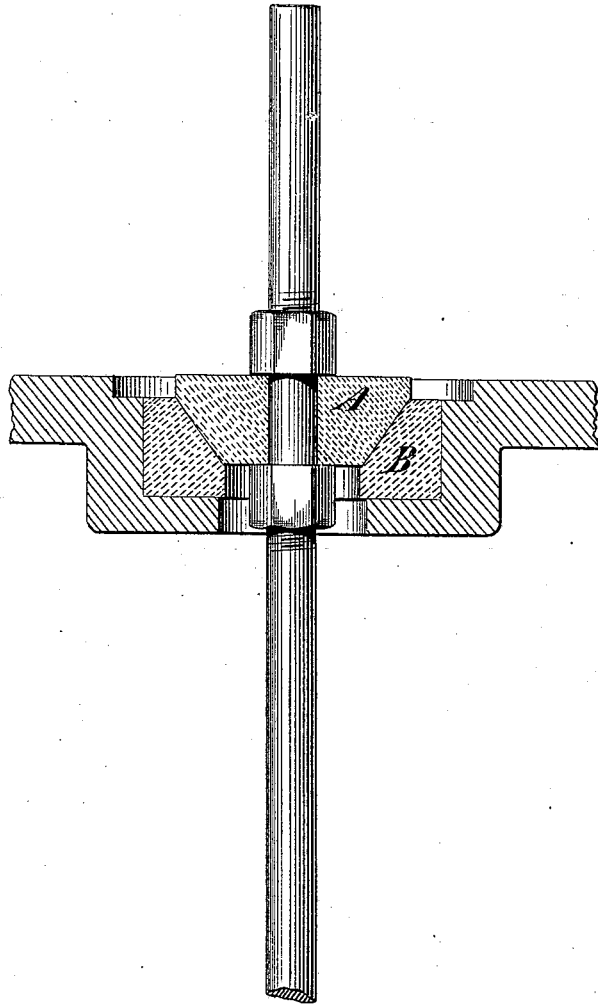


T. F. ROWLAND.
Valve.

No. 196,311.

Patented Oct. 23, 1877.



Witnesses:
Geo. A. Evans
Wm. J. Sawyer

INVENTOR
Thomas F. Rowland
by his attorney
E. N. Dickerson Jr.

UNITED STATES PATENT OFFICE.

THOMAS F. ROWLAND, OF NEW YORK, N. Y.

IMPROVEMENT IN VALVES.

Specification forming part of Letters Patent No. **196,311**, dated October 23, 1877; application filed May 25, 1877.

To all whom it may concern:

Be it known that I, THOMAS F. ROWLAND, of the city, county, and State of New York, have invented a new and useful Improvement in Valves, of which the following is a specification:

It has been found very difficult in the manufacture of gas, especially that known as water-gas, to make suitable valves for containing the same, for the reason that the valves in ordinary use, made of iron or similar substances, are very readily destroyed by the rapidly-flowing currents of gas.

I have discovered that a valve may be used for this purpose made of soap-stone, which valve will remain tight for a great length of time.

It is found that a valve made of this material will successfully resist the rapidly-flowing currents of highly-heated gas and air, which are produced more especially in the manufacture of water-gas, and that no other substance, so far as I am aware, can produce this result.

Experiments have been tried with all the known substances, but it has been found im-

possible to keep the valves tight, probably because the rapidly-impinging particles of heated gas or steam will cut or wear more readily into a hard than into a soft material, although I am not fully aware of the natural law which governs this subject.

In my figure, A represents the valve, B the seat, both made of soap-stone, although either the valve or the seat might be made of a different material without materially altering my invention, which consists in the use of soap-stone for one or both surfaces. This valve is a puppet-valve, but other forms may be used.

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

1. As a new article of manufacture, a soap-stone valve, substantially as described.
2. As a new article of manufacture, a soap-stone valve-seat, substantially as described.
3. The combination of a soap-stone valve and soap-stone valve-seat, substantially as described.

THOS. F. ROWLAND.

Witnesses:

GEO. H. EVANS,
WM. J. SAWYER