

E. McDERMOTT.
Spark-Arresters for Locomotives.

No. 146,930.

Patented Jan. 27, 1874.

Fig. 1.

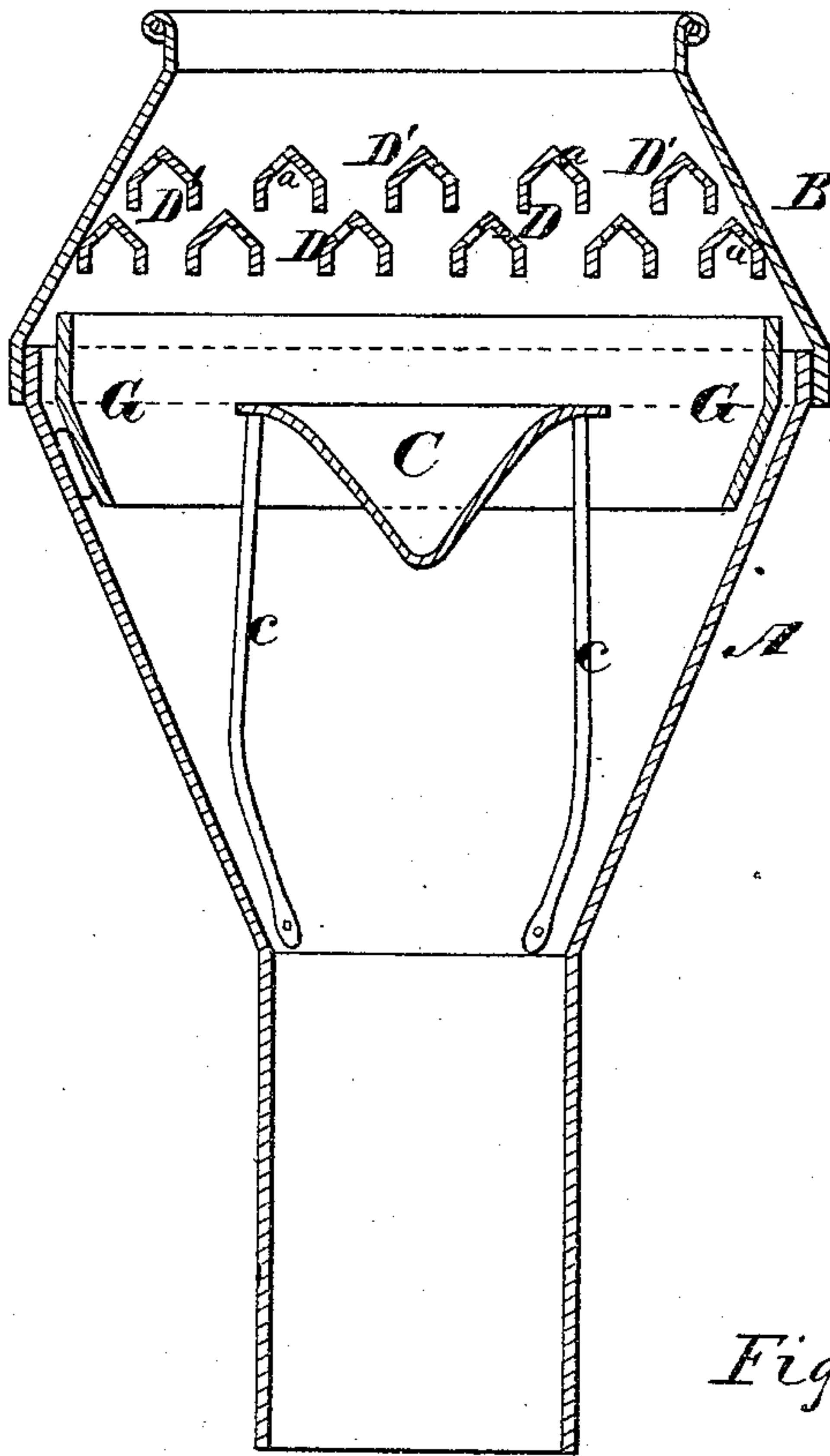


Fig. 2.

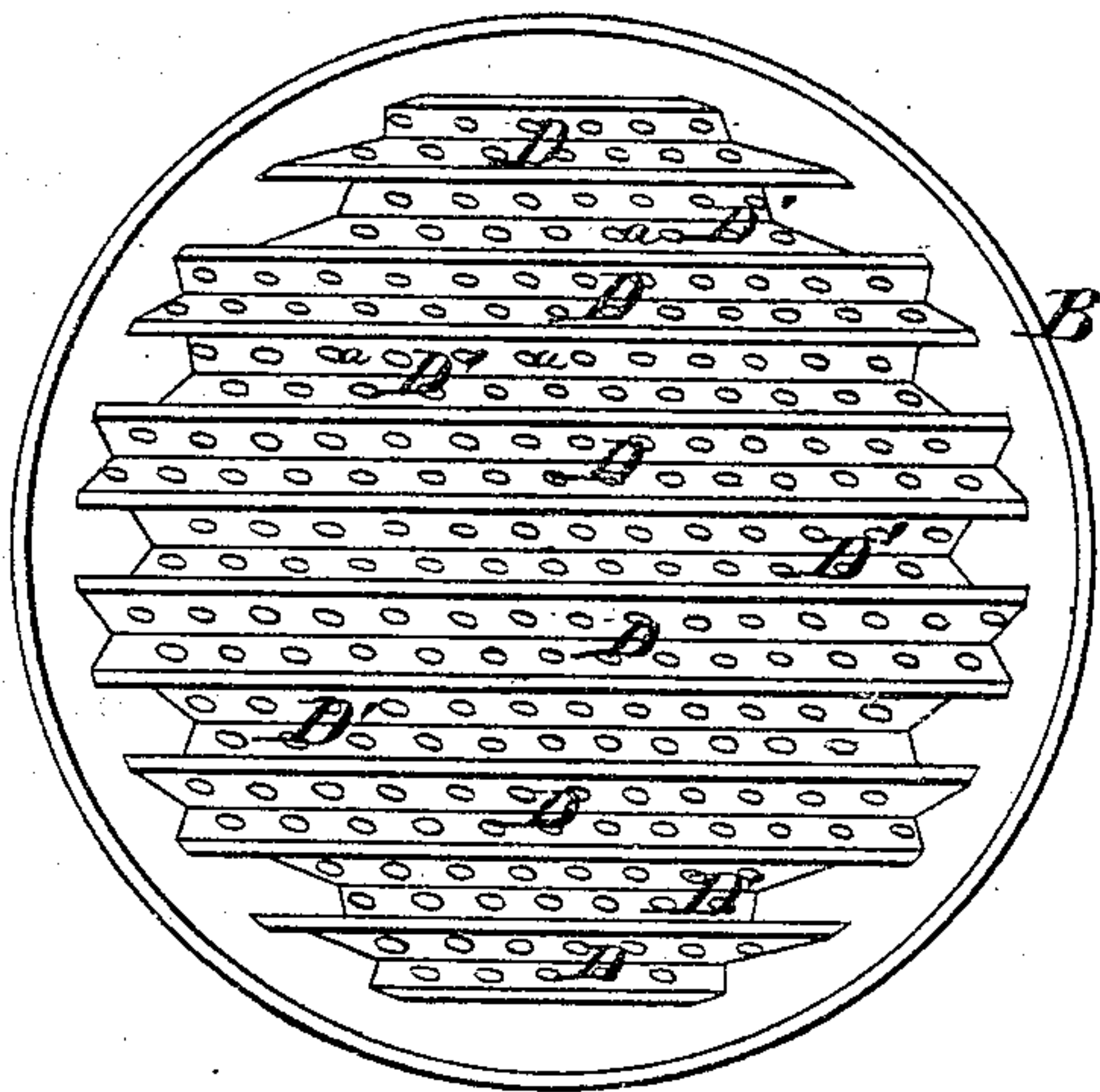
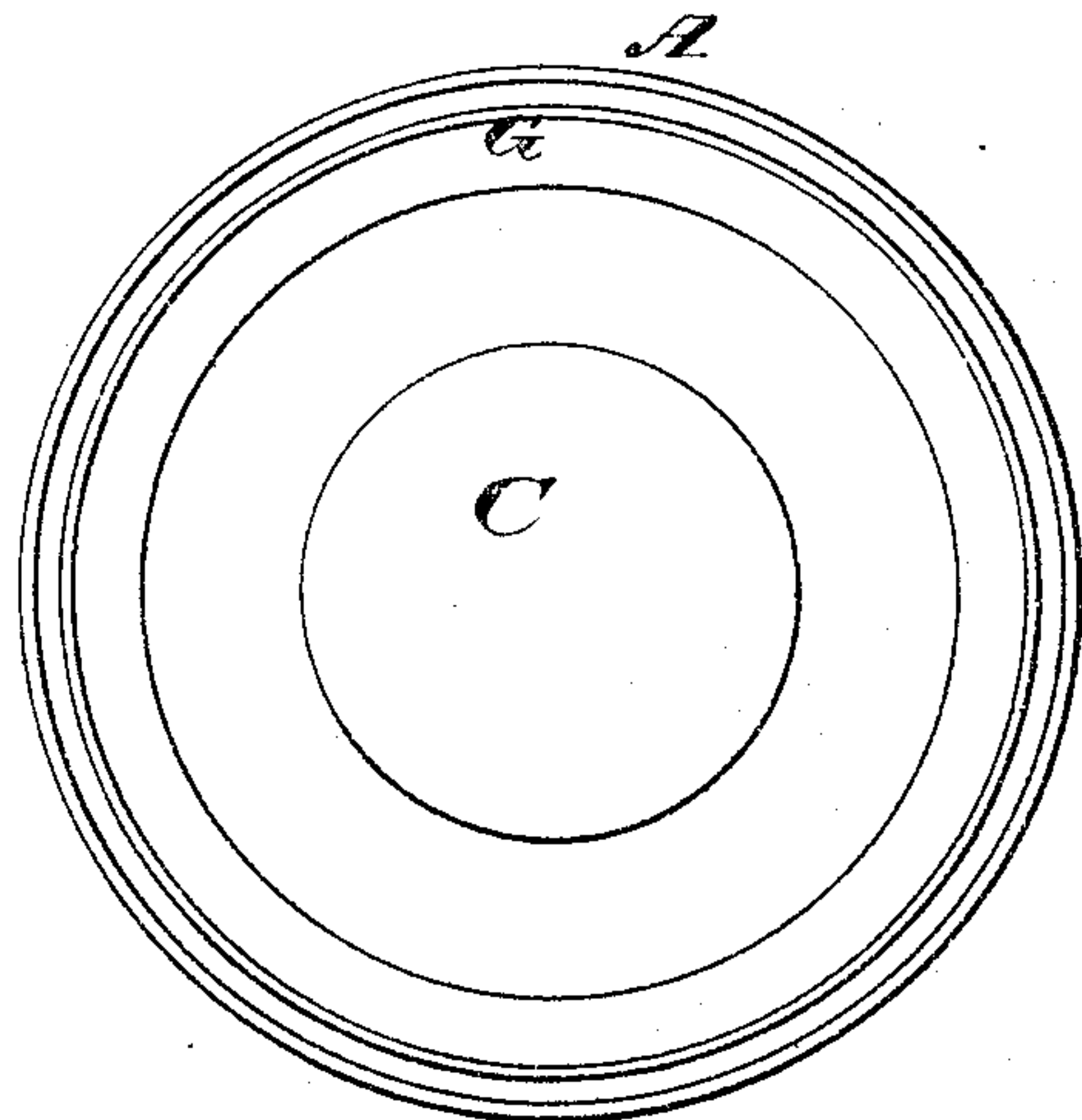


Fig. 3.



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EDWARD McDERMOTT, OF MINNEAPOLIS, MINNESOTA.

IMPROVEMENT IN SPARK-ARRESTERS FOR LOCOMOTIVES.

Specification forming part of Letters Patent No. **146,930**, dated January 27, 1874; application filed November 29, 1873.

To all whom it may concern:

Be it known that I, EDWARD McDERMOTT, of Minneapolis, in the county of Hennepin and State of Minnesota, have invented a new and valuable Improvement in Smoke-Stacks for Locomotives; and I 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 drawings making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a vertical section of my spark-arrester for locomotives. Fig. 2 is a horizontal section of the same. Fig. 3 is a detail view of the same.

This invention has relation to spark-arresters for locomotive smoke-stacks; and it consists in two or more horizontal rows of channeled and perforated arresters arranged over a central deflecting cone inside of the enlarged end of the stack.

The following is a description of my improvements:

In the annexed drawings, A represents the upwardly-flaring portion of a locomotive smoke-stack which has united to it a conical frustum, B. C represents an inverted conical deflector, the base of which is spread out nearly in a horizontal plane. This cone C is sustained centrally in the portion A of the stack by means of vertical rods *c*, which, owing to their vertical position, are not liable to be cut out by the upwardly-flying sparks. In the same horizontal plane as the cone C, I secure, in a suitable manner, an annular lining, G, which, if desired, may be removable. This lining, so arranged,

will protect the outer shell of the stack against the wearing or cutting action of the sparks, which are directed outward by the cone C, and strike the lining G with considerable force. At a suitable distance above the cone C, I arrange two horizontal rows of spark-arresters, D D'. These devices are made from strips of sheet metal, perforated at *a*, and bent so as to present concave bottom surfaces and convex top surfaces, as shown in Fig. 1. They are arranged parallel to each other at proper distances apart, the upper row D' being located over the spaces between those of the lower row, so that the sparks which are not arrested by the lower row will be arrested and turned back by the upper row.

The perforations through these arresters should be so small as that they will not allow sparks to pass through them; but they should not be so small as to materially obstruct the draft. These perforated arresters D D' may be applied in the stack, so that when they wear out they can be conveniently renewed.

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

The channeled and perforated spark-arresters D D', arranged in the smoke-stack above a deflecting cone, C, substantially as described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

EDWARD McDERMOTT.

Witnesses:

HENRY G. HICKS,
J. C. PLUMMER.