L. C. BAYLES.

COMBINED THROTTLE VALVE AND OILER.

APPLICATION FILED DEC. 27, 1909.

965,554. **Patented July 26, 1910.**

Fig. 3.

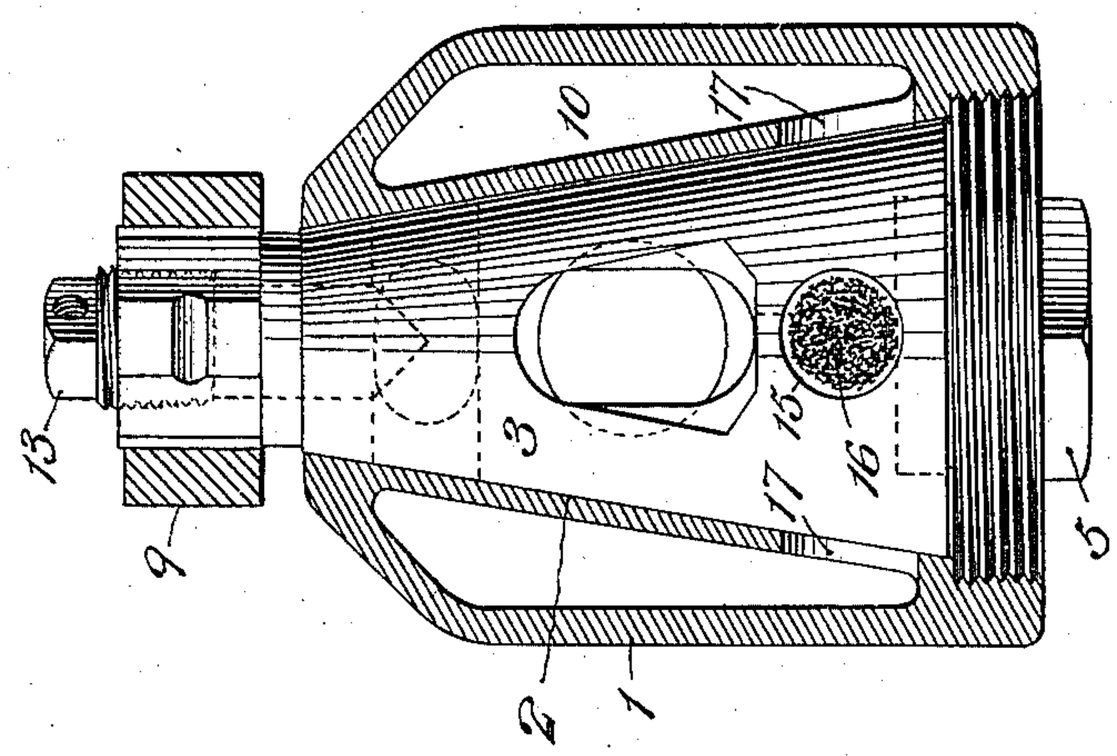


Fig. 1.

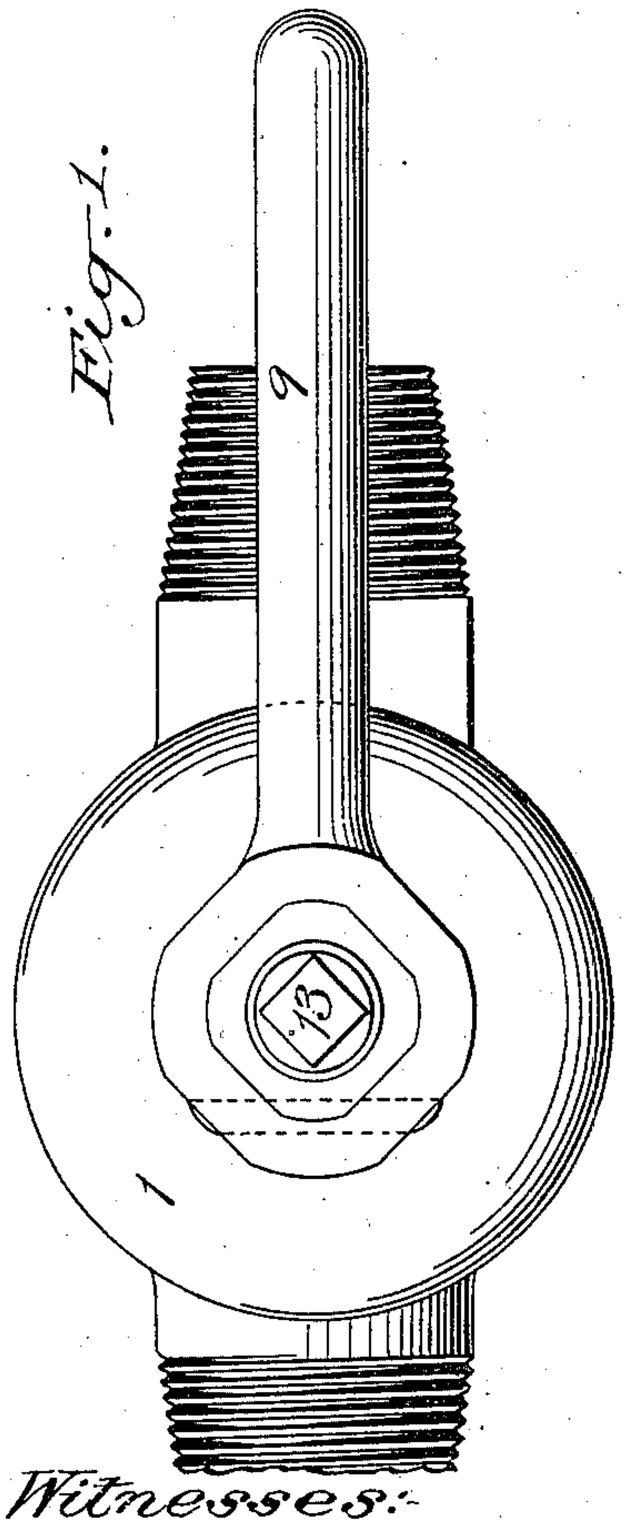
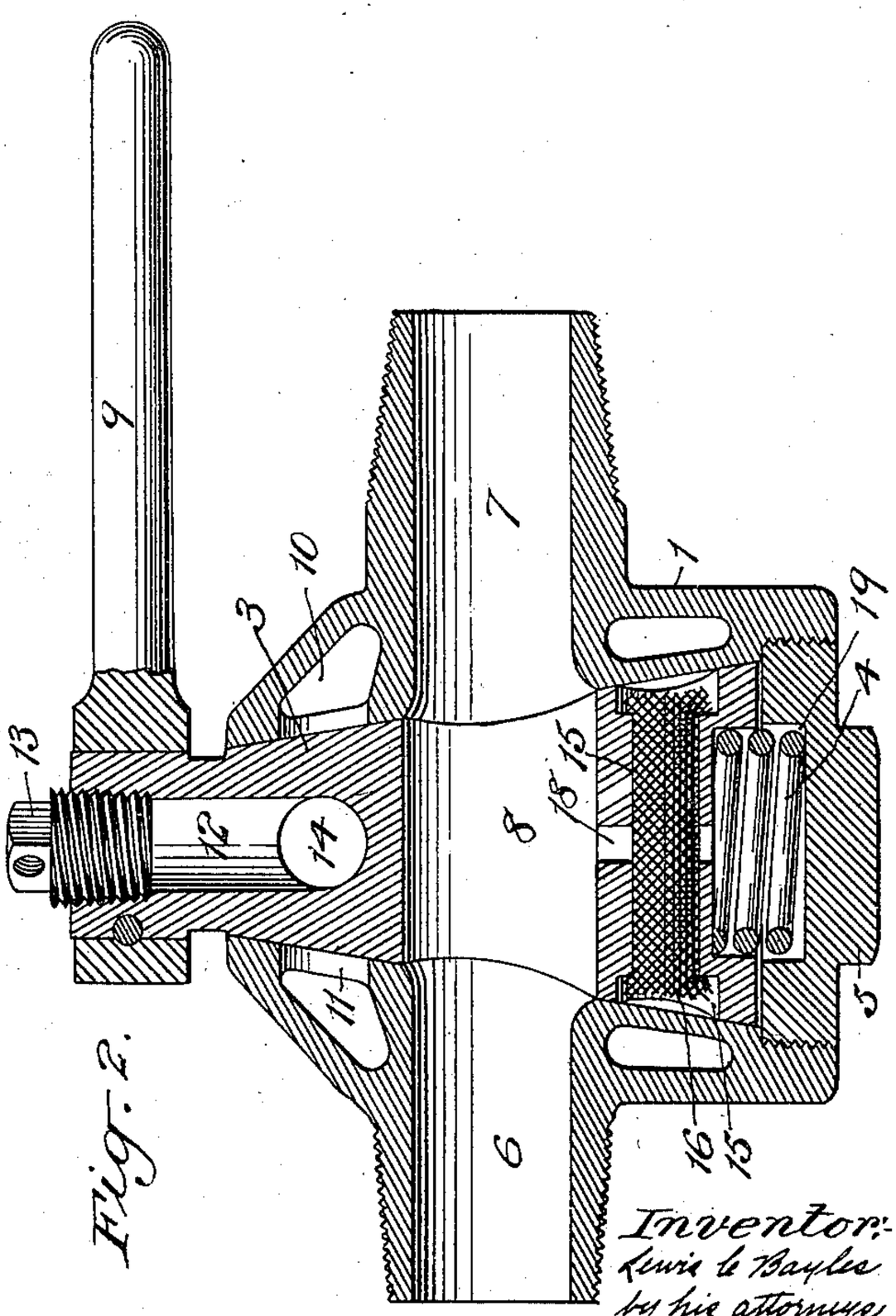


Fig. 2.



Witnesses:-
J. George Bany.
Harry J. Fleischer

Inventor:-
Lewis C. Bayles
by his attorneys
Brown & Eward

UNITED STATES PATENT OFFICE.

LEWIS C. BAYLES, OF JOHANNESBURG, TRANSVAAL, ASSIGNOR TO INGERSOLL-RAND COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

COMBINED THROTTLE-VALVE AND OILER.

965,554. Specification of Letters Patent. Patented July 26, 1910.

Application filed December 27, 1909. Serial No. 534,989.

To all whom it may concern:

Be it known that I, LEWIS C. BAYLES, a citizen of the United States, and resident of Johannesburg, Transvaal, have invented new and useful Improvements in Combined Throttle-Valves and Oilers, of which the following is a specification.

The object of this invention is to provide novel means for supplying oil in small quantities to the pipe line of a fluid supply system used in connection with fluid pressure operated machines or tools.

A practical embodiment of my invention is shown in the accompanying drawings, in which—

Figure 1 represents in top plan a combined throttle valve and oiler with my invention applied thereto, Fig. 2 is a longitudinal central section through the same, and Fig. 3 is a transverse vertical section, the valve being shown in full lines.

The valve casing is denoted by 1 and its tapered valve seat by 2. The tapered valve 3 is frictionally held in its seat by suitable means, such, for instance, as by a spring 4 interposed between the larger end of the valve and the removable cap 5. The inlet and outlet ports 6 and 7 in the casing are in alinement and the through port 8 in the valve is arranged to open and close communication between the said ports 6 and 7. The valve 3 is provided at its smaller end with a handle 9. The outer wall of the casing 1 is spaced from the inner wall which forms the valve seat 2, to provide an oil reservoir 10 surrounding the valve seat.

The oil reservoir is supplied with oil through the valve as follows: One or more oil supply ports 11 lead from the face of the valve 3 to the reservoir at one side of the inlet and outlet ports 6 and 7 in the casing. A filling passage is provided in the valve, the axial branch 12 of which leads through the smaller end of the valve and is provided with a removable stopper 13; and the one or more lateral branches 14 of which, leads or lead to the face of the valve into position to be opened to the one or more oil supply ports 11 when the valve is closed, and to be closed to said one or more ports 11 when the valve is opened.

Oil is fed in small quantities from the reservoir to the fluid passing through the valve as follows:—A space 15, preferably but not necessarily provided with enlarged ends, is located in the valve upon the opposite side of the ports 6 and 7 from the oil supply port or ports 11, within which space is located an oil absorbent material, 16, such, for instance, as wicking, or a coil of fine mesh wire fabric. The ends of this space 15 are opened to oil escape ports 17 leading from the reservoir 10 to the face of the valve, when the valve is closed, and are closed when the valve is opened. An axial passage 18 leads from the through port 8 to the chamber 19 between the larger end of the valve and the removable cap 5. The axial passage intersects the cross space 15 within which the absorbent material 16 is located.

The action of the device is as follows: When the valve is closed, the space 15 with its absorbent material is opened to the oil reservoir through the discharge ports 17 thus permitting the absorbent material to become impregnated with oil. When the valve is opened, communication from the reservoir to the space 15 is cut off, and the oil will be drawn from the absorbent material through the axial passage 18 into the fluid passing through the valve. When the valve forms part of a compressed air system for operating rock drills, pneumatic tools and the like, the variation in pressure will cause the air to pulsate through the axial passage 18 and at each pulsation draw a little oil from the absorbent material into the air passing through the valve to the machine.

To fill the reservoir, the valve is turned to bring its filling passage into communication with the filling port or ports of the reservoir. The stopper 13 is then removed, the oil poured in, and the stopper replaced.

What I claim is:—

1. An oiler having a pressure fluid supply passage, an oil reservoir and a space and an oil absorbent material located within said space and arranged to be brought into and out of communication with the oil reservoir and the passage, whereby fluctuations in fluid pressure in the passage will cause the oil to be extracted little by little from said absorbent material when it is in communication with said passage.

2. In a combined throttle valve and oiler, a casing having a passage therethrough and an oil reservoir and a valve having a space therein, an oil absorbent material in said

space, said space being arranged to be brought into communication with the oil reservoir when the valve is closed and into communication with the passage through the valve casing when the valve is opened.

3. In a combined throttle valve and oiler, a casing, its inlet and outlet ports, a valve having a through port therein arranged to open and close communication between said inlet and outlet ports, said casing having an oil reservoir provided with a discharge port, said valve also having a space arranged to be brought into and out of communication with the oil discharge port, a passage leading from said space to the through port and an oil absorbent material located in said space.

4. In a combined throttle valve and oiler, a valve casing having a passage therethrough and an oil reservoir provided with oil supply and escape ports, a valve and means for supplying oil to the reservoir through the valve and supply port and for supplying oil from the reservoir to the said passage through the escape port and valve.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two witnesses, this twenty-second day of December 1909.

LEWIS C. BAYLES.

Witnesses:
F. GEORGE BARRY,
HENRY THIEME.