May 22, 1923. 1,456,472

H. E. STEIN

WALL HEATER

Filed Dec. 11, 1922

Fig 1.

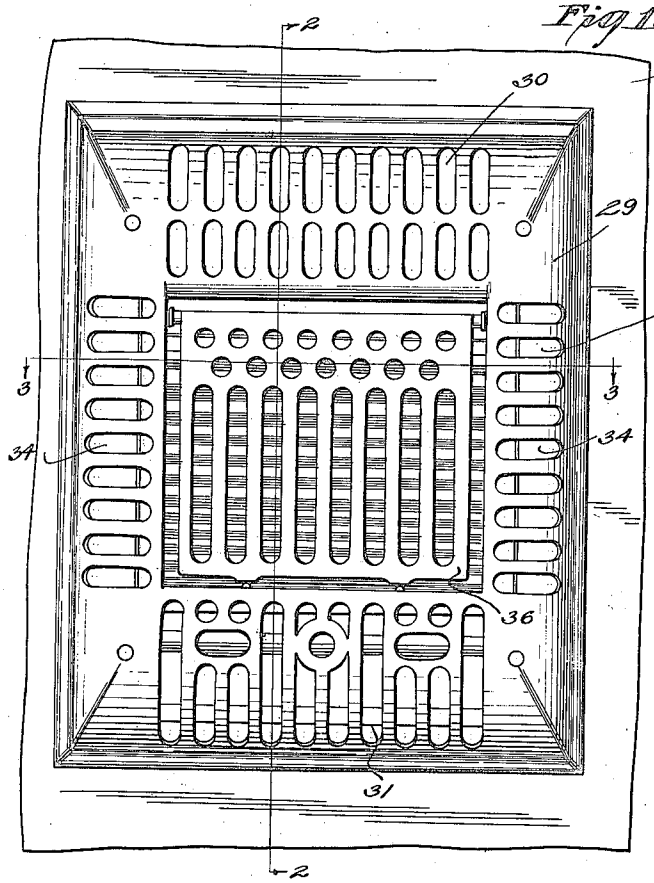



Fig 2.

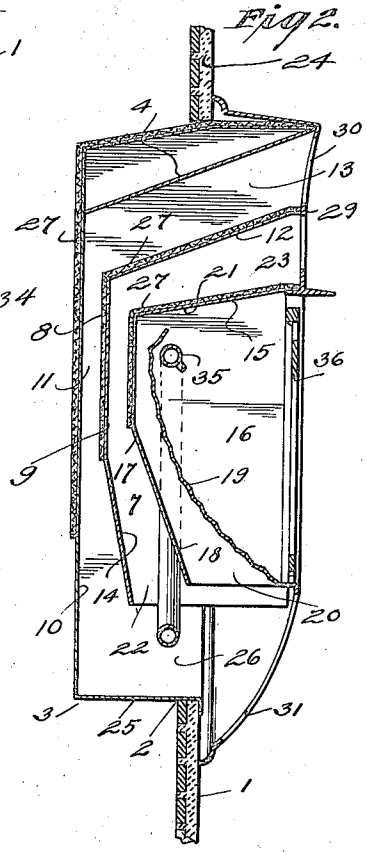
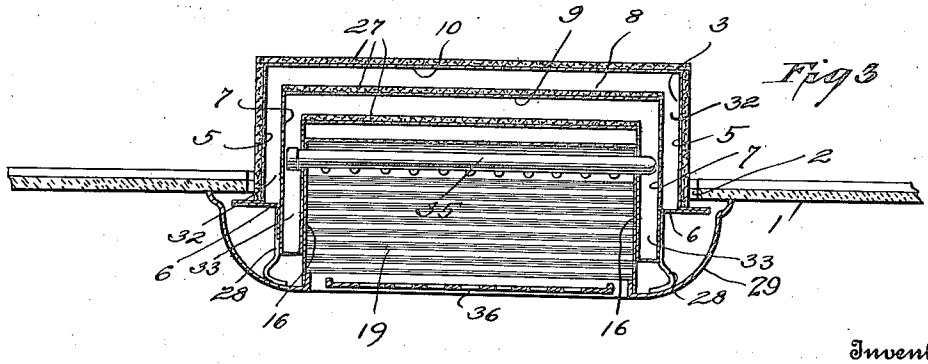



Fig 3

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# UNITED STATES PATENT OFFICE.

HENRY E. STEIN, OF COLUMBUS, OHIO, ASSIGNOR TO THE QUAD STOVE MFG. CO., OF COLUMBUS, OHIO, A CORPORATION OF OHIO.

## WALL HEATER.

Application filed December 11, 1922. Serial No. 606,335.

*To all whom it may concern:*

Be it known that I, HENRY E. STEIN, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Wall Heaters, of which the following is a specification.

The present invention is directed to improvements in wall heaters, and has for its primary object to provide a device of this character which can be conveniently secured in an opening in a wall of a room, and when in place therein will effectively heat the room.

A further object of the invention is to provide a wall heater so constructed that a cold air from the room will be compelled to circulate around the heating unit and will be projected into the room after being thoroughly heated by the circulation.

A still further object of the invention is to provide a heater constructed in such manner that the danger of the heat therefrom setting fire to the adjacent wall parts will be positively eliminated.

With these and other objects in view, as will appear as the description proceeds, the invention consists in the novel features of construction, combinations of elements and arrangements of parts, and hereinafter to be fully described and pointed out in the appended claim.

In the accompanying drawing:

Figure 1 is a front view of the heater showing it in place,

Figure 2 is a sectional view on the line 2—2 of Figure 1, and

Figure 3 is a sectional view on the line 3—3 of Figure 1.

Referring to the drawing 1 designates a portion of a wall, and 2 an opening formed therein, said opening being preferably rectangular in shape so as to receive the similar shaped metallic casing 3, said casing having secured in its upper end an upwardly and outwardly inclined plate 4.

Secured to the front edges of the sides 5 of the casing 3 are vertically extending angle strips 6, said strips having secured thereto the forward ends of the sides 7 of the casing 8, the back 9 of said casing being spaced from the back 10 of the casing 3 so as to provide a passageway 11, there being a top wall 12 secured to the upper edges of the sides 7 of the casing 8, said top wall being inclined in the same direction as the plate 4, so as to provide an inclined passage 13, which has its outer end opening into the room. It will be further observed that the back wall 9 is inclined downwardly and forwardly, as at 14. The burner chamber 15 comprises side walls 16, and a rear wall 17, the latter being inclined downwardly and forwardly as at 18, there being mounted in the burner chamber a deflecting plate 19, which is spaced from the wall 17 to provide a passageway 20, and since the upper end of the plate 19 is spaced from the top wall 21 of the burner chamber it will be obvious that air can pass from the upper end of the passage 20 and into the burner chamber.

By arranging the walls 9 and 17 as shown a passage 22 is provided which communicates with a passage 23 formed between the walls 12 and 21.

It will be observed that the outlet openings of the passages 13 and 23 are spaced from the wall structure 24, and it will be further observed that the lower ends or the inlet ends of the passages 20 and 22 are spaced above the bottom wall 25 of the casing 3 so as to provide an air chamber 26.

The casings 3 and 8 are covered with sheets of asbestos 27, as also the burner chamber 15 which will eliminate any possibility of the wall structure burning. The side walls of the casing 8 have secured thereto brackets 28 which serve to support the front closure 29, said closure having upper and lower openings 30 and 31 respectively, which register with the passage 13 and with the air chamber 26, and also the passage 23 so that the cold air may pass through the openings 31 into the air chamber 26 and thence upwardly through the passages 11, 22 and 20, after which the heated air will be precipitated into the room through the openings 30.

It will be also observed that air passages 32 and 33 are formed upon the sides of the burner chamber 16, and it will be of course obvious that heated air will pass outwardly from said passages into the room and through the openings 34 formed in the closure 29.

Extending transversely in the chamber 16 is a burner 35, which is located near the upper edge of the plate 19, there being a hing-

edly mounted door 36 carried by the closure 29, which can be conveniently raised to light the burner 35 when desired.

What is claimed is:

A heater of the class described comprising a casing, a supplemental casing located therein and spaced therefrom to provide air passages, a burner chamber located in the supplemental chamber and being spaced therefrom to also provide air passages, said casing having an air chamber at its lower end and common to the lower ends of all passages, a closure for the casing, and a supplemental casing having openings therein which register with the outlet ends of the respective passages.

In testimony whereof I affix my signature.

HENRY E. STEIN.