

R. GILL.
Gas Regulator.

No. 97,627.

Patented Dec. 7, 1869.

Fig. 1.

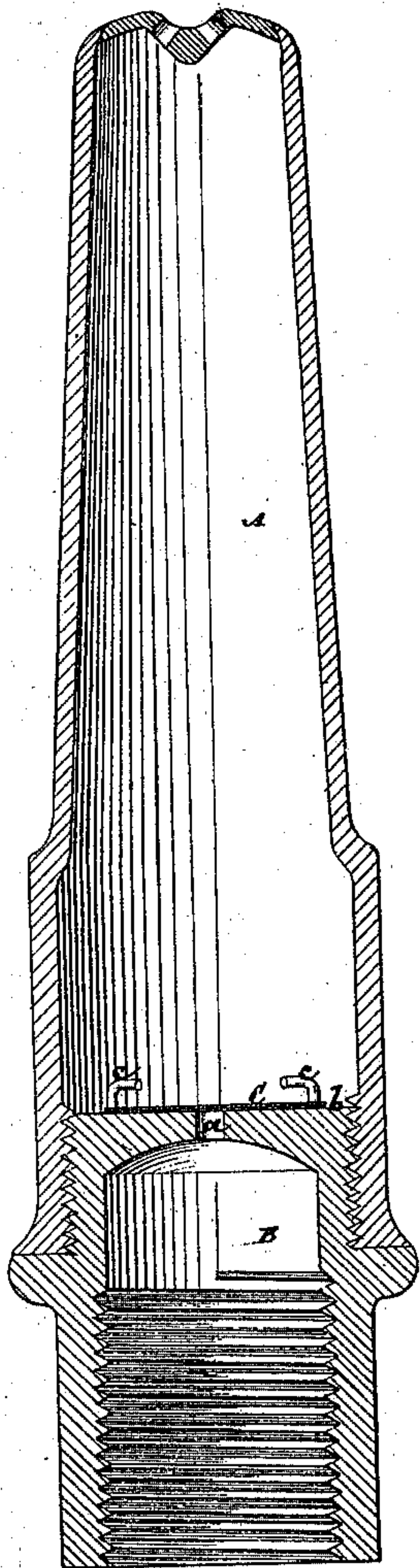
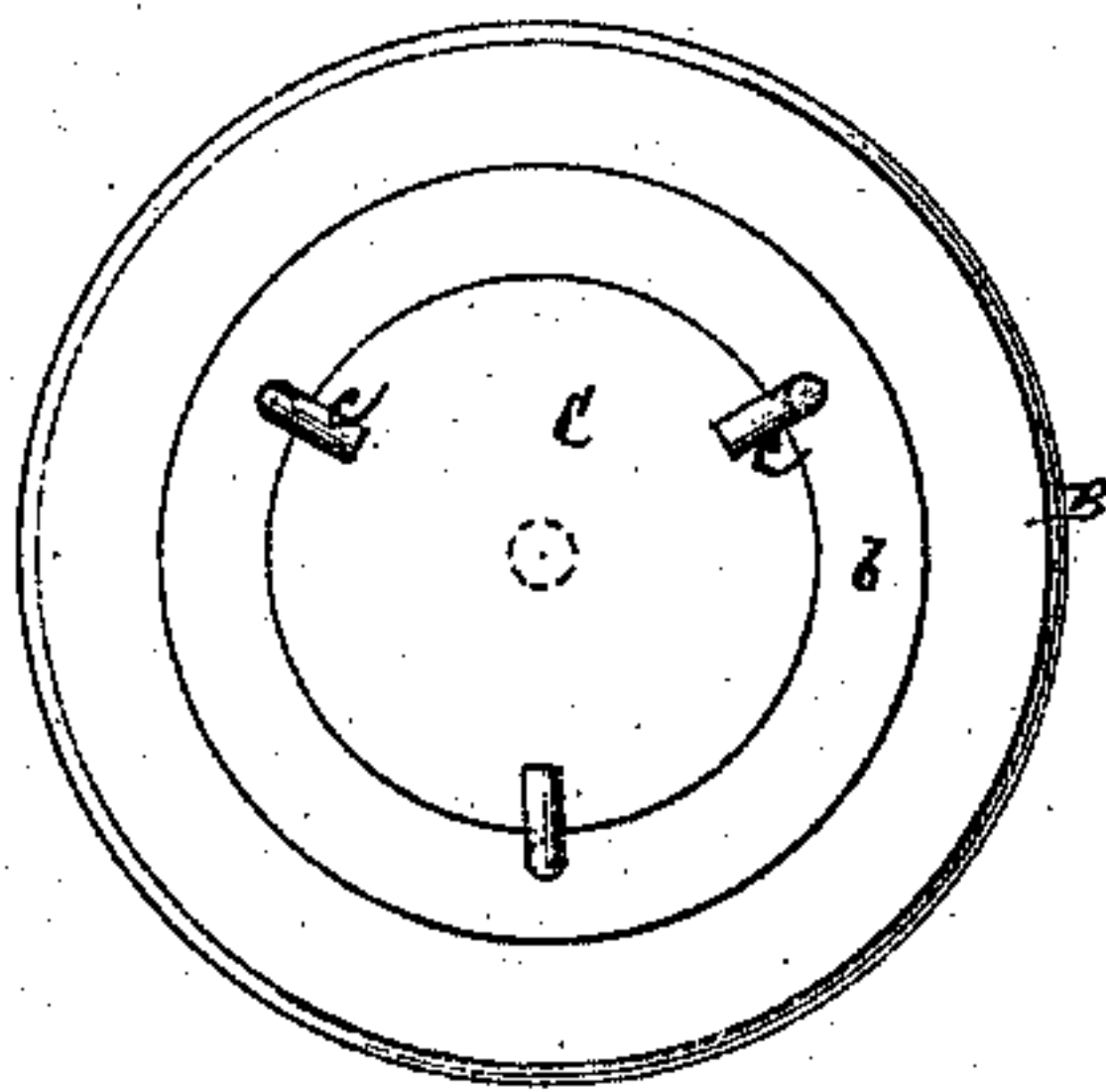


Fig. 2.



Witnesses:
Fred. Haynes
R. H. Abbeaux

Robert Gill

United States Patent Office.

ROBERT GILL, OF NEW YORK, N. Y.

Letters Patent No. 97,627, dated December 7, 1869.

IMPROVEMENT IN GAS-BURNER REGULATORS.

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, ROBERT GILL, of the city, county, and State of New York, have invented a new and useful Improvement in Gas-Burner Regulators, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, and in which—

Figure 1 represents, on an enlarged scale, a longitudinal section of a gas-burner, with my improvement applied thereto; and

Figure 2, a top view or plan of the socket-portion of the burner, with the regulator in place thereon.

Similar letters of reference indicate corresponding parts.

My improvement, as applied to gas-burners, has reference to devices for regulating or equalizing the supply of gas to the burner, to prevent any unsteadiness in the light, as arising from a variation in the pressure of the gas; and

The invention consists in an arrangement, within the burner, or in a chamber connected therewith, centrally or thereabout, over the vent or orifice by which the gas is supplied to the tip of a loose or free disk or plate of considerably larger area than said orifice, and made to operate, in relation to the surface through which said orifice is formed, so that when said disk is raised by the pressure of the gas beneath it, the gas can only be disseminated around the edges of the disk, and between it and the surface it sits down on when closed, for which purpose the disk should be made without hole or passage through it, and be loosely or freely guided at its edges.

This forms a very simple and efficient gas-burner regulator, applicable, under a generally-changed position of the whole, to differently-disposed burners or supply-orifices thereto, and which may be used as a gas or fluid-regulator for various purposes or uses; but it will suffice here to describe the improvement as applied to a gas-burner, having a vertical position, as shown in the drawing. The burner itself may be of any suitable kind or construction.

Referring to the accompanying drawing—

A represents the tip, and B, the socket-portion of a gas-burner, with a small central supply-vent or orifice, *a*, made through the upper portion of the socket that is constructed to form a seat or surface, *b*, for a disk, C, of considerably-larger area than the orifice *a*, to sit down upon when closed, the said disk C being concentric with the orifice *a*, and being free or loose to rise and fall under the direction of guides *c c*, arranged on the outside of it, so as to dispense with any guiding-hole or passage being made through the disk, that would interfere with its action, by permitting of the escape of gas through it. Said disk may be made of metal or any other suitable material.

The chamber or space in which said disk plays, should be sufficiently large to secure a free escape for the gas past or around its edges, when the same is raised from its seat *b*, that should be made flat or of like configuration to the disk, as regards its plane or face.

In the operation of the device, the gas, in passing through the orifice *a*, only very slightly lifts the disk C, so as to pass by or around its edges to the tip A, any material or extensive lifting of said disk being checked by the gas as it is liberated or escapes around the edges of the disk, superinducing a downward pressure or thrust on the disk, which keeps it balanced after the same has been only slightly raised, and the greater the pressure of the gas, the more contracted will become the area of its escape, or closer the disk be drawn toward its seat *b*, thus equalizing the supply of gas to the tip or burner proper.

What is here claimed, and desired to be secured by Letters Patent, is—

The combination, in a gas-regulator, as applied to a burner, of the outside guides *c c*, with the disk C, supply-vent or orifice *a*, and seat or fixed surface *b*, essentially as shown and described.

ROBERT GILL.

Witnesses:

FRED. HAYNES,
HENRY PALMER.