T. F. ENGELBRECHT.

Damper.

No. 15,458. Patented July 29, 1856.

Fig: 1.

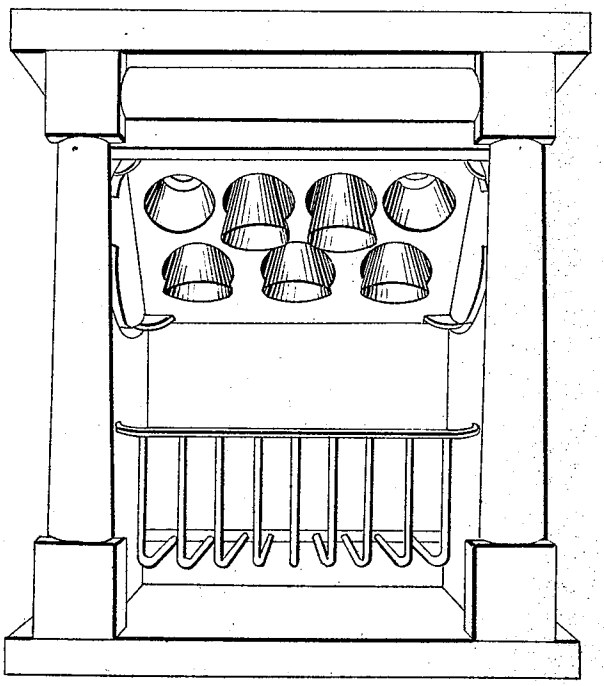


Fig: 3.

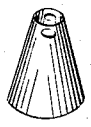


Fig: 2.

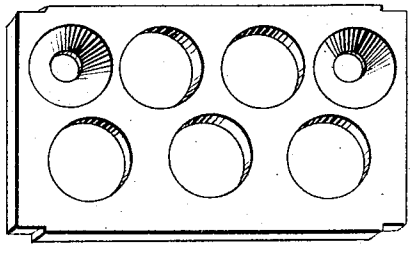
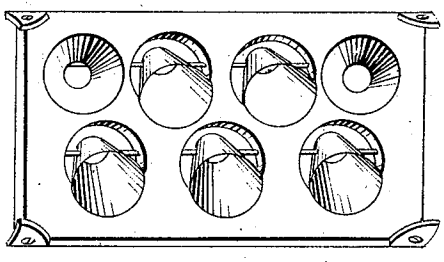


Fig: 4.



Witnesses.

D. Wa Baker.

C. B. Henry

Inventor.

Theo: F. Engelbrecht

UNITED STATES PATENT OFFICE.

THEODORE F. ENGELBRECHT, OF NEW YORK, N. Y., ASSIGNOR TO T. F. ENGELBRECHT AND THOS. C. NYE.

CHIMNEY-DAMPER.

Specification of Letters Patent No. 15,458, dated July 29, 1856.

To all whom it may concern:

Be it known that I, THEODORE F. ENGELBRECHT, of the city, county, and State of New York, have invented certain new and useful Improvements in Dampers for Anthracite-Coal-Burning Grates; and I do hereby declare that the following description, taken in connection with the accompanying drawings, constitutes a full and clear sketch and illustration of my said invention.

Figure 1 of the said drawings is a front view of a damper in its usual position above the grate; Fig. 2, a view of the damper alone showing the cylindrical holes in it; Fig. 3, a view of the deflecting cone, which is placed in the cylindrical hole in the damper; and Fig. 4, a view of the damper with the deflecting cones properly placed in it for use.

As my invention is limited, and as perforated dampers are well known, I shall confine myself to the description of the invention only; which consists in suspending conical deflectors in the cylindric perforations of the damper.

In burning anthracite coal in grates a well known difficulty exists, viz—that less draft is required after coal is fully ignited than when getting up the combustion, and although a moderate draft only is needed when the coal is in full ignition, yet provision must be made for the ready escape of the gaseous products up the chimney. In order to facilitate the escape of the gases and check the too free escape up the chimney the perforated damper was suggested. In such dampers the perforations have always been made in straight lines through the damper so that when the damper is fixed in its position above the grate the perforations vary in their position as the damper is varied in its position. If these perforations be made with conical mouths as they have been in some instances, the sides of the mouths become, when the damper is vertical or nearly so, good deflecting surfaces, but as the damper generally is not vertical without some improvement the advantages of these deflecting surfaces are lost. The funnel or conical mouthed perforations are more useful than plain cylindric perforations too in acting as guides to direct the gaseous products up the chimney.

It will readily be seen that my improvement, that of suspending conical deflectors within the cylindric or other perforations in the damper, presents the conical mouths in the position they would be were they rigid perforations in the damper and the damper always vertically fixed; that is, the conical mouths are always in a vertical line, and hence their sides are always in the best position as deflecting surfaces, as the flame and products of combustion will always be turned in a right angular line from their track by the perforations in the damper. Thus it will readily be seen that the mouths of the perforations are always in the best position for deflecting surfaces and that by the use of centrally suspended conical deflectors in these perforations a greater share of the heat from the gaseous products will be deflected into the room.

Having thus fully described my invention what I claim as new and desire to secure by Letters Patent in perforated dampers for anthracite coal grates is—

The supplemental perforations consisting of the suspended conical deflectors as herein set forth.

THEO. F. ENGELBRECHT.

Witnesses:
D. IRA BAKER,
C. B. HENRY.