

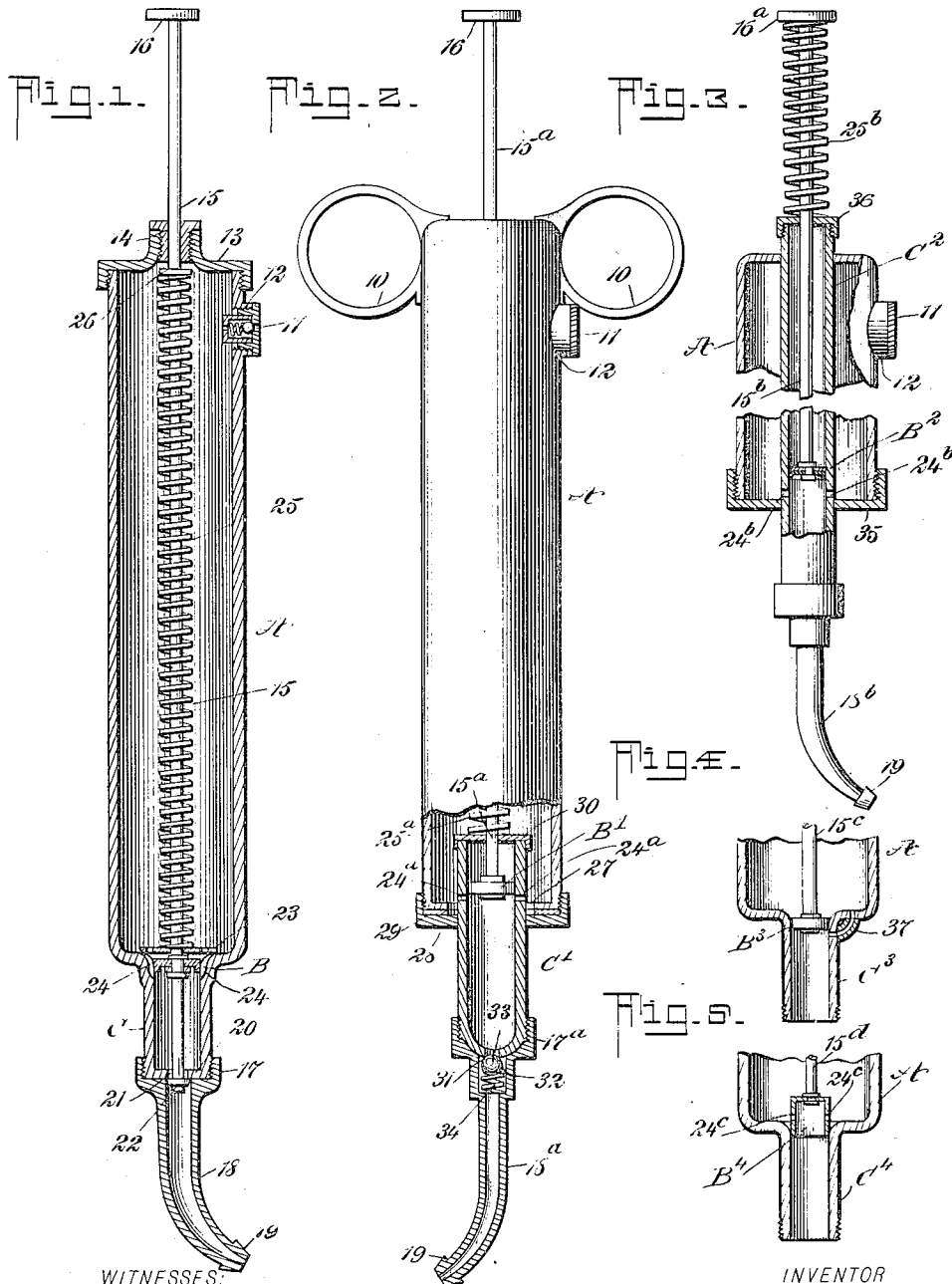
No. 730,065.

PATENTED JUNE 2, 1903.

G. WILSON.
OILER.

APPLICATION FILED JUNE 17, 1902.

NO MODEL.



WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORGE WILSON, OF MADELIA, MINNESOTA.

OILER.

SPECIFICATION forming part of Letters Patent No. 730,065, dated June 2, 1903.

Application filed June 17, 1902. Serial No. 112,094. (No model.)

To all whom it may concern:

Be it known that I, GEORGE WILSON, a citizen of the United States, and a resident of Madelia, in the county of Watonwan and State of Minnesota, have invented a new and Improved Oiler, of which the following is a full, clear, and exact description.

The purpose of the invention is to provide a simple and compact portable oiler adapted for use in connection with bearings of all kinds, but especially adapted for use in connection with the parts of bicycles, as the oiler is of convenient form, of small size, yet of great capacity, and has but few parts, and they are readily accessible.

Another purpose of the invention is to provide a self-closing valve for the nozzle, opened by the action of the piston in forcing the liquid out through the nozzle and which prevents leakage and back action of the liquid, and to provide a cylinder in which the piston moves, which cylinder connects with the nozzle and a reservoir for liquid, and a means for automatically returning the piston when operated to a point at or near the bottom of the reservoir, and for supplying liquid to the cylinder from the reservoir while the piston is in its normal or return position.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal section through the improved oiler. Fig. 2 is a sectional side elevation of a slightly-modified form of the oiler. Fig. 3 is a sectional side elevation showing another slight change in construction; and Figs. 4 and 5 are sectional views of the lower portions of reservoirs and their attached cylinders, illustrating further slight departures in construction.

The reservoir A is preferably made cylindrical and at its upper end at opposite sides is shown as provided with opposing finger rings or loops 10. At one side a relief-valve 11 is located, which under the construction illustrated may be utilized as a filler-plug as the valve-casing is screwed into a collar 12,

surrounding an opening in the reservoir said valve being preferably a ball-valve and spring-controlled. The purpose of the relief-valve is to admit air to the reservoir as a piston B, to be hereinafter described, is operated. Ordinarily the top of the reservoir is closed by a cap 13, having a gland 14 therein for the passage of the piston-rod 15 into the reservoir, which rod at its outer end has a thumb-plate 16 applied.

A cylinder C is located at the outer end of the reservoir A, being of less diameter than the diameter of the reservoir and of any suitable length. This cylinder may be attached to the reservoir or may be integral therewith and is threaded at its lower end to receive a correspondingly-threaded hub-section 17 of a nozzle 18. The nozzle may be straight or curved and its terminal end may be plain or provided with a conical flange 19 to readily fit into openings of different diameters.

Under the construction shown in Fig. 1 the end of the cylinder C connecting with the nozzle 18 is closed, except for a central opening 21, through which the outer end of the piston-rod 15 passes, and at the outer end of the said piston-rod a cap-flange 22 is formed, which in the normal position of the piston-rod 15 closes the said opening 21 and acts as a valve for the said outlet-opening, preventing leakage of oil when the oiler is not in operation, and likewise preventing any back action of the oil.

The pinion B under this form of construction consists of a disk body having a downwardly-extending marginal flange, the periphery of the disk and flange fitting quite snugly to the inner wall of the cylinder, and this piston is secured upon the piston-rod at such a point that when the valve 22 on the piston-rod closes the outlet-opening 21 of the cylinder the said piston will be about level with the bottom of the reservoir at a point where the cylinder and reservoir connect. The piston-rod 15 likewise passes loosely through an apertured plate 23, which rests upon the bottom of the reservoir over the receiving end of the cylinder C, and in the inner wall of the cylinder where the cylinder and the reservoir A connect ports or recesses 24 are produced, opposite which the piston is located

when in its normal position, so that at such time the oil may flow from the reservoir into the cylinder and charge the latter for another operation of the oiler.

5 The piston-rod 15 is held in its normal position by a spring 25, which is coiled around the rod, bearing at one end on the apertured plate 23 and at its other end against a collar 26, secured to the piston-rod near its upper
10 end. This spring 25 is placed under compression when oil is to be forced from the oiler by the outward movement of the piston, and when the piston-rod is relieved from pressure the spring returns the rod and piston
15 to their normal positions.

Under the construction shown in Fig. 2 the outer end of the reservoir is provided with an opening 27, through which the cylinder C' extends into the reservoir, and the
20 outer end of the reservoir is closed by a suitable cap 28 and washer 29, which cap fits snugly to the exterior of the cylinder C', while the washer is flush with the wall of the opening 27, which opening 27 is preferably of
25 greater diameter than the diameter of the cylinder, and the cylinder is provided with a cap 30 at its inner end and its outer end is rounded and provided with a centrally-located outlet-opening 31. Above the rounded
30 portion of the cylinder C' it is exteriorly threaded to receive the hub-section 17^a of a nozzle 18^a. In the construction of the nozzle a chamber 32 is provided just below the hub, in which a ball-valve 33 is located, normally
35 held by a spring 34 in a position to close the outlet-opening 31 of the cylinder. The piston-rod 15^a is provided with a coil-spring 25^a, which returns it to its normal position, and the piston-rod extends out through the upper
40 end of the reservoir and is provided with a thumb-plate 16.

The piston B' is of ordinary type, is at the outer end of the piston-rod, and moves in the cylinder in the customary manner. When
45 the piston-rod and piston are in their normal position, the piston is at a point slightly above the bottom of the reservoir, and at such points in the cylinder ports or inlet-openings 24^a are made in said cylinder, whereby the oil from
50 the reservoir may flow into the cylinder when the piston is in its inner position.

Under the construction shown in Fig. 3 the cylinder C² extends through the reservoir A and beyond both of its ends and the bottom
55 of said reservoir is provided with a cap 35, screwed thereon and fitted around the cylinder. The nozzle 18^b is preferably of the construction shown in Fig. 1, as is likewise the lower end of the cylinder C², and at the bot-
60 tom of the reservoir ports or inlet-openings 24^b are made in the cylinder C², and the piston B² when in its normal position is above these ports; but the piston in this construction is preferably made with a cupped leather
65 bottom. The piston is attached to the piston-rod 15^b and the piston-rod is controlled by a spring 25^b, coiled around the upper end

of the piston-rod and bearing against the thumb-plate 16^a thereof and against a cap 36 at the rear or inner end of the cylinder. The
70 action of the piston in this form of the device is the same as in the forms of the device heretofore described, although the spring controlling the piston is exteriorly instead of
75 interiorly located.

In Figs. 4 and 5 the cylinders C³ and C⁴ are integral with the bottom portion of the reservoirs A and are in communication there-
with, and in the form of the device shown in Fig. 4 the piston-rod 15^c is provided with the
80 ordinary form of piston B³, which latter travels in the cylinder C³ and normally occupies a position about level with the bottom of the reservoir. Communication is then es-
85 tablished between the bottom portion of the reservoir and the cylinder C³ at a point below the piston through the medium of an exteriorly-located tube 37, placed in communi-
90 cation with the interior of the cylinder and the interior of the reservoir.

Under the form of construction shown in Fig. 5 the piston-rod 15^d is provided with an inverted-cup-shaped piston B⁴, and when this
piston is in its normal position its outer open end remains at the upper portion of the cyl-
95 inder C⁴, and at such time the oil flows from the reservoir to the cylinder through ports or openings 24^c, made in the side portions of the pistons. I desire it to be understood
100 that the bottom portion of the cylinder in any type of the device may be given any desired formation.

Having thus described my invention, I claim as new and desire to secure by Letters
105 Patent—

1. In oilers, a reservoir terminating in a reduced portion, having an outlet-opening at its lower end; a nozzle surrounding said opening; a stem extending through said opening,
110 reduced portion and reservoir and projecting through the latter; a supporting-plate at the bottom of the reservoir, said plate having apertures through one of which said stem passes, the others being designed to permit the free
115 passage of oil into said reduced portion; a collar rigidly secured to the stem; a compression-spring coiled around said stem between said collar and supporting-plate, a stop-plate on the lower end of said stem to limit the upward
120 movement thereof; said stop-plate also serving as a valve controlling the opening at the outer end of said reduced portion; a piston snugly received into said reduced portion,
125 said piston being secured to said stem and spaced apart such distance from the stop plate or valve on the bottom thereof that said valve is in position to close the outlet of the reduced portion when said piston is in its normal
130 or initial position as set forth.

2. In oilers, a reservoir terminating in a reduced section having an outlet-opening at its lower end; a nozzle surrounding said opening; a stem extending through said opening,
135 reduced section and reservoir and projecting

beyond the latter; a piston on said stem within said reduced section, said piston being normally located at the point where the reduced section opens into the reservoir; means for
5 permitting the passage of oil from the reservoir into the reduced section when the piston is in its normal position, and a rigid valve on the outer end of said stem, adapted to be in engagement with the lower end of said reduced section to close the opening therein,
10 and to limit the upward movement of the stem when the said piston is in its normal position; and a spring within said reservoir for holding the piston and valve in their normal
15 position as specified and for the purpose set forth.

3. In an oiler, an elongated reservoir, having a reduced portion at its lower end, said portion being in central alinement with the
20 main portion of the reservoir and having at

its extreme end a valved outlet surrounded by a nozzle; an operating-stem entered in the reservoir at the upper end thereof, and disposed in a line longitudinal and central of said reservoir and reduced portion; a piston
25 on said stem for effecting a positive discharge of oil through the outlet in the reduced portion; said piston being normally located at the inlet of the reduced portion; and a spring on said stem for controlling the same and the
30 piston carried thereby, as specified and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE WILSON.

Witnesses:

CHARLES BRUDER,
T. O. OREN.