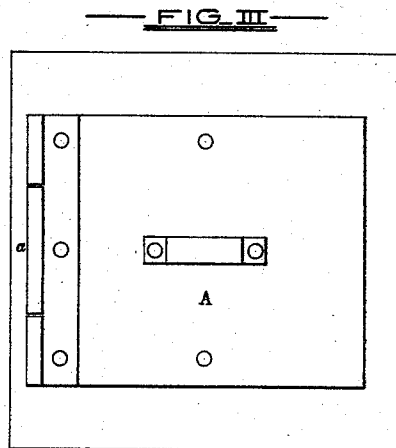
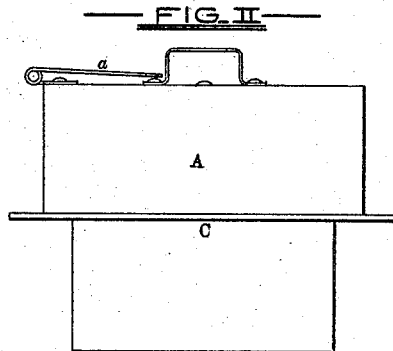
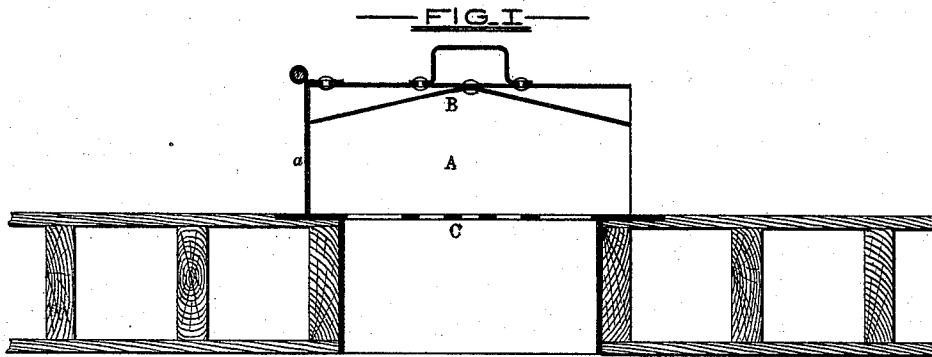


M. T. FORSYTH, Sr.
HOT-AIR DEFLECTOR.

No. 172,108.

Patented Jan. 11, 1876.



WITNESSES

Wm. W. Towson
W. W. Wharton

INVENTOR

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by G. H. M. Howard
his atty.

UNITED STATES PATENT OFFICE

MANUEL T. FORSYTH, SR., OF BALTIMORE, MARYLAND.

IMPROVEMENT IN HOT-AIR DEFLECTORS.

Specification forming part of Letters Patent No. 172,108, dated January 11, 1876; application filed October 28, 1875.

To all whom it may concern:

Be it known that I, MANUEL T. FORSYTH, Sr., of the city of Baltimore and State of Maryland, have invented certain new and useful Improvements in Hot-Air Deflectors, of which the following is a specification; and I do hereby declare that in the same is contained a full, clear, and exact description of my said invention, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

My invention relates to a portable deflector, adapted to be placed upon registers or pipes, constructed to deliver heated air to the various apartments in buildings, to change the direction of the incoming current of hot air in order to increase its effectiveness, as hereinafter described.

It is well known that heated air, in issuing from registers in the floors of buildings, ascends in a nearly vertical direction, and with a velocity governed by the relative temperatures of the said heated air and the atmosphere through which it passes. Atmospheric air being a poor conductor of heat, the warming of buildings depends principally upon a mechanical mixing of the heated air with the surrounding atmosphere, which mixing is not attained when the upward current of rarefied air is undisturbed. The usual effect of the transmission of heated air to large apartments by means of registers in the floor is an uncomfortably high temperature in the upper part of the building, while the lower part remains comparatively cold.

The object of the present invention is the diffusion of the heated air furnished to the building by causing it to be delivered in a direction nearly parallel to the floor, and, by mixing it with the cooler air near to the floor, to prevent its rapid ascent toward the ceiling.

In the description of my invention which follows, due reference must be had to the accompanying drawing forming a part of this specification, and in which—

Figure 1 is a sectional view of the invention, showing its application to a register. Fig. 2 is an exterior side view of the invention, with the door at the end thereof open, and Fig. 3 a plan of the deflector.

Similar letters of reference indicate similar parts of the invention in all the views.

A is a box, one end of which is open, and the other provided with a hinged door, *a*, which may be either thrown down, so as to close one end of the box, or be folded back, as is shown in Fig. 2. B is a plate secured to the inside of the box A, and bent in such manner as to deflect the heated air issuing from the register C toward the floor, and thus partially counteract the tendency of the air to rise after leaving the box.

The deflector is placed upon the register with its open end in the direction to which it is desired to force the heated air. When two or more deflectors are used their positions are arranged to conduct the hot air in different directions, so as to prevent the currents coming into contact with each other. By this means the entire stratum of air near to the floor of the building is first mixed with the heated air, and as the air, thus warmed by the mixing, ascends the whole body of air in the room is warmed.

Actual experiment has proved that large rooms may be heated to nearly a uniform temperature in every part thereof by means of my invention with much less coal than would be consumed to make the air in the lower parts of the building at the same temperature in the usual way, as in the latter case the heated air ascends directly from the register to the ceiling.

It will be seen that by means of the door *a* the hot air can be delivered either from one or both ends of the deflector, as may be desired.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

A portable hot-air deflector formed of the box A, in combination with the plate B, and door *a*, substantially as and for the purpose set forth.

In testimony whereof I have hereunto subscribed my name this 19th day of October, in the year of our Lord, 1875.

MANUEL T. FORSYTH, SR.

Witnesses:

W. W. WHARTON,
S. C. TALL.