

T. DUFFY.
Check and Safety Valve.

No. 210,766.

Patented Dec. 10, 1878.

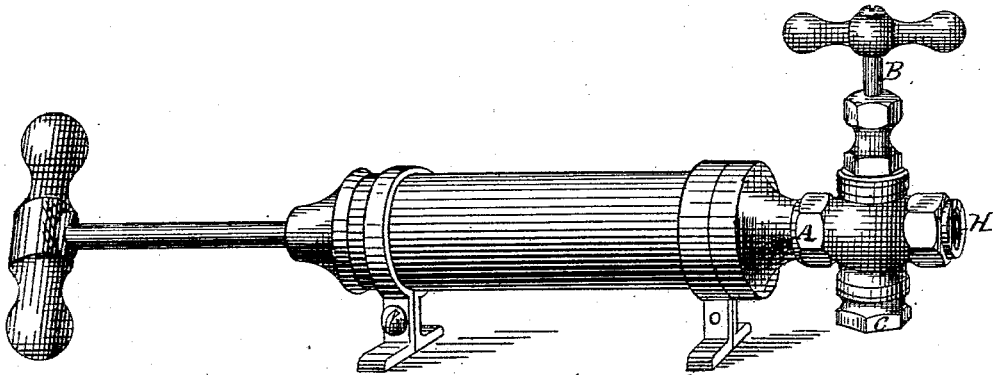


Fig. 1.

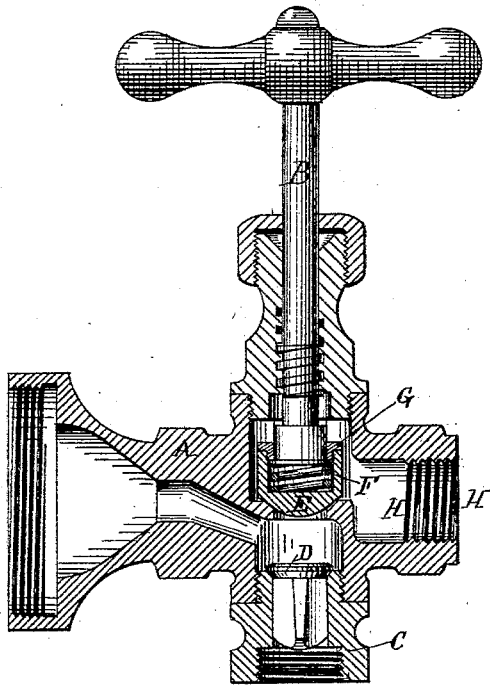


Fig. 2.

Witnesses

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TERRENCE DUFFY, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN CHECK AND SAFETY VALVES.

Specification forming part of Letters Patent No. **210,766**, dated December 10, 1878; application filed October 24, 1878.

To all whom it may concern:

Be it known that I, TERRENCE DUFFY, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Double Check and Safety Valves, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to an improvement in double check and safety valves; and consists in the novel combination of two check-valves in one globe—one to receive and the other to discharge—by an improved construction of the discharge-valve, in combination with a spring. The same can be used as a safety-valve.

For convenience in illustration, I will proceed to describe my invention as attached to a fluid-pump.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In the drawings, Figure 1 represents the valve as attached to a pump. Fig. 2 is a sectional view of the same as taken through the center line.

A represents the globe-valve; B, the valve-stem; C, the receiving-chamber; D, the receiving check-valve; E, the discharge-valve. F is the spiral spring inserted in the discharge-valve; G, the bush connecting the valve with the stem; H, the discharge-chamber.

In operation, the upward stroke of piston exhausts the fluid from the pump-chamber, causing the valve D to rise and admit the fluid into the same. The downward stroke closes the valve D and raises the valve E, discharging the fluid from the pump through the chamber H.

When used as a safety-valve, I inclose a spring of any desired strength in the hollow valve E. When the pressure on the face of valve becomes greater than the strength of the spring the valve E rises, compressing the spring against the end of the stem B, thus relieving the pressure in the reservoir to which it may be attached.

Having thus described the nature, construction, and operation of my improvement, what I claim as my invention is—

The combination, in a double check and safety valve, of the globe A, the receiving-chamber C, the stem B, the receiving check-valve D, the discharge-valve E, the spiral spring F, the bush G, and the discharge-chamber H, all arranged in combination, substantially as herein described, and for the purpose set forth.

TERRENCE DUFFY.

Witnesses:

OLIVER P. JACKSON,
JAMES J. LARKIN.