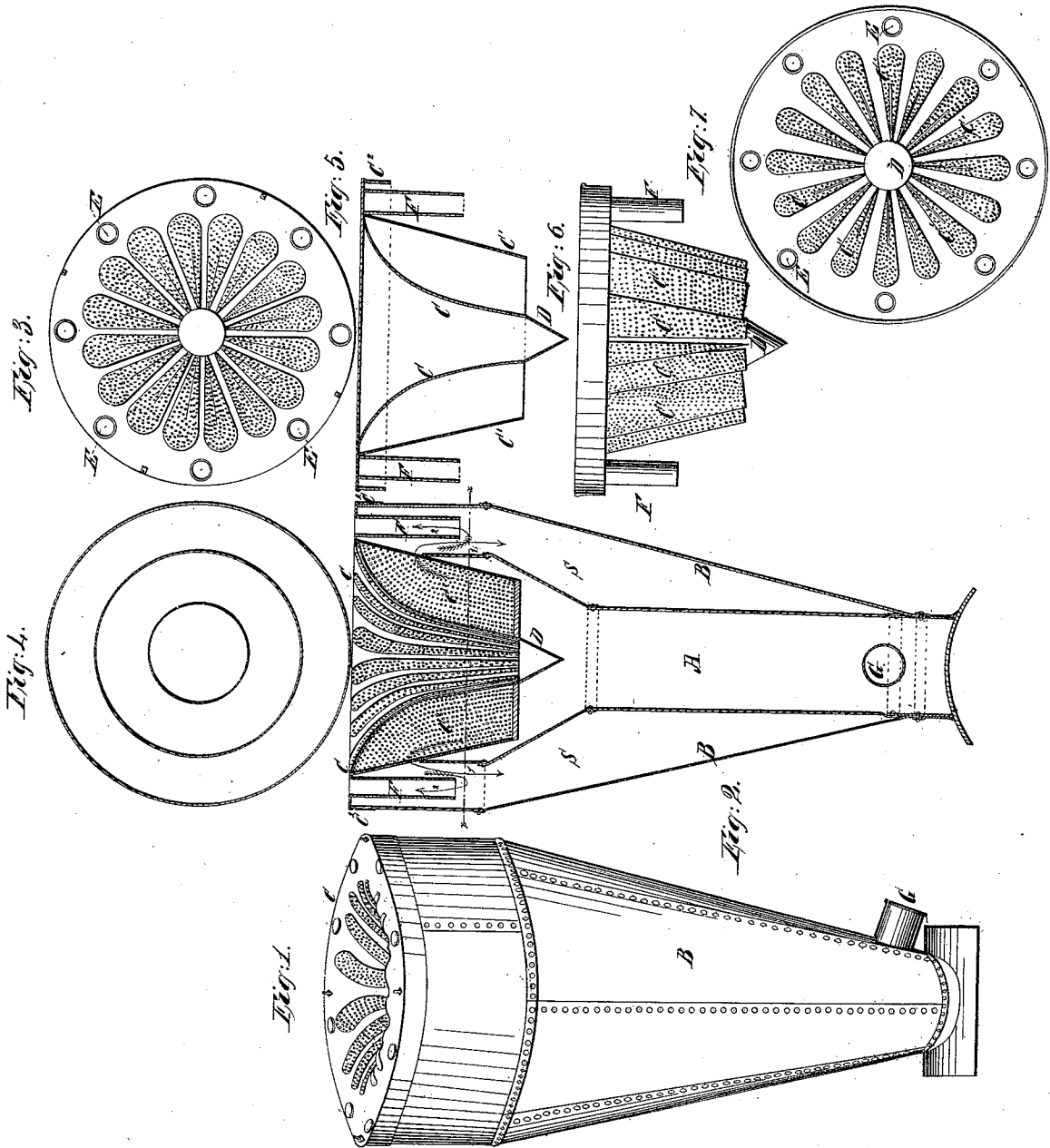


*P. Connelley,*  
*Spark Arrester.*

*N<sup>o</sup> 5538.*

*Patented Apr. 25, 1848.*



# UNITED STATES PATENT OFFICE.

PATRICK CONNELLEY, OF CINCINNATI, OHIO.

## SPARK-ARRESTER.

Specification of Letters Patent No. 5,538, dated April 25, 1848.

To all whom it may concern:

Be it known that I, PATRICK CONNELLEY, of the city of Cincinnati, in the county of Hamilton and State of Ohio, have invented  
5 a new and useful Improvement in the Construction of Spark-Arresters for Locomotive and other Engines, which is described as follows, reference being had to the annexed drawings of the same, making part  
10 of this specification

Figure 1 is a perspective view. Fig. 2 is a vertical section. Fig. 3 is a top view. Fig. 4 is a horizontal section on the line  
15 *x x* of Fig. 2, the cap being removed from the smoke pipe and jacket. Fig. 5 is a vertical section of the cap. Fig. 6 is a side elevation of the cap. Fig. 7 is a bottom view of the cap, a top view being shown in Fig. 3.

20 Similar letters in the several figures refer to corresponding parts.

The smoke pipe A and the external jacket B surrounding the smoke pipe and forming a receiver for the sparks are made  
25 and arranged in the usual manner.

My improvement consists in making the cap, or spark arrester C, in the form of the flower called the "devil's trumpet" (*Brugmansia arborea*) and perforating the leaves  
30 C' with a number of small perforations through which the smoke is to pass, but not the sparks, said leaves being closed at their lower ends where they are combined with an inverted central conical core D attached to the small end of the trumpet-shaped cap C in the manner represented in  
35 Figs. 2, 5, 6, and 7 and the upper ends open and united to the under side of the trumpet shaped cap plate *c* which is made  
40 with a series of openings in the form of the leaves of the flower above named; and which openings the said perforated leaves are arranged in the manner represented in Figs. 2, 3, 5, 6, and 7. Said cap plate having  
45 a series of circular openings E around the outer edge of the same over which are placed vertical tubes F open at both ends made fast to the under side of the cap plate

and projecting downward into the space between the smoke pipe and jacket for pro- 50 moting the draft through the cap and to carry off the smoke—the said cap having a vertical circular rim C<sup>2</sup> around its circumference of sufficient depth to fit over the outside of the vertical portion of the jacket. 55

The material of which the apparatus is composed is sheet iron, but any suitable material may be used.

The sparks in ascending through the smoke pipe strike against the curved con- 60 cave perforated leaves *c* and are directed over into the space between the sides of the smoke pipe and external jacket, wherein there is no draft and where they descend to the bottom and are removed through the 65 door of the jacket in the usual manner—while the smoke passes off through the small perforations and circle of tubes. The arrow No. 1 indicates the direction of the sparks. The arrow No. 2 indicates the direction of 70 the smoke.

I do not claim the outer case or jacket combined with the smoke pipe, and a reticulated or perforated cap for arresting sparks as this is not new; but, 75

What I do claim as my invention and desire to secure by Letters Patent is—

The combination of the perforated inverted trumpet shaped spark arrester C C' with the circle of vertical draft tubes F attached to the trumpet shaped top plate, C, made as above described and represented in Figs. 1, 2, 3, &c., forming the cap for directing the sparks into the space S between the ordinary smoke pipe and outer case where 85 they are extinguished—the smoke and escape steam passing through the small apertures in the arresters, and through the tubes, and the cinders, or extinguished sparks removed through the door G at the bottom of the 90 case B.

P. CONNELLEY.

Witnesses:

WILLIAM P. ELLIOT,

A. E. H. JOHNSON.