July 9, 1935. E. H. CARLETON 2,007,292

FIRE KINDLER

Filed Oct. 20, 1932

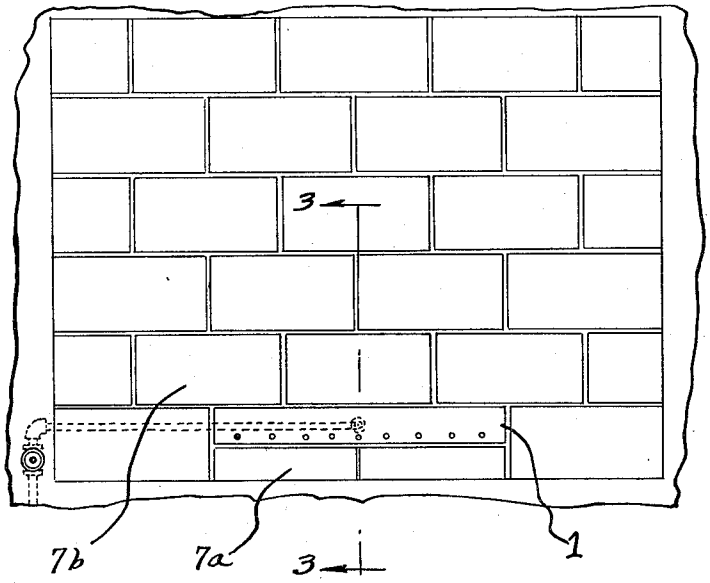


Fig. 1.

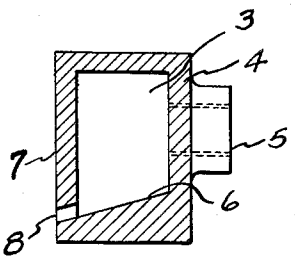


Fig. 2.

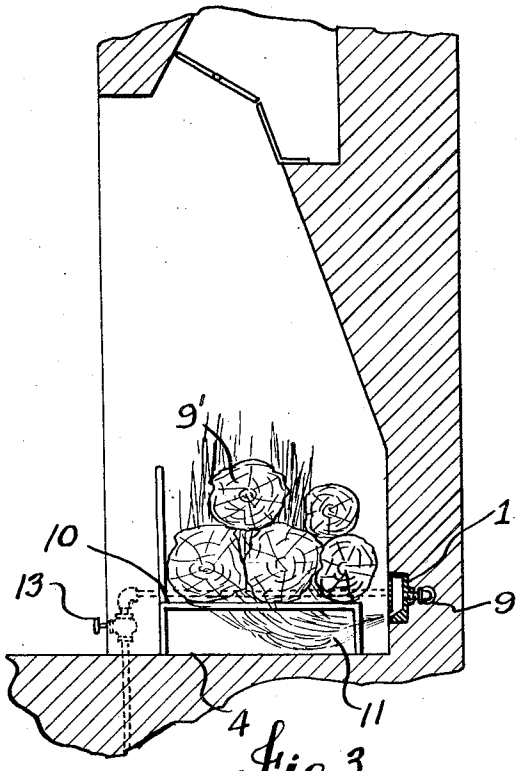


Fig. 3.

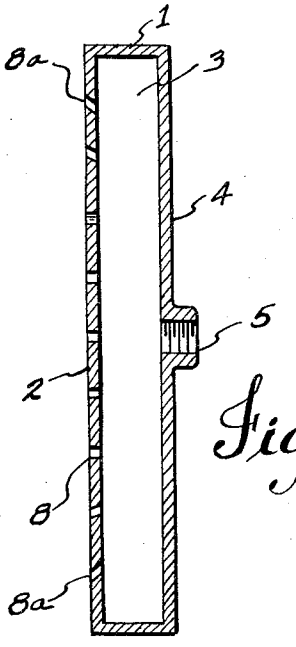


Fig. 4.

INVENTOR.
Earl H. Carleton
BY
Allen & Allen
ATTORNEYS.

Patented July 9, 1935 2,007,292

UNITED STATES PATENT OFFICE

2,007,292

FIRE KINDLER

Earl H. Carleton, Cincinnati, Ohio

Application October 20, 1932, Serial No. 638,727

6 Claims. (Cl. 126—127)

This application is a continuation in part of my application, Ser. No. 588,598, filed February 25, 1932.

My invention relates to devices whereby the direct ignition of fuel may be obtained without the intermediate use of paper kindling, or the like. It is directed particularly to the kindling of fuel in a fire place, such as are commonly employed in residences. It has hitherto been suggested that the use of intermediate kindling fuel could be eliminated by the use of a burner which would cause a gas flame to impinge upon the fuel in the fire place, such, for example, as logs of wood or coal. Andirons are usually provided when logs are to be burned, and for the burning of coal or fuel in similar form there is usually provided either a crate or a basket. In either event, it is possible to locate a gas burner beneath the fuel or fuel holders; but this is unsightly and is inconvenient to use because not only does the burner tend to become clogged by ashes, but also the permanent location of a burner beneath the fuel holding device hinders the removal of ashes and the cleaning of the fire-place.

It is an object of my invention to provide a device which will have none of these disadvantages, which is an integral part of the finished fire-place, and does not in any way detract from the appearance thereof.

It is an object of my invention to avoid the necessity of locating a burner beneath the fuel.

It is another object of my invention to locate a flame-forming device in the rear wall of the fire-place, and to provide means for directing a flame therefrom beneath the fuel.

It is an object of my invention to secure these advantages in a burner or flame forming device which may be located on the rear wall of the fire-place so as not to be interfered with by an accumulation of ashes.

It is a further object of my invention to provide a device which may be installed in the rear wall of a fire-place as an integral unit thereof, and which will preferably be of a size and shape substantially corresponding to the structural units of which the fire-place is made, so that it does not require for its installation any change or cutting of these units, or any particular type of fire brick fittings, or the like.

It is still another object of my invention to produce improvements in a flame forming device for the purpose described.

These and other objects of my invention which will be set forth hereinafter or will be apparent to one skilled in the art upon reading these specifications, I accomplish by that certain construction and arrangement of parts of which I shall now describe a preferred embodiment. Reference is now made to the drawing which forms a part hereof, in which:

Figure 1 is a front elevation of a fire-place with my device installed therein.

Fig. 2 is a cross section of my device taken approximately through the center thereof.

Fig. 3 is a cross section of an exemplary fire place with my device installed therein. This section is taken along the lines 3, 3 in Fig. 1.

Fig. 4 is a horizontal section of my device.

Briefly, in the practice of my invention, I provide a gas manifold or burner which may be set into the rear wall of a fire place above the floor thereof, and which, for the purpose, is made of a size and shape to correspond with the structural units of which the fire place rear wall is made. This manifold or burner has jet forming ports, adapted to direct a stream of gas which may be ignited to form a flame, beneath the fuel to be kindled. Appropriate gas connections are made to my device, and the supply of gas is controlled by a valve, or the like, located preferably in a position of convenient access, preferably at the side of the fire place.

The burner or manifold may be made of various substances, including ceramic materials, but I prefer to make it in the form of a metal casting 1 of generally rectangular cross section. The casting is hollowed in order to form a chamber 3. A threaded connection 5 is provided in the back portion 4 to deliver gas into the chamber. In the front face 2 of the burner there are a plurality of ports 8.

Chamber 3 has a floor 6, which is preferably made to slant from the rear wall 4 toward the face 2; and the ports 8 are preferably so located as to be in line with the declination of this floor. The ports are likewise directed downwardly so that although the burner is located above the floor of the fire place, jets of gas will be directly downwardly beneath the fuel 9 resting upon an appropriate fuel holder or holders 10. Toward the ends of my device the ports 8 may be directed outwardly also, as shown in Fig. 4 at 8a. The construction of my burner, in which the ports are in line with the slanting floor thereof, gives me a construction in which any ashes or other fine material which enters the ports of the burner will be blown out again and will not tend to clog the burner.

Fire places are ordinarily constructed of fire brick or tile of standard sizes. These brick are

laid either face down or face out. Due to the nature of such brick, it is highly inconvenient either to cut or chip them. Consequently my device is preferably made in such a way that it can take the place of a brick or bricks, or follow the natural space left in a structure formed by laying some of the brick one way and some another. Although dimensions are not a limitation upon my invention, I prefer to make the casting or burner 1 of a length equivalent to the length of two bricks, plus the intervening mortar joint. I also prefer to make my device in two different heights. One of these heights will be equivalent to the thickness of a brick, so that my device may be laid in a wall of bricks laid face down and will take the place of one or more bricks. Another of these heights is preferably the difference between the thickness of a brick plus a mortar joint and the height of the face of a brick.

As will be clear from the foregoing description, my device is let into the rear wall of a fire place at the time the wall is being built, although, of course, my device is equally applicable to fire places which are already constructed. In building a fire place, where the bricks are to be laid face down, I prefer to run one course of brick above the floor, and then to run my device in the second course of brick, afterward continuing the building of the fire place wall in the ordinary way. Where the bricks are to be laid face out, as in the Fig. 1, my device may easily be installed by placing it above a partial course of brick laid face down as indicated at 7*a*, the remainder of the bricks being laid face out, as at 7*b*. The height of my device, plus the brick 7*a* and the intervening mortar joint will be the height of the face of the brick 7*b*.

The gas supply line 9 will be connected in the usual way to the portion 5 of my device. There will be a valve 13 of any desired type in the gas line 9 to turn the kindler off and on. The valve may be positioned where the operator desires.

In operation, after a fire has been laid, the gas will be turned on by means of the valve 13, and a match may be applied to the gas flowing out of any of the apertures 8 or 8*a*. Due to the tilted position of the apertures 8, the flame 11 will be projected beneath the fuel and will rise as shown to ignite it. The fuel 9' in Fig. 3 is held above the fire place 4 by the andiron 10. After the fuel has been ignited the gas may be turned off.

Since my device is preferably of a size corresponding to, or of a size to fit in with the bricks or tiles of which the fire place is constructed, it will in no wise mar the appearance of the rear wall of the fire place. It will be obvious also that my device may be finished to look like the bricks or tiles employed, or otherwise, as may be desired.

Modifications may be made in my invention without departing from the spirit thereof.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. A fire place comprising a back wall of brick or tile, a fire kindling device set into and forming a part of said back wall, said device comprising a casing of a size and shape to fit within said wall between uncut bricks therein, means for connecting a supply of gas to said casing, and gas delivery apertures in the exposed portion of said casing adapted to project a flame into said fire place.

2. A fire place comprising a back wall of brick or tile, a fire kindling device set into and forming a part of said back wall, said device comprising a casing of a size and shape to fit within said wall between uncut bricks therein, means for connecting a supply of gas to said casing, and gas delivery apertures in the exposed portion of said casing adapted to project a flame into said fire place, said apertures being directed downwardly.

3. A fire place comprising a floor and a back wall of brick or tile and a kindling device set within said back wall and interspaced from said floor, said kindling device comprising a casing having a chamber, means for connecting a source of gas supply to said chamber, and apertures in said chamber adapted to direct a gas flame downwardly toward said floor.

4. A fire place comprising a wall of brick or tile and a fire kindling device set into said wall and taking the place of at least one brick or tile therein, said kindling device comprising a casing having a chamber, means for connecting a source of gas to said chamber, and a flame hole in said chamber positioned to direct a flame into said fire place.

5. A fire place comprising a wall of fire brick or tile laid face down and a kindling device set into said wall and taking the place of at least one complete brick or tile therein, said kindling device comprising a casing of substantially rectangular form and of a height equivalent to the thickness of one of said bricks or tiles, means for connecting a source of gas to said casing, and means on said casing for directing a flame into said fire place.

6. A fire place having a wall of brick or tile laid face out, said wall comprising in part at least an initial course of brick laid face down, a kindling device set into said wall above said course and of a size and shape equivalent to the difference between the thickness of a brick in said course, plus a mortar joint and the height of a face of said brick, the remainder of the brick in said wall being laid face out, said kindling device comprising a casing of substantially rectangular shape and cross section, a chamber in said casing, means for connecting the source of gas to said chamber, said casing having an exposed face and an opening in said face positioned to direct a flame outwardly into said fire place and downwardly toward the floor thereof.

EARL H. CARLETON.