J. W. GEDDES.

Hot Air Register.

No. 19,502. Patented March 2, 1858.

Fig. 1.

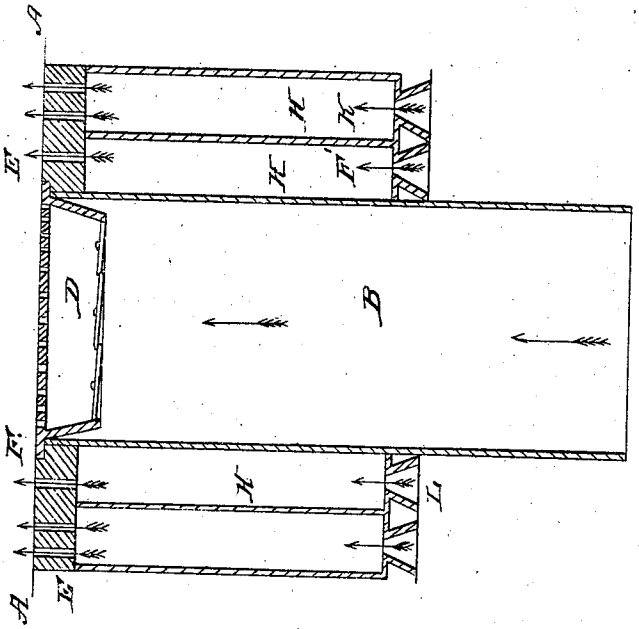
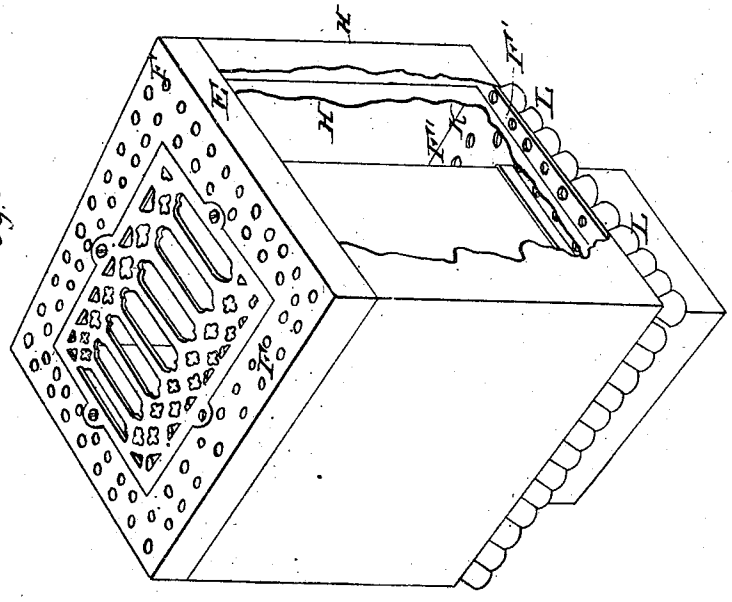


Fig. 2.



UNITED STATES PATENT OFFICE.

JAS. W. GEDDES, OF BALTIMORE, MARYLAND.

REGISTER FOR HOT-AIR FURNACES.

Specification of Letters Patent No. 19,502, dated March 2, 1858.

To all whom it may concern:

Be it known that I, JAMES W. GEDDES, of Baltimore, in the State of Maryland, have invented an Improvement in Registers for Hot-Air Furnaces, and that the following is a full, clear, and exact description of the principle or character which distinguishes it from all other things before known and of the usual manner of making, modifying, and using the same, reference being had to the accompanying drawings, of which—

Figure 1 is a perspective view of the register, and Fig. 2 a vertical middle section of the same.

My invention consists in a peculiar construction of the hot air registers of furnaces for warming buildings for the purpose of protecting the buildings from fire; described as follows.

A represents the floor of an apartment into which the hot air from the furnace is conducted through the flue B and register D, the valves and grating of which are constructed and operate according to the common and well known methods.

The register is set in a cap E of soap stone or other equivalent non-conducting incombustible material. This cap is penetrated freely with numerous vertical passages F which communicate with the open or ventilated casements H. These casements are made of bright tinned iron and their floor K is perforated similarly to the cap E. The floor may be made of non conducting incombustible material like the cap, or it may be made of metal. The heat of the flue causes an upward current of air through the casements and prevents their becoming over heated. Most of the fires originating from over heated registers, occur when the registers are closed or nearly so, but with suitable provisions for ventilation the heat of this part of the flue will be kept down when the registers are closed, as every increase of heat is attended with an increase of the upward cooling current. The object of the non conducting incombustible cap is to prevent the conduction of heat from the register to the floor, but it is not so important that the lower part or floor of the casements should be non conducting, for that part feels the first influence of the cooling current of air as it enters the passages F^1. As the air becomes heated in passing through the casements, it is necessary that the cap E should be non conducting and incombustible. In case the passages F^1 are to be carried through a plastered ceiling, I make them as follows. The passages are made by tubes of tin L flaring at the bottom and set so as to have their lower edges flush with the ceiling. The plastering is laid over and between them and when finished off is removed from the flaring mouths of the tubes, leaving a neat finish to the ceiling; the flaring ends operating to hold the plastering up in place, while laying it on, and after it becomes dry and cracked by the heat; while it readily falls out or is removed from the inside of the flaring mouths. The flaring mouths also facilitate the passage of air into the tubes. A single ventilated casement will be safe in most cases, but I prefer to use two as the radiant heat from the flue is reflected and intercepted by the dividing partition.

I am aware that it is a common practice to surround stove pipes when they pass through the walls and floors of buildings with collars or "flue pots" of earthenware and also with metallic jackets, and I lay no claim to such devices, but

What I do claim is—

1. The mode herein set forth of constructing the fire proof settings for registers for hot air furnaces; the same consisting in the employment of one or more ventilated casements surmounted by a perforated cap of non conducting, incombustible material, as above described.

2. I claim the flaring tubular terminations F^1 of the passages H for the purposes set forth.

JAS. W. GEDDES.

Witnesses:

CHAS. G. PAGE,

R. T. CAMPBELL.