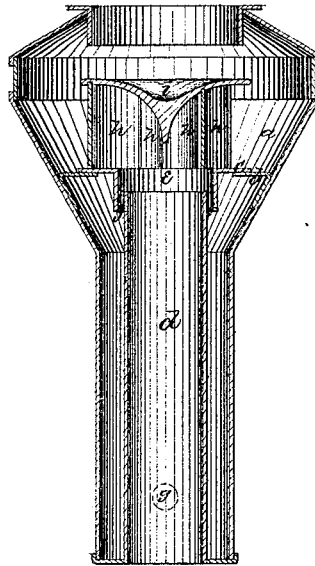
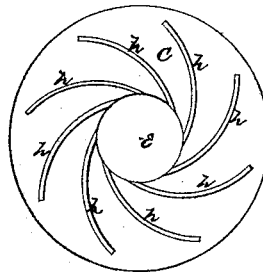


*Freeman & Fayton,*  
*Spark Arrester.*  
*No. 113155, Patented Mar. 28. 1871.*

*Fig. 1.*



*Fig. 2.*



*Witnesses*  
*John A. Guis.*  
*J. V. White.*

*Inventor's*  
*C. B. Freeman & F. Fayton,*  
*Per,*  
*J. H. Alexander*  
*Att'y*

# United States Patent Office.

BENJAMIN P. FREEMAN AND PAT. PAYTON, OF MACON, GEORGIA.

Letters Patent No. 113,155, dated March 28, 1871.

## IMPROVEMENT IN SPARK-ARRESTERS FOR LOCOMOTIVES.

The Schedule referred to in these Letters Patent and making part of the same.

### *To all whom it may concern:*

Be it known that we, BENJAMIN P. FREEMAN and PAT. PAYTON, of Macon, in the county of Bibb and State of Georgia, have invented certain new and useful Improvements in Locomotive Spark-Arresters; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon which form a part of this specification.

Our present invention is intended as an improvement upon the patent for locomotive spark-arrester granted to us May 31, 1870, antedated April 1, 1870; and

It consists in increasing the diameter of the pipe which extends downward from the arrester so as to be larger than the flue of the locomotive, thereby leaving a space around the upper end of said flue, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which our invention appertains to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 represents a sectional elevation of the stack, showing the interior arrangement, and

Figure 2 a horizontal section through the volute.

*a* is the stack;  
*b*, the knees projecting inwardly from the same;  
*c*, the arresting-disk, resting on the knees *b*;  
*d*, the pipe by which products of combustion escape from the furnace;  
*e*, a pipe extending downward through the arrester *c*;  
*h*, the volute, supported on the arrester; and

*i*, the conical deflecting cap of the volute.

The construction, object, and operation of all these parts are the same as set forth in our patent above referred to, except that, as already patented, the pipe *e* forms a continuation of the pipe or flue *d*, and fits it very close, so that when the sparks are thrown behind the arrester *c* they are confined in the body of the stack, and taken from it through the opening *g*.

Our present improvement is the opening *f*, as shown in the drawing, which is made by increasing the diameter of the pipe *e* large enough to admit the passage of sparks. By this arrangement the sparks are thrown into the body of the stack by the exhaust of a locomotive, are then drawn by the following exhaust through the opening *f*, and, striking the conical cap *i*, are again thrown into the body of the stack. This operation being repeated with each exhaust of the engine, all ignited matter is extinguished.

Having thus fully described our invention,

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

In combination with the arrester *c* and flue *d*, the pipe *e*, constructed as described, so as to form around the upper end of said flue the opening *f*, substantially as and for the purposes herein set forth.

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

BENJAMIN P. FREEMAN.  
PAT. PAYTON.

Witnesses:

J. H. HERTZ,  
J. W. TURK.