W. C. NORTH.

GASOLINE STOVES.

No. 194,106. Patented Aug. 14, 1877.

Fig. 1.

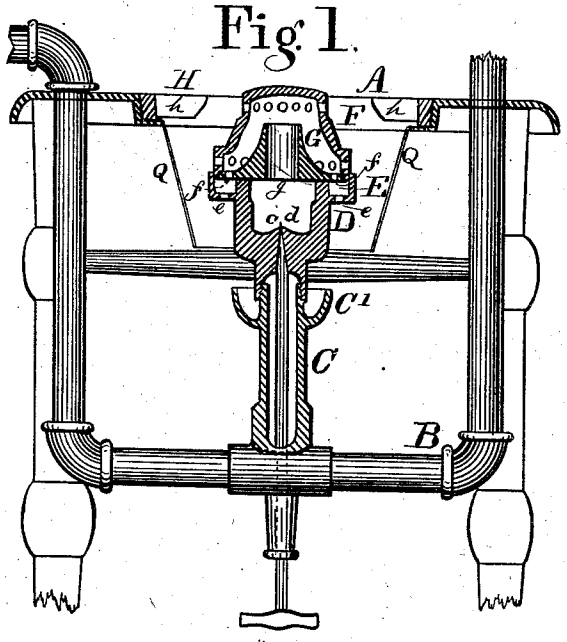
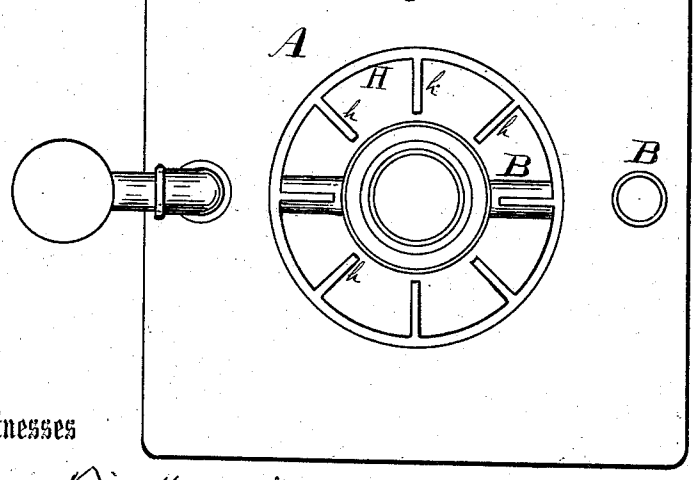


Fig. 2.



Witnesses

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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN GASOLINE-STOVES.

Specification forming part of Letters Patent No. **194,106**, dated August 14, 1877; application filed June 2, 1877.

To all whom it may concern:

Be it known that I, WILLIAM C. NORTH, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Gasoline-Stoves, which improvements are fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a vertical section. Fig 2. is a top or plan view.

The nature of my invention relates to the peculiar construction of a gasoline-burner for heating and cooking purposes, as hereinafter fully described and claimed.

In the drawing, A represents the table or top of a stove supported by suitable frame-work or legs. B is a pipe leading from a reservoir.

The burner consists of a tube or pipe, C, having cast on its lower end a T-connection, by which it is secured to the lead pipe B, and is provided with a cup, C′, at its upper end. This is cast in one piece to save making many joints.

D is a yoke containing the jet-orifice *d*, controlled by a needle-valve. It is screwed onto the top of the tube C, and is provided with an annular shamber, E, in the bottom of which is made two or three orifices, *e e*, at the sides next to the arms of said yoke.

F is a cap or dome, having a portion of its sides, at the base, perpendicular, where is made a row of orifices. The upper portion is tapering toward the top, where is made another row of orifices. The said dome is provided with a flat bottom, and has a cone, G, which stands up inside of the dome, and through which is made a vertical opening, *g*.

At the base of said cone G is made two or more orifices, *f f*, connecting the annular chamber E with the interior of the dome. The said annular chamber E, with its orifices *e e*, are for the purpose of providing downward jets of flame, for heating the yoke and conducting heat to the generating-tube C.

The object of the inside cone G is to direct the flow of gas to the sides of the dome, and thus prevent a reaction against the flow up from the jet-orifice *d*, which prevents all of the puffing, and causes a perfectly steady combustion of the burner.

The top of said burner stands in the center of the pit-opening in the stove-top A. The said pit-opening is provided with an annular flange or rabbet, in which a round spider, H, sits loosely. Said spider has inwardly-converging arms *h h*, upon which cooking utensils may sit. The object of making the spider thus is to provide for the expansion and contraction of the metal, and to guard against warping.

Depending from the top A is a circular funnel-shaped shield, Q, surrounding the burner, for protecting it from outside currents of air, and also for reflecting and radiating the heat upward toward the cooking-vessels for utilizing the same.

The operation of this is as follows: The vaporized gasoline, emerging from the jet-orifice *d*, shoots up through the opening *g* into the chamber of the dome F, and such of the vapor as is not consumed by the burner is forced or conveyed through the orifices *f f* into the annular chamber E, and is burned at the orifices *e e* for the purpose of heating the yoke D, and thus conducting heat to the generating-tube C, whereby a perfect conversion of the gasoline is accomplished.

Having described my invention, I claim—

1. The tube C, having the cup C′ and the T-connection cast thereon, all in one piece, as shown and described.

2. In combination with the tube C, the yoke D, having the jet-orifice *d* and annular chamber E, with its orifices *e e*, substantially as described.

3. In combination with the cap or dome F, perforated as described, the cone G, provided with vertical opening *g* and the orifices *f f*, substantially as shown and described.

4. The combination of the yoke D, provided with the jet-orifice *d* and annular chamber E, with the cap or dome F, having the flat bottom, with its cone G and orifices *f f*, and the tube C, with its cup C′, substantially as shown and described.

5. The inverted truncated-cone-shaped shield Q, depending from the pit-opening of the stove, and extending below and surrounding the burner, in combination with said burner and the rabbeted annular spider in said pit-opening, substantially as shown and described.

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