(No Model.)

# T. N. ROGERS.

## APPARATUS FOR HEATING AND VENTILATING ROOMS.

No. 526,792. Patented Oct. 2, 1894.

FIG. 1.

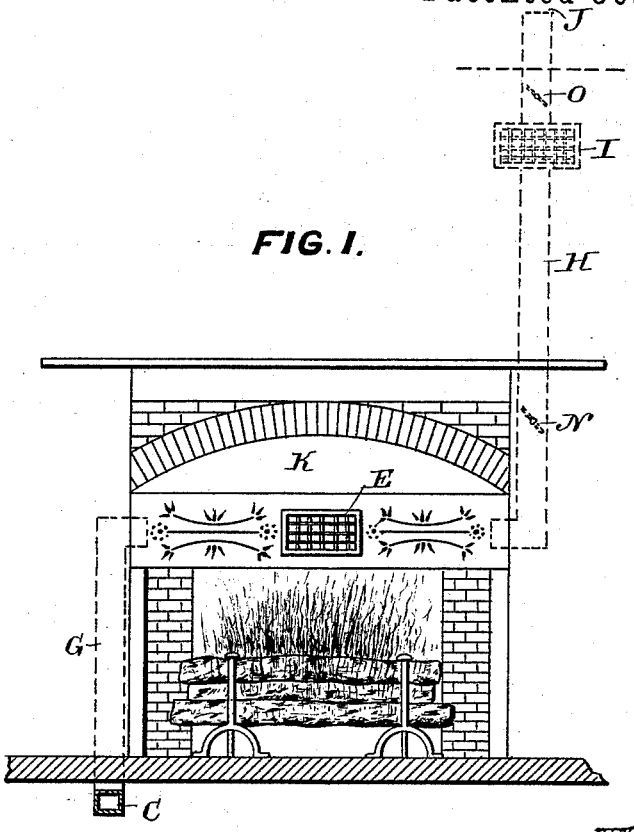
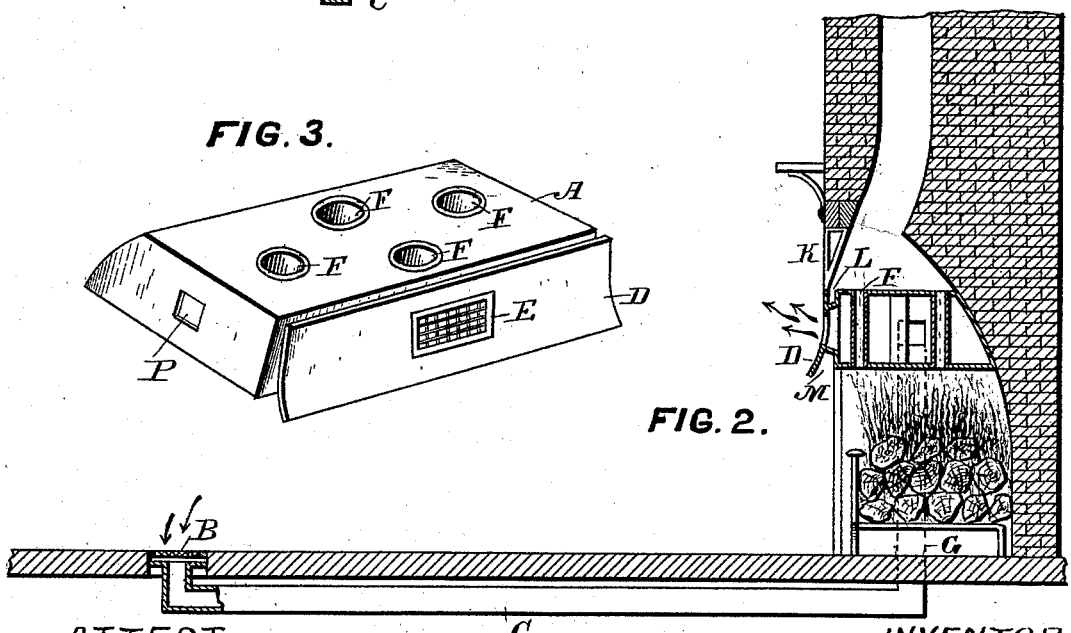



FIG. 3.




FIG. 2.




ATTEST.
J. Henry Kaiser.
J. W. McGrahon

INVENTOR.
T. N. Rogers
By William M. Smith Atty.

# UNITED STATES PATENT OFFICE.

THOMAS N. ROGERS, OF SAULT STE. MARIE, MICHIGAN.

## APPARATUS FOR HEATING AND VENTILATING ROOMS.

SPECIFICATION forming part of Letters Patent No. 526,792, dated October 2, 1894.

Application filed June 21, 1893. Serial No. 478,378. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS N. ROGERS, a citizen of the United States, residing at Sault Ste. Marie, in the county of Chippewa and State of Michigan, have invented certain new and useful Improvements in Apparatus for Heating and Ventilating Rooms; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in apparatus for heating and ventilating rooms in which a fire place is located, by the use of which apparatus a complete utilization of all the heat evolved from the burning fuel is attained, and at the same time perfect ventilation is secured by the production of a circulating current of air in the room where the fire place is situated, by drawing the air to be heated from a remote part of the room, and replacing this cooler air by a steady current of heated air from the heater, thus quickly warming and at the same time completely ventilating the room. The means for obtaining these objects are hereinafter more fully set forth and shown in the accompanying drawings, in which—

Figure 1. shows a front view of the fire place with the heater in position therein, and pipes leading to and from the same. Fig. 2. is a vertical cross section through the fire place and heater, and also through the floor of the room showing the cold air pipe. Fig. 3 gives a perspective view of the apparatus, heater or drum.

The drum, A, consists of a hollow, oblong, metal casing, beveled at the rear and rounded so as to fit the contour of the fire place. At its front is an ornamental plate, D, which projects an inch or two below the bottom of the drum and slightly flaring toward the lower edge. This plate fits snugly against the fire place wall, K, and between the plate and the drum there is a space M, L, through which all dust and soot and other products of combustion, which would otherwise pass out into the room, are drawn upward by the draft into the chimney. Passing through the drum transversely are a series of openings, F. F, through which the products of combustion pass, and also in the front of the drum and the plate, D, there is an opening, E, made for the outer passage of the heated air into the room. This opening is grated in front, and instead of one opening there may be several if desired. The drum may be secured in the fire place in any desired manner, preferably, however, resting on flanges secured to the side walls of the fire place so that it can be easily moved when desired. At the further side of the room is an opening, B, in the floor and leading from this opening underneath the floor is a pipe, C, having an upwardly projecting portion, G, leading up along the side wall of the fire place and through the same into the drum, A. This pipe forms the supply pipe for cold air. The opening B, may be made in the floor or in one of the walls of the room, or outside, as desired.

At the opposite side of the drum from which the cold air supply pipe enters there may be located a hot air pipe, H, leading upward from the drum into the room above. In this pipe is a damper, N, which controls the passage of the heat. Instead of having the pipe H, lead to the floor above it may terminate in a register, I, in the upper part of the room, or it may be used in both ways if desired.

It is to be understood that when the register, I, is used to admit the heated air to the upper part of the room, the register, E, can be dispensed with.

In the operation of my device it is evident that there will be a continuous circulating current of air through the register, B, and cold air pipe to the drum, and out through the opening, E. This neutralizes to a great degree the effect of the cold current which is continually passing toward the fire place to support combustion, and produces an even temperature throughout the room; and also much of the heat which would otherwise pass up the chimney and go to waste, is directed out of the drum into the room and thus utilized. By maintaining this constant circulation in the room complete ventilation is also obtained. By placing the register near the ceiling, as at I, the current of heated air will have a larger circuit to perform, thus insur-

ing a still more even temperature and perfect ventilation throughout the room.

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

1. An air heating drum adapted to be located within a fire place and provided on its front with an ornamental plate separate from the main drum thus forming a passage along the front of said drum up into the chimney, substantially as and for the purpose set forth.

2. A fire place heater consisting of a hollow, oblong drum, provided with a series of transverse flues, an opening in front for passage of the heated air, and a front piece separate from the main drum having a lower edge extending below the same, substantially as described.

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

THOMAS N. ROGERS.

Witnesses:

J. W. McMAHON,

H. M. OREN.