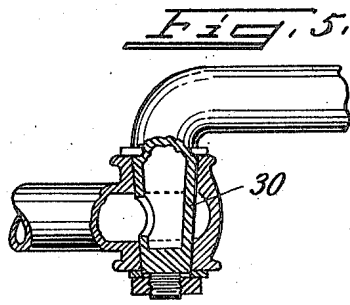
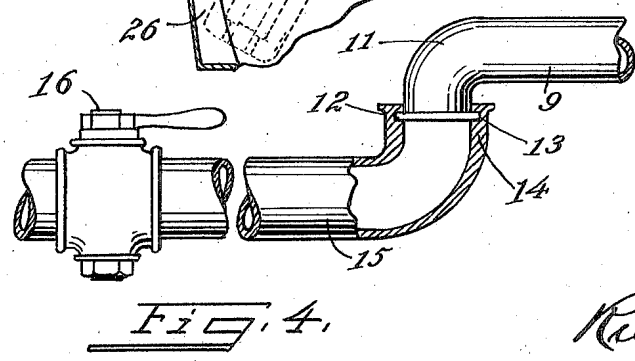
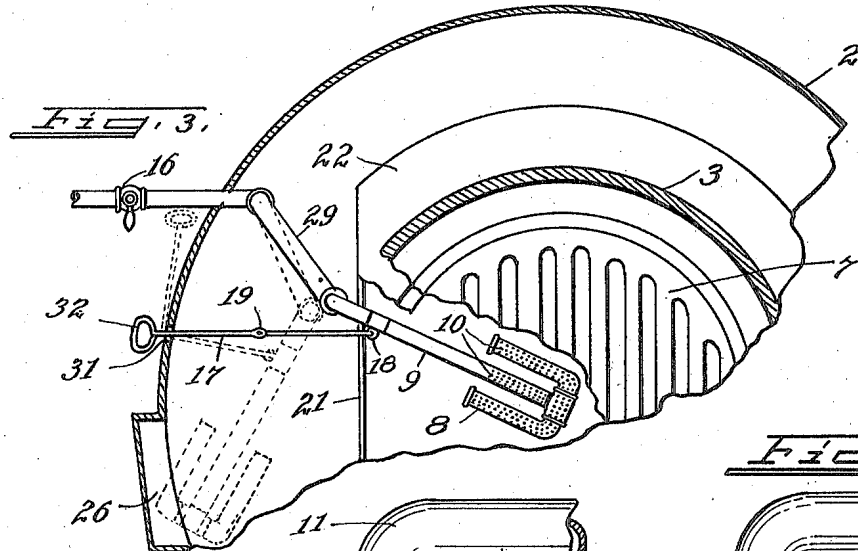
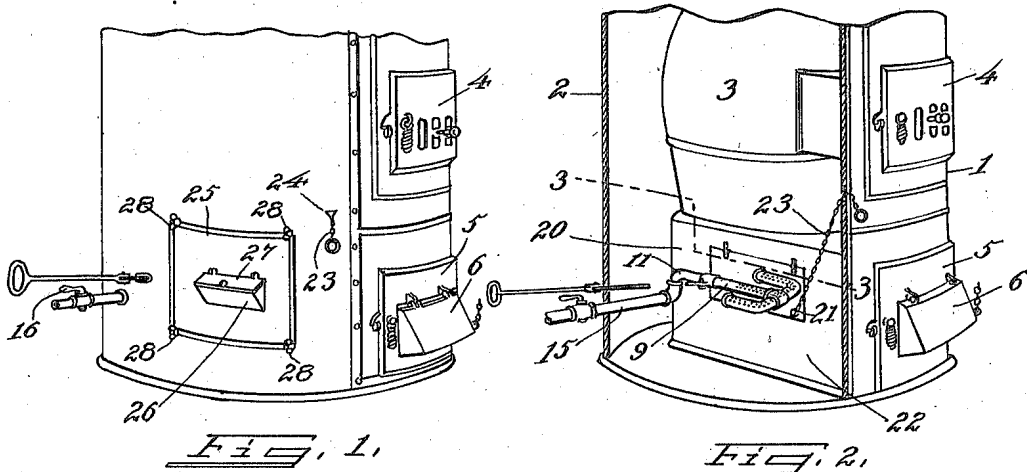


R. B. TOWNLEY,  
 COAL FURNACE LIGHTER.  
 APPLICATION FILED JAN. 22, 1920.

1,393,469.

Patented Oct. 11, 1921.



INVENTOR:

*Richard B. Townley*

*B. James N. Ramsey*

ATTORNEY

# UNITED STATES PATENT OFFICE.

RICHARD B. TOWNLEY, OF CINCINNATI, OHIO, ASSIGNOR OF TWO-FIFTHS TO HARRY F. GRABER, OF CINCINNATI, OHIO.

## COAL-FURNACE LIGHTER.

1,393,469.

Specification of Letters Patent. Patented Oct. 11, 1921.

Application filed January 22, 1920. Serial No. 353,131.

*To all whom it may concern:*

Be it known that I, RICHARD B. TOWNLEY, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Coal-Furnace Lighters, of which the following is a specification.

The object of my invention is to provide quick means of lighting a furnace without the use of paper and kindling wood, to provide a clean and convenient way of lighting a coal or coke fire, and greatly shortening the time required for starting a coal or coke furnace fire.

My invention consists in the construction, combination and arrangement of parts as herein set forth and claimed.

In the drawings which serve to illustrate a preferred construction of my invention:

Figure 1 is a perspective view of part of a furnace showing my invention applied thereto.

Fig. 2 is a similar view of a furnace, with a portion of the outer casing removed to show the position of the lighter and connecting parts.

Fig. 3 is a section taken on a line corresponding to the line 3—3 of Fig. 1.

Fig. 4 is a detail view partly in elevation and partly in section showing the connection between the lighter and gas supply pipe.

Fig. 5 illustrates a modification of the joint shown in Fig. 4.

The furnace 1 when embodying my invention as illustrated in the drawings is provided with the usual furnace casing 2, fire bowl 3, fuel door 4, ash pit door 5, ventilating door 6, and grate 7.

My lighter consists of a U-shape member 8 mounted upon the end of gas tube 9. Said U-shape member and the adjacent end of said gas tube 9 are provided on their upper sides with perforations 10, through which the gas is discharged.

The other end of tube 9 is formed with an elbow 11 having flange 12 which fits into channel 13 in the upturned end 14 of gas supply pipe 15, thereby forming a pivotal connection between gas tube 9 and gas supply pipe 15. A suitable gas cock 16 is provided for turning the gas on and off or limiting its flow. A handle 17 is connected to tube 9 by pivot 18, and is preferably provided

with joint 19 which permits the projecting end of the handle to be swung laterally out of the way against the furnace casing when not in use as indicated by dotted lines in Fig. 3.

A drop door 20 closes passage 21 in the side wall 22 of ash pit and is adapted to be opened by chain 23. When door 20 is drawn upwardly to horizontal position the chain is fastened preferably by engaging one of the links in the V-shaped opening 24.

A door 25 is provided in the casing directly opposite or in front of door 20. Within door 25, I provide pocket 26 to receive the burner for lighting. Said pocket is closed by door 27. Door 25 is provided for the purpose of cleaning the burner and may be secured in position by thumb screws 28.

When the lighter is used in a small furnace, the construction shown in Fig. 2 may be used, but in larger furnaces, I use an additional pivotally connecting tube 29 which will permit the burner to be swung to a point directly below the center of the grate where it is desired to have the fire started. In the smaller sized furnace the lighter will be swung to said central point by the use of the construction shown in Fig. 2.

If desired instead of using the form of joint illustrated in Fig. 4, a tapering joint as illustrated in Fig. 5 may be employed.

It will be noted that handle 17 extends through opening 31, in the casing.

When it is desired to light a coal or coke fire with my lighter, all that is necessary to supply the furnace with a quantity of coal or coke, either large or small, then grasp the handle and draw it outwardly until the burner swings into pocket 26, then lift the door 27, turn on the gas by means of gas cock 16, light the gas burner, push the handle inwardly until the burner reaches a point directly below the center of the grate as shown in Fig. 3. The lighter will quickly light the coal or coke, and when it has been sufficiently started draw the handle outwardly until the burner is near the pocket and the joint in the handle is outside of the casing. This permits the handle to be swung laterally against the side of the furnace.

The handle should be of such length as to bring the handhold 32 just outside the casing when the burner is central of the grate.

This will enable the user to know when the burner is in proper position for lighting the coal or coke.

It will be apparent that my invention is capable of some modification without departure from the scope or spirit of the following claims:

1. A coal or coke lighter within a furnace comprising a vertically perforated U-shaped member, a pivotally mounted gas tube connected to said U-shaped member and having perforations adjacent thereto, a pivotal connection between said tube and the gas supply pipe, a jointed handle adapted to swing said gas burner on its pivot outwardly in position for lighting the gas and then inwardly to near the center of the grate for lighting the coal or coke.

2. A coal or coke lighter within a furnace comprising a burner, a pivotally mounted tube supporting said burner, means for turning the gas on and off, a jointed handle adapted to draw said burner on its pivot outwardly in convenient position for lighting the gas burner and then pushing the burner inwardly to near the center of the grate for lighting the coal or coke.

3. In a furnace having a fire-bowl and grate for coal or coke, a gas supply pipe, a jointed handle, a gas lighter pivotally mounted within the furnace, said jointed handle pivotally connected to said lighter and adapted to move said lighter to near the center of the grate and to draw it outwardly to the furnace casing, whereby said

joint permits said handle to be swung laterally against said furnace.

4. In a furnace having a fire-bowl and grate for coal or coke, a gas supply pipe, means within the furnace for turning the gas on and off, a tube pivotally connected to said gas supply pipe, a gas burner pivotally connected to said pivotally connected tube, and a handle connected to said gas lighter, adapted to be moved to near the edge of the casing and to near the center of the grate, as desired.

5. In a furnace having a fire-bowl and grate for coal or coke, a gas supply pipe, means within the furnace for turning the gas on and off, a pivotally mounted burner connected to said gas supply pipe, a pocket in the wall of said furnace, a door for said pocket, and means for swinging said lighter into said pocket and to the center of the grate, as desired.

6. In a furnace having a fire-bowl and grate for coal or coke, a gas supply pipe, means for turning the gas on and off, a pivotally mounted gas burner connected to said gas supply pipe, a door in the furnace casing, a pocket within said door, a door for said pocket, and means for moving said lighter into said pocket and to the center of the grate.

RICHARD B. TOWNLEY.

Witnesses:

JAMES N. RAMSEY,  
G. L. HORTON.