

H. WELLINGTON.

Vapor Burner.

No. 98,824.

Patented Jan 11, 1870.

Fig. 1

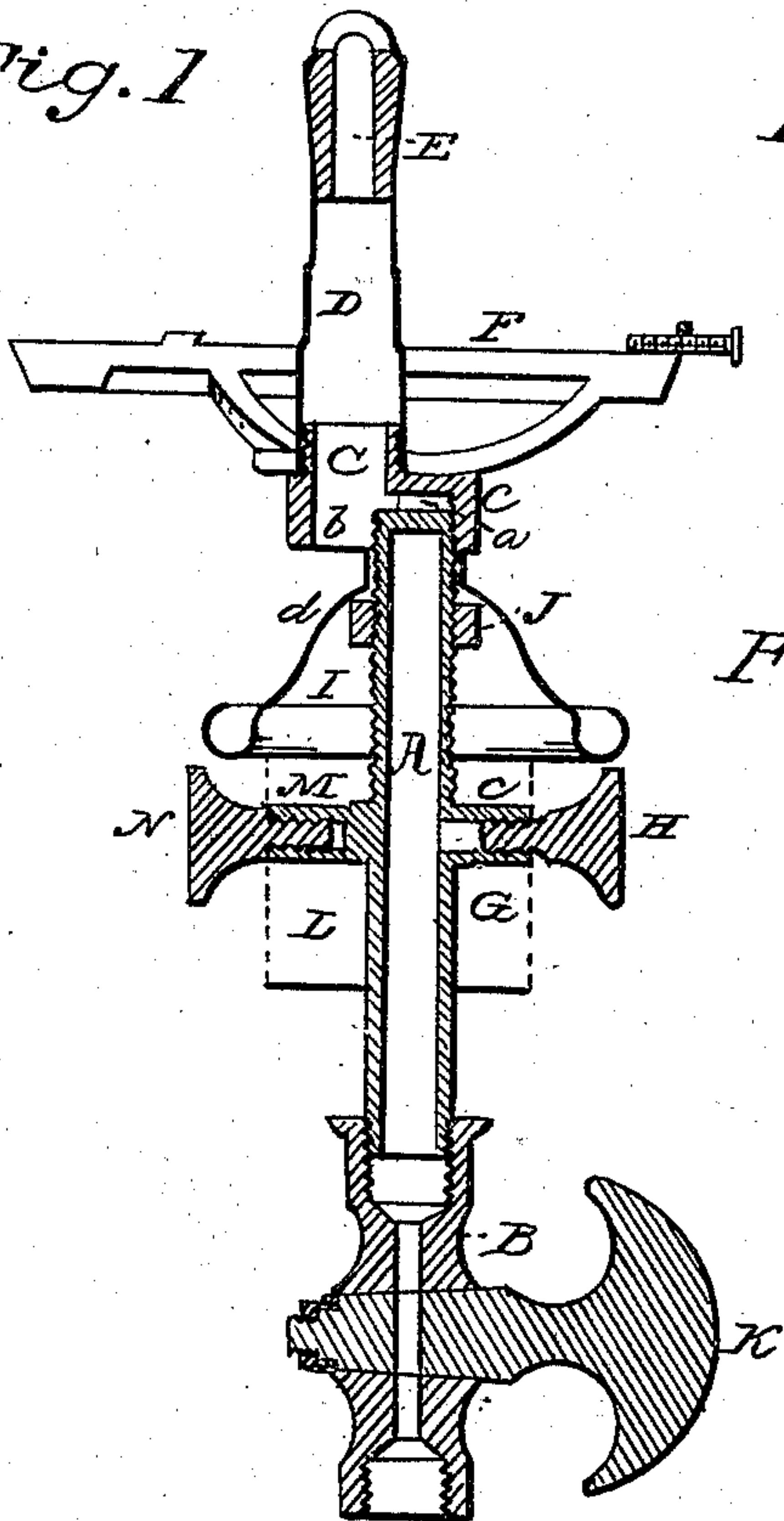


Fig. 2



Fig. 3

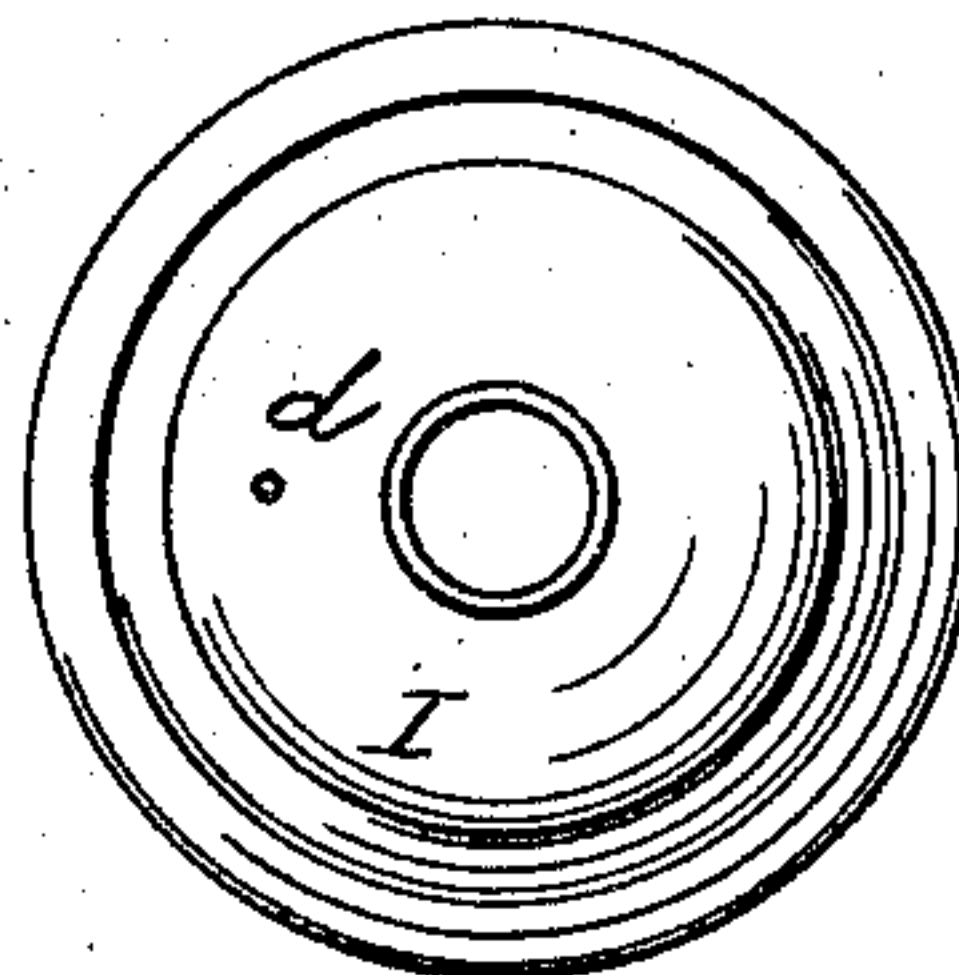
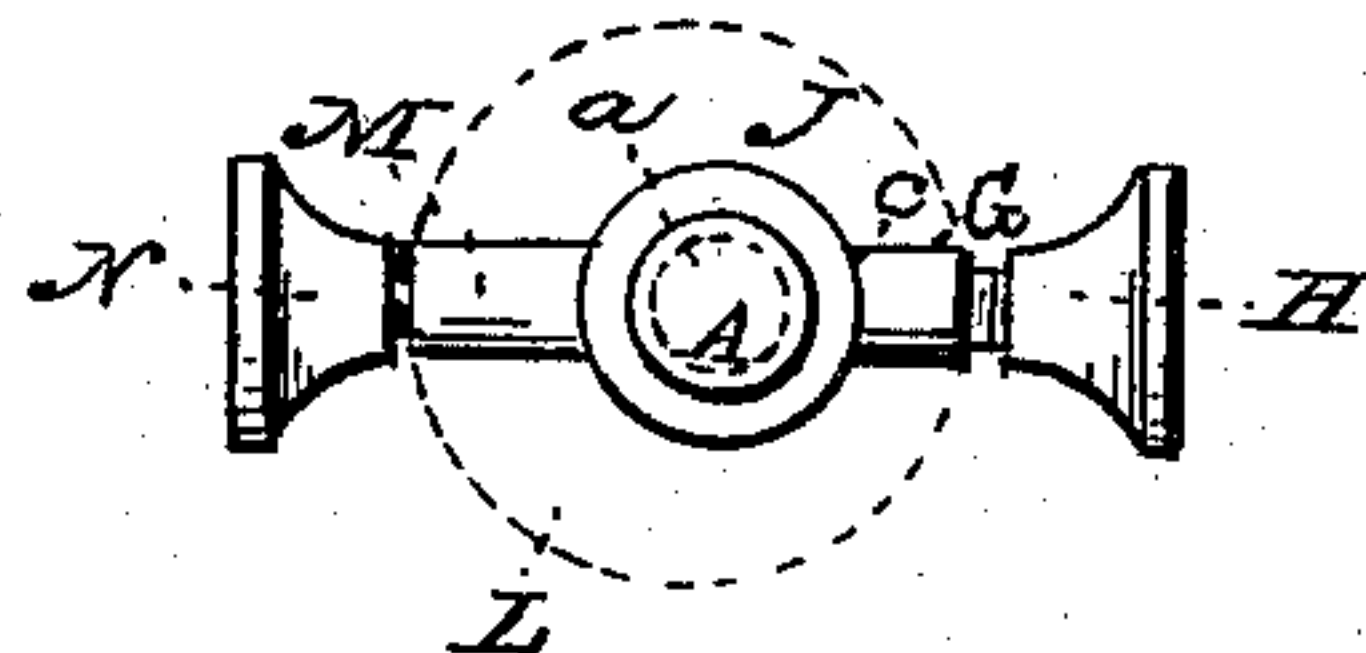


Fig. 4



Witnesses

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# United States Patent Office.

HENRY WELLINGTON, OF CHICAGO, ILLINOIS, ASSIGNOR TO HIMSELF AND  
TRUMAN P. DOANE, OF SAME PLACE.

Letters Patent No. 98,824, dated January 11, 1870.

## IMPROVEMENT IN VAPOR-BURNERS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, HENRY WELLINGTON, of Chicago, in the county of Cook, and State of Illinois, have invented a new and improved Vapor-Burner; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable others skilled in the art to which my invention appertains, to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, is a longitudinal vertical section of my improved vapor-burner and generator;

Figure 2 is a detached plan view of the mixing-chamber;

Figure 3 is a similar view of the heating-bell; and

Figure 4, a plan view of the generating-chamber, with the burner and mixing-chamber removed.

Similar letters of reference indicate corresponding parts in the several figures of the drawings.

My invention has for its object to improve the construction of that class of gas-burners which is adapted for vaporizing gasoline and other hydrocarbon-liquids.

It consists, first, in the construction of the mixing-chamber, and its arrangement with relation to the generator.

It also consists in providing a vapor-burner with an adjustable heat-conducting bell, for the purpose of preserving a uniform temperature of heat in the generator.

It consists, further, in the combination of the perforated shield with the generator and vaporizing-flame, and the method of holding the shield in position.

It consists, lastly, in the method of supplying heated air to the mixing-chamber, from the heat-conducting bell, and in the combination of parts of the burner, as will be hereinafter more fully described.

In the accompanying drawings—

A is the vaporizer or gas-generator, composed of a short metal tube, having a closed top, and fitting, at its lower-end, within the pipe-joint or coupling B.

To the upper end of the vaporizer is attached, by a screw-connection, a chamber, C, in which the gas received from the vaporizer, through the opening *a* in its top, is mixed with oxygen entering at *b*, through the lower open end of said mixing-chamber, instead of at the side, as in the ordinary burner, whereby greater force is obtained to the flow of gas from the generator.

D is the gas-burner, carrying the tip E, and attached to the upper side of the mixing-chamber, in line with the opening *b* in the latter, as clearly shown in fig. 1.

F is a globe-stand, applied to the burner D in the usual manner.

G is a short lateral tube, formed upon the vaporizer A, and communicating with the same.

This tube is provided, upon its upper side, with a small orifice, *c*, which is increased or diminished in size by means of the regulating-screw H.

I is a bell or deflector, placed upon the vaporizer, above the lateral tube G, and adjusted higher or lower, with relation to said tube, by means of the collar or nut J.

The operation of my improved vapor-burner is as follows:

The vaporizer or gas-generator A is filled with gasoline from any suitable supply, by turning the cock K in the pipe-coupling B.

The cock is then shut off, and the oil ignited at the opening *c* in the lateral tube G.

The flame produced at this point heats the metallic bell I, which communicates its heat to the generator, for vaporizing the oil contained therein.

When the gas-generator has become sufficiently heated, the cock K is again opened, and the supply of oil continued indefinitely.

The gas escapes from the generator, through the opening *a* in its top, into the mixing-chamber, and is there mixed with oxygen, through the opening *b* in said chamber, as previously mentioned, and discharged through the tip E in the usual manner.

To preserve a uniform temperature in the gas-generator, which is best calculated to produce perfect generation or vaporization, the bell I is made adjustable upon the generator, and can, therefore, be moved nearer to or further from the flame at *c*, according as the volume of said flame is increased or diminished by the regulating-screw H.

To protect said flame from sudden gusts of air, I have provided a foraminated cylinder, L, which is placed around the generator A, outside the vaporizing-flame, and supported upon one side by the screw H, as shown, and upon the opposite side by being clamped to the lateral stud M, formed upon the generator A, by means of the clamping-screw N.

*d* is a small opening, formed in the bell I, near its top, and in line with the opening *b* in the mixing-chamber.

This opening *d* is designed to permit the escape of a current of heated air, from the interior of the bell, to the mixing-chamber, for the purpose of increasing the supply of oxygen to the flame of the burner.

I do not confine myself to the precise form of burner shown, as an argand or a straight burner may be employed with equal effect, and without departing from the spirit of my invention.

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. The mixing-chamber C, constructed and arranged, with relation to the generator A, substantially as herein shown.

2. The adjustable bell I, in combination with the generator A and vaporizing-flame, substantially as described, for the purpose specified.

3. The perforated shield L, held upon the generator A by means of the vaporizing-tube G, screws H N, and stud M, substantially as described, for the purpose specified.

4. The perforated adjustable bell I, in combination with the mixing-chamber C, substantially as described, for the purpose specified.

5. The combination, with the generator A, of the mixing-chamber C, adjustable bell I, vaporizing-tube G, and perforated shield L, substantially as herein shown and described, for the purpose specified.

HENRY WELLINGTON.

Witnesses:

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