Nov. 21, 1933. A. J. COUTU 1,936,499

FIRE LIGHTER

Original Filed Aug. 14, 1931

Fig. 2.

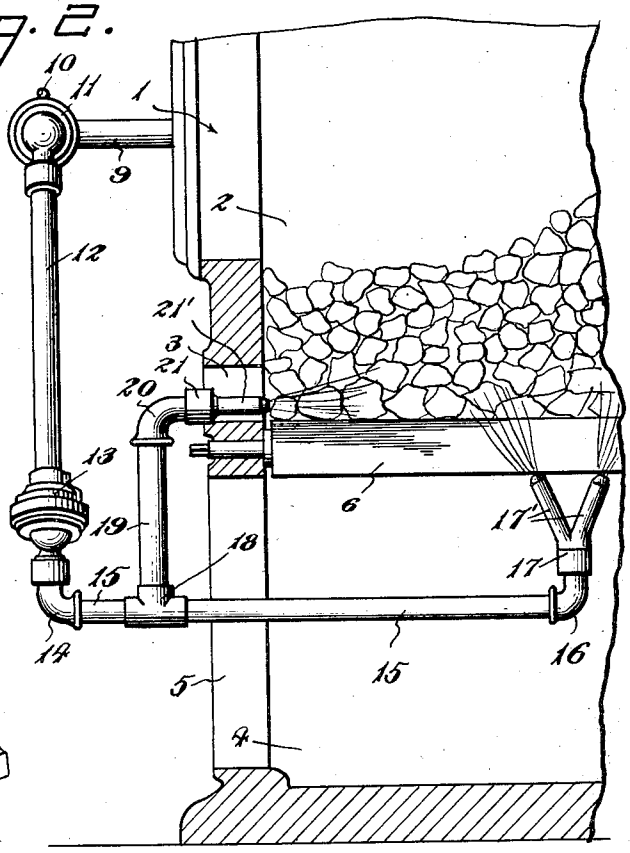
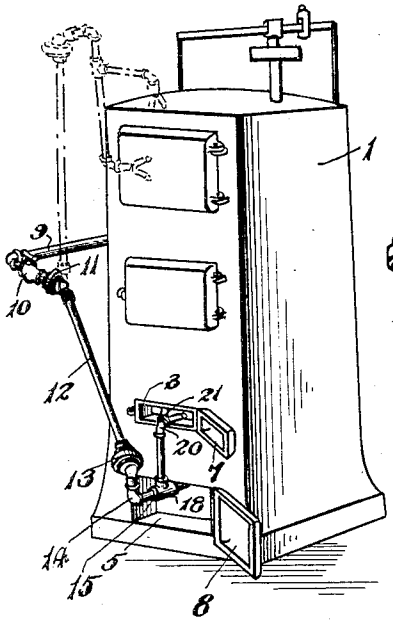


Fig. 1.



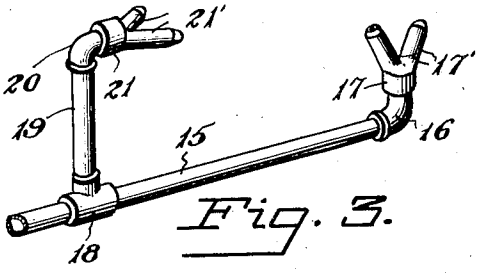


Fig. 3.

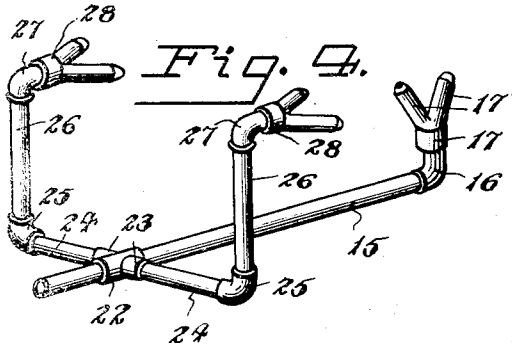


Fig. 4.

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Patented Nov. 21, 1933 1,936,499

UNITED STATES PATENT OFFICE

1,936,499

FIRE LIGHTER

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Application August 14, 1931, Serial No. 557,174
Renewed September 14, 1933

2 Claims. (Cl. 158—10)

This invention relates to fire lighters and one object of the invention is to provide a device of this character by means of which a fire may be started in a furnace or other stove without the necessity of using paper and kindling wood.

Another object of the invention is to provide a device of this character consisting of pipes through which gas or an equivalent fuel may be fed to burners or nozzles carried by certain of the pipes which serve as burner pipes and flame directed into the fire pot of a stove in direct engagement with coal resting upon the grate and thereby cause the coal to be quickly ignited. It will thus be seen that kindling is not necessary and the trouble of having kindling wood burn out before coal has become properly ignited is eliminated.

Another object of the invention is to so form the fire lighter that a burner or burners may be engaged through the draft opening at the bottom of a fire pot and serve to support a burner pipe in a position in which it extends into the ash pit and thereby permit flame to be directed upwardly and also through the draft opening of a stove into the fire pot.

Another object of the invention is to provide a fire lighter which may be very easily moved into and out of operative relation to a stove and when not in use may be folded into a compact mass so as not to be in the way while at the same time be always in such a position that it may be easily reached for use.

Another object of the invention is to provide a fire lighter formed of pipe sections connected by suitable couplings whereby the parts may be easily assembled and very cheaply manufactured.

The invention is illustrated in the accompanying drawing wherein:

Figure 1 is a perspective view showing a furnace equipped with the improved lighter,

Fig. 2 is a view showing the improved fire lighter in side elevation and disposed in operative relation to a furnace shown in section,

Fig. 3 is a perspective view of the fire lighter, and

Fig. 4 is a slightly modified form of fire lighter.

The improved fire lighter is adapted for use in connection with a furnace such as shown in Fig. 1 and indicated in general by the numeral 1 but it will be understood that this merely represents one type of heater with which the fire lighter may be used.

The furnace has the usual fire pot 2 having a draft opening 3 and an ash pit 4. The usual clean out opening 5 is provided for the ash pit below the draft opening 3 and a grate 6 of a conventional construction is mounted in the furnace between the fire pot and ash pit. The doors 7 and 8 for the draft opening 3 and clean out opening 5 are opened when the fire lighter is in use as shown in Fig. 1.

The fire lighter preferably burns illuminating gas, although any type of liquid or gaseous fuel may be used and the pipe 9 extends from a suitable source of supply. A valve 10 is provided in order that the flow of fuel to the lighter may be controlled and to this valve is attached a universal coupling 11 by means of which a feed pipe 12 is mounted for swinging movement in either a horizontal or vertical direction.

At its other end the feed pipe is connected with a universal coupling 13 carrying an elbow 14 to which is attached the rear end of a burner pipe 15 of sufficient length to extend through the clean out opening 5 into the ash pit and terminate at approximately the center of the ash pit.

At its front or free end the burner pipe carries an elbow 16 which extends upwardly and upon this elbow is screwed a burner or nozzle 17 which is preferably Y-shaped to form arms 17' which diverge upwardly.

Intermediate its length the burner pipe carries a T-coupling 18 into the upstanding arm of which is screwed a branch pipe 19 carrying at its upper end an elbow 20 which projects forwardly and carries a nozzle 21. This nozzle is similar in construction to the nozzle or burner 17 and has diverging arms 21' which project forwardly in a horizontal plane. It will thus be seen that flame from the nozzles 17 and 21 will be emitted from these nozzles at right angles to each other, and the flame from the nozzle 17 may pass upwardly through the grate at approximately the center of a fire pot while flame from the nozzle 21 will extend horizontally into the fire pot above the grate. The fact that the nozzle 21 is located above the burner pipe 15 and projects forwardly permits this nozzle to be engaged through the draft opening 3 and to rest on the bottom wall thereof to support the burner pipe in its operative position. By having the feed pipe connected with the supply pipe and the burner pipe by universal couplings, the feed pipe and the burner pipe may be very easily moved into and out of position to dispose the burner pipe in the ash pit.

When the fire lighter is not in use, the feed pipe and burner pipe may be moved away from the furnace to withdraw the burners and then swung upwardly to an elevated position as indicated by dotted lines in Fig. 1 where they will be out of

the way but easy to reach when use of the lighter is again necessary. The dotted lines only represent one position to which the lighter may be moved when not in use.

The fire lighter shown in Figure 4 is slightly different in its construction from that shown in Figs. 1 and 2. In the form shown in this figure, the burner pipe 15 is provided with a coupling 22 having opposed side arms 23 in place of a T-coupling. Branch pipes 24 extend from the coupling 22 in a horizontal plane at opposite sides of the burner pipe and are connected by elbows 25 to short pipes 26 which extend upwardly a distance corresponding to the length of the branch pipe 19 and at their upper ends carry elbows 27 which project forwardly and carry burners 28 which correspond to the burner or nozzle 21.

These nozzles or burners 28 are disposed in such spaced relation to each other that both may be engaged through the draft opening of a furnace. It will thus be seen that four jets of flame will be applied to the coal at the front of the fire box instead of two and that since two burners or nozzles are engaged through the draft opening the fire lighter will be very firmly supported and the burner pipe 15 and nozzle 17 prevented from slipping out of a desired position in the ash pit.

What is claimed is:

1. The combination with a furnace including an ash pit, fire grate, and draft opening above said fire grate, of a fire lighter comprising a fuel supply pipe, a feed pipe connected therewith and extending within the ash pit below the fire grate, a branch pipe connected with and extending upwardly from the feed pipe and projecting within the draft opening, and burners carried by the feed pipe and branch pipe respectively for directing jets of flame within the furnace simultaneously above and below the fire grate and at substantially right angles to each other, the burner of the branch pipe resting on the bottom wall of the draft opening and serving to support both burners in operative position within the furnace.

2. The combination with a furnace including an ash pit, fire grate, and draft opening above said fire grate, of a fire lighter comprising an upright fuel supply pipe, a horizontal feed pipe connected therewith and extending within the ash pit below the fire grate, a lower burner connected with the feed pipe for directing a flame upwardly through the bed of fuel on the fire grate, a branch pipe connected with and extending upwardly from the feed pipe, and an upper burner connected with the branch pipe and extending within and resting on the bottom wall of the draft opening above the fire grate for directing a flame horizontally into the bed of fuel above said fire grate and at right angles to the flame from the lower burner, said upper burner by engagement with the wall of the draft opening serving to support both burners in operative position within the furnace.

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