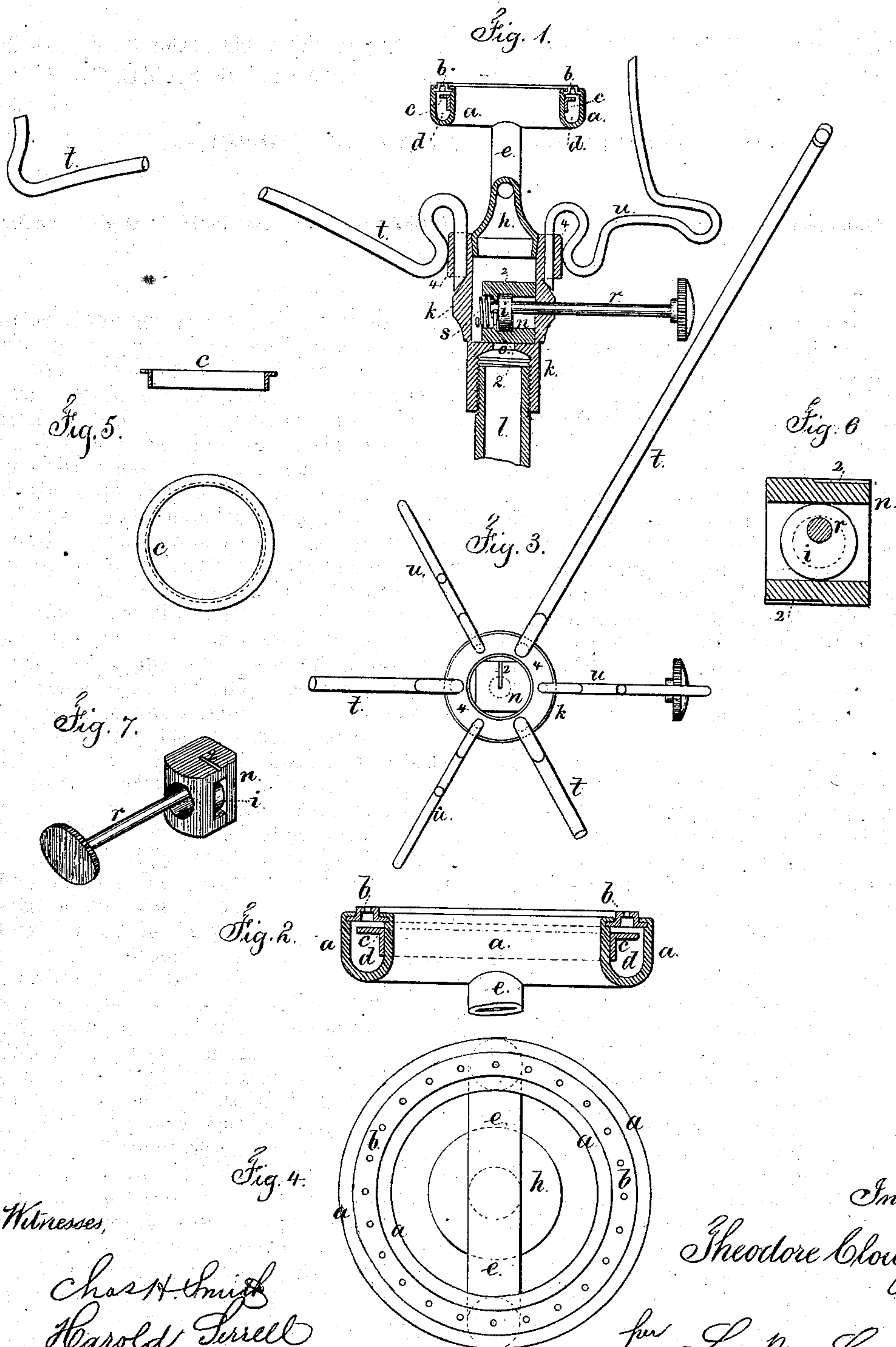


T. CLOUGH.  
Argand Gas-Burners.

No. 158,832.

Patented Jan. 19, 1875.



Witnesses,

Chas. H. Smith  
Harold Serrell

Inventor

Theodore Clough  
per L. N. Serrell  
att'y.



# UNITED STATES PATENT OFFICE.

THEODORE CLOUGH, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF, ALONZO T. WELCH, HENRY IDEN, AND LORING P. HAWES, OF SAME PLACE.

## IMPROVEMENT IN ARGAND GAS-BURNERS.

Specification forming part of Letters Patent No. 158,832, dated January 19, 1875; application filed June 16, 1874.

*To all whom it may concern:*

Be it known that I, THEODORE CLOUGH, of the city and State of New York, United States of America, have invented an Improvement in Argand Gas-Burners, of which the following is a specification:

A perforated ring of aluminum is secured at its edges within a hollow burner-ring, within which is a deflector to equalize the flow of gas. A cylinder at the lower end of the arms to the argand-ring is removable with the burner from the body. A cylindrical valve within the body is operated by an eccentric, and a friction-spring is provided to hold the valve when adjusted. The wire arms holding the chimney or shade are made with a spring, S-bent, and inserted in holes in a flange around the body.

In the drawing, Figure 1 is a vertical section of the burner complete. Fig. 2 is a section of the burner-ring, detached, in larger size. Fig. 3 is a plan of the body of the burner. Fig. 4 is a plan of the burner-ring. Fig. 5 is a plan and section of the annular deflector-plate. Fig. 6 is a section, and Fig. 7 a perspective view, of the cylindrical valve-stem and eccentric in larger size.

This argand gas-burner is made with a hollow metal ring, *a*, receiving at its upper part a nearly flat ring of aluminum, *b*, perforated with holes for the escape of gas. The aluminum ring *b* is made with recessed or flanged edges, so as to be held in place by the edge of the metal of the hollow ring *a* being folded over its edges. This construction prevents the gas-flame coming into contact with the turned-over edges of the body *a*; hence the metal of the body *a* will not be injured, as is frequently the case with argand-burners. Within the hollow metal ring is a deflector-plate, *c*, that leaves an annular opening, *d*, for the passage of the gas, so that it is supplied with uniformity to the flame. The hollow arms *e*, for the gas to reach the burner-ring *b*, are united to a short sheet-metal cylinder, *h*, that is inserted into the open upper end of the cylindrical body *k* of the burner, thereby forming a chamber in which the gas becomes heated, and this construction allows

of the burner being easily removed, cleaned, and replaced. The lower end of the cylindrical body *k* of the burner screws upon the gas-supply pipe *l*, and the gas passes through the central hole *o* into the said body. Around the upper end of this hole is a seat for a valve, *n*, to regulate the quantity of gas passing to the burner. The valve itself is made cylindrical, fitting into the cylindrical opening in the body *k* of the burner, and one or more sides of this cylinder are removed to form gas-passage ways, and a small radial groove, *2*, at the valve end of this cylinder, serves to allow a small quantity of gas to pass when the valve is resting on its seat, thereby preventing the light being extinguished. The valve-cylinder *n* has a mortise in it, into which is inserted an eccentric, *i*, and the stem *r* of the eccentric *i* is inserted from outside the body, and fits tightly into the eccentric. The valve-cylinder *n*, where the stem passes through it, is made with enlarged holes, so as to allow the cylinder to be raised or lowered by the eccentric and operated as a valve, and a small helical spring, *s*, in one of these holes resting at one end against the interior of the body *k*, and at the other end against a shoulder in its hole, serves to produce the friction required for holding the valve in any position to which it may be adjusted. In order to support a chimney or a shade without casting a shadow, I make use of wire arms *t u*, that are bent near their inner ends in an S-form, and the ends of the wires pass vertically through holes in a flange, *4*, surrounding the body *k*, and the S-bend of the wire, bearing against the outer surface of the flange *4*, retains each arm in its proper radial position, but allows any of the arms that may not be required for use to be removed or replaced with great facility. The long arms serve to hold a shade or globe, and the short ones a glass chimney.

I claim as my invention—

1. The perforated ring of aluminum *b*, having recessed or flanged edges, over which the edges of the hollow metal ring *a* are turned, as set forth.

2. The argand gas-burner ring *a b*, arms *e*, and cylindrical chamber *h*, in combination

with the cylindrical body *k*, into which the chamber *h* is introduced, as and for the purposes set forth.

3. The deflector-plate *c*, in combination with the hollow burner-ring *a*, and leaving an annular opening of uniform width between the plate and burner-ring, through which the gas passes with uniformity up to the flame, as specified.

4. The cylindrical valve *n*, with gas-passage ways introduced within the body of the burner and operated by the eccentric *i* within a mortise in the cylinder, and the stem *r* passing through such body and eccentric, in combination with the gas-burner, substantially as set forth.

5. The wire arms *t* or *u* of the shade or chimney-holder, having double or S bends at the inner ends, in combination with the flange 4, having vertical holes for receiving the ends of the wires, and against the outer surfaces of which flange the bent wire presses, as set forth.

6. The cylindrical valve *n*, helical spring *s*, and eccentric *i*, in combination with the body *k* and gas-burner, substantially as specified.

Signed by me this 12th day of June, A. D. 1874.

THEODORE CLOUGH.

Witnesses:

GEO. T. PINCKNEY,  
CHAS. H. SMITH.