J. H. CARMICHAEL.

SMOKE FUEL ATTACHMENT.

APPLICATION FILED NOV. 26, 1920.

1,417,030. Patented May 23, 1922.

FIG. 1.

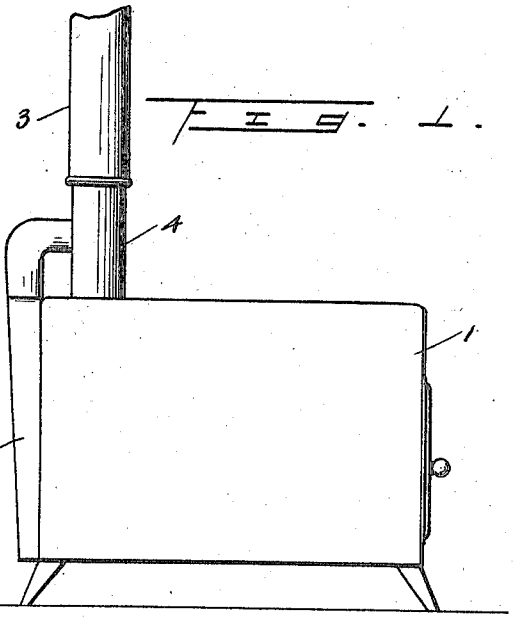



FIG. 3.

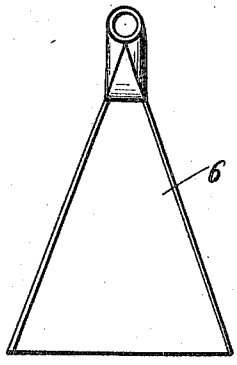
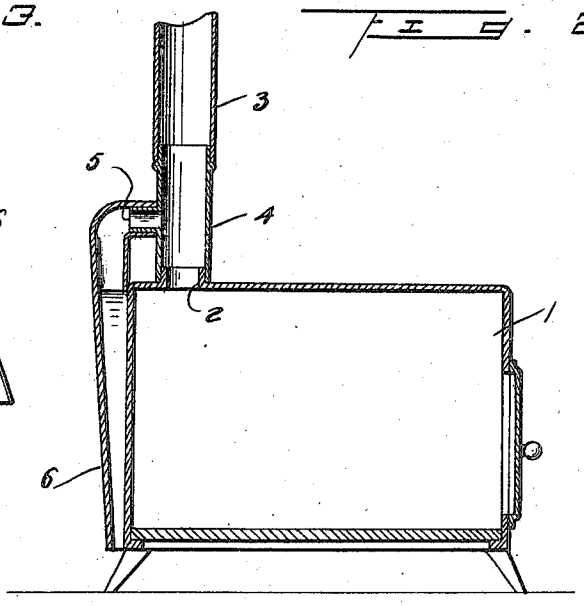



FIG. 2.




J. H. Carmichael INVENTOR.

BY

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

an upwardly extending collar, of a ventilating attachment consisting of a casing formed with a back and two substantially vertical side flanges adapted to fit against one end of the stove to serve as an air passageway, the upper end of said casing having an elbow projecting above the top of the stove, a pipe section in telescopic relation with said collar, a laterally extending nipple on said pipe section, and the upper end of the elbow telescopically engaging said nipple.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES H. CARMICHAEL.

Witnesses:
T. B. PECK,
HENRY BOSHART.