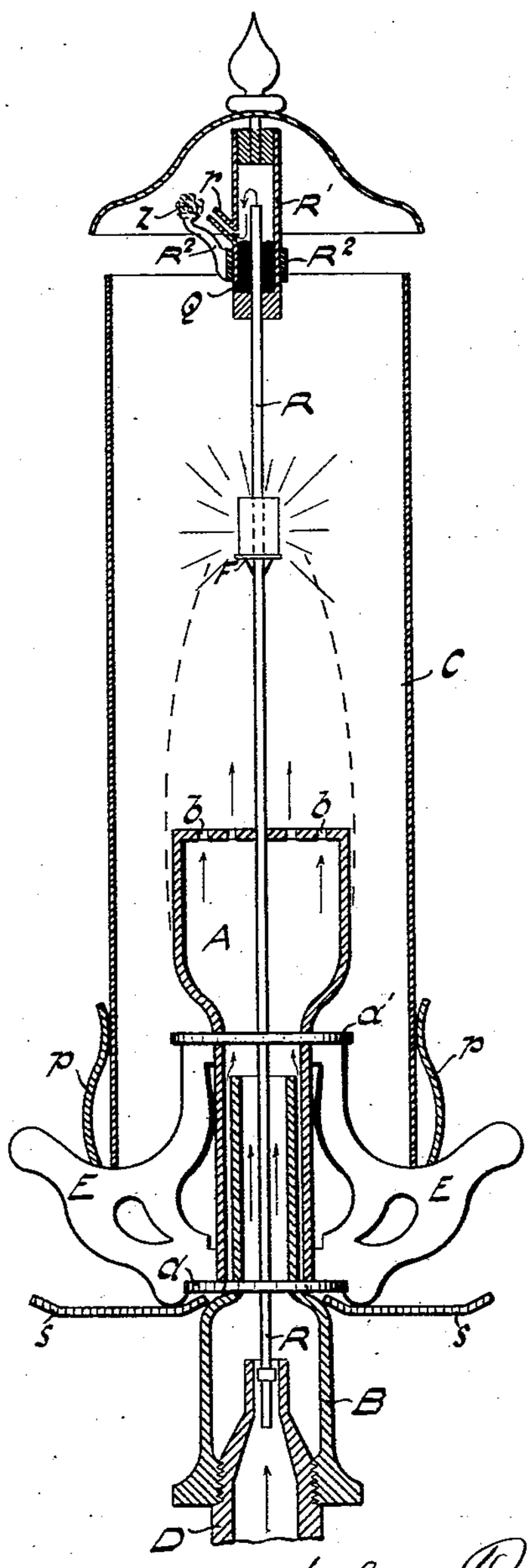
(No Model.)

A. RAMMOSER.

SELF IGNITING BURNER.

No. 572,093. Patented Nov. 24, 1896.



Witnesses
A. W. Kurtz
C. C. Wilson.

Albert Rammoser, Inventor:

By Schreiter & Van Siderstine
his Attorneys.

UNITED STATES PATENT OFFICE.

ALBERT RAMMOSER, OF BERLIN, GERMANY, ASSIGNOR TO GEORGE LOWENBERG, OF SAME PLACE.

SELF-IGNITING BURNER.

SPECIFICATION forming part of Letters Patent No. 572,093, dated November 24, 1896.

Application filed June 3, 1896. Serial No. 594,149. (No model.)

To all whom it may concern:

Be it known that I, ALBERT RAMMOSER, a citizen of Germany, and a resident of Berlin, Germany, have invented certain new and useful Improvements in Self-Igniting Burners, of which the following is a full, clear, and exact specification, reference being had to the accompanying drawing, forming part of this specification, wherein an incandescent gas-light provided with my improved self-igniting burner is shown in sectional elevation.

My invention relates to gas-lighting; and it consists of an indestructible self-igniting burner of platinum sponge or platinum-black and of the hereinafter-described combination of the self-igniting burner with an incandescent gas-light.

It is known that illuminating-gas will be ignited if a stream thereof is forcibly driven against a small piece of platinum sponge or of platinum-black (or a mixture of both) combined with a thin platinum wire, and this has been utilized in producing self-igniting burners by placing such a device opposite the outlet of a gas-burner, so the gas passing from the burner will strike against it. The attempts to utilize this property of the platinum sponge and of the platinum-black for producing a commercially and practically useful, self-igniting lighter failed, because platinum sponge and platinum-black, when exposed for a longer period to the action of humidity, will slag and gradually lose the quality of glowing. Pellets of a platinum sponge or platinum-black consequently crack and crumble into dust. I have found that this defect can be remedied by mixing platinum sponge or platinum-black with some porous incombustible material, such as burned and then finely-pulverized alumina, infusorial earth, lava, sepiolite, pulverized asbestos, and the like, and I produce pellets for self-igniting burners of platinum sponge or platinum-black mixed with such incombustible material in proportion of two to one. Before mixing with the platinum sponge or platinum-black this material is treated repeatedly with sulfuric acid and thoroughly dried after every treatment until all moisture contained therein is extracted. Yet better for this purpose is to expose the incombustible material in a vacuum to the action of vapors of sulfuric acid. Pellets produced of such mixture do not slag nor crack while in use, and they are neither affected by humidity in the air, because particles of sulfuric acid are retained in the pores of the porous substance and they absorb all moisture, thus relieving the platinum sponge, and when the pellets are heated the moisture is again expelled. The composition is pressed in suitable forms, (pellets,) being subjected to high pressure in order to obtain the greatest possible compactness of the pellets. A suitable number of these are then strung on a thin platinum wire and tied in bunches. These bunches have the same effect in self-igniting burners as platinum sponge or platinum-black, and I use such burners in the construction of the incandescent gas-light as follows:

Over the gas-jet D is screwed on the fixture the shouldered tube B, and on the narrow part thereof is slid in reversed position tube A, similarly shaped, but larger in diameter and perforated on top. Tube A is provided with a perforated flange *a* to provide passages for air around the tube B, the atmospheric air being drawn upward into tube A by suction produced by gas flowing through tube B. The mixture of gas and air passes through apertures *b* into the cylinder C, where it burns, heating an incandescent body or mantle F.

The automatic igniter for this light is constructed as follows: In the gas-jet D is set tube R, and extended centrally through tubes B and A and above the cylinder C into tube R′, closed on both ends and branching into outlet-tube *r*. On the tube R′ is slid bracket R^2, supporting a bunch of pellets Z, set exactly opposite the outlet-tube *r*. The gas passing through the jet D will enter the small tube R and enter, as indicated by an arrow in the drawing, the outer tube R′, filling it and then flowing through the outlet-tube *r* against the pellets Z. These pellets are thus brought to glowing and finally ignite the outflowing gas. In the meantime cylinder C has been filled with gas and air passing upward through the perforations *b* of the tube A, and this gas and air mixture is then ignited from the small flame on the outlet-tube *r*. It will be observed from this description that in or-

der to light the burner it is only necessary to turn on the cock admitting the gas into the jet D.

The flame on the outlet-tube *r* does not burn continuously. Tube R′ is partly filled with mercury Q, and as this mercury rises under the influence of the heat of the incandescent burner glowing underneath the tube R′ it closes the outlet-tube *r*, thus extinguishing the flame. When the gas is turned off and the incandescent burner ceases to glow, the mercury in the tube R′ sinks and thereby opens again the outlet-tube *r*.

Flange *a* of the tube A serves, together with flange *a′*, as a support for the frame E, with prongs *p* holding the cylinder C and prongs *s* supporting a globe or shade for the light.

I claim and desire to secure by Letters Patent—

1. The process of manufacture of lighting-pellets for self-igniting burners, consisting of mixing platinum-black with some pulverized, non-combustible and porous material, previously treated in vacuum by vapors of sulfuric acid, and thoroughly dried, in proportion of two to one, and then pressing the mixture into shape.

2. Pellets for self-igniting gas-burners, composed of platinum sponge or platinum-black mixed with some pulverized non-combustible and porous material, previously treated in vacuum by vapors of sulfuric acid, and thoroughly dried, in proportion of two to one, and then pressed into suitable shape.

3. Self-igniting gas-burners composed of a gas-burning fixture, provided with a stop-cock, a bracket secure thereto, and of a bunch of pellets, produced of platinum sponge or platinum-black mixed with some pulverized non-combustible porous material and strung on a thin platinum wire, mounted on the bracket opposite the aperture in the gas-fixture.

4. A self-igniting burner for illuminating-gas, composed of a small tube, adapted to be inserted in a gas-jet, a larger closed tube set on top of the small tube, a small outlet-tube branching from the closed tube, a bracket, supporting a bunch of self-igniting pellets, set thereon, and a suitable quantity of mercury filled in the closed tube, and adapted to close the outlet-tube when expanded by heat.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

ALBERT RAMMOSER.

Witnesses:
EDUARD FRANKE,
W. HAUPT.