dec. 20, 1924

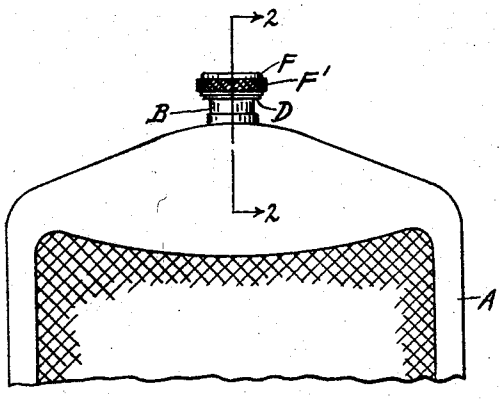



FIG. 1.

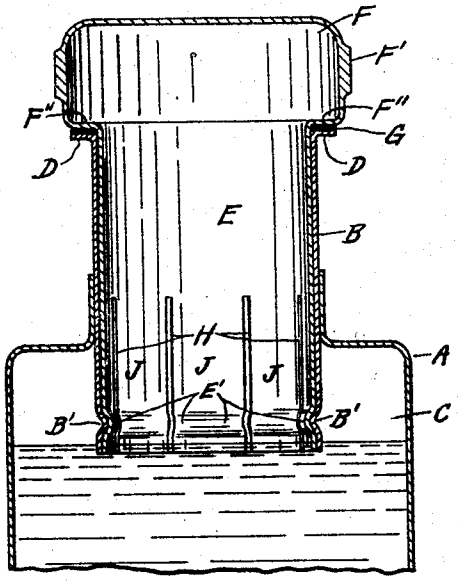



FIG. 2.

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# UNITED STATES PATENT OFFICE.

GEORGE E. HUBBARD, OF HASTINGS, MINNESOTA.

## FILLER TUBE AND PLUG.

Application filed December 20, 1924. Serial No. 757,294.

*To all whom it may concern:*

Be it known that I, GEORGE E. HUBBARD, a citizen of the United States, residing at Hastings, in the county of Dakota and State of Minnesota, have invented certain new and useful Improvements in Filler Tubes and Plugs, of which the following is a specification.

My invention relates to filler tubes and plugs particularly adaptable for use on automobile radiators but also useful on vessels of various kinds in which water, chemicals and other liquids are stored or shipped.

The object of the invention is to provide a simple, efficient and inexpensive filler tube and plug of such construction that the latter is readily placed in or removed from the filler plug, is rigidly in place when in the tube but readily removable with little effort.

In the accompanying drawing:—

Fig. 1 is a front elevation of the upper portion of an automobile radiator with my improved filler tube and plug in its top part.

Fig. 2 is an enlarged sectional elevation as on line 2—2 in Fig. 1 showing my improved filler tube and plug in complete diametric section and approximately full size.

Referring to the drawing by reference letters A designates a radiator of the type common to most automobiles and in the top thereof a fixed filler tube B. Said tube in most cases is provided with female threads for receiving a threaded cap (not shown). My improved plug and tube have no threaded parts, the tube B being plain and projecting down into the upper water reservoir C of the radiator (see Fig. 2) and its upper end being provided with a flange D.

The plug itself comprises a tube E of a size to be slidably inserted in tube B and of about same length as the latter. The upper end of the plug comprises preferably an integral enlarged and hollow head F with a circular shoulder F″ on which is suitably retained a gasket G (Fig. 2) preferably of rubber to engage flange D. The extreme outer edge of the head, as F′, may be milled about as shown to provide a good hand hold, or said part F′ may be made polygonal (not shown) for the same purpose.

Near the lower end of the fixed tube B is provided a circular inwardly directed ridge or groove B′ and tube E is provided with a like groove E′ adapted to frictionally engage the groove-ring B′ when tube B is in place with its shoulder F′ and gasket G pressed against flange D. The lower end of tube E is provided with a plurality of slits H cut longitudinally some distance up from the lower end of the tube and forming a number of resilient circularly arranged tongues J. These tongues will spring or yield inwardly enough to let the grooved part E′ pass over the stationary grooved part B′ of tube B vertically, either when the plug is inserted or withdrawn from tube B. When said ridged or grooved parts E′ have passed ridge E′ during insertion of the plug they spring back to normal linear relation to the tubular wall of the tube and the entire plug is frictionally held in place, as shown in Fig. 2. Removing of the plug is accomplished best by the operator grasping the head F firmly, twisting the plug and simultaneously pulling upwardly.

What I claim is:

In a filler tube plug for containers the combination of a fixed tube in the container and communicating with the interior thereof, a filler plug comprising a tubular body adapted to be slidably inserted in said fixed tube, an enlargement on the plug adapted to serve as a hand hold, said fixed tube having a circular inwardly directed groove adjacent its inner end and said tubular body of the plug having a circular inwardly directed groove portion adapted to frictionally engage the first mentioned groove and yieldable means for disengaging said grooved parts to release the plug, said disengaging means consisting of a number of circularly arranged, elongated resilient tongues formed of the lower end of said plug by cutting slits longitudinally therein from its bottom end.

In testimony whereof I affix my signature.

GEORGE E. HUBBARD.