No. 666,025. Patented Jan. 15, 1901.

C. B. RICHARDS.

LUBRICATOR.

(No Model.) (Application filed Oct. 20, 1899.)

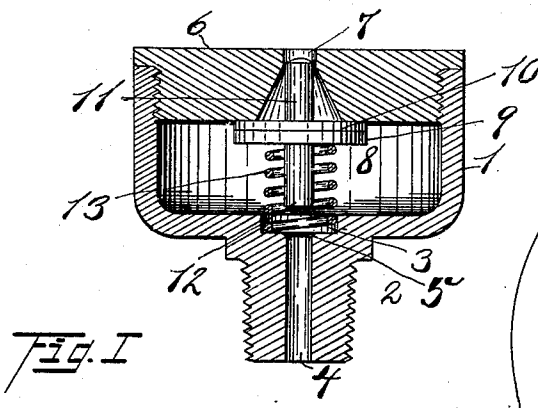


Fig. I

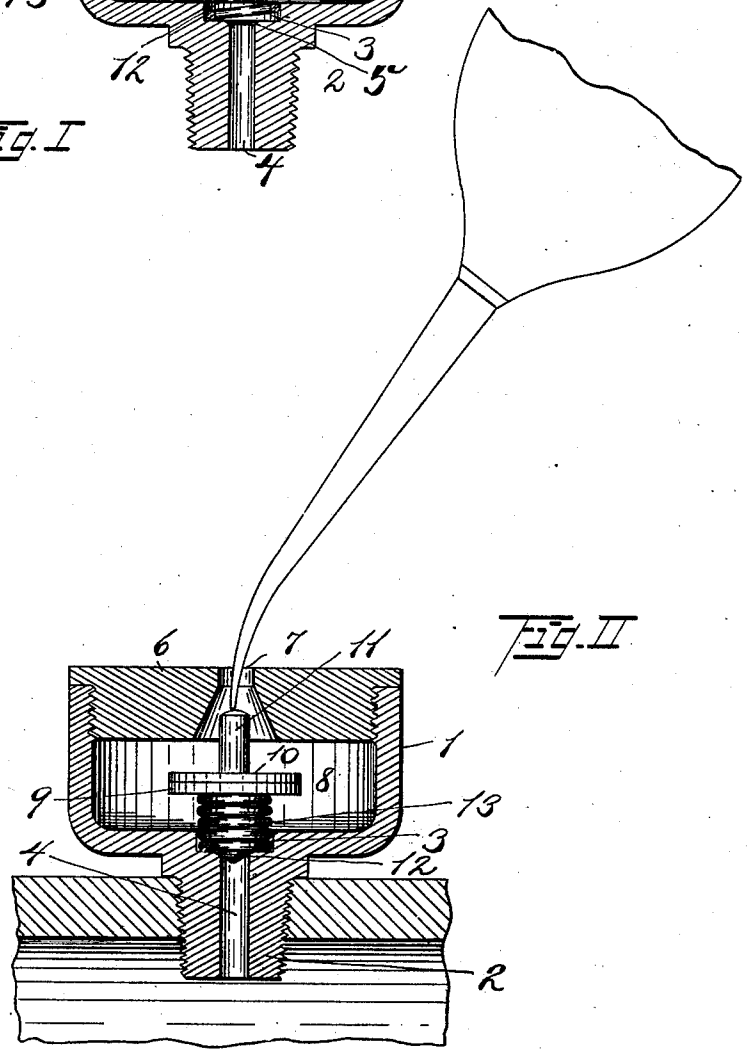


Fig. II

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Inventor:
C. B. Richards,
by Wm. Fecher
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLES B. RICHARDS, OF CLEVELAND, OHIO, ASSIGNOR TO THE CLEVELAND PNEUMATIC TOOL COMPANY, OF SAME PLACE.

LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 666,025, dated January 15, 1901.

Application filed October 20, 1899. Serial No. 734 175. (No model.)

To all whom it may concern:

Be it known that I, CHARLES B. RICHARDS, a citizen of the United States, and a resident of Cleveland, county of Cuyahoga, and State of Ohio, have invented certain new and useful Improvements in Lubricators, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

The annexed drawings and the following description set forth in detail one mechanical form embodying the invention, such detail construction being but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawings, Figure I represents an axial section of my improved oil-cup, showing it in position for lubricating and with its feed or filling opening closed; and Fig. II, a similar section of the oil-cup, showing the filling-opening opened by the spout of an oil-can and the discharge-opening closed.

The oil-cup forming the subject-matter of this application is principally intended for use in lubricating the interiors of machine structures operating upon or operated by fluids under pressure—as, for example, pneumatic hammers or similar tools.

The cup 1 has a screw-threaded neck 2, by means of which it may be secured in the wall of the device to be lubricated. An annular spring-seat 3 is formed around the upper end of the axial discharge-bore 4 in the neck, and a valve-seat 5 is formed in said spring-seat. The top of the cup is closed by a screw-cover 6, screwed into the top of the cup. Said cover has a central opening 7 formed downwardly flaring. A valve structure 8 is formed with a valve-disk 9, capable of covering the lower flared end of the feed-opening in the cover and having a yielding packing-washer 10 placed upon it, and a stem 11 passes upward and downward from said disk, so as to fit in the upper portion of the feed-opening when the valve is raised, as illustrated in Fig. I, and to seat its valve portion 12 upon the valve-seat in the discharge-bore when the valve is depressed, as illustrated in Fig. II. A coiled spring 13 is placed around the lower portion of the stem beneath the disk and has its lower portion fitted in the spring-seat. Said spring serves to seat the disk and its washer against the lower flared end of the feed-opening, as illustrated in Fig. I.

When the oil-cup is in use, the spring, as well as the fluid-pressure within the cup from its communication with the interior of the device containing fluid under pressure, will force the valve-disk and its washer against the feed-opening in the cover, closing the same and preventing escape from the cup of the fluid under pressure through the cup. The lubricant may thus pass through the discharge-channel to its destination. When the cup is empty, it may be filled by depressing the valve-stem by the end of the oil-can spout, as shown in Fig. II, when the lower valve-opening will be closed, preventing the pressure-fluid from escaping, while the oil may flow from the can into the cup through the flared opening, filling the cup. When the pressure of the can-spout is removed, the spring and the fluid-pressure will again raise the valve, closing the feed-opening. The flaring lower portion of said latter opening will guide the upper part of the valve-stem to the narrow part of the opening, so that the valve will regain its seat, even if it has been forced to one side by the pressure of the can-spout. As the escape of the pressure-fluid is prevented through the oil-cup as well when the cup is being filled as when it is feeding lubricant into the device to which it is applied, this cup is adapted for use in lubricating the interiors of pneumatic tools, such as drills and hammers, as well as steam-cylinders and valve-chests, rock-drills, or any other machinery operating upon or operated by a fluid under compression.

Other modes of applying the principle of my invention may be employed for the mode herein explained. Change may therefore be made as regards the mechanism thus disclosed, provided the principles of construction set forth, respectively, in the following claim are employed.

I therefore particularly point out and distinctly claim as my invention—

In a lubricator, the combination of a cup provided with an outlet-neck having an out-

let-channel and a valve-seat at the inner end of said channel and a spring-seat around said valve-seat, a cover for said cup formed with an inwardly-flaring feed-opening opposed to the valve-seat, a valve structure consisting of a valve-disk having a packing-washer upon its face to fit against the lower end of the feed-opening and a stem passing through said disk and formed with a valve at one end adapted to fit the outlet valve-seat and having its other end guided by the flaring sides of the feed-opening and to fit into the upper narrow end of said opening to be engaged and depressed by the oil-can nozzle, and a spiral spring around the valve end of the valve-stem and in the spring-seat forcing the valve structure upward, substantially as set forth.

In testimony that I claim the foregoing to be my invention I have hereunto set my hand this 16th day of October, A. D. 1899.

CHARLES B. RICHARDS.

Witnesses:

WM. SECHER,

MARGARET F. SECHER.