

T. Harbottle.
Pressure Gauge.

N^o 89,992.

Patented May 11, 1869.

Fig. 1.

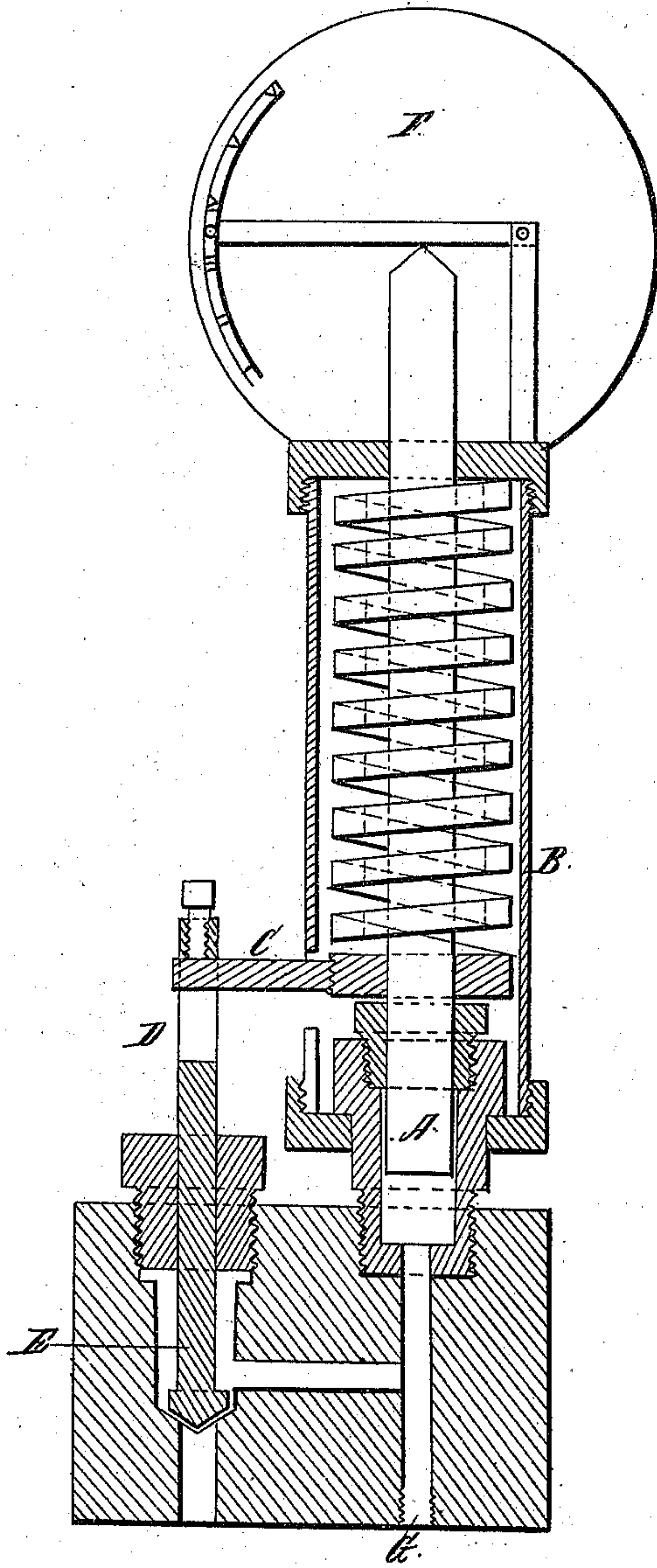
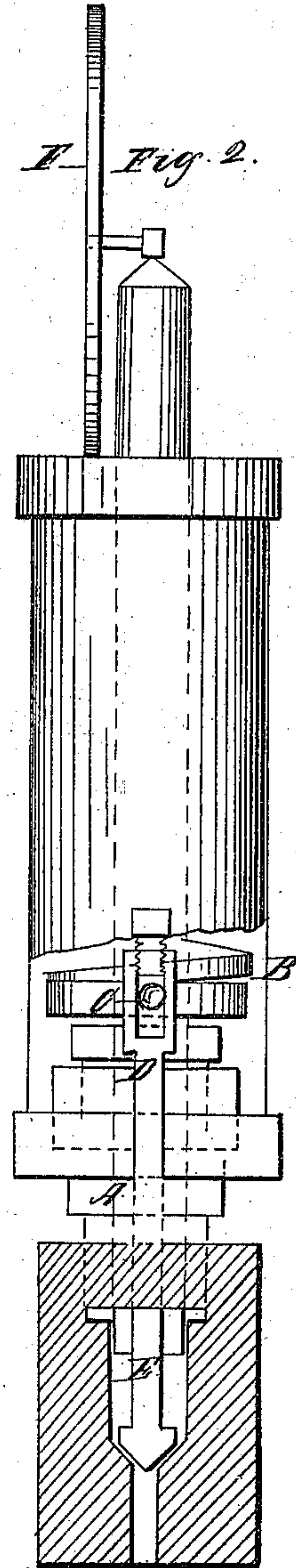


Fig. 2.



Witnesses:
J. R. Fowler
Michael Dever

Inventor:
Thos Harbottle

United States Patent Office.

THOMAS HARBOTTLE, OF BROOKLYN, NEW YORK.

Letters Patent No. 89,992, dated May 11. 1869.

IMPROVEMENT IN PRESSURE-GAUGE FOR HYDROSTATIC PRESSES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, THOMAS HARBOTTLE, of Brooklyn, county of Kings, State of New York, have invented a new and useful Pressure-Gauge for Hydraulic Presses, and other purposes; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification.

In the drawings—

Figure 1 represents a sectional view, as the only clear method of showing the arrangement and the working of the gauge.

Figure 2 is an elevation, showing the stirrup and relief-valve.

A is the piston;

B is a spring;

C, stud-pin;

D, stirrup;

E, valve;

F is the index; and

G, the passage, through which communication is established between the pump or press and the under side of the piston A and upper side of the valve E.

The application is as follows:

After the gauge is attached to a convenient part of the pump or press, or any suitable apparatus, the piston A rises as the pressure increases, contracting the spring B until the stud-pin C engages with the stirrup D, instantly raising the check-valve E.

The pressure being constant on check-valve E, it

closes as soon as the pressure is relieved, thereby acting as a safety-valve, as well as a pressure-indicator.

In those devices where the pressure-piston is made to serve also the purpose of an escape-valve, as heretofore used, the resistance is so great that the current of steam or water passing its edge will rapidly cut it away, and its action will in a short time vary materially from the desired indication by the register; and furthermore, the piston being raised by direct pressure on its under side, will not descend against the current until the pressure is reduced much below the desired indication, when it will suddenly fall.

In this, my improvement, the valve E is not affected until the desired pressure is attained, when it is raised by the stud C, lifting it by means of the slotted stirrup D, and as there is a fractional amount of pressure on the top of the valve E, as compared with that on the under side of the piston A, together with the downward current of the escape through the valve, both tending to close it, the moment the piston A is relieved of the surplus pressure, the valve E promptly closes.

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

The pressure-indicating piston A, combined with and operating the valve E, by means substantially as described, when so applied that the pressure and current of the escape have a tendency to close said valve, as and for the purpose set forth.

Witnesses:

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