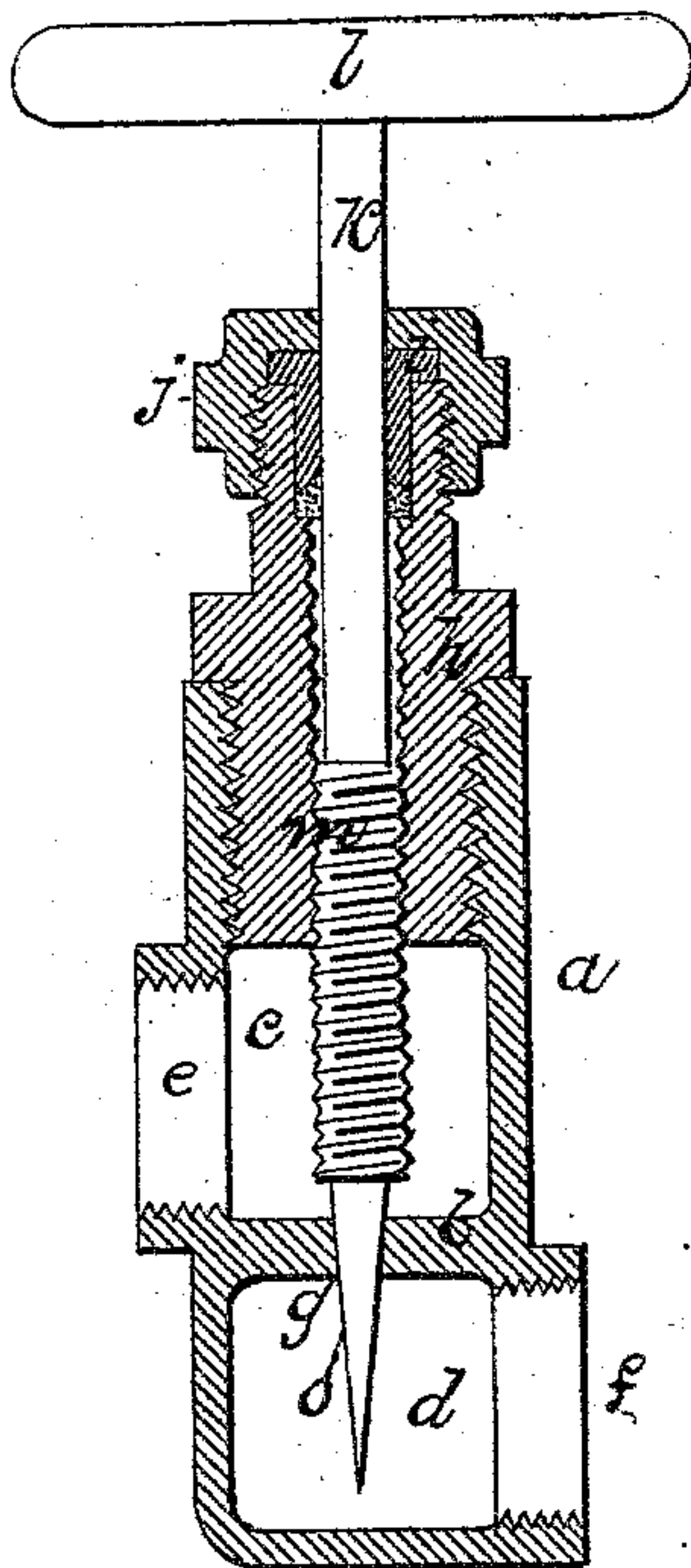


(No Model.)

P. O'REILLY.  
REGULATING VALVE.

No. 274,512.

Patented Mar. 27, 1883.



ATTEST:

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# UNITED STATES PATENT OFFICE.

PATRICK O'REILLY, OF NEW YORK, N. Y.

## REGULATING-VALVE.

SPECIFICATION forming part of Letters Patent No. 274,512, dated March 27, 1883.

Application filed August 14, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, PATRICK O'REILLY, a citizen of the United States, residing at New York, in the county and State of New York, have invented certain new and useful Improvements in Regulating-Valves; and I do hereby declare that the following is a full, clear, and exact description of the invention, reference being had to the accompanying drawing, forming a part of the same.

My invention relates to that class of valves which are controlled by hand for regulating the flow or current of steam, air, gas, and other fluids; and my improvement aims to provide a simple, compact, and efficient valve that will allow of as definite and limited flow as may be desired.

In the accompanying drawing, which serves to illustrate my improvements, the figure is a vertical section of my improved regulating-valve, the stem thereof being shown in elevation.

*a* represents the casing or shell of the valve. A diaphragm, *b*, divides the interior into two chambers—the receiving-chamber *c* and exhaust-chamber *d*.

*e* and *f* represent respectively the inlet and outlet passages, which may connect with suitable pipes leading to the supply and receiving tanks.

The diaphragm *b* is made of considerable thickness, so as to afford a sufficiently resisting surface when the valve is screwed down firmly in its seat. It is provided with a central hole or perforation, *g*, to afford communication between the two chambers *c* and *d*.

*h* is a plug or stem-socket, which has its lower end provided with an exterior screw-threaded end which engages with an internal screw-thread on the upper end of the receiving-chamber *c*. In the upper end of the removable stem-socket or plug *h* is arranged the stuffing-box *i*. The upper end of the plug *h* is provided with an externally-screw-threaded

end to receive the screw-cap *j*, which screws down tightly over the stuffing-box.

*k* is the valve-stem, which is screw-threaded at *m* to engage with an internal screw-thread in the socket-stem or plug *h*. Its upper end is provided with a disk or hand-wheel, *l*, for rotating it, and its lower end is made with a smooth conical extremity, which tapers downward to a fine needle-like point, as shown at *o*, Fig. 1. When the valve-stem *k* is turned or rotated in one direction the tapering point is projected through the aperture or port *g* into the lower or exhaust chamber, *d*, until it is firmly seated, as shown in Fig. 1, when communication between the supply and exhaust chambers is entirely cut off. By rotating the stem *k* in either one or the other direction it serves to diminish or increase the area of the opening or port *g* for the passage of the gas or other fluid. The upper chamber is supplied from any suitable reservoir through inlet *e*, and the flow from thence by the port *g* into the exhaust-chamber can be regulated with the most delicate certainty by operating the valve-stem. For this reason my improved construction is especially adapted to machines where the flow or feed of fluids must at certain times be reduced to the minimum, or where very slight variations are desired.

What I claim as new, and desire to secure by Letters Patent, is—

In a regulating-valve, the combination of the casing *a*, provided with the apertured diaphragm *b*, and threaded at its upper end, the threaded plug *h*, screwing into said upper end, the threaded valve-stem *k*, provided with a conical valve end tapering to a needle-point, the stuffing-box *i*, and threaded cap *j*, screwing onto the plug *h*, all arranged and operating in the manner set forth.

PATRICK O'REILLY.

Witnesses:

ALFRED S. GREGORY,  
E. M. SMITH, Jr.