

A. C. DOBRICK.
PRIMING CUP.
APPLICATION FILED MAY 11, 1916.

1,332,944.

Patented Mar. 9, 1920.

Fig. 1

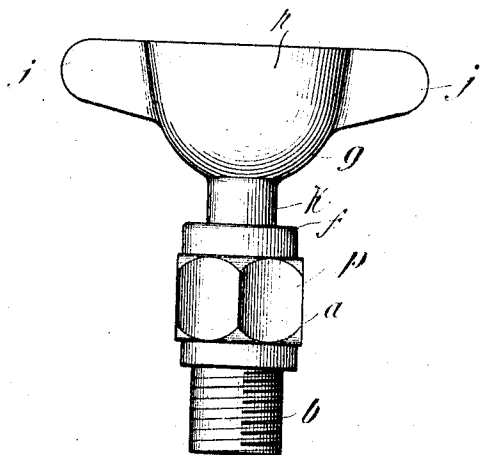


Fig. 2

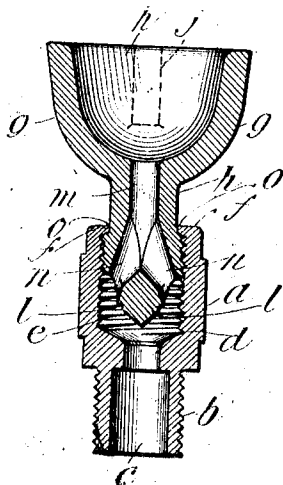
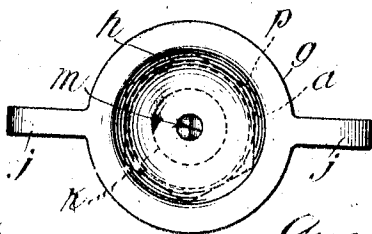


Fig. 3



Witnesses:
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By John Howard (Attorney)

UNITED STATES PATENT OFFICE.

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PRIMING-CUP.

1,332,944.

Specification of Letters Patent.

Patented Mar. 9, 1920.

Application filed May 11, 1916. Serial No. 96,816.

To all whom it may concern:

Be it known that I, AUGUST C. DOBRICK, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Priming-Cups, of which the following is a full, clear, and exact specification.

My invention is concerned with priming cocks for hydro-carbon engines, and is designed to produce an extremely simple and efficient cock of the class described that can be very cheaply manufactured, which cannot readily become leaky or otherwise get out of order, and which can be manipulated to show whether or not the engine is exploding without removing any of the parts.

To illustrate my invention, I annex hereto a sheet of drawings, in which the same reference characters are used to designate identical parts in all the figures, of which,—
Figure 1 is a side elevation;
Figure 2 is a central longitudinal section;
and
Figure 3 is a top plan view.

The valve in its preferred form consists of two members, the body member *a* preferably consisting of a generally tubular construction having the external thread *b* on its lower end adapted to be screwed into the head of an engine in the customary manner, while the central passage *c* therethrough has, preferably near the center thereof, the conical valve-seat *d*. Above this valve-seat, the large passage is threaded at *e* to receive the threaded portion *f* of the valve-stem of the cup member *g*. This cup member consists of the cup portion *h*, which is of suitable size to have the priming charge poured therein, and is preferably provided with some means for gripping the same so that it can be turned to seat securely the valve, the preferred form of such means being the ears *j*. The stem *k* is provided at its lower end with the conical valve portion *l* adapted to be screwed firmly on the valve-seat *d*. When the cup is turned in the proper direction, and when it is so seated, the passage is firmly closed to prevent any possible leakage, and it will be observed that, with this form of connection, no possible looseness can result from continued use, which is apt to occur with the old form of priming valve where a spring valve is employed.

The cup member has the passage *m* extending from the cup downward through the stem to a point above the valve portion *l*, the opening of the lower end of the passage above said valve being secured by forming the diverging portions *n* constituting the lower part of the passage at a slight angle to the axis of the cup. With this construction, when the cup member is unseated, as shown in Fig. 2, it will be obvious that a charge of priming oil poured into the cup is free to flow through the passage *m*, past the open valve *e* and the seat *d*, and through the passage *c* into the engine. It will also be obvious that, owing to the fact that there is no abrupt turn at right angles in the pathway formed by the combined action of the two passages, the flame from the explosion, if the valve is open, is free to pass out through the open cup, and thus furnish an indication as to whether or not the engine is exploding.

To prevent the complete separation and possible loss of the cup member, I preferably form on the upper end of the body portion, after the parts are assembled, a bead or internally projecting flange *o*, which engages the threads *f* and prevents the cup from being screwed out of the body portion. The body member is preferably provided with suitable means by which it may be screwed in place, such as the hexagonal portion *p*, to which a wrench may be applied.

It will further be noted that the stem *k* below its threaded portion is very materially reduced in cross-section, and that it is through this reduced portion that the lower ends of the passages *n* extend. As a consequence of this reduction, two important functions are secured: In the first place, when the cup is screwed up, as seen in Fig. 2, so as to permit the flame of the explosion to be visible, a large free passageway for said flame from the valve-seat passage to the lower ends of the passages *n* is provided, and this adds materially to the visibility of the explosion as it gives the flame a much larger and clearer passage to reach a point where it is directly visible than would be possible without said reduction of the diameter of the stem *k* below the threaded portion. In the second place, when the valve is closed, the cup is kept materially cooler than it would be otherwise, because said reduced portion leaves a very consider-

able annular passage about the lower end of the stem, which annular passage is open to the external air through the passages *n* and *m*, thus materially cooling the lower end of the stem, and preventing the cup, and especially the ears *j* by which it is manipulated, from getting so hot that it cannot be handled. This cooling of the metal by the access of the air below the threads which holds the cup and valve seated also keeps down the expansion of the metal at the threads and makes it easier to turn the cup, in spite of the heat of the engine.

The visibility of the flame when the cups are screwed up is valuable for testing purposes, as it enables the driver, mechanic or repair man to ascertain easily which, if any, cylinder is missing fire, and as the test is conducted while the engine is not doing any work, the slight loss of power in the explosion does no harm.

While I have shown and described my invention as embodied in the form which I at present consider best adapted to carry out its purposes, it will be understood that it is capable of modifications, and that I do not desire to be limited in the interpretation of the following claims except as may be necessitated by the state of the prior art.

What I claim as new, and desire to secure by Letters Patent of the United States, is:

1. In a priming cock, the combination with a body having a passage therethrough and a valve-seat in said passage, the diameter at the valve-seat being very materially reduced and the portion above the valve-seat being internally threaded, of a cup mounted therein having a stem externally threaded to cooperate with the internally threaded portion of the passage and having a mate-

rially reduced portion below the threads and terminating in a valve cooperating with the valve-seat and having a passage through the cup and stem opening at the bottom in the reduced portion and above the valve so as to leave an annular passage about the stem above the valve open to the air when the valve is closed, a portion of the passage through the stem diverging by a small angle from the axis of the cock so that the valve may be closed and yet permit the flame from the explosion to show through the passages when the cup is moved to open the valve and without removing the cup from the body.

2. In a priming cock, the combination with a body having a vertical passage therethrough, comprising an internally threaded portion above a valve-seat, of a cup member having a valve and threaded valve-stem, the stem between the valve and the threads being materially reduced and a passage from the cup through the stem, said body having an inwardly projecting flange at its top which cooperates with the top of the threaded portion of the valve-stem when the valve is open and prevents the complete separation of the two parts, a portion of the passage through the stem diverging from the axis of the cock and opening below the threaded portion so as to leave an annular passage about the stem above the valve open to the air when the valve is closed.

In witness whereof I have hereunto set my hand and affixed my seal this 29th day of April, A. D. 1916.

AUGUST C. DOBRICK. [L. S.]

Witness:

JOHN HOWARD McELROY.