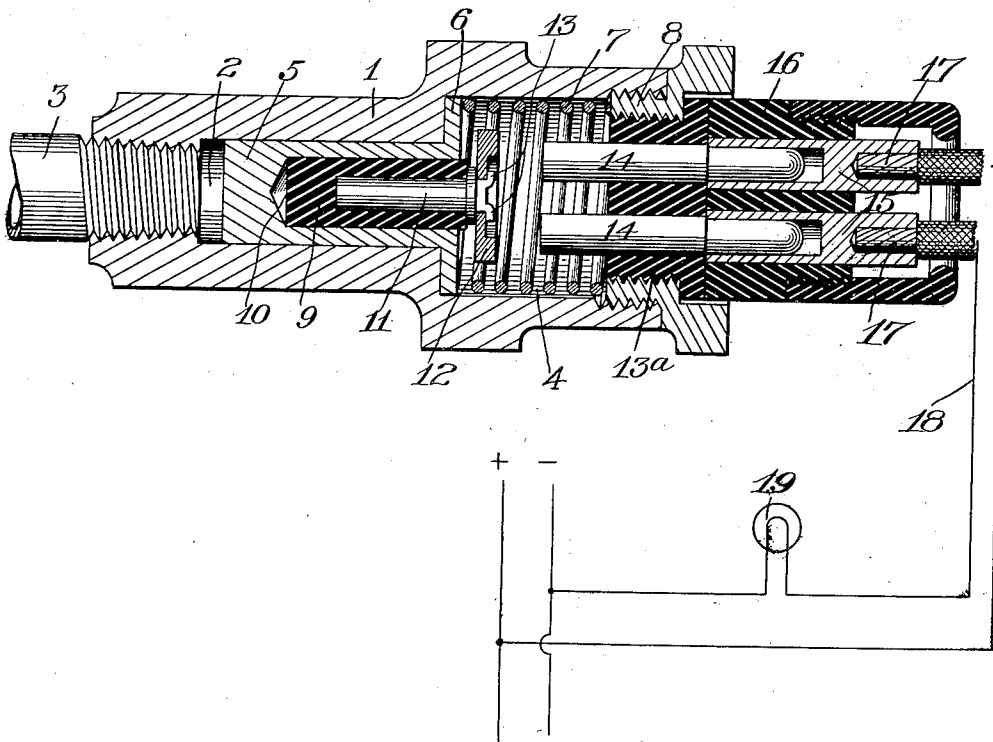


H. Y. NORWOOD & F. K. TAYLOR.
 FLUID PRESSURE CONTROLLED SWITCH.
 APPLICATION FILED MAY 20, 1915.

1,250,210.

Patented Dec. 18, 1917.



WITNESSES:

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INVENTORS

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UNITED STATES PATENT OFFICE.

HARRY Y. NORWOOD AND FRED K. TAYLOR, OF ROCHESTER, NEW YORK, ASSIGNORS TO
TAYLOR INSTRUMENT COMPANIES, OF ROCHESTER, NEW YORK, A CORPORATION
OF NEW YORK.

FLUID-PRESSURE-CONTROLLED SWITCH.

1,250,210.

Specification of Letters Patent.

Patented Dec. 18, 1917.

Application filed May 20, 1915. Serial No. 29,411.

To all whom it may concern:

Be it known that we, HARRY Y. NORWOOD and FRED K. TAYLOR, both of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Fluid-Pressure-Controlled Switches; and we do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming a part of this specification, and to the reference-numerals marked thereon.

The invention has for its object the improvement of electric switches which are under the control of fluid pressure, such as are employed for operating an indicating signal, or for opening or closing a valve, or performing a like operation, when the fluid pressure reaches a predetermined point. The purpose of the present structure is to reduce the cost of manufacturing such devices and to afford a construction that will stand up under repeated operations without likelihood of being disarranged in any way, and also serving to effect a reliable and efficient operation. An additional object of the structure is to afford a combination of parts which are so related as to make it possible to readily connect or disconnect the device from the circuit which it controls. To these and other ends the invention resides in certain improvements and combinations of parts all as will be hereinafter more fully described, the novel features being pointed out in the claim at the end of the specification.

The figure is a sectional view taken longitudinally of the device, and showing its application to an electric circuit.

In a preferred arrangement, the invention comprises a hollow casing 1 forming a chamber 2 which is connected with a source of fluid pressure supply by means of a pipe 3. The chamber 2 includes an enlarged portion 4, and movable within the chamber is a piston-like switch supporting member, preferably in the form of a hollow sleeve 5 forming an elongated end movable in the reduced portion of the chamber, and a head or enlarged portion 6 traveling in the enlarged portion 4 of the chamber. Arranged within the chamber 4 is a coil spring 7 having engagement at one end with the head 6 of the switch supporting member, while its opposite end rests against a threaded collar

8 removably engaged with the casing 1, as will be more fully described hereafter.

In order to mount the switch upon the switch supporting member, the latter is preferably provided with an insulating sleeve 9 disposed in opening 10, and secured within the sleeve 9 is a pin 11 upon which the switch is mounted. The switch is preferably disk-like, although it may be otherwise constructed, and is in the form of a disk 12 having a centrally arranged opening for engagement with the pin 11 and held in place thereon by means of the projections 13 carried by the pin.

Secured within the removable collar 8 is an insulating bushing 13^a which is provided with contacts 14 arranged to be engaged by the switch 12, when the latter reaches the end of its path of travel upon the admission of sufficient pressure into the chamber 2. The contacts 14 extend outwardly beyond the bushing 13 for coöperation with sockets 15 of a connector, comprising an outer casing of insulating material 16. The sockets 15 are formed in posts which receive terminals 17 connected to the circuit 18. The circuit 18 controls an indicating signal, valve, or other device to be operated, such as indicated diagrammatically at 19.

It will be understood that the connector may be removed at any time, if it is not desired to effect control of the electric circuit, and when positioned in engagement with the contacts 14, the operation of the device 19 is controlled from the pressure within the chamber 2, causing the switch supporting member to be moved longitudinally of the chamber against the resisting action of spring 7 and bringing the switch into engagement with the inner ends of the contacts. The invention is possessed of certain peculiar advantages owing to the reliability and certainty of its operation, accruing from the positive action of the switch, together with the facility which it possesses for successively withstanding long continued operation and excessive strains.

We claim as our invention:

The combination with a chamber adapted to be connected with a source of fluid pressure and embodying reduced and enlarged portions, of a piston like switch-supporting member including an elongated end engaged directly by said fluid pressure and movable in the reduced portion of the cham-

ber, and an enlarged head movable in the enlarged portion of the chamber, a spring arranged in the enlarged portion of the chamber and engaging said head, an insulating sleeve carried by the supporting member and extending into said reduced end, a pin carried by said sleeve, and a disk-like switch carried on the pin and cooperating with terminals in the chamber.

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Witnesses:

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