W. C. HELCHER.

FUNNEL.

APPLICATION FILED AUG. 2, 1915.

1,233,352. Patented July 17, 1917.

FIG. 1.

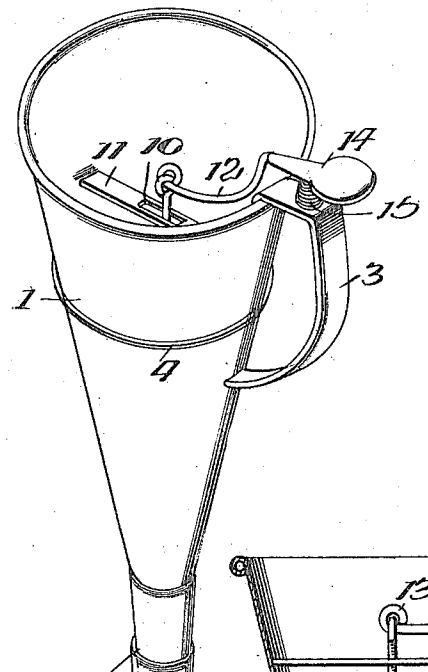


FIG. 2.

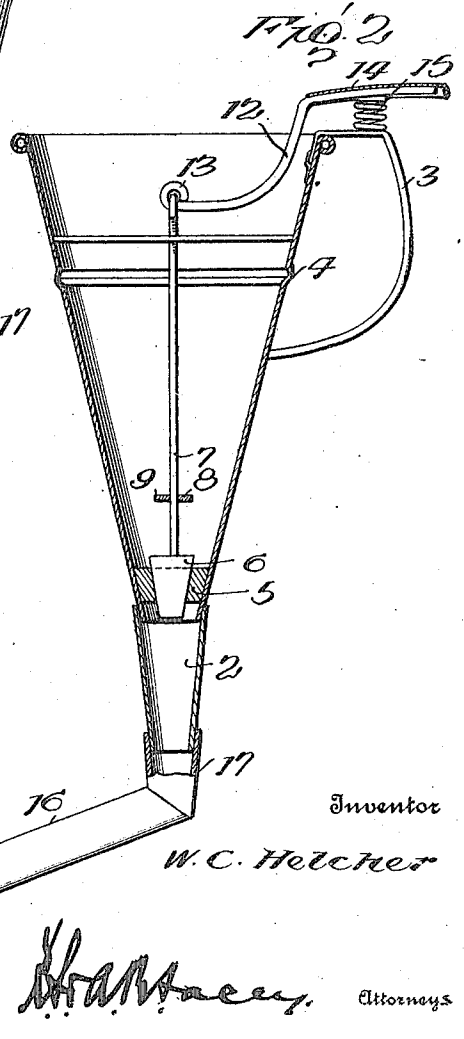
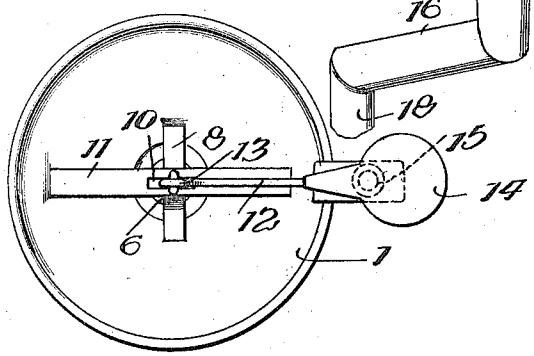


FIG. 3.



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UNITED STATES PATENT OFFICE.

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FUNNEL.

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Application filed August 2, 1915. Serial No. 43,214.

To all whom it may concern:

Be it known that I, WILLIAM C. HELCHER, a citizen of the United States, residing at Galion, in the county of Crawford and State of Ohio, have invented certain new and useful Improvements in Funnels, of which the following is a specification.

This invention relates to funnels and has as its object to provide a funnel especially adapted for use in lubricating automobiles and in fact machinery of all kinds and one feature of the invention resides in the provision of an auxiliary spout for the funnel which spout may be disconnected from the ordinary spout when it is not desired for use, the auxiliary spout being so constructed as to permit of the funnel being employed in supplying lubricant to parts which would be inaccessible in the use of an ordinary funnel.

Another aim of the invention is to provide a funnel of that type including a valve seat located at or adjacent the outlet from the funnel, and a valve, which valve is operated through the movement of a finger lever, a novel means for mounting the said lever so that the same will be normally held in position to close the valve and yet will be devoid of any form of pivot mounting liable to become disarranged.

Another aim of the invention is to provide novel means for limiting the movement of the valve toward open position so that the mounting for the lever cannot be subjected to abnormal strain.

In the accompanying drawings:

Figure 1 is a perspective view of the funnel embodying the present invention;

Fig. 2 is a vertical sectional view therethrough;

Fig. 3 is a top plan view of the funnel.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawings by the same reference characters.

The funnel includes a body 1 of the ordinary form provided with an outlet spout 2 and the body is provided at one side with the usual handle 3 and may be provided in or upon its wall with one or more ribs 4 whereby the quantity of lubricant contained within the funnel may be readily determined.

Mounted within the lower or outlet end of the funnel body is a valve seat 5 and normally resting upon this seat is a plug valve 6 having a stem 7 extending from its upper end and through an opening 8 in a transverse member 9 arranged within the body 1 above the said seat 5. It is preferable that the member 9 be so located that when the valve is closed the upper end of the valve will be spaced from the said member a distance slightly less than the entire height of the valve so that when the stem 7 is raised and the valve is moved to open position it will strike against the member 9 and its proper seating upon return downward movement will be insured. The stem 7 also extends through a slot 10 formed in a cross member 11 arranged near the upper end of the body 1. In order that the valve may be lifted from its seat there is provided an operating finger lever including a stem 12 which is curved downwardly to extend within the mouth of the body 1 and pivotally connected at its end as at 13 to the upper end of the valve stem 7. The stem 12 of the said finger lever carries a finger piece or button 14 preferably of sheet metal and this finger piece extends above the handle 3 and that end of the lever which carries the finger piece is supported by means of a coiled spring 15. The spring 15 is secured at its lower end by soldering or otherwise to the upper portion of the handle 3 and the upper end of the spring is secured to the said end of the lever and to the under side of the finger piece 14 by soldering or in any other suitable manner. The spring 15 is initially so tensioned and positioned that it will have a normal tendency to force the valve stem 7 downwardly and consequently hold the valve 6 to its seat 5.

By reference to the drawings it will be observed that the spring 15 is located at a point slightly in advance of the body portion of the finger piece 14, or, in other words, in advance of that portion of the finger piece upon which pressure is brought to bear when the lever is operated, and it will be apparent that when the thumb is caused to bear downwardly upon the said portion of the finger piece the lever will be rocked and the valve stem 7 and valve 6 will be elevated. It will thus be seen that the spring 15 serves not only as a means for normally holding the lever in such position that the valve will rest upon its seat but that it serves also as a substitute for the ordinary pivot mounting usually found in funnels of this class.

In order that the funnel may be readily employed in supplying lubricant to parts

which would be inaccessible in the use of the ordinary funnel, there is provided an auxiliary spout including an inclined intermediate portion 16 and arms 17 and 18 which extend in opposite directions respectively from the upper and lower ends of the portion 16 and in lines parallel to each other. The arm 17 is to be fitted to the lower end of the spout 2 in the manner shown in Fig. 2 of the drawings when it is desired to employ the auxiliary spout and it will be observed that the portion 16 of the spout is inclined downwardly from this arm and consequently although the funnel may be held in upright position to avoid loss of any of its contents, the arm 18 of the auxiliary spout may be placed over the part to be supplied with lubricant and the valve of the funnel then opened to permit the outflow of the desired quantity of lubricant.

Having thus described the invention, what is claimed as new is:

A funnel having a valve seat, a valve for coöperation with the seat, a guide within the funnel above the said seat, a valve stem extending upwardly from the valve and working through the guide, a second guide within the funnel above the first-mentioned guide, the said valve stem extending also through the second-mentioned guide, a handle for the funnel, a coiled spring mounted at its lower end upon the handle, and an operating lever for the valve mounted upon the upper end of the said spring and having operative connection with the upper end of the valve stem, the said spring constituting the sole support for the lever and also constituting a fulcrum for the lever, said coiled spring yieldably holding the lever in position to close the valve, the said first-mentioned guide constituting means for limiting the opening movement of the valve and thereby limiting the rocking movement of the lever in a direction to open the said valve, and the second-mentioned guide constituting means for preventing lateral movement of the valve stem and the lever connected therewith.

In testimony whereof I affix my signature.

WILLIAM C. HELCHER. [L. S.]