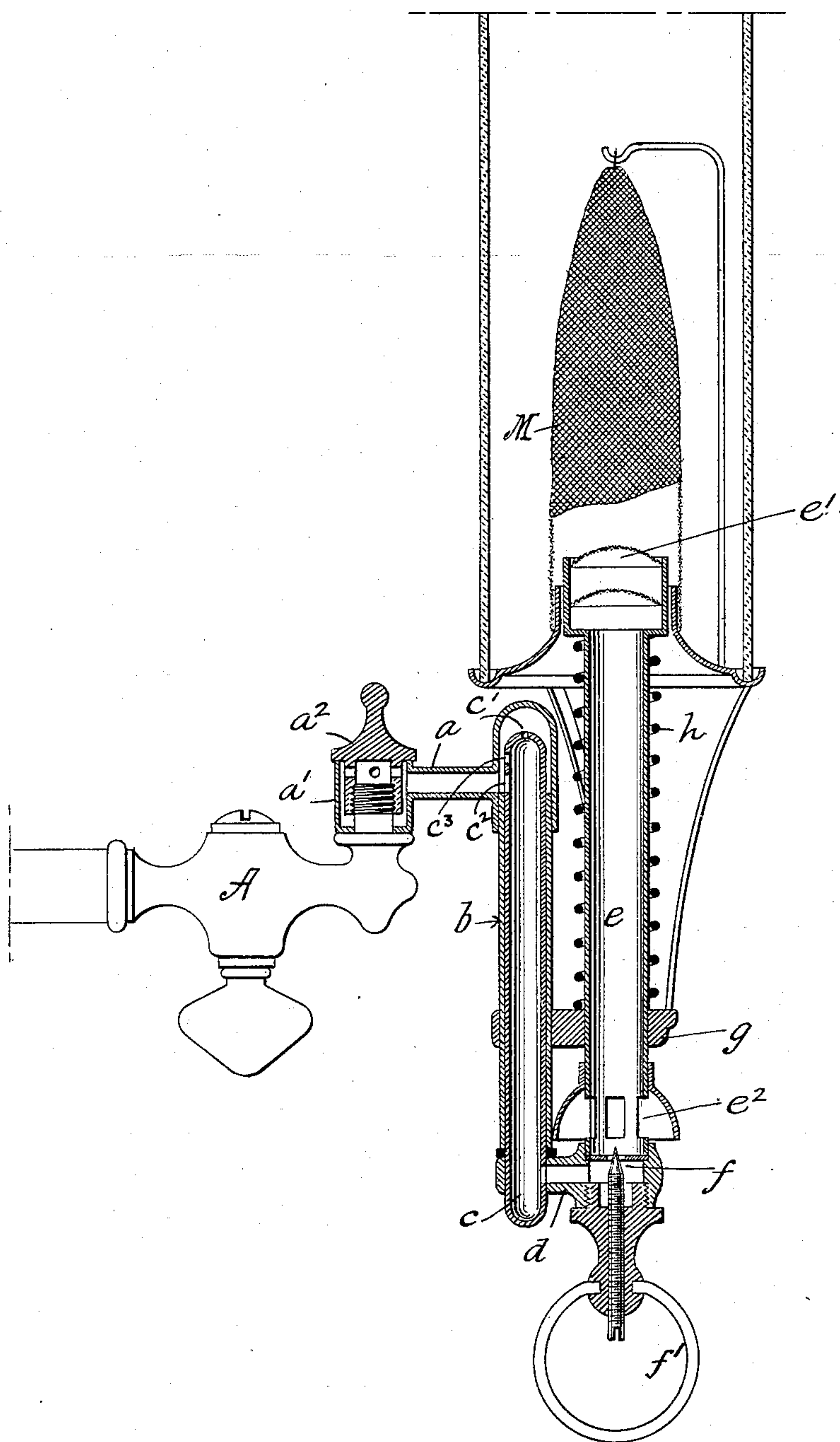


(No Model.)

S. ZACSEK & E. O. GOTTLIEB.
INCANDESCENT BURNER.

No. 604,222.

Patented May 17, 1898.



WITNESSES:

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STEFAN ZACSEK AND EDWARD O. GOTTLIEB, OF NEW YORK, N. Y.

INCANDESCENT BURNER.

SPECIFICATION forming part of Letters Patent No. 604,222, dated May 17, 1898.

Application filed November 19, 1897. Serial No. 659,090. (No model.)

To all whom it may concern:

Be it known that we, STEFAN ZACSEK, a subject of the King of Hungary, and EDWARD O. GOTTLIEB, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Incandescent Burners, of which the following is a full, clear, and exact description.

10 This invention relates to incandescent gas-burners of that character in which a fragile mantle or incandescing element is used.

The objects of the invention are to provide means whereby such a burner may be lighted 15 without the usual accompanying explosion, which often fractures the mantle, and also to provide a burner which may be lighted without the necessity of reaching to the top of the chimney or globe.

20 In general our invention consists in providing a fixed mounting for the mantle or burner and the chimney or globe and connecting the same with a gas-supply pipe by means of sliding or telescoping tubes, one terminal of which 25 is provided with gas-outlets to the burner while the other is attached to the gas-pipe, the said sliding members being so constructed that the burner-top or gas-outlets may be lowered for lighting, and while so lowered a 30 mixture of gas and air (a comparatively small quantity of the former) will be permitted to flow from the gas-outlets to produce a small initial flame, and when the gas-tip is returned to its normal position the flow of gas will be 35 automatically and gradually increased to the full head. As the quantity of gas flowing when the burner is first lighted is very small there can be no explosion, and since the flame is gradually increased while the air-supply is 40 continuous there can be no subsequent explosion. We are aware of certain plans proposed heretofore whereby the gas-outlets are lowered and the full head of gas ignited at once, after which the burner is elevated, 45 whereupon the air-supply is first admitted; but this plan is likely to cause an explosion in the presence of the mantle.

The means for carrying out our invention will now be described with reference to the 50 accompanying drawing, in which the figure is a sectional view of our complete burner.

A is the gas-supply pipe, to which is at-

tached the fixture *a*, consisting of a sleeve *a'*, freely surrounding the nipple on the end of the gas-pipe, the hollow plug *a²* passing into 55 the sleeve and screwing onto the nipple and provided with openings allowing the gas to flow into the fixture. The fixture *a* has permanently attached to it the tube *b*, in which is located a somewhat longer sliding tube *c*. 60 This sliding tube is closed across the top, except for a very small perforation *c'* in the center, and a short distance below its upper end it is provided with a large lateral opening *c²*, 65 and above this a somewhat smaller opening *c³*, also in the side of the tube. The tube *c* is attached at its lower end, where it projects beyond the tube *b*, to a connector *d*, extending at right angles therefrom and to which is also attached the burner-tube *e*, provided 70 at its upper end with gas-outlets *e'* and near its lower end with lateral openings *e²* for the admission of air. The tube *c*, the connector *d*, and the tube *e* together form a U-shaped tube, as shown. The gas in flowing through 75 tube *c* into tube *e* must pass through a regulating-valve *f*, which may be changed to correspond to the pressure coming through the gas-pipe A. This valve is operated by a screw-driver, its stem passing through a knob, 80 to which is also attached a handle *f'* for manipulating the device. The burner-tube *e* is parallel to the tubes *b* and *c* and arranged to slide in a fixed bearing *g*, attached to the tube *b*. Between this bearing and the gas- 85 outlets some considerable space is provided, into which the gas-outlets or the head of the tube may be lowered, and between the head of the tube and the bearing *g* a spring *h* surrounds the tube, having a tendency to ele- 90 vate it to its normal position.

To light the burner with this device, the full head of gas is turned on at A, and then by grasping the handle *f'* the tubes *c* and *e* are lowered as far as possible. This exposes the 95 head or gas-outlets *e'* of the tube *e* below the mantle M and its support and at a convenient place for applying a match or taper. While in this lowered position, it will be observed that the large openings *c²* and *c³* in the side 100 and at the upper end of tube *c* are closed by being brought against the inner wall of the stationary tube *b*; but the small perforation *c'* in the center of the top of the tube remains

open, and gas can flow through it and through the valve f to the gas-outlets e' , the gas in the meantime mingling with the air admitted at the openings e^2 . The match or taper 5 having been applied to the gas-outlets, a small flame is produced and maintained. The sliding tubes are then allowed to rise under the action of spring h , and just as they reach their normal position—*i. e.*, with the 10 gas-outlets e' inside and at the base of the mantle, as shown—the large openings c^3 and c^2 in the side of the tube c are uncovered successively, and the full head of gas flows through the tubes to the flame to raise the 15 mantle to full candle-power. The function of the smaller opening c^3 immediately above the larger opening c^2 is to graduate the supply of gas, so that the flame will be increased to about half-size immediately before the full 20 pressure is admitted.

It will be observed that when the match is applied the gas-outlets are in an open space and the supply of gas is so small that no explosion can take place by reason of its admixture with the air. Once having been ignited 25 the mixed gas and air is consumed as fast as it flows from the burner, and no free portion of it can be ignited in the presence of the mantle to cause an explosion which might destroy 30 the mantle.

Having thus described our invention, we claim—

1. The combination of a fixed incandescing body, a sliding tube having gas-outlets at one

end adapted to be moved toward and away 35 from the incandescing body, a fixed gas-tube in which a portion of said sliding tube moves, means for automatically regulating the supply of gas to the gas-outlets in accordance 40 with the position of the sliding tube and air-inlets to said sliding tube open in all positions thereof.

2. A burner provided with a stationary incandescing body and comprising a stationary tube adapted for attachment to a gas-supply 45 pipe and a sliding tube having gas-outlets at one end and provided with air-openings, said sliding tube adapted to move to carry its gas-outlets toward and away from the incandescing body while its air-openings are always 50 open.

3. In a gas-burner the combination of a fixed incandescing body, a stationary gas-tube, a U-shaped gas-tube, one leg of which 55 is guided by the stationary tube while the other leg is provided with the gas-outlets and also with continuously-open air-inlets, and means for altering the supply of gas in accordance with the movement of the U-shaped 60 tube.

In testimony whereof we subscribe our signatures in presence of two witnesses.

STEFAN ZACSEK.

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Witnesses:

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