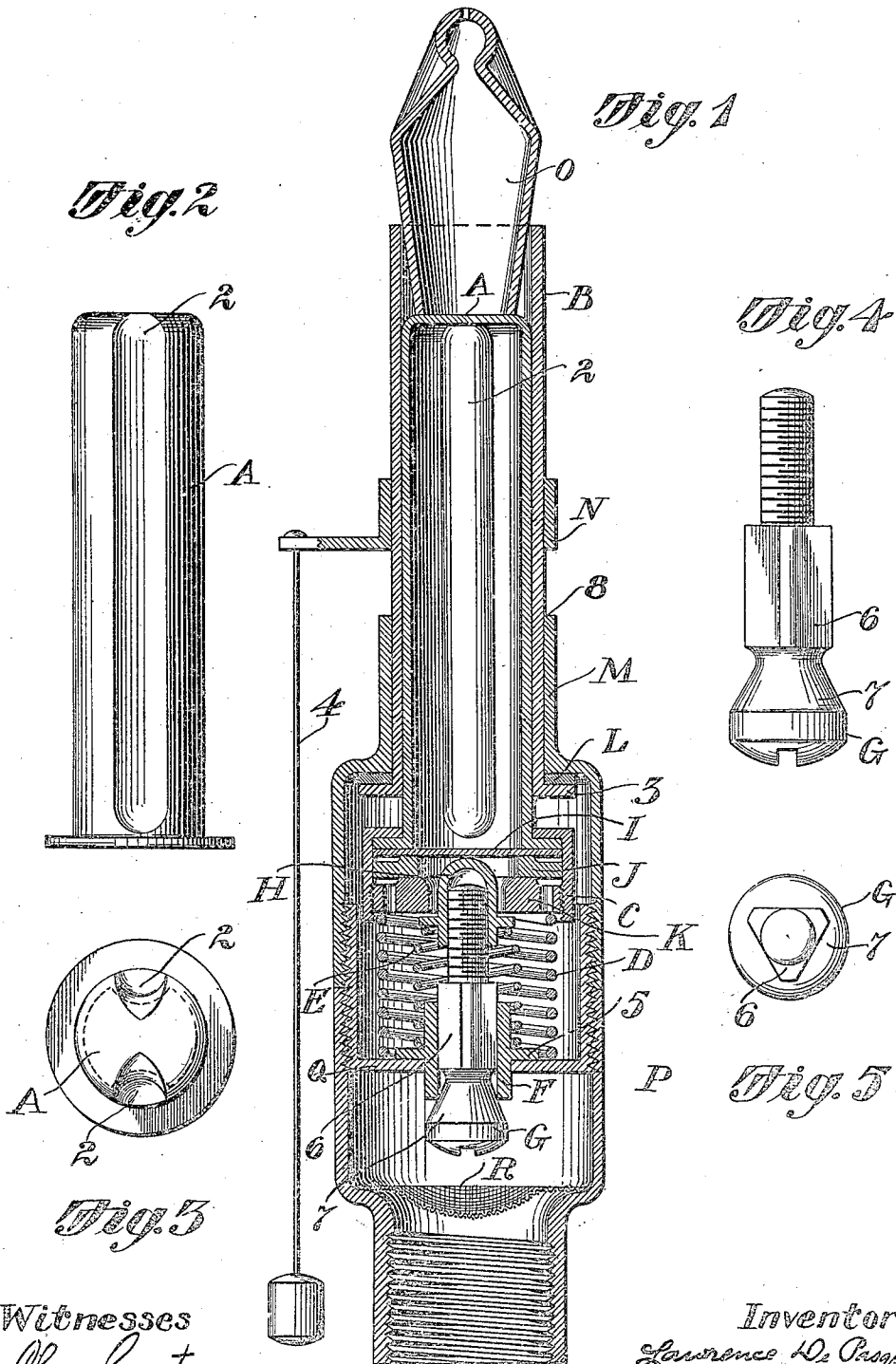


L. DE PASQUALE.
GAS BURNER.

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958,102.

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UNITED STATES PATENT OFFICE.

LAWRENCE DE PASQUALE, OF SAN FRANCISCO, CALIFORNIA.

GAS-BURNER.

958,102.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, LAWRENCE DE PASQUALE, a subject of the King of Italy, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Gas-Burners, of which the following is a specification.

My invention relates to improvements in gas-burners.

The object of my invention is to provide a gas-burner which prevents the escape of gas when it is not burning notwithstanding that the passage leading to the burner is open, and which acts almost simultaneously with the cessation of the burning.

My invention consists in the novel construction and combination of parts shown in the accompanying drawing, described in the following specification and claimed in the appended claims.

In the drawings Figure 1 is a sectional view of my said burner. Fig. 2 is a side view of the air chamber. Fig. 3 is a bottom view of said air chamber. Fig. 4 is a side view of the valve and Fig. 5 is a plan view of said valve.

In the figures O shows the removable tip, and B is the burner tube inclosing the air case, A, and which case, A, has preferably a longitudinal channel 2 on each side thereof, and said tube has a flange 3 at its lower end. Between said flange and the transverse wall of shell M is positioned the flexible washer L, which is preferably of rubber, and prevents the escape of gas at the point where it rests when the chain is released. The air case, A, has a collar C and the shell M incloses said collar as shown in Fig. 1. The collar C is interiorly threaded and accommodates the ring J which secures the resilient diaphragm I. In said collar beneath ring J and engaging the same is threaded ring K, said ring K securing the ring J from vertical movement and binding it firmly against said diaphragm. Movably seated in the shell Q is the valve G. Said shell, Q, has a threaded exterior and a central aperture in its base forming the valve seat F. The valve case, Q, has an interior flange 5 between the exterior of which and the wall of said case, Q, a seat is formed for the lower end of spring D which exerts an upward pressure against the collar C. The valve stem at 6 is preferably triangular so as to admit gas in the space between it and

the valve seat F when the valve stem is depressed. The valve G has a head 7 having preferably the shape shown in Fig. 1. The valve stem is inclosed by the spring E and it is provided with a nut H to hold said spring in place. The burner may be provided with a screen R for filtering the gas. N shows the clamp securable to the tube B and having the chain 4.

In constructing my burner I prefer to use aluminum for the air case A as well as an aluminum tip.

To operate the burner the chain 4 is seized and pulled, whereby case A and tube B are depressed, consequently depressing the head of the valve stem 6, opening said valve and admitting the gas. Flame is thereupon applied to the burner at the tip O, whereupon the gas burns at this point and also at the point 8, the chain being held for about three seconds after the ignition, is then released, whereupon the gas burns at the tip only, escape of gas at point 8 being prevented by the flexible washer L. The heating of the case A and the tube B, which case is also of metal, preferably brass, heats the air in case A, which is closed at all points, its bottom being closed by said diaphragm. The expansion of the air in case A through heating exerts pressure on the said resilient diaphragm, and consequently on nut H thereby keeping the valve open and admitting the gas. Should however the flame be extinguished, the consequent cooling of the case A and tube B causes the air in said case to become cold, resulting in its contraction and permitting the valve to close, upon the closing of which further escape of gas is prevented.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is—

1. In a gas-burner, the combination of a burner shell provided with a gas-tip, a channeled cylindrical case having a flexible diaphragm at its lower end, a valve positioned below said diaphragm and in alinement therewith so as to be operatively engageable by said diaphragm, cylindrical casings forming a chamber inclosing the lower portion of said burner shell and cylindrical case and said valve, and means attached to said burner shell for depressing the same.

2. In a gas-burner, the combination of a burner shell provided with a gas-tip, a cylindrical case having a plurality of longi-

tudinal channels in its wall and said case being open at its lower end, a resilient diaphragm covering the opening in said end, a valve positioned below said diaphragm and in alinement therewith so as to be operatively engageable by said diaphragm, connected bottle-neck cylindrical casings forming a chamber inclosing the lower portion of said burner shell and cylindrical case and said valve, a spring bearing upwardly against said cylindrical case, and means attached to said burner shell for depressing the same.

3. In a gas-burner, the combination of a burner shell, a cylindrical case having a plurality of longitudinal channels in its wall and said case being open at its lower end and inclosed in said shell, a resilient diaphragm covering the opening in said case, an exteriorly threaded valve shell having a central valve seat, a longitudinally acting valve in said seat, a casing secured to said burner shell and a casing positioned below said casing and securable to the gas-fixture, said casings being secured by said valve shell, and means encircling said burner shell and contained in said first named casing for preventing the escape of gas.

4. In a gas-burner, the combination of a burner shell, a cylindrical case having a plurality of longitudinal channels in its wall, and said case being open at its lower end and having a ring secured at said end and said case being within said shell, a resilient

diaphragm secured with said ring, an exteriorly threaded valve shell having a central seat, a casing secured to said burner shell and a casing positioned below said casing and securable to the gas fixture, said casings being connected by said valve shell, means on said burner shell and contained in said first-named casing for preventing the escape of gas, and a valve in said valve shell.

5. In a gas burner the combination of a cylindrical case having a plurality of longitudinal channels in its wall, and said case being open at its lower end and having a ring secured at said end, a burner shell upon said case, a resilient diaphragm secured within said ring, an exteriorly threaded valve shell having a central seat, a longitudinally acting valve movably supported in said seat, a casing secured to said burner shell and a casing positioned below the last mentioned casing and securable to the gas fixture, said casings being connected by said valve shell, a spring contained in said valve seat and bearing against said cylindrical case, a resilient washer on said burner shell, and means for depressing said cylindrical case and burner shell.

In testimony whereof I affix my signature, in presence of two witnesses.

LAWRENCE DE PASQUALE.

Witnesses:

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L. R. TRAVIS.