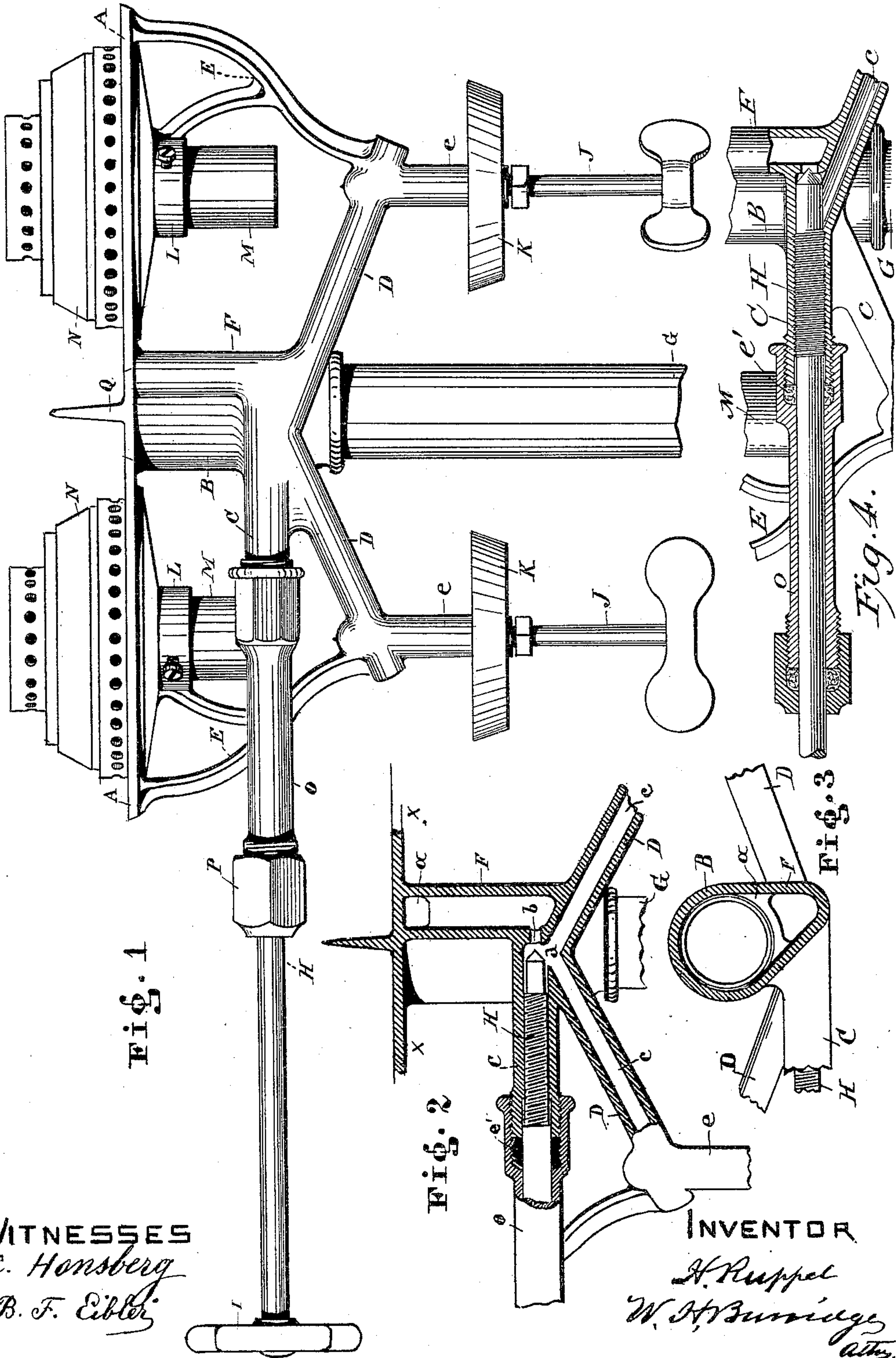


(No Model.)

H. RUPPEL.
GENERATING DUPLEX VAPOR BURNER.

No. 432,332.

Patented July 15, 1890.



WITNESSES
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UNITED STATES PATENT OFFICE.

HENRY RUPPEL, OF CLEVELAND, OHIO, ASSIGNOR OF ONE-HALF TO THE
DANGLER STOVE AND MANUFACTURING COMPANY, OF SAME PLACE.

GENERATING DUPLEX VAPOR-BURNER.

SPECIFICATION forming part of Letters Patent No. 432,332, dated July 15, 1890.

Application filed November 29, 1889. Serial No. 332,004. (No model.)

To all whom it may concern:

Be it known that I, HENRY RUPPEL, a resident of Cleveland, in the county of Cuyahoga and State of Ohio, a citizen of the United States, have invented certain new and useful Improvements in Generating Duplex Vapor-Burners; and I do hereby declare the following to be a full, clear, and complete description thereof.

My invention relates to vapor-burners; and the improvement consists in the novel construction and arrangement of a generating duplex burner and heating-plates of this class.

That the improvement may be fully seen and understood, reference will be had to the following specification and accompanying drawings, in which—

Figure 1 is an exterior side view of said burner; Fig. 2, a detached section showing the interior of the generating parts; and Fig. 3, a horizontal detached section in line *x x*, Fig. 2. Fig. 4 is a detail sectional view taken longitudinally of the extension-sleeve, which incloses the main valve-stem, showing the packing at the ends thereof.

Like letters of reference refer to like parts in the drawings and specification.

As seen in Fig. 1, this burner is a structure which embodies the heating-plates A A, the casing B, and the branch arms C and D D, the outer ends of the arms D D being connected with those of the heating-plates by means of the braces E E to impart strength and durability to the parts above mentioned.

The braces E E are also heat-conductors from the heating-plates A A to the sections D D of the retort or casing B. An auxiliary conduit F extends down on the outside of the casing B, which is at *a* only in open relation with the interior of said casing. Thus the liquid fuel, which is supplied to said casing by means of the stand-pipe G, will have to overflow at *a* before it can flow through the opening *b*, which is controlled by the plug-valve H, and communicates with the generating passages *c c* in the interior of the sections D D. The valve H is threaded in the arm C, as seen in Fig. 2, and is operated by means of the hand-wheel I on the valve-stem for opening and closing the opening *b*. The

junction *d* of the ports *c c* is immediately below the opening *b*; hence both the ports are simultaneously supplied with vapor for the burners.

The vertical branches *e e* of the arms D D serve as sleeves for the needle-valves J J, as seen in Fig. 1, and also as supports for the drip-cups K K.

L L are hubs forming parts of the heating-plates A A, each of which is provided with a set-screw for adjustment of the vapor-induction tubes M M, leading to the combustion-chambers or interior of the burner-caps N N, as seen in Fig. 1.

The plug-valve is provided with an extension-sleeve O, which, being separate from the arm C, is less heated than the arm. Thus the packing in the nut P at the end of said sleeve is not liable to be burned out, and safety against leakage of gas is increased, owing to the double packings, one in the coupling of said sleeve and arm, as seen at *e'*, and that of the nut P.

The valve H controls the supply of gasoline or vapor to both of the burners; but only one of them may be used by simply shutting off the respective needle-valve. Ordinarily both the needle-valves are left open after being once properly set, and the force of the burners is regulated by means of the said plug-valve. Thus for initial starting of the burners the plug-valve only needs to be opened for supplying the drip-cups, when it is again shut before ignition of the gasoline in said cups for the initial generation of vapor.

Between the burner-caps and in connection with the heating-plates is arranged the deflector Q for a separation of the issuing jets from the burner-caps at either side thereof.

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

1. A generating-burner having duplex heating-plates, the casing B, and communicating conduit-arms F C and D D, in combination with the plug-valve H, the needle-valves J J, adjustable induction-tubes, and caps, constructed and arranged substantially as and for the purpose described.

2. A duplex vapor-burner consisting of the combined heating-plates, the casing, with con-

duit F, branch arms C D D, having communicating generating-passages *c c* therein, induction-tubes, burner-caps, needle-valves J J, and a plug-valve H, having an opening in its
5 seat in open relation with the ports leading to said needle-valves, constructed and arranged substantially as and for the purpose set forth.

3. In a duplex vapor-burner, an extension-
10 sleeve having a packing-nut at each end thereof, the inner one forming a threaded at-

tachment to the arm C, and the outer one, or one more remote from the heat, being adjustable, in combination with the main supply-valve, substantially in the manner described, 15 and for the purpose specified.

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

HENRY RUPPEL.

Witnesses:

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FRANK GOHENE.