

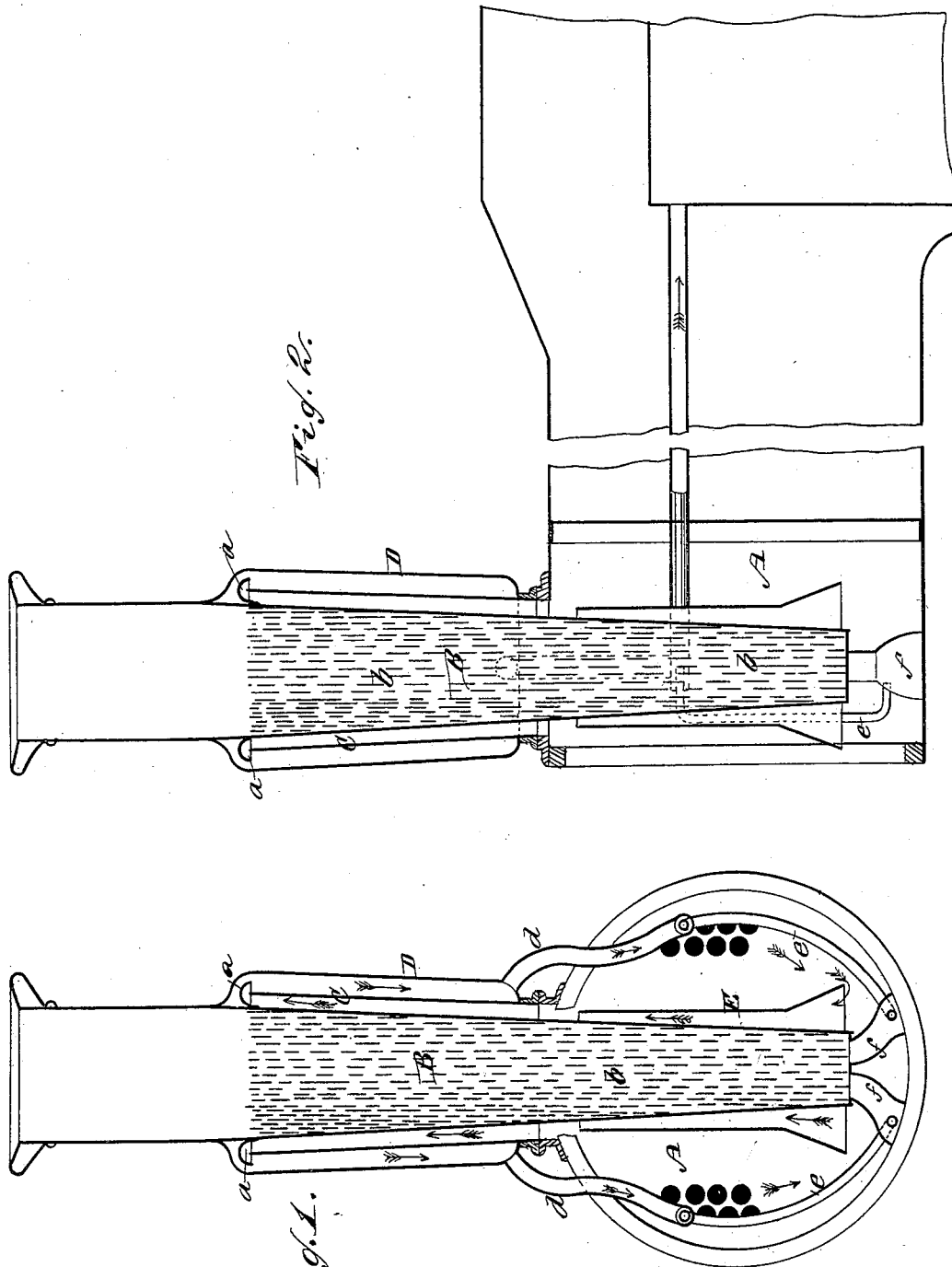
(No Model.)

J. H. FILCER & J. GILDUFF.

SPARK ARRESTER.

No. 263,496.

Patented Aug. 29, 1882.



WITNESSES:

*Thos. H. H. H.*  
*L. D. D.*

INVENTOR:

*J. H. Filcer*  
*J. Gilduff*  
BY *Mum & Co*  
ATTORNEYS.

# UNITED STATES PATENT OFFICE.

JOHN H. FILCER AND JAMES GILDUFF, OF MATTOON, ILLINOIS.

## SPARK-ARRESTER.

SPECIFICATION forming part of Letters Patent No. 263,496, dated August 29, 1882.

Application filed May 23, 1882. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN H. FILCER and JAMES GILDUFF, of Mattoon, in the county of Coles and State of Illinois, have invented a new and useful Improvement in Spark-Arresters, of which the following is a full, clear, and exact description.

Our invention consists in a spark-arrester of novel construction applied in connection with the smoke-stack of a locomotive, as hereinafter described and claimed.

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

Figure 1 is a vertical section of a locomotive-stack provided with our improved spark-arrester. Fig. 2 is a vertical section at right angles to Fig. 1.

A is the smoke-box.

B is a pipe extending from within the smoke-box to a suitable height to form the smoke-stack.

C is a pipe or hollow cylinder fitted around the pipe B above the smoke-box and open at its upper and its lower ends, the lower end communicating directly with the smoke-box.

D is a hood or jacket fixed around the pipe C and closed at its upper end, suitable space being left between the jacket D and the pipe C and the stack B. Upon the pipe B is fitted a flange, *a*, which is curved above the upper edge of the pipe C.

E is a tapering pipe fitted around the pipe B within the smoke-box, and formed with a

flaring lower end. The inner pipe, B, is formed with long slots or openings *b* in its whole surface, from the flange *a* to its closed lower end.

In operation the sparks and smoke pass upward in the space between the pipe B and its inclosing-pipe E, and also in the space between the pipe B and pipe C above the smoke-box. The slots in the pipe B allow the smoke to pass through and escape, while the sparks, being detained, are carried up against the flange *a* and diverted into the space between the pipe C and the jacket D, which forms a chamber for their reception. From the lower part of this chamber the sparks are to be conveyed into the fire-box.

We have shown pipes *d d* extending from the jacketed space to the smoke-box and from thence into the fire-box, and steam-pipes *e* from the steam-nozzle *f* enter the pipe *d* for use in forcing the sparks into the fire-box.

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

The combination, with the slotted smoke-stack B, inclosing-pipe C, jacket D, concave collar *a*, funnel-shaped pipe E, and spark-discharging pipes *d*, of the steam-pipes *e*, for forcing the sparks into the fire-box against the natural draft, as shown and described.

JOHN H. FILCER.  
JAS. GILDUFF.

Witnesses:

A. J. SANBORN,  
PATRICK VAUGHN.