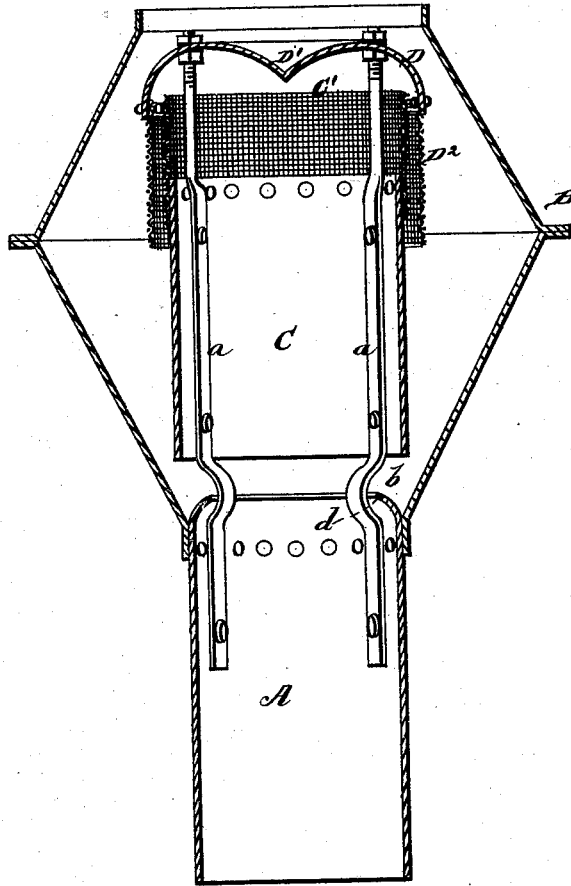


J. T. CONNELLY & H. C. HUSTON.  
Spark-Arrester.

No. 203.121.

Patented April 30, 1878.



WITNESSES

*Robert Emmett*  
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# UNITED STATES PATENT OFFICE.

JAMES T. CONNELLY AND HENRY C. HUSTON, OF CONNELLSVILLE, PA.

## IMPROVEMENT IN SPARK-ARRESTERS.

Specification forming part of Letters Patent No. **203,121**, dated April 30, 1878; application filed March 30, 1878.

*To all whom it may concern:*

Be it known that we, JAMES T. CONNELLY and HENRY C. HUSTON, of Connellsville, in the county of Fayette and State of Pennsylvania, have invented a new and valuable Improvement in Spark-Arresters; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, making a part of this specification, and to the letters and figures of reference marked thereon.

The figure of the drawing is a representation of a vertical section of our spark-arrester.

The nature of our invention consists in the construction and arrangement of a spark-arrester, as will be hereinafter more fully set forth.

The annexed drawing, to which reference is made, fully illustrates our invention.

A represents the smoke-stack, provided at its upper end with the usual enlarged cap-piece B, made in the form of two truncated cones placed with their larger ends together.

In the stack A are secured vertical rods *a a*, extending upward for a suitable distance, and to the same is secured a barrel or cylinder, C C', of about the same interior diameter as the stack A. The upper part, C', of the barrel is of wire-netting, and the lower part, C, is of sheet metal, and is arranged at such a point as to leave a suitable space, at *b*, between the lower end of the barrel and the upper end of the stack A.

On the upper ends of the rods *a a* is secured a cap, D, having a central downwardly-projecting cone, D<sup>1</sup>, and around the edges of this cap is fastened a rim, D<sup>2</sup>, of wire-netting, which extends over and below the wire-netting C' of the barrel, substantially in the manner shown.

The conical cap D D<sup>1</sup> stops the sparks, forcing them downward, while the netting D<sup>2</sup>, attached thereto, greatly facilitates the draft, giving the smoke and fine dust the fullest chance to pass out, the large sparks being driven up again by the exhaust-steam, to be broken until they are so fine that they, too, pass out with the smoke.

The sheet-iron part C of the barrel is placed together in such a way as to leave enough space for the sparks coming down from the cone between the nettings C' D<sup>2</sup> to pass at *b* into the lower barrel or stack, to be driven up again by the exhaust-steam.

At the junction of the stack A and cap-piece or head B is an interior circumferential flange, *d*, as shown, which prevents the exhaust-steam from passing in at *b*.

By our construction of the spark-arrester a great saving of fuel is effected by having a greatly-improved draft. It throws no dust, and lets no dust down into the smoke-box.

What we claim as new, and desire to secure by Letters Patent, is—

The combination, with the stack A, provided with flange *d*, and its cap or head B, of the sheet-metal barrel C, having upper wire-netting extension C', and forming a passage, *b*, at its lower end, the cone D D<sup>1</sup>, and wire-netting D<sup>2</sup>, all constructed and arranged substantially as and for the purposes herein set forth.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

JAMES T. CONNELLY.  
HENRY C. HUSTON.

Witnesses:

T. A. SIMONS,  
A. B. MORTON.