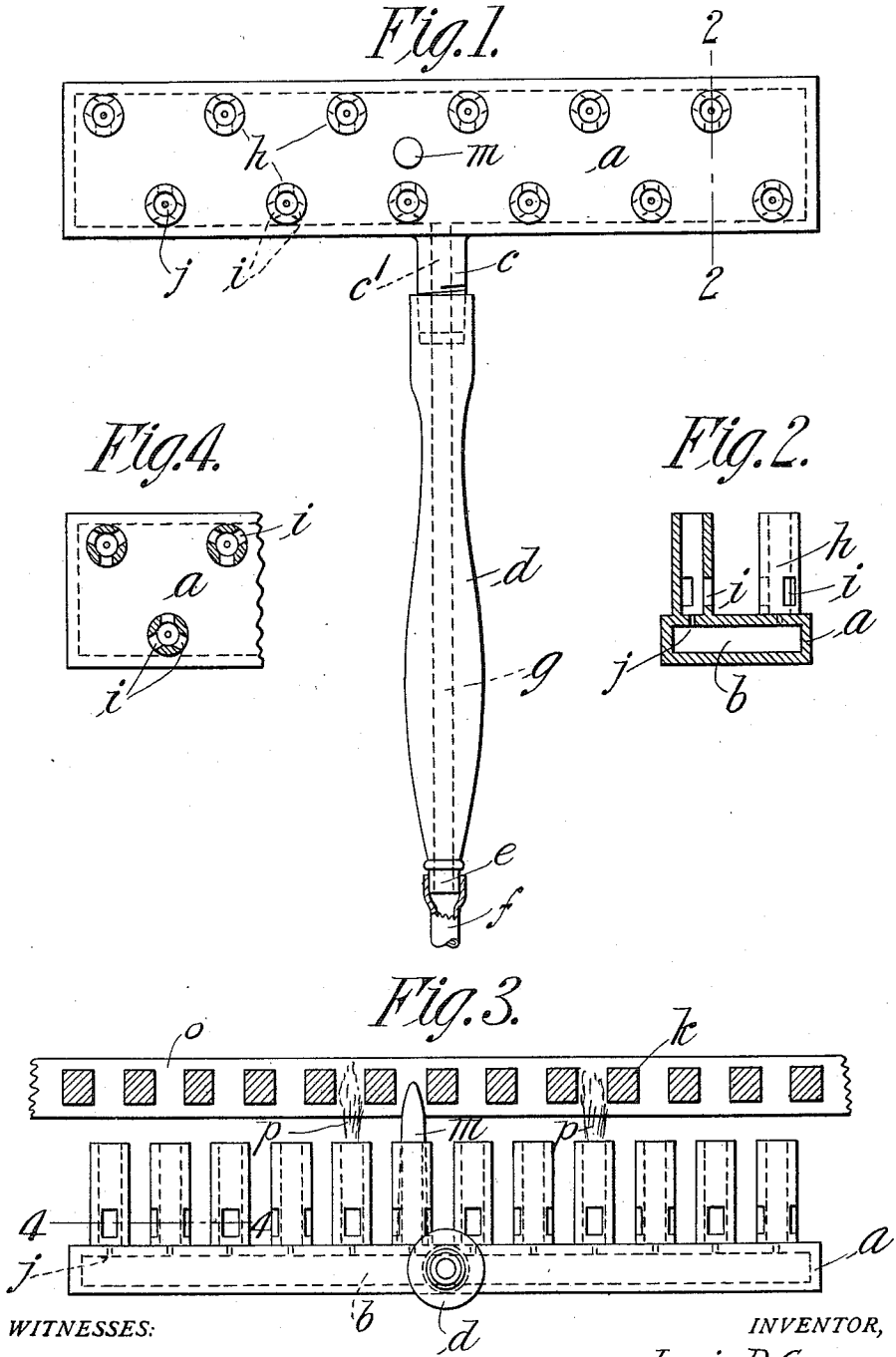


L. P. GAGNON.
FUEL IGNITER.
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995,246.

Patented June 13, 1911.



WITNESSES:
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UNITED STATES PATENT OFFICE.

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FUEL-IGNITER.

995,246.

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To all whom it may concern:

Be it known that I, LOUIS P. GAGNON, a citizen of the United States of America, residing at Willimansett, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Fuel-Igniters, of which the following is a specification.

This invention relates to improvements in fuel igniters or fire kindlers and is designed to be a portable structure which may be readily inserted beneath the fire-box or grate of a stove or furnace for readily igniting the kindlings or coal on the grate.

The particular object of the invention lies in a device with which a large quantity of heat can be applied to the grate, practically instantaneously, and thus hasten the ignition of the fuel over the ordinary means employed for starting fires.

The invention consists in general of a gas-tight box or casing member having a plurality of Bunsen burners formed or cast therewith, and communicating with the interior of the box, a handle having a passage-way therethrough, and to which a gas-tube may readily be attached for conveying the gas to the interior of the box.

The upper surface of the box is provided with a positioning pin that is adapted to enter one of the spaces between the grate-bars so that the outlets of the burners will be directly beneath the spaces of the grate-bars, whereby the full heating and igniting effect of the gas flames from the burner will be obtained.

It sometimes happens in the burners now in use that unless great care is taken to accurately position the burners beneath the spaces of the bars, the flames therefrom will come in contact with the cold grate-bars producing imperfect combustion and depositing a large layer of soot or unburned carbon on the lower side of the grate. My device is designed to overcome these defects and produce a rapid ignition of the fuel on the grate-bars.

In the drawings forming part of this application,—Figure 1 is a plan view of the igniting device showing the arrangement and location of the positioning pin near the outlet ends of the burners and also the handle for lifting the device, to which the gas-tube is attached. Fig. 2 is a transverse sectional view on the line 2—2, Fig. 1, show-

ing the interior portion of the box, with the burners formed integral or cast therewith. Fig. 3 is an end elevation of the igniting device when in place under the grate and illustrating the positioning pin that extends into the space between two of the grate-bars. Fig. 4 is a horizontal sectional view on the line 4—4 of Fig. 3 illustrating the gas inlet apertures at the lower ends of the burners which communicate with the interior of the box member, and also showing the air inlet passages at the lower portions of the burners and above the interior of the box.

Referring to the drawings, *a* designates the box or casing member proper which is provided with a hollow, interior portion *b*. Located in the center portion of the box *a* is a stem *c* that is threaded at its outer end for receiving a handle *d*, the outer end of which is provided with the reduced portion *e* to which a flexible gas tube *f* may be attached. A passage-way *g* extends through the handle *d* and communicates with a passage-way *c*¹ in the stem *c*, whereby illuminating gas may be supplied, by means of a gas-tube *f*, to the interior portion of the box *a*.

Located on the upper portion of the box or casing member *a* and integral therewith are a plurality of ignition tubes *h* of the Bunsen burner type, in the lower portion of which are located perforations *i* to admit the necessary quantity of air to the interior thereof.

j designates a gas passage-way from the interior of the box *a* to each tube *h*.

This construction is the ordinary Bunsen burner so that when illuminating gas flows from the interior of the box *a* through the passage-way *j*, it is mixed with the air that enters through the perforations *i*, forming the proper mixture in order to produce complete combustion.

The grate-bars, on which the fuel to be ignited is placed, are designated by *k* and are merely of a conventional type, as no attempt has been made to illustrate any particular make.

m designates a locating or positioning pin that is attached to the upper portion of the box *a*, and in Fig. 3 this pin is shown as entering the space *o* between two of the bars of the grate. When the pin is in this position the outlet openings of the tubes *h* are directly below the openings between the bars

of the grate, whereby when the gas is ignited, the flames therefrom will flow upwardly in a perpendicular line from the tubes *h* between the bars and in contact with the fuel that is placed thereon, the path of the flame being shown in Fig. 3, at *p*.

It will be observed from the construction, particularly that shown in Fig. 2, that all parts of the igniter are made in one piece and preferably of cast-iron, and that the only finishing operation required is drilling or reaming the interior of the tube *h* and drilling the inlet holes *j* which afford communication for the gas from the box *a* to the tubes.

Applicant has produced an igniting device that can be made at a small expense and one that can be accurately placed below the grate-bars so as to quickly and positively ignite the fuel.

What I claim is:—

1. A fuel igniter comprising a one-piece box member, a plurality of ignition tubes on the upper surface thereof and having a passage-way for gas leading from the interior of the box member to the interior of each tube, the lower part of the tubes being provided with air inlet openings, a positioning

pin on the box member that is adapted to enter the space between the bars of the grate of a stove in order that the flames which issue from the tubes may pass directly through the spaces between the bars, and means for supplying a gas to the interior of the box.

2. A fuel igniter comprising a body member, a stem having a passage-way there-through and secured to the body member, a handle having a passage-way there-through, said stem being threaded at its outer end for receiving the handle through which gas, under pressure, may be supplied to the interior of the box, said handle affording means for attaching a gas tube, and a positioning pin on the upper portion of the box member to bring the outlet ends of the tubes directly below the spaces of the grate-bars of a stove, whereby the heat of the flames may pass unobstructed upwardly into contact with the fuel that is to be ignited.

LOUIS P. GAGNON.

Witnesses:

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