N. P. CASORSO AND C. VACHER.

NOZZLE.

APPLICATION FILED DEC. 9, 1920.

1,417,031. Patented May 23, 1922.

Fig. 1.

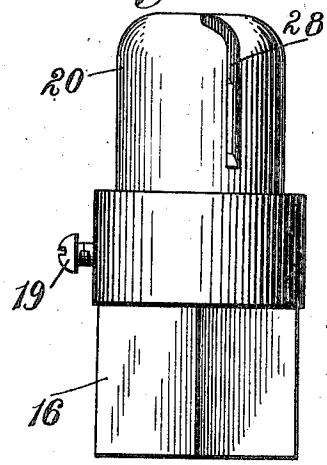


Fig. 2.

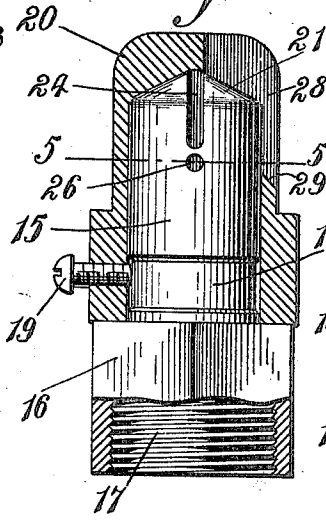


Fig. 3.

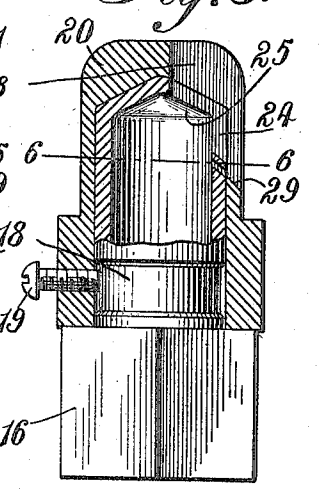


Fig. 4.

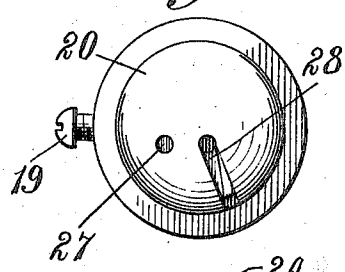


Fig 5.

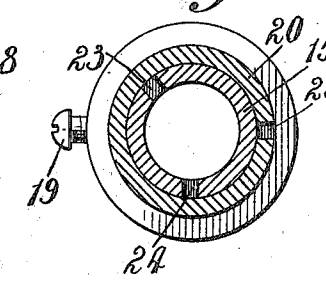


Fig. 6.

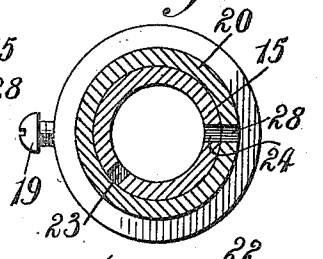


Fig. 7.

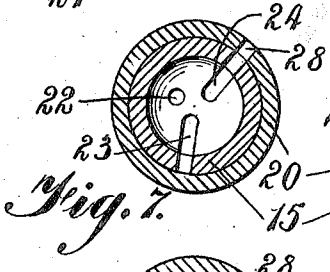


Fig. 8.

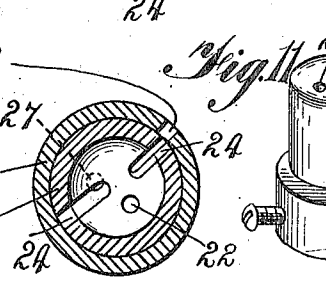


Fig. 11

Fig. 12

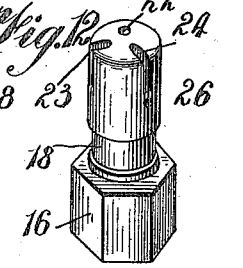


Fig. 9.

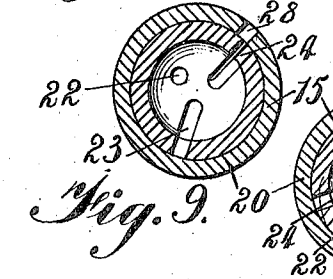


Fig. 10



Inventors
Napoleon Casorso
Clement Vacher

By William Clinton

Attorney

UNITED STATES PATENT OFFICE.

JAMES H. CARMICHAEL, OF CEDAR FALLS, WASHINGTON.

SMOKE-FUEL ATTACHMENT.

1,417,030. Specification of Letters Patent. Patented May 23, 1922.

Application filed November 26, 1920. Serial No. 426,440.

To all whom it may concern:

Be it known that I, JAMES H. CARMICHAEL, a citizen of the United States, residing at Cedar Falls, in the county of King and State of Washington, have invented certain new and useful Improvements in Smoke-Fuel Attachments; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to attachments adapted to be applied to heating stoves and it consists in the novel features hereinafter described and claimed.

An object of the invention is to provide an attachment of simple form adapted to be applied to the smoke pipe of a heating stove at the rear side of the stove and which is designed to conduct air heated by contact with the rear side of the stove into the smoke pipe at a point just above the smoke and gas outlet of the stove body. Consequently the heat and gases rising from the fire or embers in the stove are held back in the body of the stove until the fuel is completely consumed and the heat passes through the side of the stove and hence the greater amount of the heat unit is liberated in the room adjacent the stove in consequence of the burning of the fuel.

In the accompanying drawing:

Figure 1 is a side view of a stove with the attachment applied.

Figure 2 is a vertical sectional view of the attachment.

Figure 3 is a detail side elevation of the hood looking toward the inner surface.

As illustrated in the accompanying drawing the stove 1 is of usual form adapted to burn wood as a fuel and is sometimes known as an air-tight heat stove. The stove body 1 is provided at its top side with a collar 2 which is usually received in the stove pipe. In the present instance and when the invention is applied the stove pipe or smoke pipe 3 is not connected directly with the collar 2 but is connected with the attachment about to be described and said attachment is connected with the collar. The attachment comprises a pipe section 4 one end of which is placed around the collar 2 and the other end receive the smoke pipe 3. The pipe 4 is provided at its rear side and at a point between its ends with a nipple 5. A hood 6 is connected at its upper end with the outer end of the nipple 5 and extends down along the rear side of the stove body 1 and is open at its lower end. The side edges of the hood 6 converge toward each other from the lower edge of the hood to the point of attachment where the hood joins with the nipple 5 and the edges of the hood bear directly against the rear side of the stove body 1 and intermediate portion of the hood is spaced therefrom.

Consequently when a fire is started in the stove body 1 and the attachment is applied as hereinbefore described air from the exterior passes up along the rear side of the stove body 1 and between the rear side of the stove body and the intermediate portion of the hood 6. This air is heated and passes up the nipple 5 and enters the pipe 4 at a point between the ends thereof and comes in contact with the gases and flame from the fuel which is being burned in the stove body 1. This heated air is ignited in the pipe 4 inasmuch as an additional supply of fresh oxygen is brought in contact with the heated gases and flame and the products of combustion pass up through the pipe 3 and out through the flue in the usual manner and the combustion which occurs in the pipe 4 additionally heats the pipe 4 and smoke pipe 3. At the same time the gases from the fuel in the body 1 are held back and circulate around in the body 1 and pass through the fuel and are reignited which results in a complete consumption of the fuel and the heat therefrom passes through the sides of the body 1 and radiates it to the room or compartment in which the stove is located. Therefore it will be seen that by using a minimum quantity of fuel a maximum amount of heat units may be extracted from the same and liberated in the vicinity of the stove.

Having thus described my invention, what is claimed is:—

1. A ventilating attachment for a stove consisting of a casing formed with a back and two side flanges and adapted to fit against one end of the stove to serve as an air passageway, the upper end of said casing having an elbow, and a pipe section having a laterally extending nipple in telescopic engagement with the upper end of said elbow.

2. The combination with a stove having

end 21 provided with an opening 22 which leads axially through the said nozzle 15, while a pair of slots 23 and 24 are formed in the end of the nozzle 15 leading both through the end and the side thereof and communicating with the interior pump 25. The slot 24 has positioned below the lower end thereof at a downwardly inclined angle an opening 26.

It will be noted that the outer end of the slot 24 is also inclined in the same direction as the opening 26 for a purpose to be later explained.

The cap 20 is provided with an opening 27 which is adapted to align with the before described opening 22 formed in the end of the nozzle 15, while a slot 28 is also formed therein for registration with the before described slots 23 and 24. The slot 28 is likewise of a sufficient length to register with the opening 26, which opening 26 is for the purpose of throwing the water into the centre at a radius of from 1 to 3 feet at an extremely low pressure of from 1 to about 10 pounds, while the edge thereof is beveled as at 29 at the same angle as the adjacent end of the slot 24 and opening 26.

When the cap 20 is rotated to the position shown in Figure 7, the slot 23 aligns with the slot 28, while the opening 22 formed in the end of the nozzle aligns with the opening 27 formed in the cap. This permits a maximum amount of water to be forced from the nozzle by the water pressure within the source of supply, the water from the nozzle will likewise be thrown to the widest degree.

When the cap 20 is turned to the position shown in Figure 8, the passage through the slot 28 will be partially cut off, as will also the opening 27. This will conform to a lesser water pressure within the source of water supply. In Figure 9, the opening 22 through the cap is entirely closed, while the slot 28 is still further cut off, while in Figure 10, the opening 27 is likewise entirely cut off and the slot 28 closed to a still greater degree, which is the set position for extremely low pressure.

If desired, the cap 20 may be provided with suitable indication marks shown at 30 so this supply of water from the nozzle can

what we claim as new and desire to protect by Letters Patent is:—

1. The combination with a nozzle, of a cap rotatably mounted thereon, said nozzle having a pair of elongated slots formed in the end thereof and extending a distance through the side thereof, said nozzle having a pair of circular openings formed in the end and side thereof and the said cap having an elongated slot formed in the end and extending through one side thereof and a circular opening for registration with the slots and openings in the nozzle to regulate the force of water passing therethrough and direct the stream of water either forward or to the side respectively of the nozzle as required.

2. The combination with a nozzle, of a cap mounted for rotation thereon, said nozzle having a pair of elongated slots formed in its side wall and extending into the end thereof, said nozzle having a circular aperture in the end thereof and a second opening formed adjacent and below one of the said slots, and the cap having a corresponding elongated slot in its side and end and a circular opening formed in its end, the slot and opening in the cap designated to register with the slots and openings formed in the nozzle upon rotation of the cap for regulating the flow of water passing through said slots and openings and directing and regulating the stream of water forwardly and to one or both sides respectively of the nozzle, substantially as and for the purpose specified.

3. The combination with a nozzle having an annular groove, of a cap mounted for rotation upon said nozzle, a screw carried by said cap and engaging said groove to prevent displacement of the cap from said nozzle, said nozzle having a pair of elongated slots formed in the end and extending through the side of said nozzle for directing the stream of water forwardly and to one side, said nozzle also having a circular opening formed in the end of the nozzle for directing the flow of water forwardly and a circular opening formed in the side of said nozzle and below and adjacent one of the elongated slots for directing the water to one side and the cap having a circular opening formed in its