

No. 674,160.

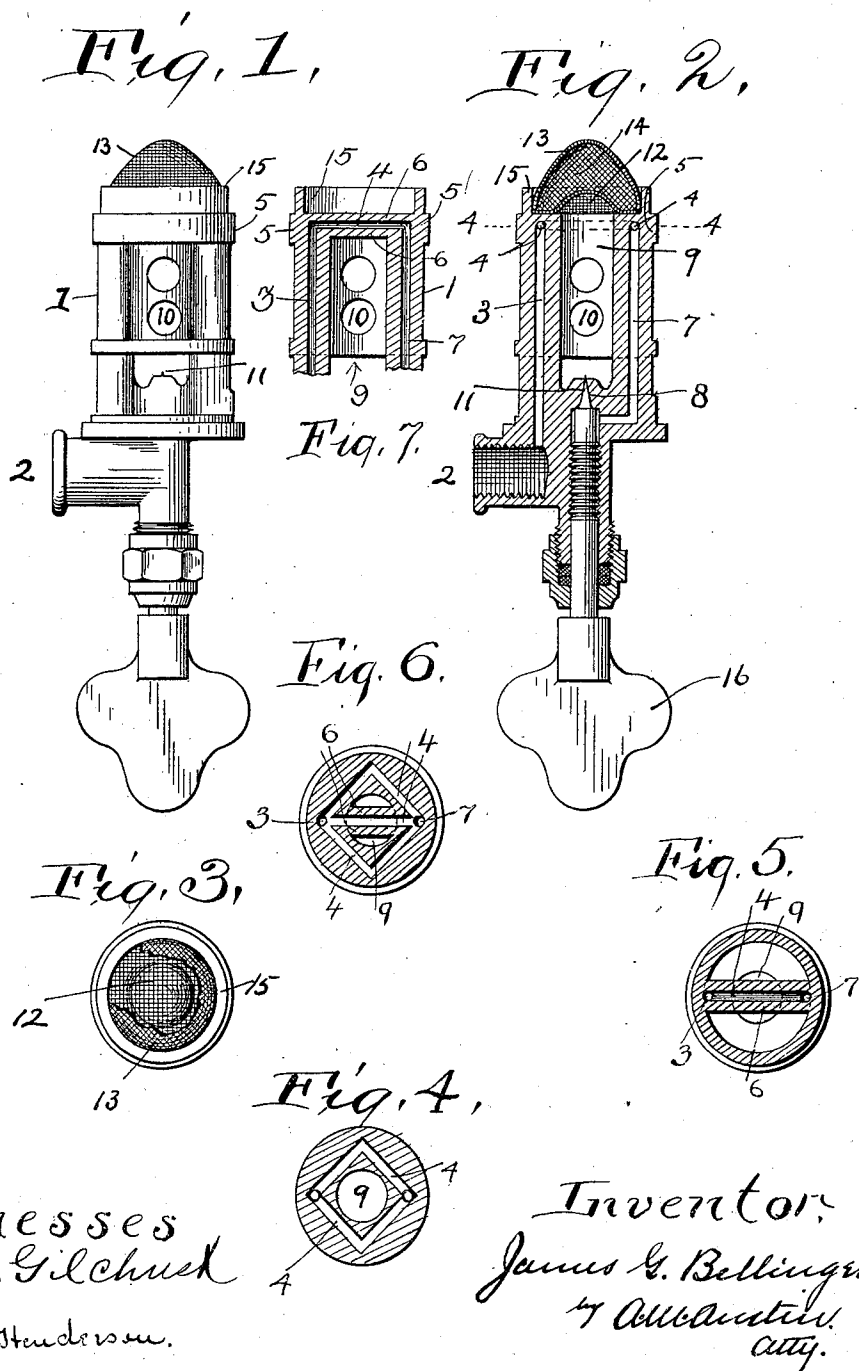
Patented May 14, 1901.

J. G. BELLINGER.

VAPOR BURNER.

(Application filed July 10, 1899.)

(No Model.)



UNITED STATES PATENT OFFICE.

JAMES G. BELLINGER, OF CLEVELAND, OHIO.

VAPOR-BURNER.

SPECIFICATION forming part of Letters Patent No. 674,160, dated May 14, 1901.

Application filed July 10, 1899. Serial No. 723,349. (No model.)

To all whom it may concern:

Be it known that I, JAMES G. BELLINGER, a citizen of the United States of America, residing at Cleveland, Cuyahoga county, State of Ohio, have invented certain new and useful Improvements in Gasolene-Generators, of which the following is a specification.

The annexed drawings and the following description set forth in detail one mechanical form embodying the invention, such detailed construction being but one of various mechanical forms in which the principle of the invention may be used.

In the accompanying drawings, Figure 1 represents a side elevation of my improved gasolene-generator; Fig. 2, a longitudinal cross-sectional view of the same; Fig. 3, a top plan view showing the burner partially broken away; Fig. 4, a cross-sectional view on line 4 4 of Fig. 2, showing one arrangement of the generating-passages; Fig. 5, a cross-sectional view showing another arrangement of said generating-passages. Fig. 6 is a cross-sectional view similar to Figs. 4 and 5, but showing another modified form. Fig. 7 is a vertical cross-sectional view of the upper portion of the body portion, showing the arrangement of passage-way as set forth in Fig. 5.

The body portion 1 of the generator is provided with an inlet 2, that communicates with a vertical passage-way or inlet-duct 3, formed in the body portion. Said duct communicates with a horizontal pipe or passage-way forming generating-passages 4, that are provided in a circular head or enlargement 5, integral with the body portion, and are arranged around said head at suitable angles to each other. The generating-passage may be provided through a plate or bar 6, extending across said head, or the bar may be used in connection with generating-passages 4. This latter is shown in Fig. 6, in which construction the vapor will pass through the various passage-ways toward the duct 7 in an obvious manner. A vertical passage-way or outlet-duct 7, formed in the opposite side of the body portion, communicates with said generating-passages and leads through an inlet-port 8 to the central opening 9, provided in

the center of the body portion, to which the air has access through perforations 10, formed in the body portion. The inlet-port is controlled by means of a needle-valve 11, that is operated by a thumb-screw journaled in the lower part of the body portion. The passage-way from the duct 7 to the central opening may therefore be said to form a valve-controlled pipe or passage-way leading from the duct 7 into the said central opening. A mixing-cap 12, formed of a perforated metal plate, wire-gauze, or similar material, is secured at the top of the central opening above the generating-passages. Said cap is preferably semispherical or conical in shape and is slightly wider than the diameter of the central opening. A burner 13 is arranged over the mixing-cap, so as to form a mixing-chamber 14 between same and said mixing-cap. The burner is preferably conical in shape, and an annular rim or flange 15, preferably integral with the body portion, extends upward from the body portion and surrounds the lower part of the burner.

Liquid gasolene is stored in a receptacle that is elevated sufficiently to force the gasolene through the vertical inlet-duct into the generating passage-way. The gasolene that first enters the generator is changed into gas by means of heat applied at the inlet or to the body portion or on the outside of the inlet-duct. The gas passes from the generating passage-way through the outlet-duct into the central opening and then passes into the mixing-chamber, where it becomes thoroughly commingled with the air that enters through the perforations provided in the body portion. The gas is ignited on the outside of the burner, the shape of which tends to spread the flame at right angles to its surface and heats the upwardly-projecting rim of the body portion, which in turn by conduction warms and heats the circular head containing the generating-passages. After the circular head has become sufficiently heated the gasolene is changed into gas without the aid of external heat. By this construction I am enabled to prevent the noise usual in devices of this kind and practically to eliminate danger from explosions. An incandescent mantle can be

used in connection with the generator, thereby obtaining an excellent light of suitable candle-power at minimum cost.

I claim as my invention—

- 5 A hydrocarbon-burner comprising a body portion provided with a central opening and vertical passage-ways upon opposite sides of the central opening, all formed within the said body portion, a horizontal pipe or pas-
10 sage-way of less diameter than the central opening extending through the latter and formed integral with the body portion, said pipe or passage-way communicating at its

opposite ends with the vertical passage-ways, and a valve-controlled pipe leading from one 15 of the latter-named passage-ways and discharging into the said central opening, substantially as described.

In testimony whereof I sign this application, in the presence of two witnesses, this 20 30th day of June, 1899.

JAMES G. BELLINGER.

Witnesses:

G. H. FOSTER,

C. I. HENDERSON.