

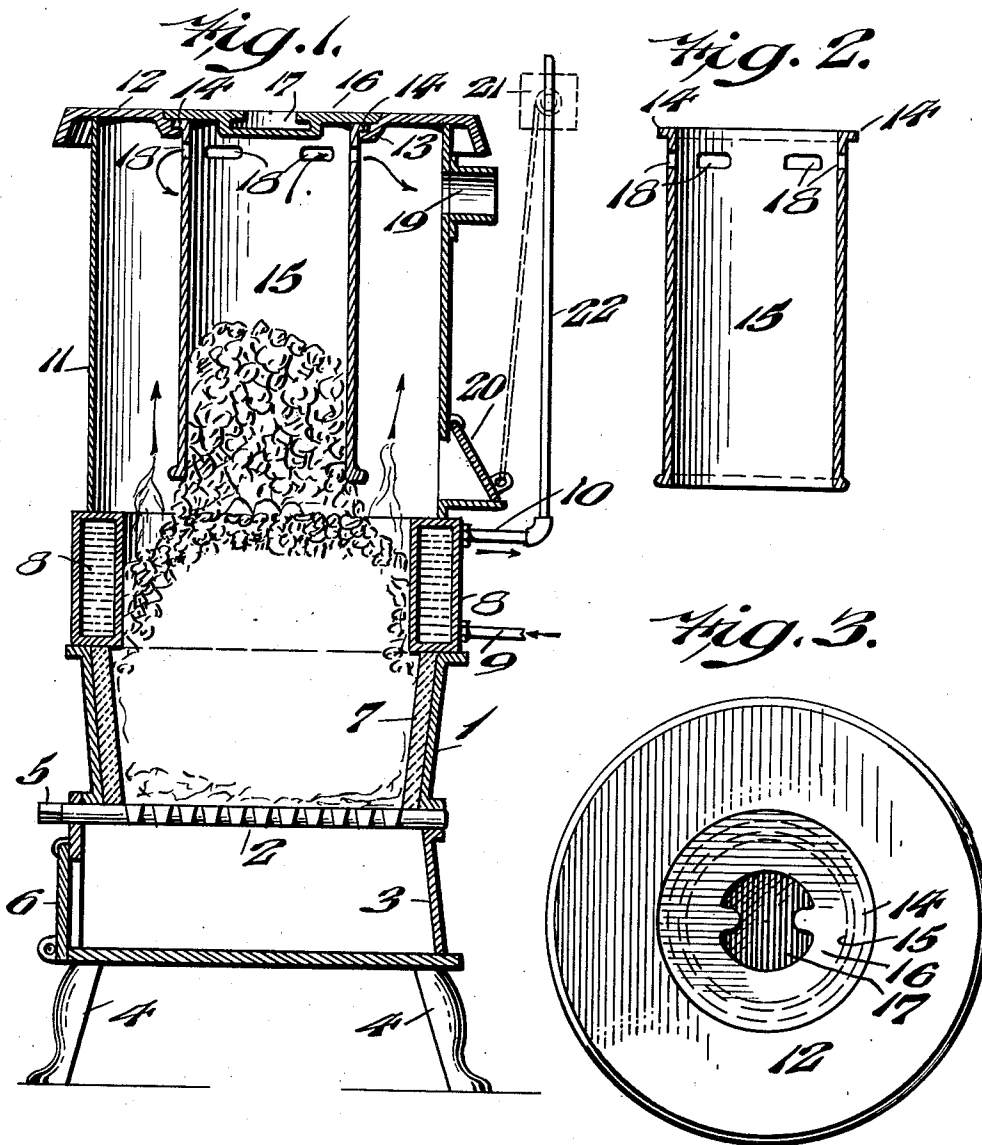
Oct. 19, 1937.

A. H. PEARSON

2,096,467

HEATER

Filed May 26, 1936



INVENTOR
ALBERT H. PEARSON,
BY *Louis Necks*
ATTORNEY

UNITED STATES PATENT OFFICE

2,096,467

HEATER

Albert H. Pearson, Norristown, Pa.

Application May 26, 1936, Serial No. 81,790

1 Claim. (Cl. 122—30)

My invention relates to a new and useful heater of the type generally used for generating domestic hot water and in which an inexpensive grade of coal generally known as "Buckwheat" or "Rice" coal is utilized.

My invention further relates to a heater of this character in which a removable feed magazine is provided so as to render it necessary to charge the heater with green coal only once in twenty-four hours or so, the operation of the heater, as to regulation of the heat of the water and as to the burning of the coal, being entirely automatic.

Various heaters of this kind have heretofore been made and sold but it has been my observation that, where heaters of this character possess sufficient efficiency, their operation and structure was either expensive or complicated, and vice versa, and it is therefore a further object of my invention to produce a heater which is of an extremely simplified construction thereby eliminating all necessity for replacement and repair and enabling me to produce a heater, which, while possessing the features of advantage above enumerated, is nevertheless very inexpensive to manufacture, sell and operate.

My invention still further relates to a heater of this character, which, by its construction, produces combustion primarily and mainly around the periphery of the fire pot where the fire is directly in contact with a water jacket and discourages or eliminates active combustion in and around the center of the pot thereby increasing the efficiency of the heater.

In the accompanying drawing;

Fig. 1 represents a vertical, sectional view of a heater embodying my invention.

Fig. 2 represents a vertical, sectional view of a feed magazine removed from the heater.

Fig. 3 represents a plan view of Fig. 1.

Referring to the drawing in which like reference characters indicate like parts 1 designates a fire pot which is provided with a bottom grate 2 and which rests upon the ash pit 3 which may or may not be supported by the legs 4. The grate 2 is provided with the usual handle 5 for rocking the fire, and 6 designates the conventional clean-out door. The fire pot 1 is provided with a suitable refractory lining 7 which is made of fire brick, or the like, and resting on the fire pot 1 and the lining 7 is the water jacket 8 which is provided with the cold water inlet 9 and the hot water outlet 10. Extending above the water jacket 8 is a casing 11 which is provided with a top 12 which has the annular seat 13 which engages the annular flange 14 of the removable feed magazine 15. 16 designates

a lid provided with the shoulder 17 adapted to be engaged by a handle for removing the same when it is necessary to refill the feed magazine 15. 18 designates outlets leading from the top of the feed magazine 15 into the annular chamber formed between the casing 11 and the feed magazine 15. 19 designates a stack and 20 designates a damper which, if desired, may be operated by any suitable thermostatic element 21 to open or close the damper 20 in accordance with the heat of the water in the delivery pipe 22. Inasmuch as devices of this character, known as aquastats, are well known on the market, it is deemed unnecessary to illustrate or describe the heat regulating element in further detail.

The operation is as follows:

A fire is started initially in the fire pot 7 and, after the fire has taken a hold, the feed magazine 15 is filled with coal and the lid 16 is placed in position as shown in Fig. 1. As the coal in the fire pot 7 burns and turns to ashes it practically automatically falls through the grate 2 into the chamber 3 thus making room for and permitting the gravitational movement of the coal from the feed magazine 15 into the combustion chamber. Due to the fact that the coal is piled in the feed magazine, and to the fact that there is no draft through the feed magazine, the coal in the feed magazine does not burn until it has entered the fire pot 7. Furthermore, due to the fact that the green coal in the feed magazine 15 obstructs the center part of the fire, the combustion takes place practically exclusively along the periphery of the fire pot where the flames produced are in direct contact with the water jacket 8. The holes 18 in the feed magazine 15 serve to allow any gases that may be generated from the coal in the feed magazine to escape into and out through the stack 19. The intensity of the fire can be regulated by opening or closing the damper 20, it being understood that when the damper 20 is opened the air is by-passed therethrough and out through the stack 19 thus cutting the draft on the fire itself, and vice versa.

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

A heater comprising a combustion chamber, an annular water jacket surrounding said combustion chamber, an outer casing above said water jacket and having a damper near the bottom of said casing a stack near the top thereof, there being an opening having an annular seat therein formed in the top of said casing, a feed magazine of a slightly smaller diameter than the inner

diameter of said combustion chamber and of a length slightly shorter than the length of said outer casing, a flange formed on the upper rim of said feed magazine for engaging said annular seat whereby said magazine may be removably suspended within said outer casing, there being smoke outlets formed in the top of said feed magazine leading into the upper portion of said outer casing, and means controlled by the temperature of the water for opening and closing said damper.

ALBERT H. PEARSON.