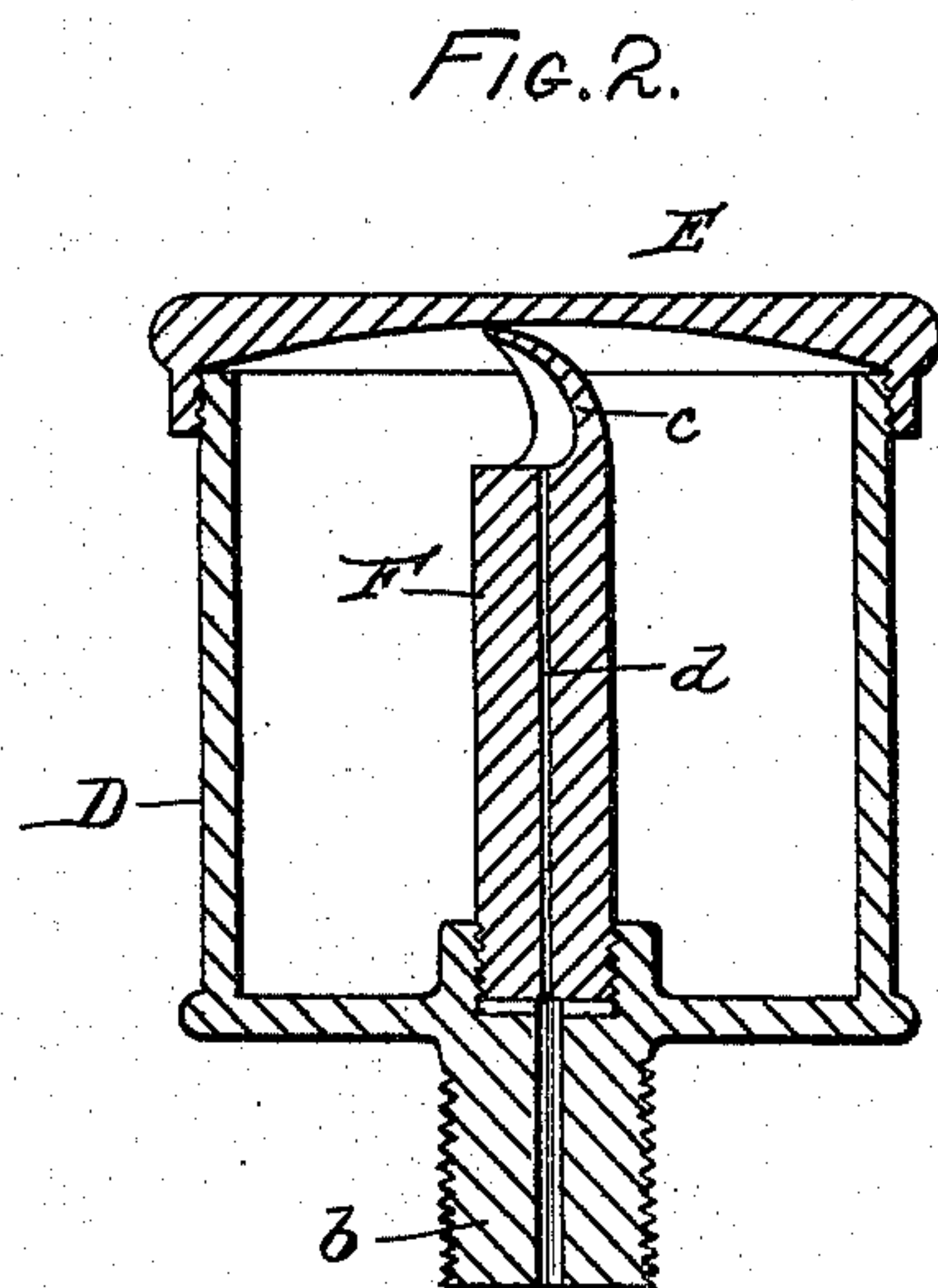
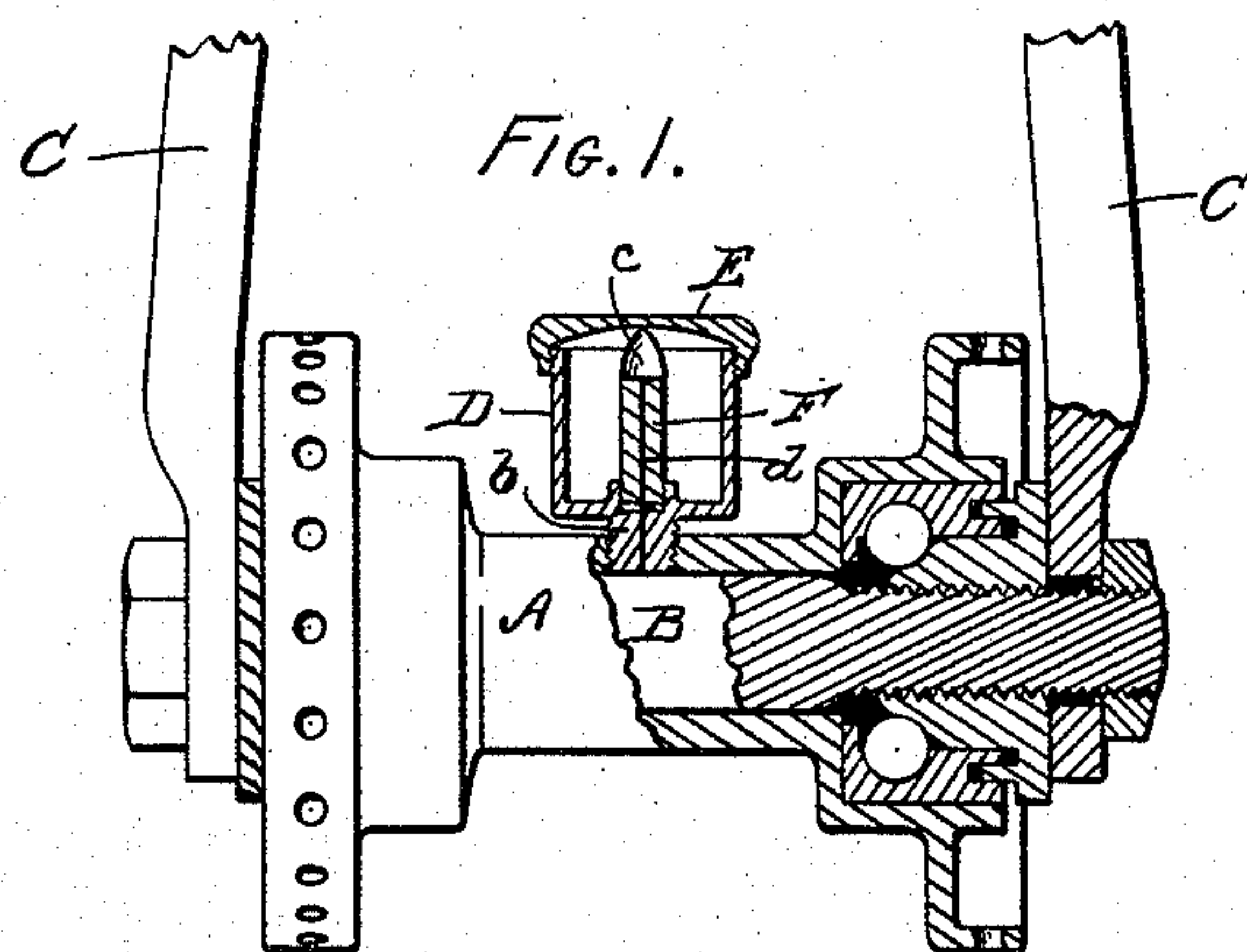


(No Model.)

E. D. BANGS.  
LUBRICATOR.

No. 533,188.

Patented Jan. 29, 1895.



WITNESSES,  
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# UNITED STATES PATENT OFFICE.

EDWIN D. BANGS, OF MILWAUKEE, WISCONSIN.

## LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 533,188, dated January 29, 1895.

Application filed October 24, 1892. Serial No. 449,802. (No model.)

*To all whom it may concern:*

Be it known that I, EDWIN D. BANGS, a citizen of the United States, and a resident of Milwaukee, in the county of Milwaukee, and in the State of Wisconsin, have invented certain new and useful Improvements in Lubricators; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention has for its object to provide an automatic lubricator for bicycle-wheels, loose pulleys and various other rotative devices, this object being attained by certain peculiarities of construction and combination of parts hereinafter described with reference to the accompanying drawings and subsequently claimed.

In the drawings: Figure 1 represents a vertical transverse section of my lubricator applied to a bicycle-wheel, and Fig. 2 a similar view of the lubricator on an enlarged scale and turned at a right-angle to the position shown in the preceding figure.

Referring by letter to the drawings, A represents the hub of a bicycle-wheel having ball-bearings on an axle B that is held in hangers C against rotation. The hub A is provided with the usual central opening or oil-port and into the latter I screw-thread or otherwise rigidly secure a boss *b* that is preferably made in one piece with a cup D, this cup being provided with a detachable cap E held in place by screw-threads or other suitable means, although it is essential that there be an oil-tight joint between the cup and cap.

The boss *b* above specified, is preferably extended, a short distance, into the cup and provided with a screw-threaded recess for engagement with a correspondingly threaded end of a stem F that has its other or free end reduced in such a manner as to form a deflector *c*, and to obtain the best results I prefer to have this deflector of such length as to come as close as possible to the inner face of the cap E of said cup. The stem F and boss *b*, herein specified, are bored out to form a channel *d*, that leads into the hub A, and the gage of the stem portion of this channel determines the maximum feed of oil to the parts it is desirable to lubricate.

In practice the cup is filled with oil and at each revolution of the device, to which said cup is attached, a minute quantity of the oil is guided, by the deflector *c*, into the channel *d* and finds its way through the same to the bearings of said device.

From the foregoing it will be seen that there is a constant automatic feed of the lubricating material to said bearings while the cup is in rotation, and that this feed will cease when said cup comes to a standstill. It is also to be observed that by having the feed predetermined the amount of oil utilized is only such as may be necessary or desirable to obtain the best results in the matter of lubrication.

If at any time it be found that the feed is in excess of a proper amount, the stem F may be turned to set the deflector *c* at such an angle as to guide less of the oil to the feed-channel, and from the fact that said deflector comes as near as may be to the inner face of the cap E, it is possible to utilize every drop of lubricant poured into the cup D of my device.

Having now described my invention, what I claim as new, and desire to obtain by Letters Patent, is—

1. The combination of a cup attachable to a rotary device and having a bottom outlet, a detachable oil-tight closure for the cup, and an inclosed rotarily adjustable channeled stem that communicates with the cup-outlet and has a free-end in the form of a deflector, substantially as set forth.

2. The combination of a cup having its bottom provided with a channeled attaching boss, a detachable oil-tight closure for the cup, and a channeled stem that is adjustably fitted in said boss to extend therefrom toward said closure, and has its free end in the form of a deflector, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

EDWIN D. BANGS.

Witnesses:

H. G. UNDERWOOD,  
JOHN E. WILES.