No. 760,262. PATENTED MAY 17, 1904.

W. G. SHOALS.

STOVE ATTACHMENT.

APPLICATION FILED APR. 29, 1903.

NO MODEL.

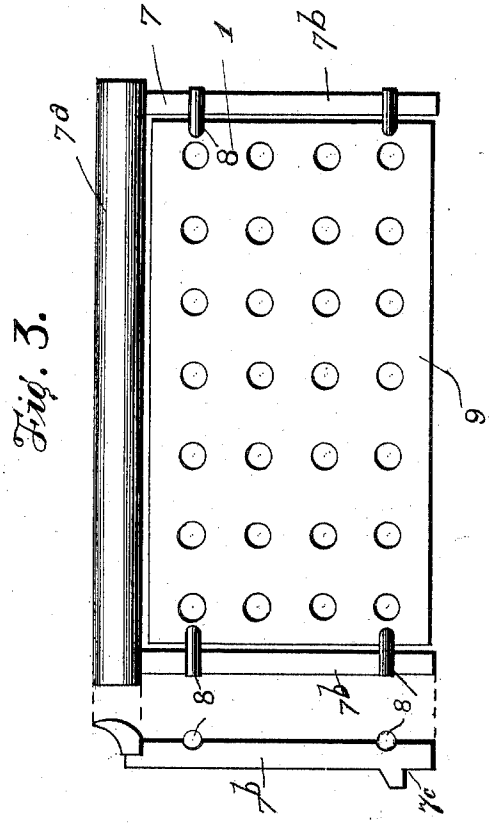


Fig. 3.

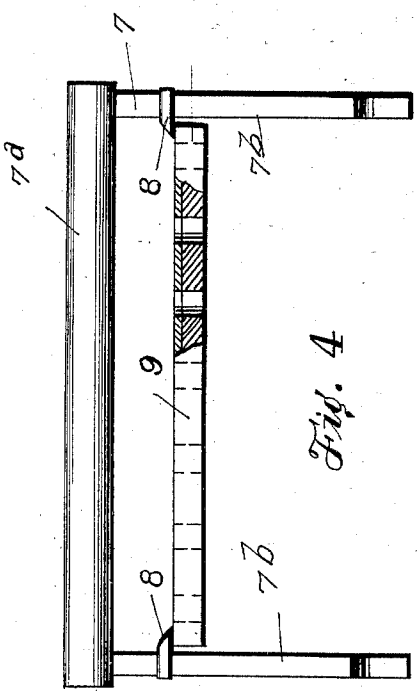


Fig. 4

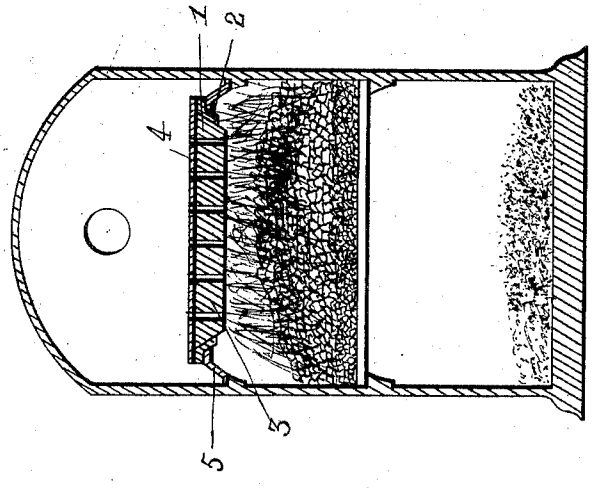


Fig. 1.

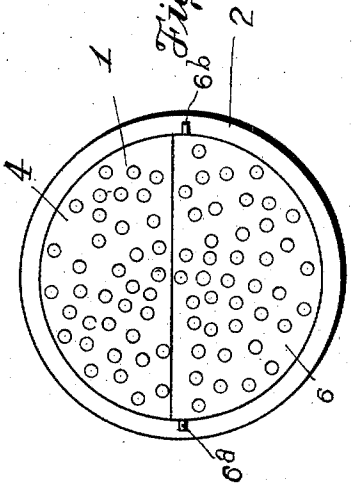


Fig. 2.

Witnesses
Evert Palmer.
Ella L. Corbett

Inventor,
William G. Shoals,
By Edson Bros.
Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 760,262. Patented May 17, 1904.

UNITED STATES PATENT OFFICE.

WILLIAM G. SHOALS, OF UTICA, NEW YORK.

STOVE ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 760,262, dated May 17, 1904.

Application filed April 29, 1903. Serial No. 154,383. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM G. SHOALS, a citizen of the United States, residing at Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Stove 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.

My invention relates to fire-pots of stoves, furnaces, &c. Its object is to provide a device for burning gas that usually escapes from a fire, thereby effecting perfect combustion. By the use of my device the consumption of coal is greatly reduced and the heat evolved is much greater, while there is no danger of an explosion arising from its use, as is often the case with such devices.

In the accompanying drawings, illustrating the preferred embodiment of my invention, Figure 1 is a cross-sectional view of a furnace, showing my improved fire-plate in place. Fig. 2 is a plan view of my improved plate as used in a furnace. Fig. 3 is a view of one of my plates adapted for use in a stove, together with its supporting-frame. Fig. 4 is a similar view showing the plate raised in position for putting on coal.

Referring more particularly to the drawings, 1 is my improved plate, which is formed of a tapering iron rim or casing 2, embracing a perforated layer of fire-brick 3, the whole being covered by the iron plate 4, having perforations therein corresponding to those in the layer of fire-brick. Said frame 1 rests upon the circular frame 5 and is divided into two parts near its diameter, the forward portion 6 having projecting lugs or pins 6^a at or near the opposite extremities of its straight edge which are adapted to move in corresponding bearings or sockets 6^b in the rim 2, whereby said forward portion may be swung upward and backward for putting coal on the fire, the lugs 6^a acting as pivots or hinges.

In applying my plate to a stove I provide in place of the frame 5 a rack or frame having a front flange 7^a, which rests upon the upper edge of the fire-brick lining of the fire-pot, and side pieces 7^b, each having a niche or notch 7^c in its lower edge at its extreme rear end which engages the upper edge of the fire-brick lining at the back of the fire-pot and secures said frame firmly in place. The side pieces 7^b have grooves in their upper edges to receive lugs or pins 8 on the plate 9, which plate is of the same general construction as that shown in Fig. 2, with the exception that it is made in one section. To replenish the fire, the plate is swung upward and backward on the rear pair of lugs as pivots.

One of the principal advantages of my device is that it is so arranged that the gas from the fire, which ordinarily passes off through the smoke-pipe, is ignited as soon as it reaches the plate, thus causing a perfect secondary combustion in the space above the plate, which creates more heat with the use of less coal. The ignition of gas as soon as it reaches the plate is due to the fact that said plate is placed in juxtaposition or immediately upon the fire, which causes the fire-pot to act as a retort, causing the fire to bake upon the top, so that only as much gas will be emitted as can be consumed. This insures against the escape of gas into the room, making it safe to keep a coal fire in a sleeping apartment. It also prevents the escape of gas into the chamber above the fire-pot, where it would either explode when said chamber is heated to a sufficiently high temperature or, if the damper is open, would pass up the chimney unconsumed.

My plate can be applied to all styles of stoves, furnaces, boilers, &c., at a minimum cost without in any way conflicting with their operation, and when so applied there will be a plurality of gas-jets, one from each perforation in the plate, projecting from two to four inches into the upper chamber, which will greatly increase the heating capacity of the stove, furnace, boiler, &c. I have also observed that when soft coal is used the chimney does not emit the black smoke which it does when my plate is not used.

It is to be understood that I do not limit myself to the details shown herein, as they may be changed at will and the spirit of my invention remain intact and be protected.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

1. A plate adapted to rest above the fire-pot of a fuel-burning apparatus, said plate being formed of a rim inclosing a layer of perforated fire-brick and a metal plate covering said layer of perforated fire-brick, having perforations therein corresponding to those in said fire-brick.

2. The combination with the fire-pot of a fuel-burning apparatus, of a plate adapted to rest above said fire-pot, said plate being formed of a rim inclosing a layer of perforated fire-brick and a metal plate covering said layer of fire-brick having perforations therein corresponding to the perforations in said layer of fire-brick.

3. The combination with the fire-pot of a fuel-burning apparatus, of a plate adapted to rest above said fire-pot, and supports for said plate, said plate being formed of a rim inclosing a layer of perforated fire-brick and a metal plate covering said layer of fire-brick having perforations therein corresponding to the perforations in said layer of fire-brick.

4. In a device of the character described, the combination with a fire-pot of a fuel-burning apparatus, of a perforated plate adapted to rest above said fire-pot and a frame adapted to hold said plate in place, said plate being formed of a rim inclosing a layer of perforated fire-brick and a metal plate covering said layer of fire-brick having perforations in said layer of fire-brick, and having lugs or pins engaging sockets in said frame whereby said plate may be swung upward and backward to permit the introduction of fuel upon the fire.

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

WILLIAM G. SHOALS.

Witnesses:

DENNIS J. KELLY,

T. W. FOGARTY.