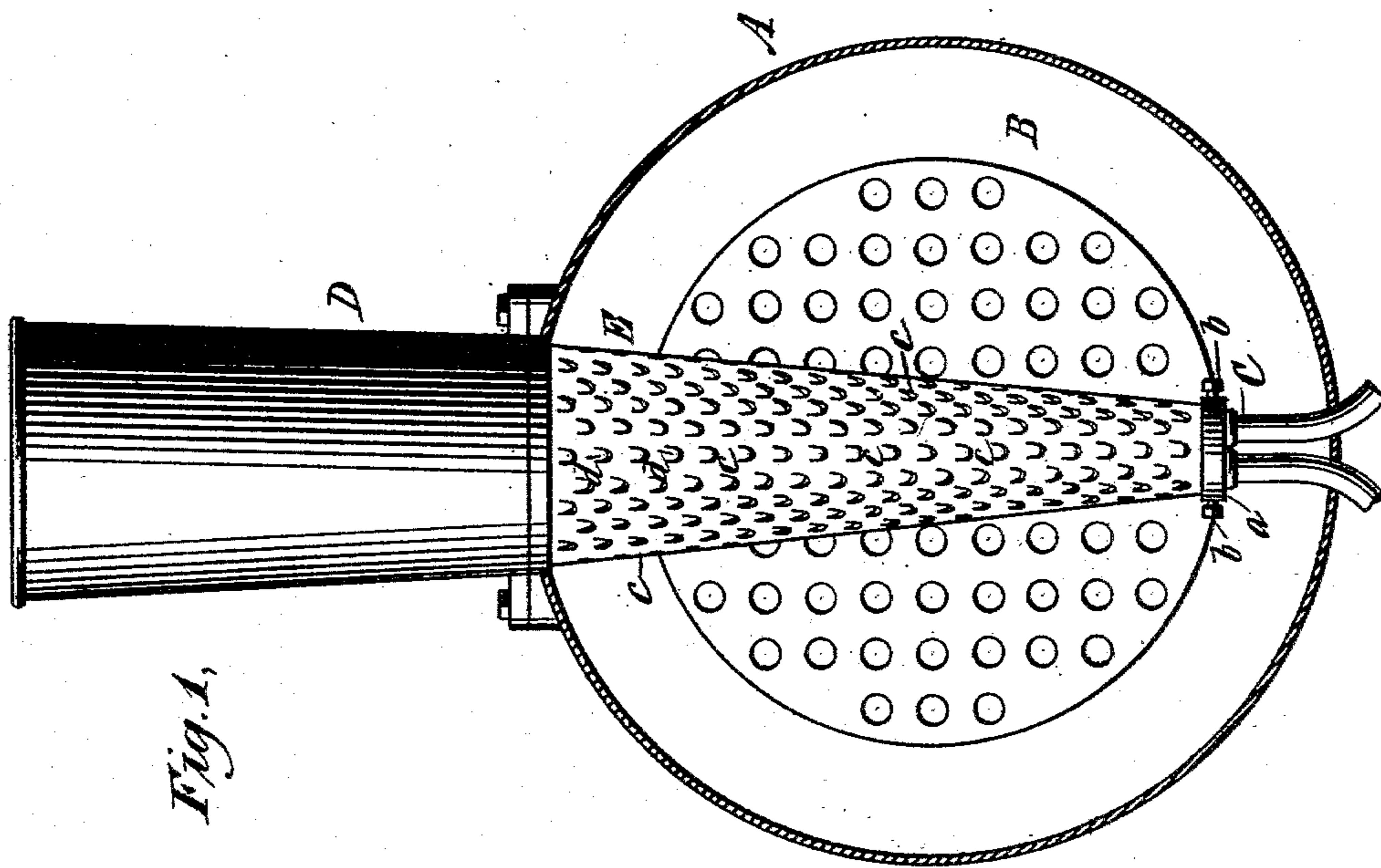
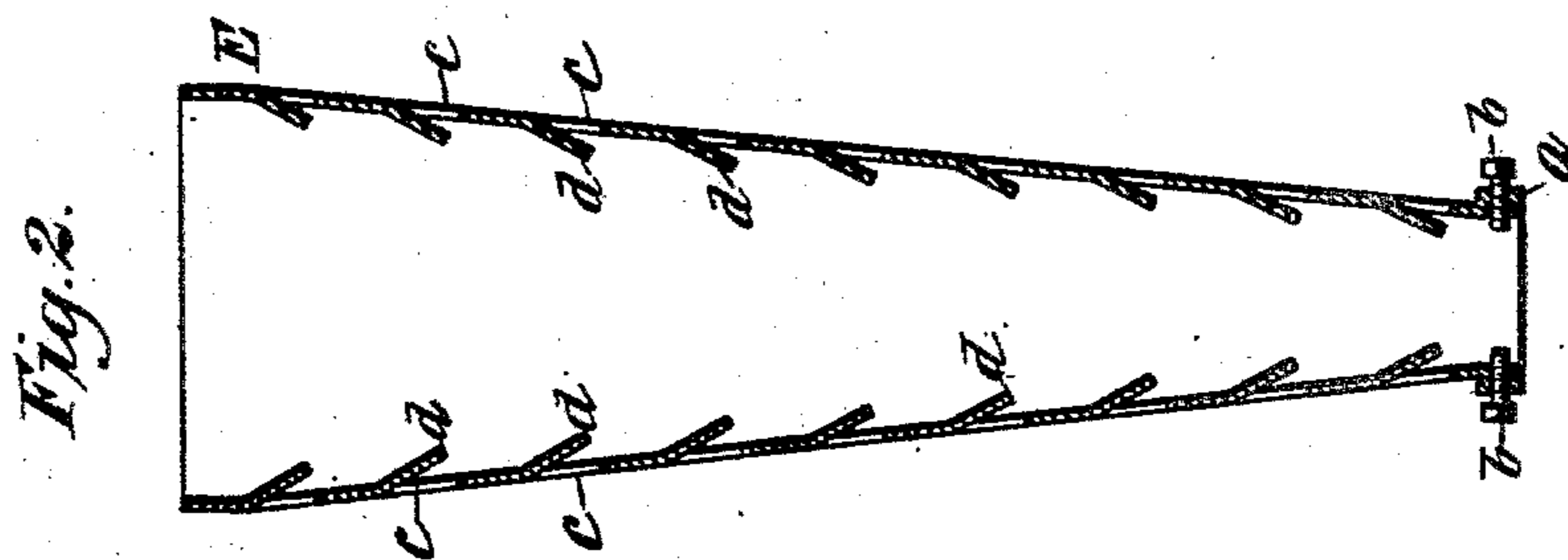


(No Model.)

E. J. SOLOMON.
SPARK ARRESTER.

No. 553,079.

Patented Jan. 14, 1896.



WITNESSES:

Edward Thorpe
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ATTORNEYS.

UNITED STATES PATENT OFFICE.

EDGAR J. SOLOMON, OF CARLINVILLE, ILLINOIS.

SPARK-ARRESTER.

SPECIFICATION forming part of Letters Patent No. 553,079, dated January 14, 1896.

Application filed July 30, 1895. Serial No. 557,604. (No model.)

To all whom it may concern:

Be it known that I, EDGAR J. SOLOMON, of Carlinville, in the county of Macoupin and State of Illinois, have invented a new and Improved Spark-Arrester, of which the following is a full, clear, and exact description.

The object of my invention is to provide a simple and efficient device for attachment to a locomotive, for preventing the escape to the smoke-stack of sparks and cinders, while permitting of the free escape of the products of combustion.

The invention consists in the construction hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the views.

Figure 1 is a sectional end elevation of a locomotive-boiler, showing the application of my improvement; and Fig. 2 is a longitudinal section of the attachment.

The locomotive-boiler A is provided with a smoke-box B, exhaust-nozzle C, and smoke-stack D, of usual description. To the exhaust-nozzle C is fitted the lower end of the tube E, which in the present case is conical in form. The tube E may be secured to the nozzle in any convenient way. I have shown a simple and practical device for this purpose, which consists of a ring *a* fitted to the tube, and set-screws *b* passing through the ring and the tube and bearing upon the sides of the exhaust-nozzle. The upper and large end of the tube E fits into the lower end of the smoke-stack D, and in the sides of the tube E are made U-shaped slits *c*, leaving a tongue of metal *d*, which in each case is pressed inwardly, as shown in Fig. 2, thereby leaving sufficient space between the tongue and the

wall of the tube for the escape of the products of combustion. The slits *c* are in all sides of the tube E, and the combined area of all of the openings made by pressing in the tongues *d* is sufficient for the ready escape of all the products of combustion.

The exhaust in passing through the tube E creates a draft in the well-known manner and draws all the products of combustion to the tube E, through which the gaseous portions escape to the smoke-stack, while the solid portions, striking the tongues *d*, are thrown back into the smoke-box B, where they remain until the smoke-box is cleaned.

The tube E may be made of any form to adapt it to the particular locomotive to which my improvement is applied, but the conical form here shown will be found applicable in most cases. It may also be made of any suitable material, such as sheet-iron, steel or copper.

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

1. A spark arrester, consisting in a tube having a series of elongated openings and a tongue projecting downwardly and inwardly from the upper edge of every opening, substantially as set forth.

2. A spark arrester, comprising a tapering tube formed with a series of elongated openings and a tongue projecting from the upper edge of every opening inwardly and downwardly toward the lower smaller end of the tube, substantially as described.

EDGAR J. SOLOMON.

Witnesses:

JOHN WEITERMEIR,
JAMES K. FURBER.