

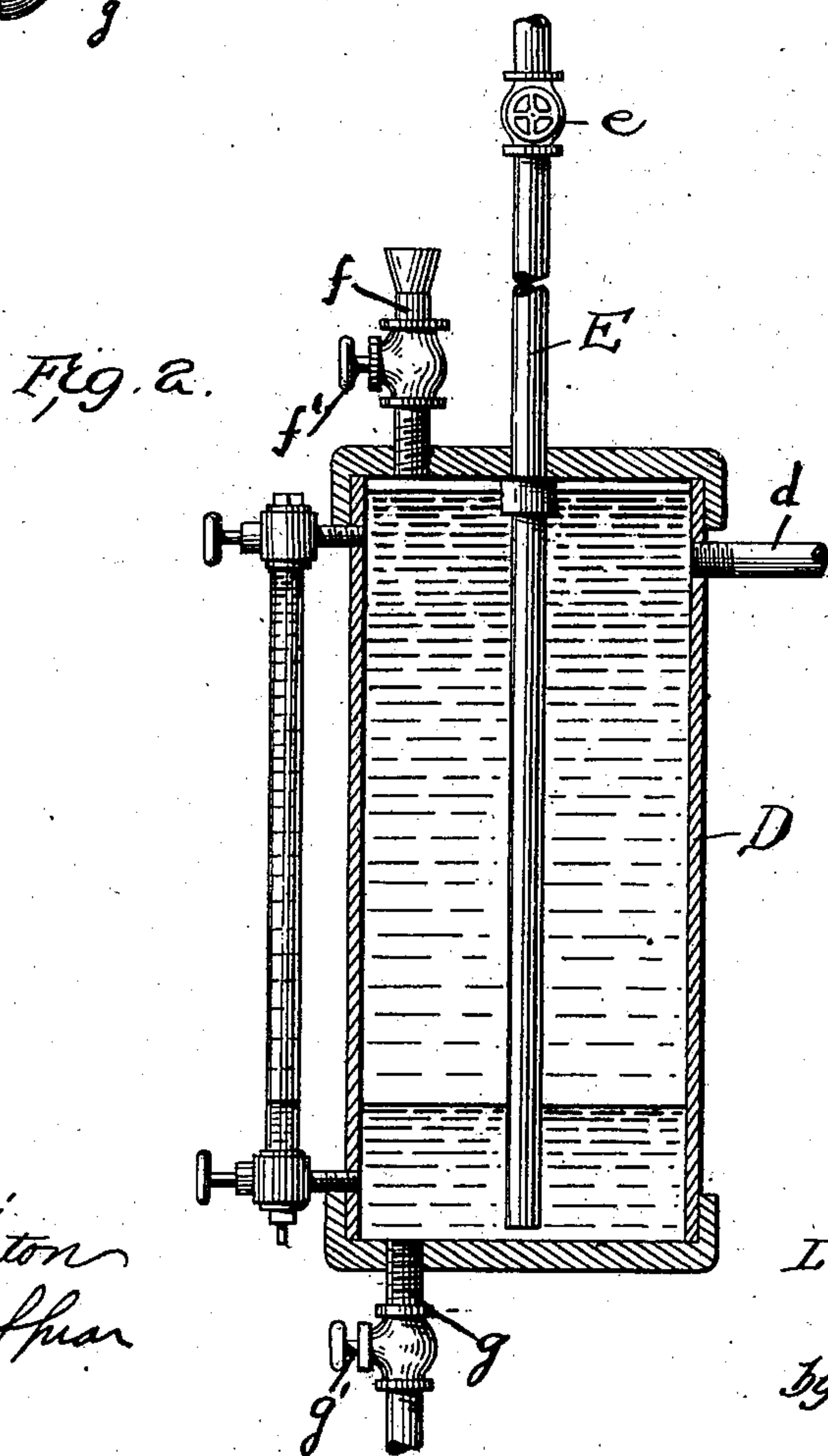
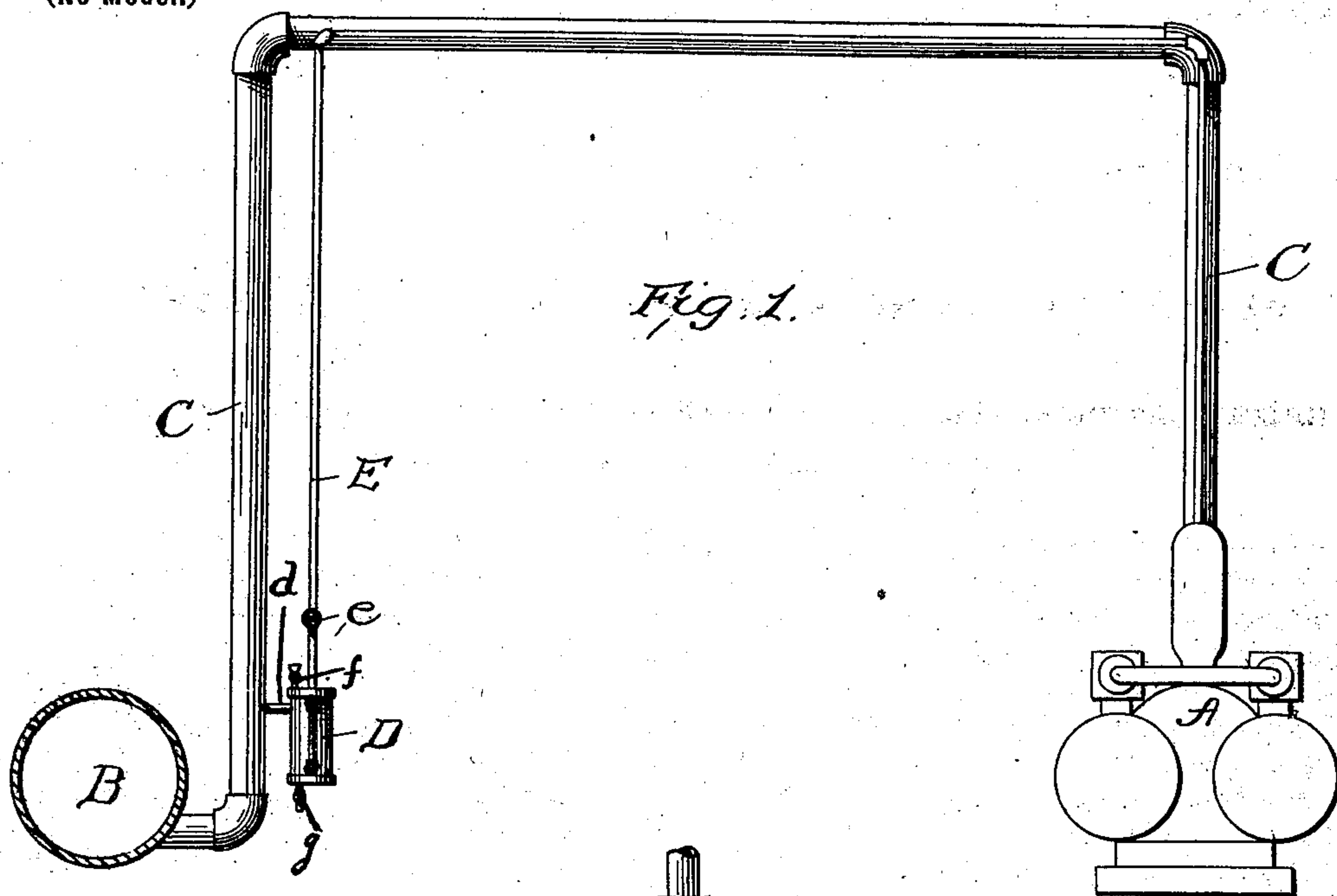
No. 700,270.

Patented May 20, 1902.

L. G. M. WEST.
MEANS FOR LUBRICATING HYDRAULIC CYLINDERS.

(Application filed July 30, 1901.)

(No Model.)



attest;
James W. Spear

Inventor:
Louis G. M. West,

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att'y

UNITED STATES PATENT OFFICE.

LOUIS G. M. WEST, OF BALTIMORE, MARYLAND, ASSIGNOR OF ONE-HALF
TO R. E. MUNRO, OF BALTIMORE, MARYLAND.

MEANS FOR LUBRICATING HYDRAULIC CYLINDERS.

SPECIFICATION forming part of Letters Patent No. 700,270, dated May 20, 1902.

Application filed July 30, 1901. Serial No. 70,257. (No model.)

To all whom it may concern:

Be it known that I, LOUIS G. M. WEST, a citizen of the United States, residing at Baltimore, Maryland, have invented certain new and useful Improvements in Means for Lubricating Hydraulic Cylinders, of which the following is a specification.

My invention relates to improvements in means for lubricating the hydraulic cylinders of elevators; and the object of the invention is to provide a simple and effective method of feeding the oil in an economical manner.

I have illustrated the invention in the accompanying drawings, in which—

Figure 1 represents a diagrammatic view of a hydraulic cylinder, pump, and pipe connection with the oil-cup and its connections; and Fig. 2 is an enlarged detail of the oil-cup.

In the drawings, A represents the pump, which is representative of any ordinary form of pump, and B the hydraulic cylinder, which is likewise representative of any ordinary hydraulic cylinder, and detail illustration of these is therefore deemed unnecessary, the hydraulic cylinder being controlled in the ordinary manner well understood by those skilled in the art.

C represents the water-supply pipe, extending from the pump to the cylinder in the ordinary manner.

The oil-cup is designated at D and has its upper end connected with the water-supply pipe, preferably near the point where it enters the cylinder, by a pipe connection *d*. The lower end of this oil-cup is connected by a smaller water-pipe E with the pump independently of the main water-pipe C, so that when the pump is operating to force water to the cylinder the pressure is likewise transmitted through the pipe E to the oil-cup, below the oil therein, so that a certain quantity of oil is fed to the main pipe C and thence into the cylinder. A cut-off valve *e* is provided in the pipe E, by which the flow of water through pipe E may be cut off when desired. A suit-

able filling-pipe *f* is provided at the top of the oil-cup, provided with a valve *f'* and a drain-pipe *g*, provided with valve *g'*. By this arrangement I have found that a sufficient amount of oil is fed to the cylinder to effect proper lubrication, and as oil is fed only when water is being supplied to the cylinder all danger of the feed of excess of oil and consequent waste is avoided.

It will be understood that the lubricator-cup is of the ordinary form, having a suitable supply-pipe *d'*, controlled by a valve, and a drain-cock *d''*, and also a gage *d'''* for indicating the height of the oil in the cup.

The operation of the invention and the causes therefor will be clearly understood from the foregoing specification, but may be briefly stated as follows: The full pressure at the pump is transmitted through the pipe E without loss, the flow through this pipe being practically *nil*, while in the pipe E there is an appreciable loss of pressure due to friction and bends in the pipe tending to retard the flow, and consequently there is a difference of pressure between the inlet and outlet of the oil-cup, which of course disappears when the pump stops and the flow of water ceases.

Having thus described my invention, what I claim is—

The combination with a hydraulic cylinder and the supply-pump having a pipe supply connection thereto, of an oil cup or receptacle, a pipe connection from one end of said cup to the hydraulic cylinder, and an independent pipe connection from the other end direct to said supply-pump, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

LOUIS G. M. WEST.

Witnesses:

JNO. H. FILLER,
BENNETT W. WISE.