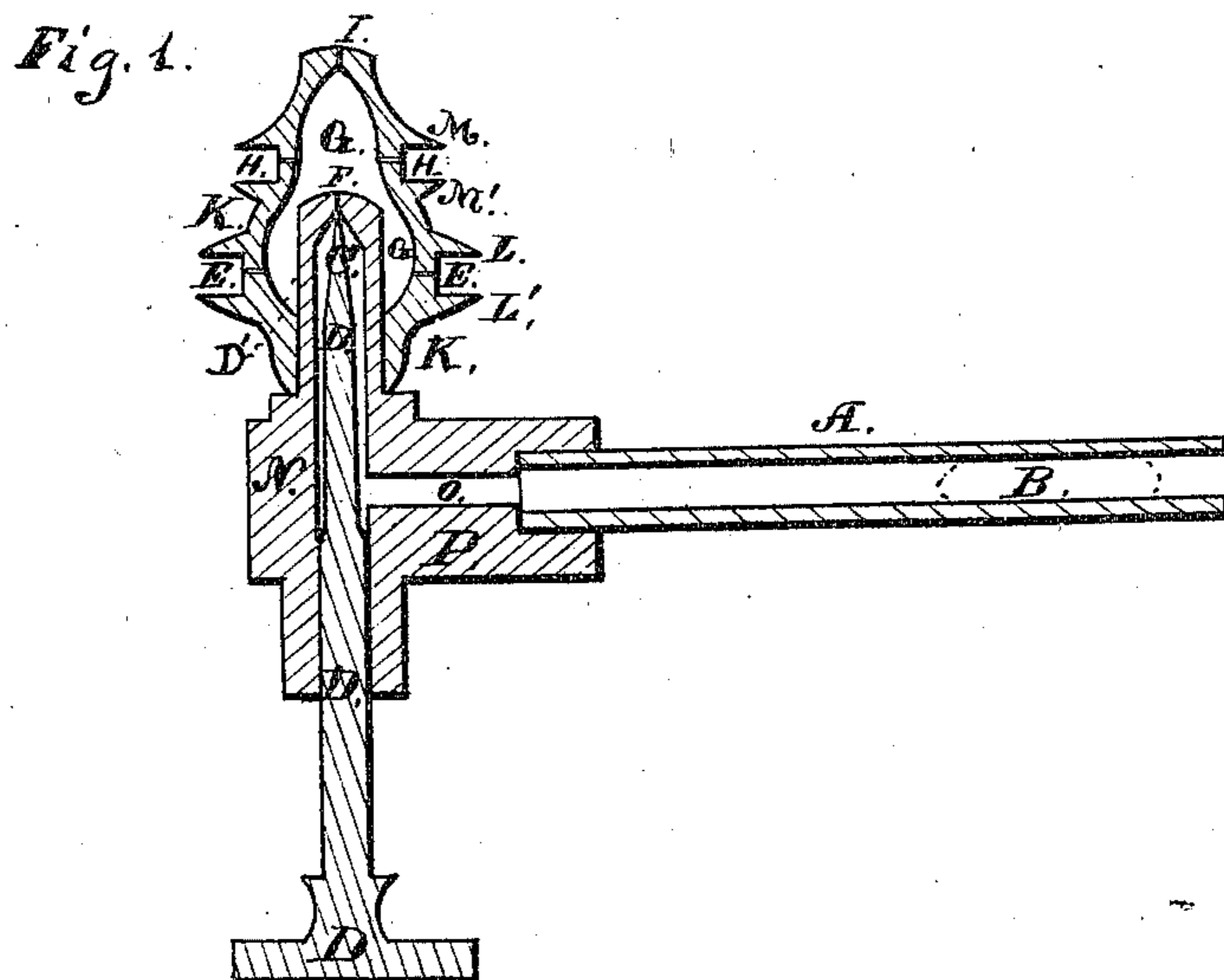


J. BURNS.
Vapor-Burner.

No. 128,703.

Patented July 9, 1872.



Witness:—
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UNITED STATES PATENT OFFICE.

JOHN BURNS, OF KEOKUK, IOWA.

IMPROVEMENT IN VAPOR-BURNERS.

Specification forming part of Letters Patent No. 128,703, dated July 9, 1872.

To all whom it may concern:

I, JOHN BURNS, of Keokuk, Iowa, have made a new and useful Improvement in Pressure Vapor-Burners, of which the following is a specification:

The object of this invention is to improve burners having elevated reservoirs of fluid and burning vapor, to render them neat in their appearance, perfect in action, and without the disagreeable smells from vapor when the light is put out. To do this, I make the apparatus as shown in the drawing and set forth hereinafter.

Figure 1 is a vertical section of the apparatus.

The pipe A leads from an elevated reservoir, not shown, whence the oil or hydrocarbon fluid comes for burning. This fluid passes a packing, B, which prevents regurgitation and enters the burner-head N. It then rises into the vaporizing-chamber C around the plunger D in a small thin stream, and is changed to vapor by heat from the flame which here, at E E', directly surrounds the vaporizing-chamber C. From this the vapor passes through the opening F into the superheating-chamber G, where it is heated highly, increasing its illuminating power. It then issues in jets at E E', H H', I, which are arranged in circles around the part K, heating part K by means of the rims L L', M M', which project above and below each course of jets and protect the flames, which thus arranged present a very rich appearance. This part K thus heated contains the vaporizing and superheating chambers, applying the heat directly to

them in ample quantity without injuring the power of the light, and prepares the vapor for burning to the best advantage. The screw-plunger D has its upper point directed to hole F, and by screwing it up the vapor can be regulated or shut off after it is formed, as desired, without waiting for the flame to gradually die down or leave offensive unburned vapor to escape, as where the shutting-off takes place back of the evaporating-chamber. The packing B may be of asbestos to prevent charring, or of simple cotton, easily renewed; and the form and arrangement of part K and of the flames around part K may be modified. The pipe A enters the burner-head at P. This burner-head is made of some considerable weight to contain a quantity of heat to cause the heating and vaporizing to go on regularly. From this pipe a duct, O, passes to the portion N, where it enters another, which rises upward into the part D', containing the plunger D, and there forming vaporizing-chamber C. The part D' rises from part N, as shown, and is arranged to have the part K fit over it removably, inclosing it tightly at the bottom.

I claim—

The vapor-burner, consisting of the part K, provided with jet-apertures E H I and projecting rims L M, L' M', all constructed and arranged in relation to the part D' on part N, provided with vaporizing-chamber C and screw-plunger D, as shown and set forth.

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Witnesses:

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