A. Pearsall,

Exhaust Mechanism for Locomotives.

No. 62,680. Patented Mar. 5, 1867.

Fig. 1.

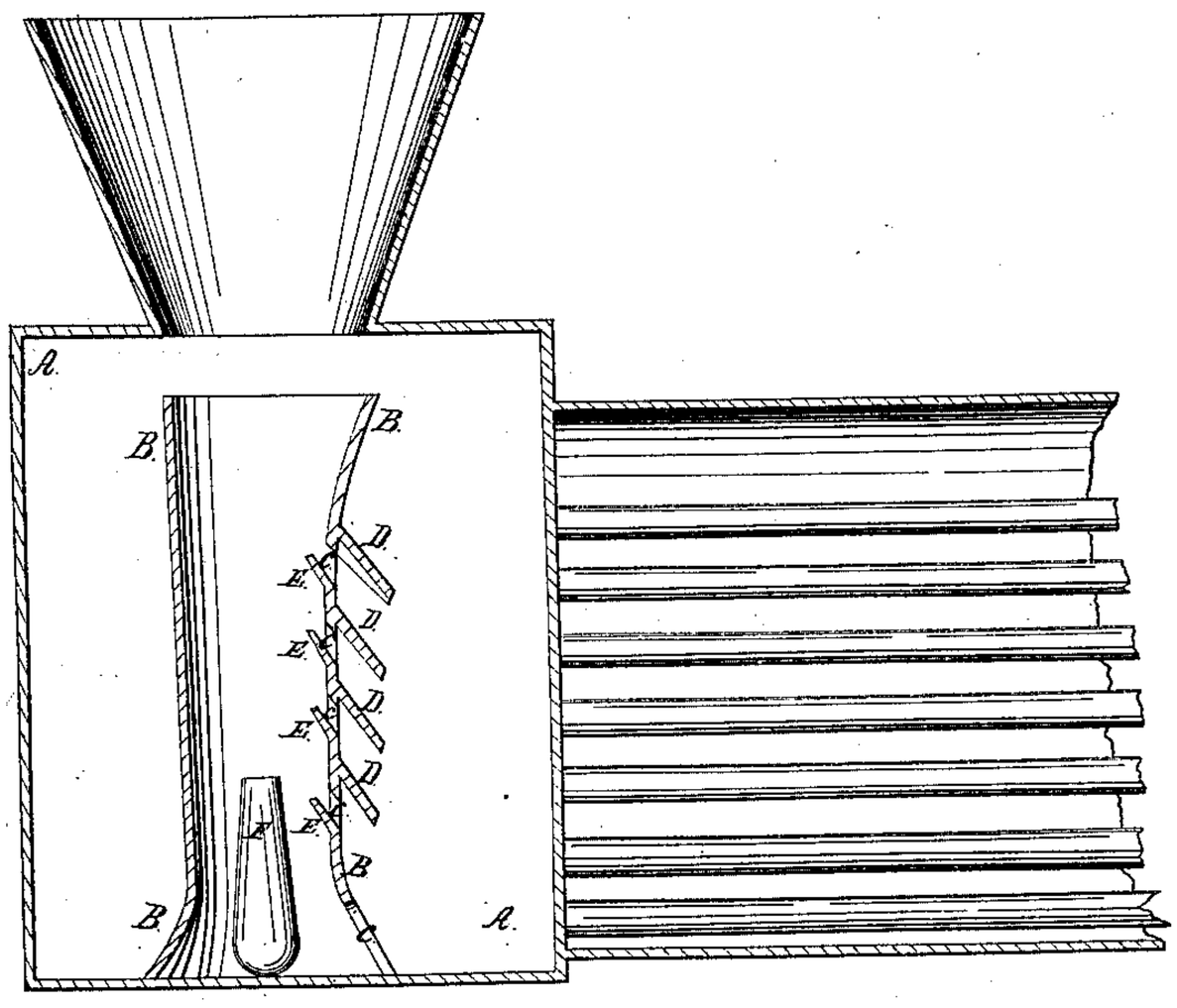
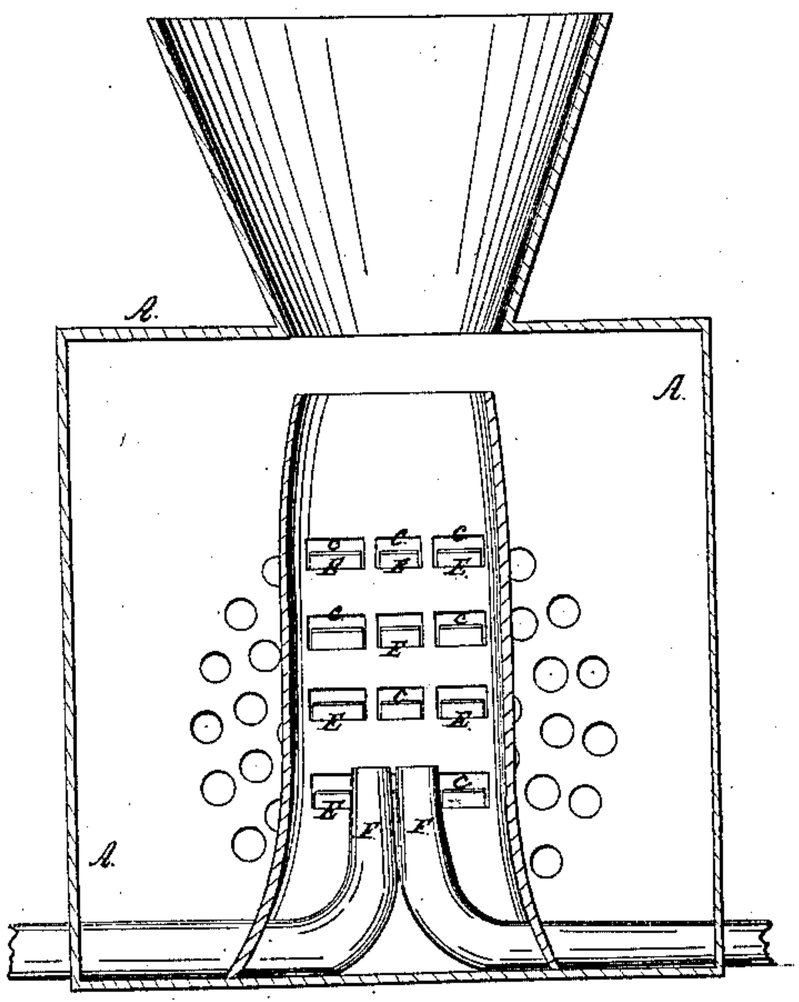


Fig. 2.



Witnesses:
Theo. Tusch
J. Adervick.

Inventor:
A. Pearsall
Per Munn & Co
Attorneys

United States Patent Office.

A. PEARSALL, OF ATLANTA, GEORGIA.

Letters Patent No. 62,680, *dated March* 5, 1867.

IMPROVEMENT IN DRAUGHT PIPES FOR LOCOMOTIVES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, A. PEARSALL, of Atlanta, in the county of Fulton, and State of Georgia, have invented a new and useful Improvement in Draught Pipe for Locomotive Engines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical longitudinal section of my improved draught pipe, showing its position in the smoke box.

Figure 2 is a vertical cross-section of the same.

Similar letters of reference indicate like parts.

The object of this invention is to equalize the draught through the boiler flues, thereby improving the effective operation of the engine; and it consists in the draught pipe having openings furnished with exterior and interior projecting lips or flanges, in combination with the smoke box and exhaust pipes, as hereinafter more fully described.

A is the smoke box formed at the forward end of the boiler in the ordinary manner, into which the ends of the boiler flues open, into which the exhaust pipes lead, and from which the smoke and steam escape into the air through the smoke stack. B is the draught pipe, which is placed in the smoke box A directly in front of the open ends of the boiler flues. The rear side of the draught pipe B has openings, C, formed in it, as shown in figs. 1 and 2. From the upper exterior edges of the openings C lips or flanges, D, project outward in an inclined position; and from the lower interior edges of said openings lips or flanges, E, project inward and upward, as shown in fig. 1. The lower edges of the draught pipe B, on its front and sides, extend down to the bottom of the smoke box A, but the lower edge of the rear side is cut away, as shown in the drawings, so as to leave an opening, which, in a medium-sized locomotive, should be about six inches high. F are the ends of the exhaust pipes, which open into the middle of the lower part of the pipe B. As the steam is exhausted into and passes up through the draught pipe B, the lips or flanges of the openings C deflect it towards the front side of the pipe B, tending to form a vacuum in front of the said openings C. This produces a strong and uniform draught through all the boiler flues, the dead air in front of the draught pipe B also tending to produce the same result.

I do not claim any of the parts the subject-matter of the patents granted to James M. Foss, June 12, 1866, and James L. Vanclaim, August 20, 1861; but I do claim—

In combination with the exhaust pipe F and the draught pipe B, having downwardly projecting lips D on its outer face and openings C, the upwardly projecting flanges E on the inner face of the pipe, for the purpose described substantially as specified.

A. PEARSALL.

Witnesses:

WM. BUTT,

E. J. HOUSTON,

A. A. GAULDING.