No. 735,195. PATENTED AUG. 4, 1903.

G. A. W. BARKOWSKY.

GAS IGNITING DEVICE.

APPLICATION FILED APR. 19, 1902. RENEWED MAY 26, 1903.

NO MODEL.

Figure 1.

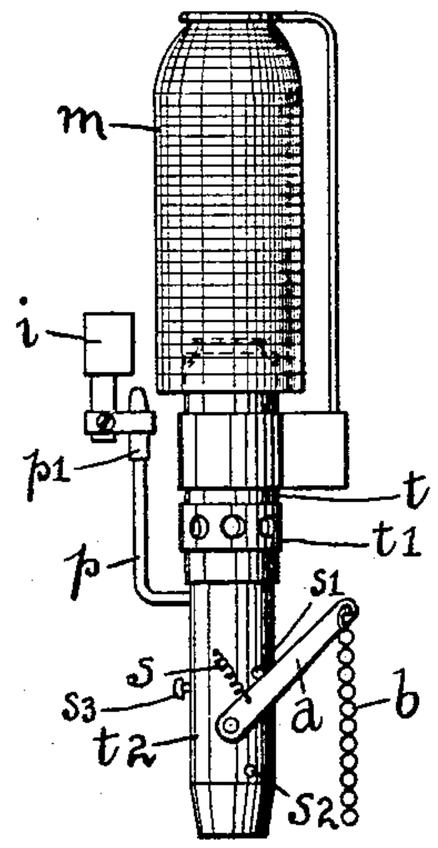


Fig. 2.

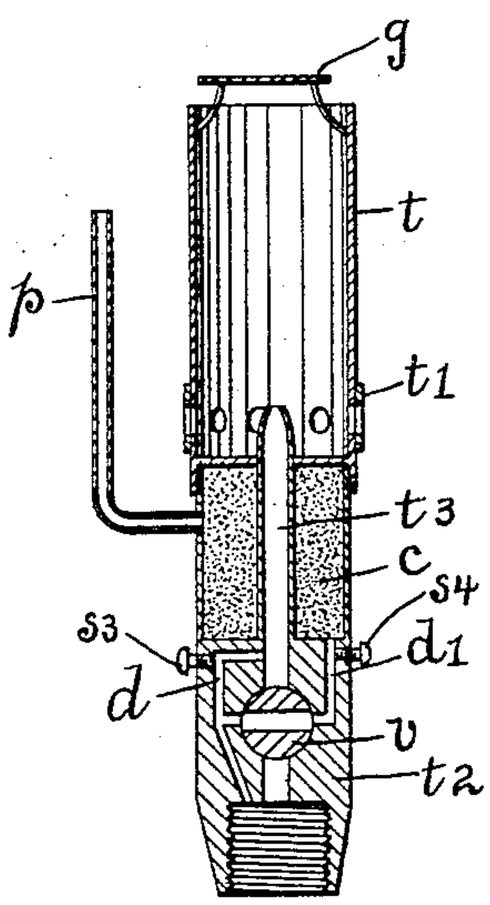
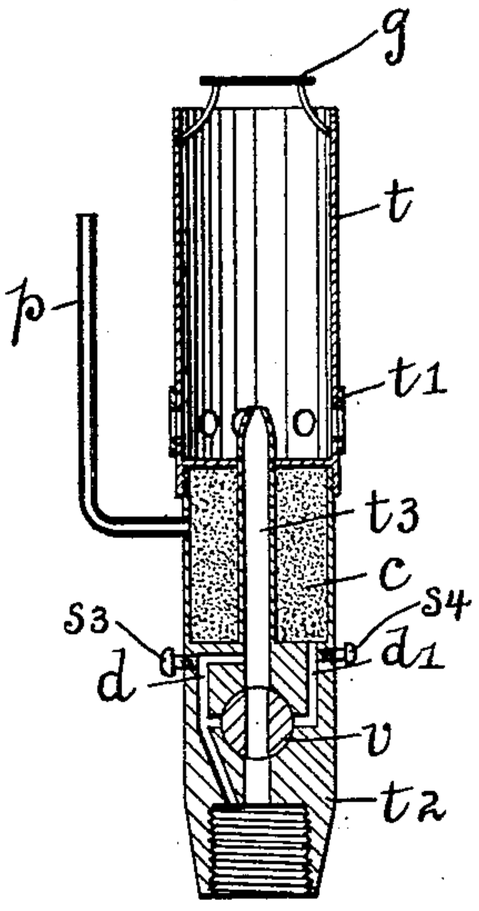


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

GUSTAV ADOLF W. BARKOWSKY, OF ROCHESTER, NEW YORK, ASSIGNOR TO GOWANDA NOVELTY COMPANY, OF GOWANDA, NEW YORK, A CORPORATION.

GAS-IGNITING DEVICE.

SPECIFICATION forming part of Letters Patent No. 735,195, dated August 4, 1903.

Application filed April 19, 1902. Renewed May 26, 1903. Serial No. 158,900. (No model.)

To all whom it may concern:

Be it known that I, GUSTAV ADOLF W. BARKOWSKY, a subject of the German Emperor, residing at Rochester, in the county of Monroe and State of New York, have invented an Improvement in Gas-Igniting Devices, of which the following is a specification.

The object of my invention is to provide a self-igniting gas-fixture in which the gas is ignited by being caused to impinge upon a body containing a platinum sponge and which shall be free from the usual objections found in such burners in that the sponge is liable to become clogged, after which the ignition is either imperfectly effected or not at all. These results are accomplished by means of a chamber through which the gas must pass in entering the pilot-tube for the self-igniting device, and in passing through such chamber there is removed from the gas those elements which would tend to clog the igniter.

Figure 1 is a side view of my invention as applied to the ordinary incandescent gas-burner. Fig. 2 is an enlarged vertical sectional view of the parts seen in Fig. 1 with the mantle *m* and igniting device *i* removed, and Fig. 3 is a view similar to Fig. 2 with the valve *v* turned to the position opposite to that shown in Fig. 2.

Similar letters refer to similar parts throughout the several views.

Referring to Figs. 1, 2, and 3, t^2 is a valve-seat for the valve *v* and has in its lower end a threaded aperture designed to screw on any standard gas-fixture. The part t^2 has formed therein two small gas-passages *d* and *d'*, as well as a central and larger opening which leads through the valve *v* into the tube t^3. Above the upper end of the part t^2 is seen a chamber *c*, which is filled with substances calculated to remove from the gas those elements that would tend to clog the igniting-stone. These substances, of course, will vary both in character and proportion, according to the gas with which it is intended to use my burner—for instance, caustic soda mixed with loose asbestos fiber or similar material and above that cotton or asbestos fiber in which small pieces of carbon are embedded. The action of these materials is such as to remove from the gas all the gummy substances which would tend to clog the stone, and for most grades of manufactured gas this is sufficient. However, it is not my purpose to limit myself to the use of any particular substances, as obviously, without departing from the spirit of my invention, the character of the substances used in the purifying-chamber must vary to meet the particular class of impurities found in the gas with which my burner is to be used.

The inside of the purifying-chamber *c* may be protected with a coating of asphaltum, or the walls thereof may be made of any material which will resist the corroding action of any of the chemicals used in such chamber.

A passage *d'* opens into the lower end of the chamber *c*, and from the upper end of such chamber and on the left side, as seen in the drawings, a pilot-tube *p* extends upward to support, by means of a tip *p'*, an igniting device *i*, which may be prepared according to any of the well-known processes and is arranged to operate in the well-known manner.

The upper end of the chamber *c* is closed by a screw-cap, as indicated, which fits closely around the tube t^3 and forms the lower end of the tube *t*. The tube *t* has formed in its wall near the lower end holes which may be more or less closed by means of the rotatable sleeve *t'*, in which similar holes are formed. Attached to the upper end of the tube *t* is seen a gauze spreader *g*. The tubes *t* and t^3, sleeve *t'*, and spreader *g* are so arranged as to constitute a Bunsen burner as ordinarily used in incandescent gas-lamps.

The valve *v* is operated by means of a lever *a* and pendent chain *b*, connected thereto, as seen in Fig. 1, such lever being normally held in its upper position by a spring *s*. Stops *s'* and s^2 are arranged to limit the motion of the lever *a* in either direction. The position of the valve *e* shown in Fig. 3 corresponds to the position of the lever *a*, as shown in Fig. 1, while Fig. 2 shows the valve *v* in the position corresponding to the extreme downward position of lever *a*.

The operation of my burner is as follows: The gas is turned on by means of the ordinary gas-valve in the gas-fixture, and at the

same time the chain *b* is pulled down, causing valve *v* to take the position shown in Fig. 2. The gas then flows through passage *d* up into tube t^3 and also through valve *v* to passage *d'* and into chamber *c* and through the chemicals contained therein, by means of which the gas is purified or modified, so that it will not foul or clog the igniting device *i*. The purified gas passes out of chamber *c* by pilot-tube *p* into the igniting device *i*, where by impinging upon an igniting-pellet consisting of any suitable supporting member containing finely-divided platinum or platinum sponge the gas issuing from the tube *p* is ignited, and thus the gas issuing through tube *t* is also ignited. The chain *b* is then released, and spring *s* raises lever *a* to its extreme upward position, moving valve *v* to the position shown in Fig. 3, and thus allowing the gas a free path through the tube t^3 to the burner and at the same time preventing the flow of gas from the passage *d* to the passage *d'*, and hence also from the tube *p*. The flow of gas in the passages *d* and *d'* may be regulated by the screws s^3 and s^4, respectively.

By referring to Figs. 2 and 3 it will at once be understood that when the chain *b* (seen only in Fig. 1) is pulled down so as to move the valve *v* to the position indicated in Fig. 2 there is a limited supply of gas to the main burner-tube t^3 and at the same time a supply to the purifying-chamber *c* and therethrough to the pilot-tube *p*. Upon the release of this chain *b* the valve *v* assumes the position shown in Fig. 3, at which time the limited supply of the gas to the main burner-tube is cut off as well as also the supply to the purifying chamber *c*, while the main supply is at once established through the opening in the valve *v*. The result of this construction is that during the period of time required for the ignition of the gas escaping from the main burner the gas is not supplied thereto at the usual rate, thus reducing the amount of gas allowed to escape before ignition takes place.

What I claim is—

1. In a self-igniting gas-burner, an igniting device, a pilot-tube supplying gas to such igniting device, a purifying-chamber located between the pilot-tube and the source of supply for gas thereto and containing material calculated to absorb from the gas substances operating to clog or foul the igniting device.

2. In a self-igniting gas-burner, an igniting device, a pilot-tube supplying gas to such igniting device, a purifying-chamber located between the pilot-tube and the source of supply for gas thereto and containing material calculated to remove from the gas substances operating to clog or foul the igniting device, such purifying-chamber also located around a passage for the gas therethrough to the usual burner.

3. In a self-igniting gas-burner, an igniting device, a pilot-tube supplying gas to such igniting device, a purifying-chamber located in the path of the gas from a main supply-tube to such igniting device and containing substances whereby there is removed from the gas passing therethrough those elements tending to clog or foul the igniting device.

4. In combination, a supply-tube for gas, an igniting device and means whereby the gas in passing from such supply-tube to such igniting device is caused to come in contact with substances whereby there is removed therefrom those elements tending to clog or foul such igniting device.

5. In a self-igniting gas-burner, an igniting device, a pilot-tube supplying gas to such igniting device, a purifying-chamber located in the path of the gas from the main supply-tube to such igniting device and containing substances whereby there is removed from the gas passing therethough those elements tending to clog or foul the igniting device, a main burner, means for cutting off the supply of gas from such main supply-tube through such purifying-chamber to such igniting device while maintaining the supply of gas from such main supply-tube to such main burner.

GUSTAV ADOLF W. BARKOWSKY.

Witnesses:
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W. W. WEBB.