Y. P. ANDERSEN.

WATER HEATER.

APPLICATION FILED MAY 19, 1919.

1,319,555.

Patented Oct. 21, 1919.

2 SHEETS—SHEET 1.

Fig. 1.

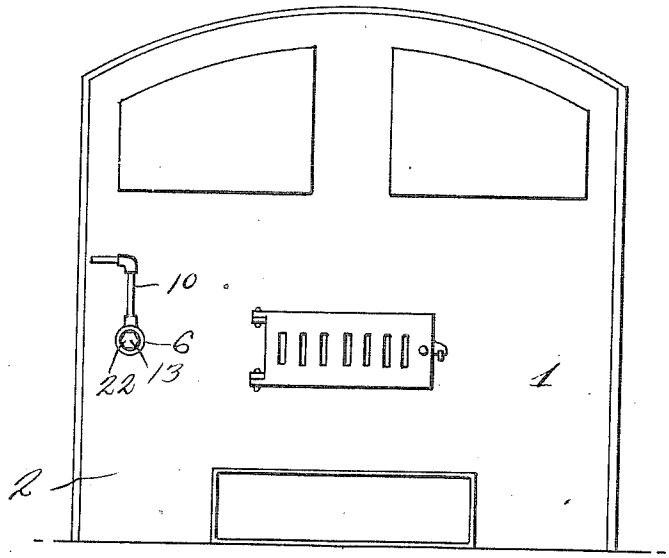
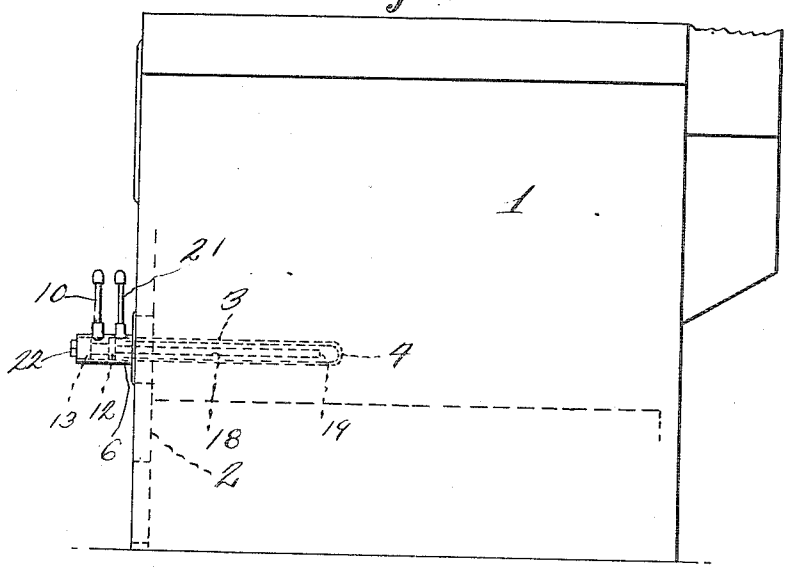


Fig. 2.



Inventor

Y. P. Andersen

By D. Swift

his Attorney

Y. P. ANDERSEN.

WATER HEATER.

APPLICATION FILED MAY 19, 1919.

1,319,555.

Patented Oct. 21, 1919.

2 SHEETS—SHEET 2.

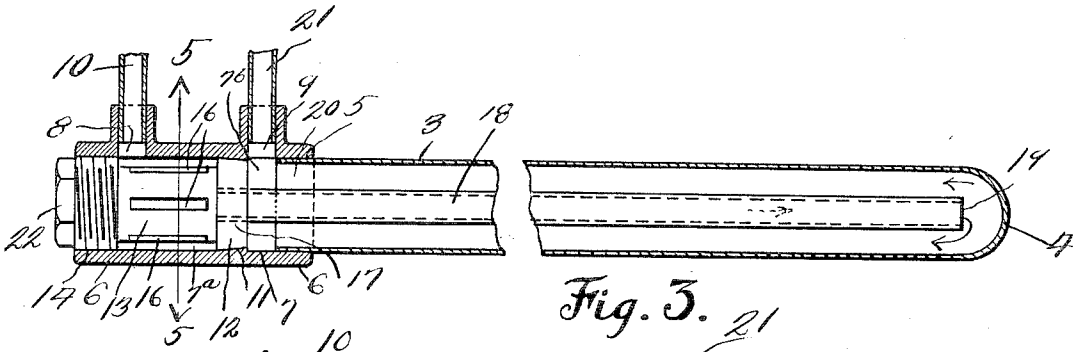


Fig. 3.

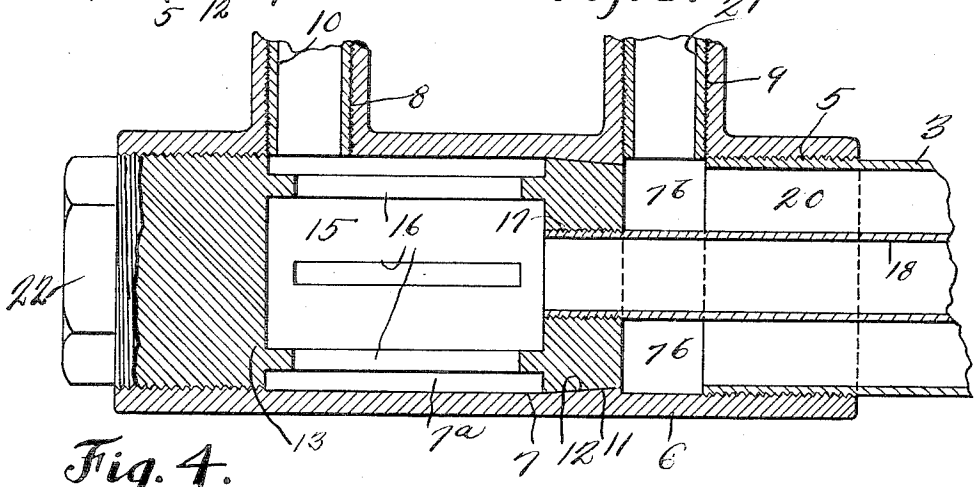


Fig. 4.

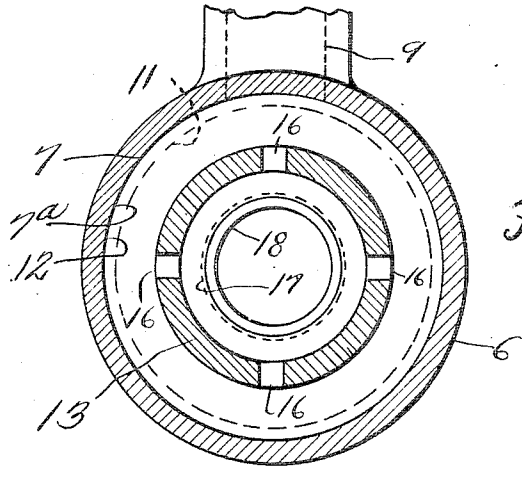


Fig. 5.

Inventor

Y. P. Andersen

By D. Swift

Attorney

UNITED STATES PATENT OFFICE.

YENS PEDER ANDERSEN, OF DE KALB, ILLINOIS.

WATER-HEATER.

1,319,555. Specification of Letters Patent. Patented Oct. 21, 1919.

Application filed May 19, 1919. Serial No. 298,113.

To all whom it may concern:

Be it known that I, YENS PEDER ANDERSEN, a citizen of the United States, residing at De Kalb, in the county of Dekalb, State of Illinois, have invented a new and useful Water-Heater; 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.

The invention relates to water heaters and has for its object to provide a heater of this character which may be easily and quickly attached to a conventional form of furnace, and to so construct the attachment that a circuit of water may be passed through the same during which passage the water will be thoroughly heated.

A further object is to provide a water heater comprising a body member, said body member having a tubular member having a closed end which closed end is adapted to pass through the wall of the furnace into the fire box, and to provide the body member with a tube which tube is normally disposed axially in the tubular member having a closed end and to provide the body member with openings through which cold water passes into the axially arranged tubular member and is discharged from said tubular member into the tubular member having a closed end, the water passing through the same longitudinally and discharged through an opening of the body member.

With the above and other objects in view the invention resides in the combination and arrangement of parts as hereinafter set forth, shown in the drawings described and claimed, it being understood that changes in the precise embodiment of the invention may be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings:—

Figure 1 is a front elevation of a conventional form of furnace showing the water heating attachment applied thereto.

Fig. 2 is a side elevation of the furnace and water heating attachment.

Fig. 3 is a longitudinal sectional view through the water heating attachment, showing parts in elevation.

Fig. 4 is an enlarged sectional detail view through the intake and discharge end of the attachment.

Fig. 5 is a sectional view taken on line 5—5 of Fig. 3.

Referring to the drawings, the numeral 1 designates a conventional form of furnace through the front face 2 of which the tubular member 3 is passed and secured in any suitable manner. The tubular member 3 has its inner end 4 closed and is adapted to be disposed within the fire box of the furnace. The outer end of the tubular member 3 has threaded thereon as at 5 a casting 6, which casting is provided with a chamber 7, and in communication with said chamber is intake port 8 and an outlet port 9. Threaded in the port 8 is an intake pipe 10, which may lead to any suitable supply of water and through which cold water is conducted to the chamber 7. A ground seat 11 is provided in the chamber 7 and is adapted to be coöperated with by the flange 12 of the plug 13, which plug is threaded as at 14 into the end of the casting 6 thereby closing said end and at the same time by means of the valve end 12 being in contact with the valve seat 11 thereby dividing the chamber 7 into compartments 7^a and 7^b. The plug 13 is provided with a chamber 15 which chamber is in communication with the chamber 7^a by means of a series of slots 16 and through which slots water passes from the supply port 8 to the chamber 15. Threaded as at 17 into the head of the plug 13 and extending axially therefrom is a tube 18 which tube is axially disposed in the tubular member 3 and has its outer end 19 open. The water passes through the tube 18 and thence outwardly through the end 20 of the tubular member 3 into the chamber 7^b, from which chamber the water in its heated condition passes through the port 9 in the casting 6 and through a pipe 21 which may conduct the warm water to any part of the building desired.

It will be seen that a continuous circuit of water is carried into the fire box of the furnace, thence discharged so that the heated water will return through the apparatus in such a manner that said water will be in contact with the tubular member which is in direct contact with the heat, or fire within the furnace. It will also be seen that the water to a certain extent is preheated in its course into the furnace by the water that is leaving the furnace.

When it is desired to clean the water

heater all that will be necessary is to place a wrench upon the hexagonal head 22 of the plug 13 and unscrew the plug from the casting 6, at which time the plug may be easily removed from the casting which will also bring out the tubular member 18 with the plug.

The invention having been set forth what is claimed as new and useful is:—

1. A water heater for furnaces comprising a casting having a chamber therein, a tubular casing connected to one end of said chamber and having its end closed, an intake port in communication with one end of said chamber and an outlet port in communication with the other end of said chamber, a hollow plug valve member disposed in said chamber and dividing said chamber into compartments between the intake and outlet ports, said hollow plug having ports of communication with the intake chamber end, an axially disposed tube carried by the inner end of the hollow plug and having its outer end disposed adjacent the closed end of the tubular casing.

2. A water heater for furnaces comprising a casting having a chamber therein, a tubular casing connected to one end of said chamber and having its end closed, an intake port in communication with one end of said chamber and an outlet port in communication with the other end of said chamber, a hollow plug disposed in said chamber and having a ground joint bearing at its forward end with the inner wall of the chamber at a point between the intake and outlet ports, the central body of said plug being reduced and having ports of communication between the intake and the interior of the hollow plug, the outer end of said plug being threaded in the outer end of the chamber, a tubular member carried by the forward wall of the plug, said tubular member being axially disposed relative to said plug and axially disposed within the tubular casing and having its end terminating adjacent the closed end of the tubular casing.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

YENS PEDER ANDERSEN.

Witnesses:
L. SHERER,
B. H. CLARK.