July 1, 1924. 1,499,478

J. K. ROBINSON

VALVE

Filed March 17, 1923 2 Sheets-Sheet 1

Fig. 1.

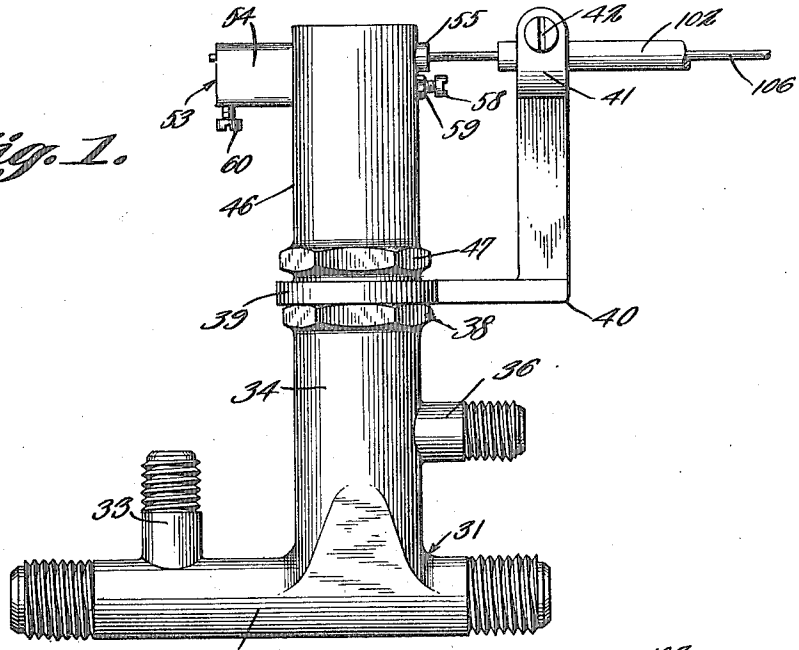
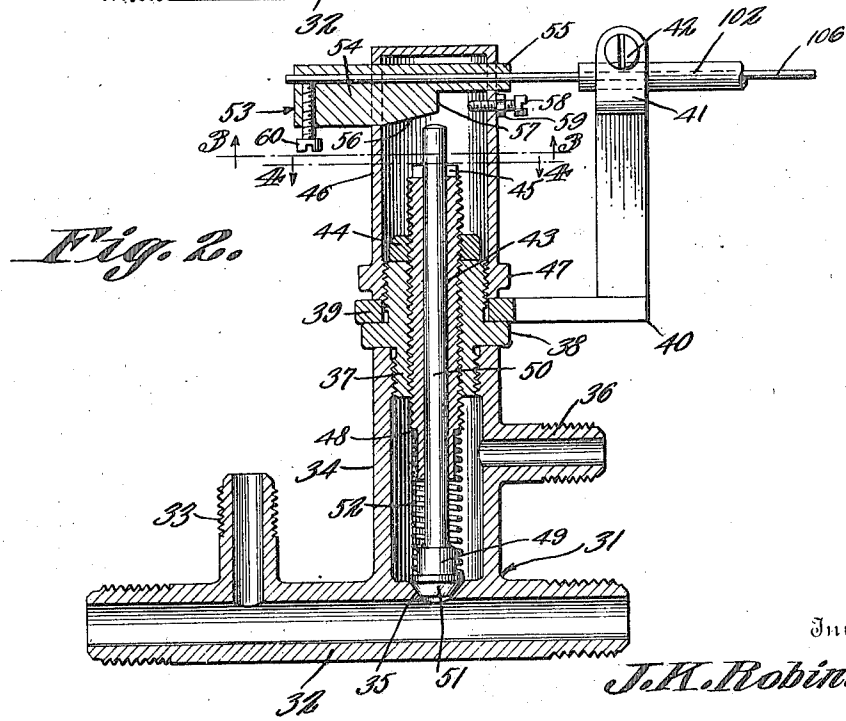


Fig. 2.



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Fig. 3.

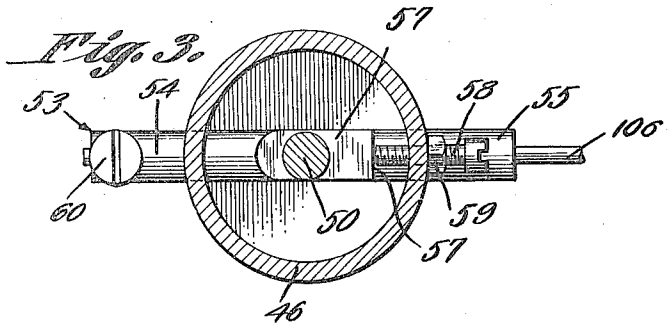


Fig. 4.

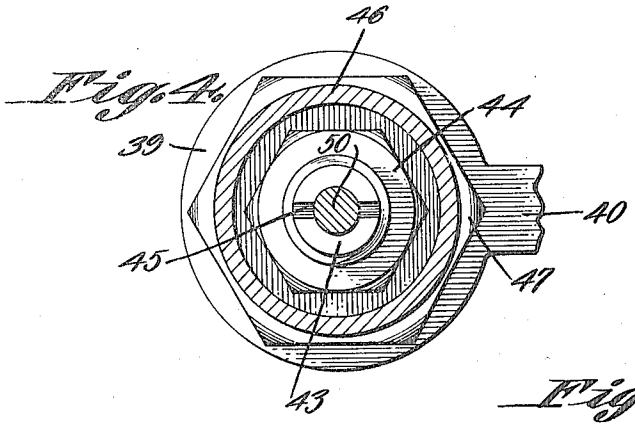
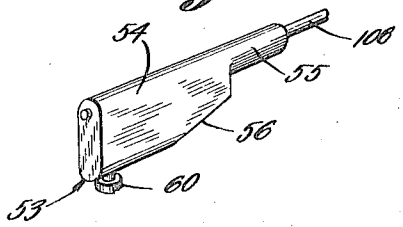


Fig. 6.



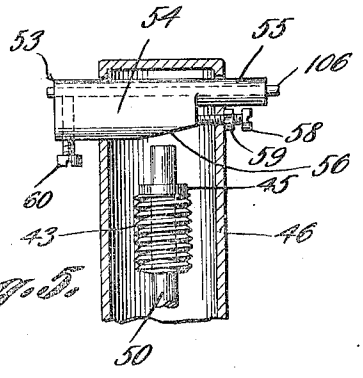


Fig. 5.

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Patented July 1, 1924. 1,499,478

UNITED STATES PATENT OFFICE.

JAMES K. ROBINSON, OF JACKSONVILLE, FLORIDA, ASSIGNOR OF ONE-FOURTH TO S. S. RICKETT AND ONE-FOURTH TO C. C. ROBERTSON, BOTH OF JACKSONVILLE, FLORIDA.

VALVE.

Application filed March 17, 1923. Serial No. 625,905.

To all whom it may concern:

Be it known that I, JAMES K. ROBINSON, a citizen of the United States, residing at Jacksonville, in the county of Duval and State of Florida, have invented a new and useful Valve, of which the following is a specification.

The device forming the subject matter of this application is a valve mechanism which may be used in connection with an oiling system disclosed in my co-pending application Serial No. 625,320, filed on the 15th day of March, 1923, although the structure forming the subject matter of the present disclosure is not confined to use in the oiling system alluded to, but is capable of general application.

The invention aims to provide, in a device of the class described, novel means for permitting a valve to open, after a predetermined pressure has been secured, novel means being provided for controlling the movement of the valve.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the invention appertains.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that, within the scope of what is claimed, changes in the precise embodiment of the invention shown can be made without departing from the spirit of the invention.

In the accompanying drawings:—

Figure 1 shows in elevation, a device constructed in accordance with the invention; Figure 2 is a section wherein parts are broken away; Figure 3 is a cross section on the line 3—3 of Figure 2; Figure 4 is a cross section on the line 4—4 of Figure 2; Figure 5 is a sectional detail illustrating the valve-controlling member in a different position from that delineated in Figure 2; and Figure 6 is a perspective view showing the valve-controlling member.

The valve forming the subject matter of this application is denoted generally by the numeral 31 and includes a body, comprising a tubular base 32 having an outlet 33. The outlet 33 constitutes means whereby pressure within the base 32 may be communicated to a gauge (not shown). A receptacle 34 is mounted on and carried by the base 32. A valve seat 35 is formed in the base 2 at the point of juncture between the base and the receptacle 34. The receptacle 34 has a lateral outlet 36 which may be connected to a by-pass (not shown).

A bushing 37 is threaded at its lower end into the member 34 and is provided with a flange or wrench head 38 facilitating the rotation of the bushing and engaging the end of the receptacle 34, to serve as a stop. About the upper end of the bushing 37 extends the eye 39 of an angular bracket 40, the eye resting on the flange or wrench head 38. The bracket 40 is equipped with compressible jaws 41 carrying a tightening device 42.

A tubular guide 43 is threaded for adjustment into the bushing 37 and is held in place by a lock nut 44 which, being threaded upon the guide 43, engages the upper end of the bushing 37. In order to facilitate the rotation and adjustment of the guide 43, the same is provided in one end with a kerf 45, adapted to receive a screw driver or like tool. The guide 43 is equipped with an external shoulder 48. A cap 46 is threaded on the bushing 37 and has a wrench head 47. The cap 46 engages the eye 39 of the bracket 40, to hold the bracket in place.

The numeral 49 denotes a valve, comprising a stem 50 mounted for reciprocation in the guide 43, a head 51 being carried by the stem, the head cooperating with the seat 35. A compression spring 52 surrounds a portion of the valve stem 50, one end of the spring abutting against the shoulder 48 on the guide 43, the other end of the spring abutting against the valve head 51, the spring constituting means for holding the valve seated.

The numeral 53 designates a slide or valve controlling member, mounted for right line reciprocation in the cap 46 in a direction substantially at right angles to the axis of the valve stem 50. The slide or valve controlling device 53 comprises a body 54 and a reduced stem 55, there being a shoulder 57 on the body 54 at one end thereof, the body being supplied with an inclined edge 56 adapted to cooperate with the upper end of the valve stem 50. Movement of the slide 53 is limited and adjusted by a stop 58, preferably in the form of a screw threaded into the cap 46 and adapt-

ed to cooperate with the shoulder 57, the screw being held in place by a lock nut 59. A holding device 60, such as a screw, is threaded into the body 54 of the slide 53 and engages an operating member 106, which may be in the form of a wire, the operating member being mounted for reciprocation in a tubular guide 102, held between the jaws 41 of the bracket 40 by the tightening device 42.

In practical operation, oil or other liquid under pressure flows through the base 52 of the valve mechanism 31, the valve 51 being closed. When the pressure builds up sufficiently, the spring 52 yields, the valve 51 opening, and a portion of the liquid flowing away through the outlet 36, it being recalled that the outlet 33 is connected to a gauge (not shown) and is, therefore, closed against the free flow of the liquid therethrough. When the slide 53 is retracted, as shown in Figure 2, the valve stem 50 may rise freely. When, however, through the instrumentality of the operating member 106, the slide 53 is advanced into the position shown in Figure 5, until the shoulder 57 abuts against the stop screw 58, the upward movement of the valve stem 50 is limited, the amount that the valve 51 opens is decreased, and the quantity of oil flowing away through the outlet 36 is decreased, with a corresponding diminution of pressure within the base 32. Since the valve controlling device or slide 53 is provided with the inclined edge 56, and since the member 53 may be adjusted in position, the valve 51 may be permitted to open, more or less, thus to regulate the amount of liquid which flows away through the outlet 36.

What is claimed is:—

1. In a device of the class described, a tubular body so constructed that liquid may flow therethrough, the body having a supplemental outlet, a valve controlling the passage of liquid from the body through the outlet, yieldable means for holding the valve closed, and mechanism under the control of an operator, and independent of the spring means, for limiting positively the movement of the valve toward open position.

2. In a device of the class described, a tubular body so constructed that liquid may flow therethrough, the body having a supplemental outlet, a valve controlling the passage of liquid from the body through the outlet, yieldable means for holding the valve closed, and a slide under the control of an operator and mounted for right line reciprocation in the body, the slide having an inclined edge adapted to cooperate with the valve to limit the valve in its opening movement.

3. In a device of the class described, a tubular body so constructed that liquid may flow therethrough, the body having a supplemental outlet, a valve controlling the passage of liquid from the body through the outlet, yieldable means for holding the valve closed, a valve controlling member movable on the body with respect to the valve, to limit the opening movement of the valve, and adjustable means on the body for engaging said member to stop the movement thereof as said member is advanced with respect to the valve.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JAMES K. ROBINSON.

Witnesses:

HENRIK J. SCHMIDT,

C. W. SMITH.