

W. F. LESEUR & C. MICHEL.
Variable Exhaust.

No. 163,934.

Patented June 1, 1875.

Fig. 1

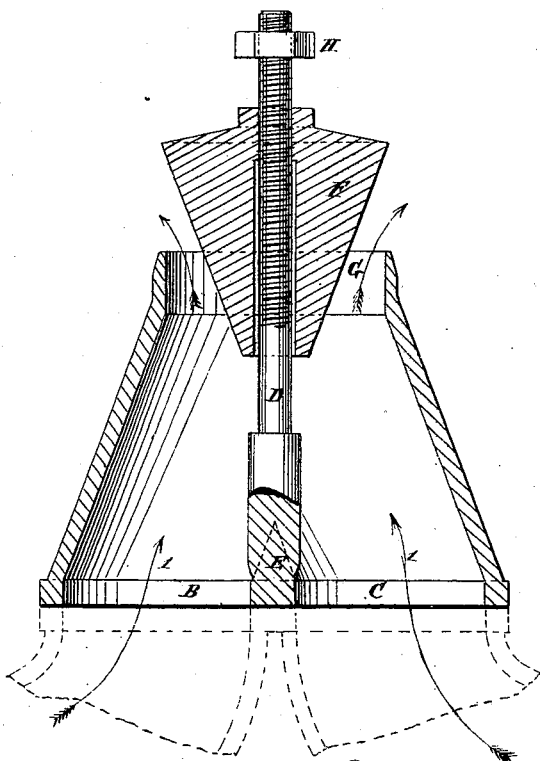
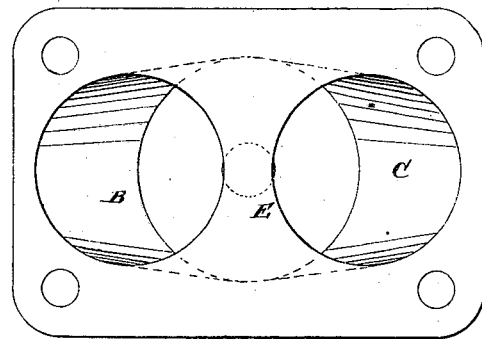


Fig. 2



WITNESSES:
H. W. Almqvist
A. J. Terry

INVENTOR:
W. F. Leseur and
BY *C. Michel.*
Munnell
ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM F. LESEUR AND CHARLES MICHEL, OF COLLEGE POINT, N. Y.

IMPROVEMENT IN VARIABLE EXHAUSTS.

Specification forming part of Letters Patent No. **163,934**, dated June 1, 1875; application filed April 24, 1875.

To all whom it may concern:

Be it known that we, WILLIAM F. LESEUR and CHARLES MICHEL, of College Point, in the county of Queens and State of New York, have invented a new and useful Improvement in Variable Exhausts, of which the following is a specification:

This discharge of steam from the engines of a locomotive into the smoke-chamber or base of the smoke-stack, it is well known, is depended upon for increasing the draft of the fire-box. The result produced depends much upon the form and arrangement of the exhaust in the smoke-chamber at the rear of the boiler.

The invention consists in supporting a cone-plug upon a vertical screw-stem or rod arranged to project up through the mouth of the exhaust-pipe of a locomotive-engine. The chief advantage of this arrangement is economy of space and unobstructed passage for escape of steam, it having been the practice heretofore to support and adjust the plugs of exhaust-nozzles by means of rods arranged exteriorly thereof.

In the accompanying drawing, Figure 1 is a vertical section, showing the whole arrangement. Fig. 2 is a view of the bottom of the exhaust-pipe.

Similar letters of reference indicate corresponding parts.

A is the exhaust-pipe, into which the steam from the engine is discharged. In the bottom of this exhaust-pipe are two apertures, B and C. The exhaust-nozzles (seen in dotted lines) exhaust the steam, as indicated by the arrows

1 1. D is a screw-rod, rigidly fixed to the dividing-bridge E at the bottom. F is a conical plug, which screws onto this rod, and is raised and lowered, as may be desired, to vary the size of the annular opening G of the exhaust. The upper end of this conical plug is sloping from the center, so that cinders or sparks which drop onto it will slide off and fall outside the opening G, being thereby prevented finding their way into the engine, and causing wear of the valves.

The conical plug may be adjusted by hand, if desired, and fastened in any desired position by the nut H; or it may be adjusted from the cab of the locomotive by means of a lever or levers and cord, so as to be at all times under the command of the engineer or fireman.

The essential feature of the invention is, the exclusion of cinders, &c., from the exhaust-pipe and the consequent protection of the valves of the engines.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

The combination of the vertical screw-threaded rod D and adjustable conical plug F with the exhaust-nozzle, said rod being arranged in and projecting above the rim of the nozzle, as shown and described.

WILLIAM F. LESEUR.
CHARLES MICHEL.

Witnesses:

JOHN SANDERSON,
H. F. STAMER.