

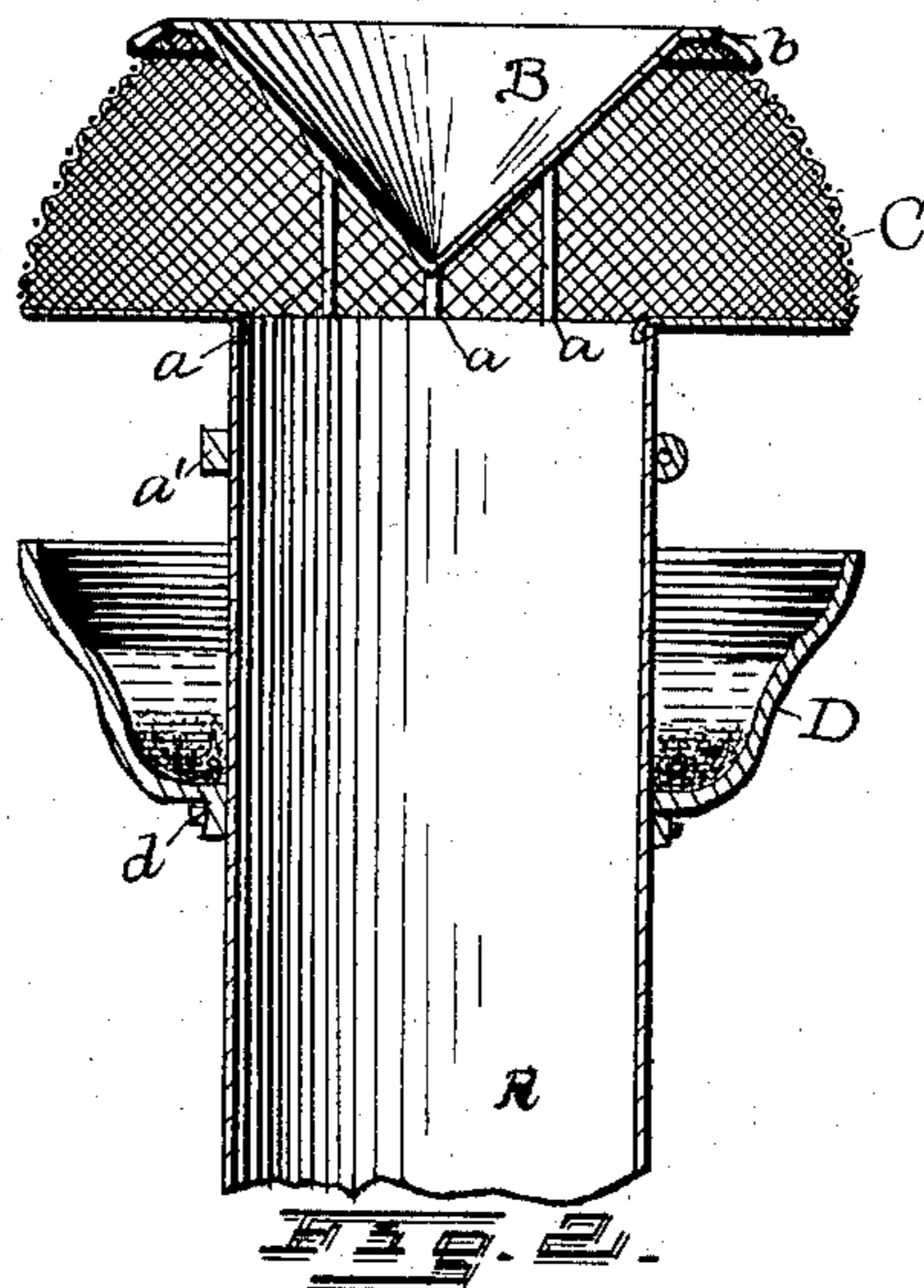
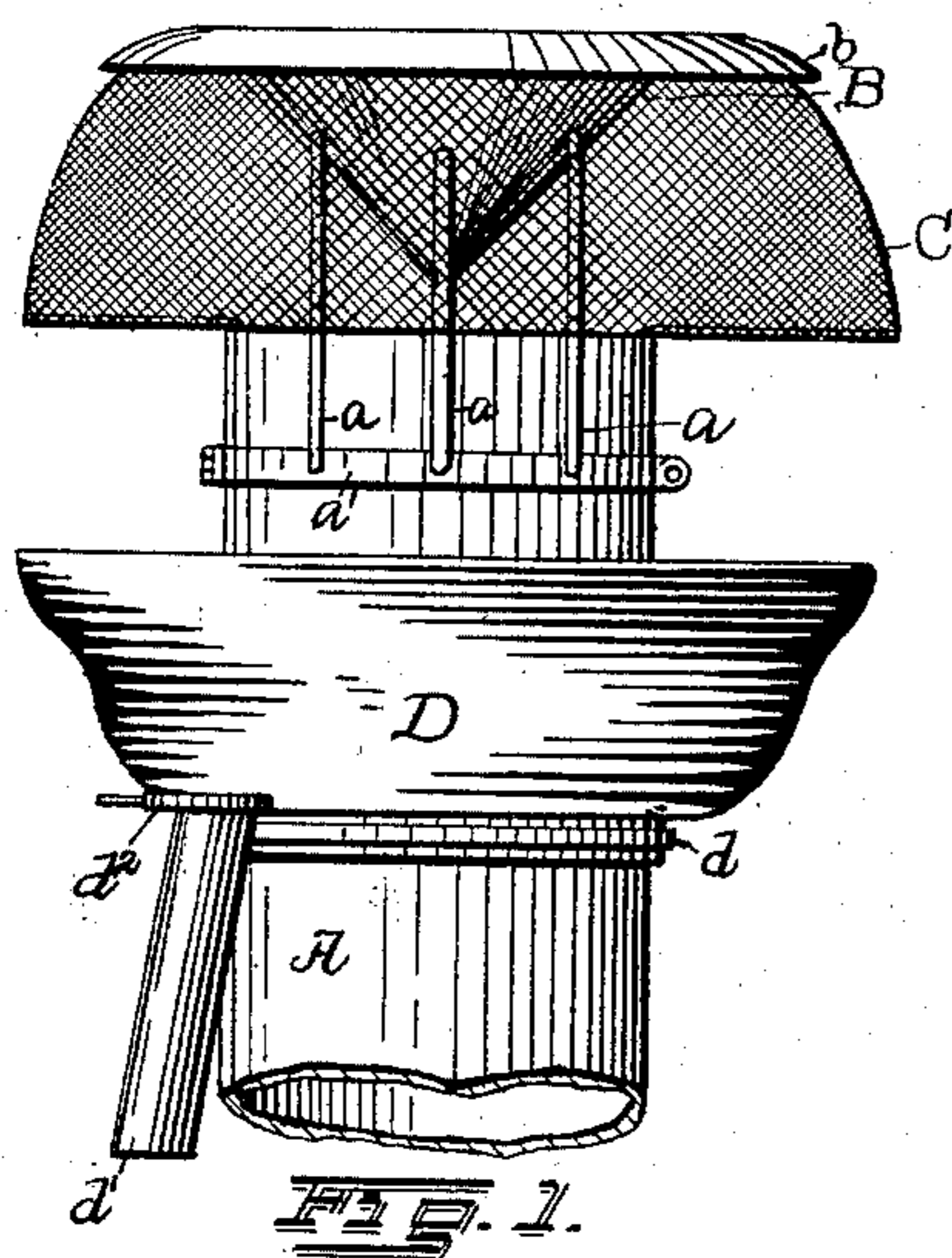
No. 609,066.

Patented Aug. 16, 1898.

A. C. WILLIAMS.
SPARK ARRESTER.

(Application filed Feb. 12, 1897.)

(No Model.)



WITNESSES

Max Abel

Henry H. Bryce

INVENTOR

Abraham C. Williams

by John Wedderburn
Attorney

UNITED STATES PATENT OFFICE.

ABRAHAM C. WILLIAMS, OF GRAVETT, ARKANSAS.

SPARK-ARRESTER.

SPECIFICATION forming part of Letters Patent No. 609,066, dated August 16, 1898.

Application filed February 12, 1897. Serial No. 623,049. (No model.)

To all whom it may concern:

Be it known that I, ABRAHAM C. WILLIAMS, a citizen of the United States, residing at Gravett, in the county of Benton and State of Arkansas, have invented certain new and useful Improvements in Spark-Arresters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in spark and cinder arresters, and has more particular relation to spark-arresters for smoke-stacks of steam-locomotives.

The invention consists of certain novel constructions, combinations, and arrangements of parts, all of which will be hereinafter more particularly set forth and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 represents a side elevation of a smoke-stack provided with my improvement. Fig. 2 represents a central vertical section through the same.

A in the drawings represents the smoke-stack; B, the inverted conical deflector; C, the deflecting-screen, and D the spark and cinder receiving tank. The said cone B, which is preferably of sheet metal, is supported in a vertical position above the mouth of the stack A by a plurality of supporting-rods *a*, either secured directly to said stack A or a clamping-band *a'*, which is secured about said stack. The upper edge of said cone B is provided with an outwardly and downwardly turned flange *b*, adapted to receive the direct impact of the spark or sparks. The screen-deflector C, which preferably has the form of a flaring cylinder, is secured at its upper end to the said flange *b* and projects downwardly and outwardly therefrom.

The spark or cinder receiving tank D is circular in formation and is mounted on the stack A directly below the lower open end of the deflector C. This tank D may be either formed integral of the stack A or may be secured thereto by a clamping-band *d*. The said tank is also provided with a discharge-chute *d'*, covered by a suitable door *d''*, or the chute may be omitted and the door alone used. Said door *d''* is adapted to fit watertight in the bottom of said tank D, so that, if desired, the tank may be partly filled with water, so that the sparks directed into it by the deflectors B and C above will be immediately extinguished.

It will be observed from the foregoing description that the smoke and products of combustion ascending through the stack A will first strike the inverted cone D and be directed outward against the flange *b* and the reticulated deflector C. The smoke proper will readily pass through this latter deflector, but the cinders will be caught by the same and directed downward into the tank D, where the sparks will be immediately extinguished by the water therein. By the employment of my invention the draft of the smoke-stack is in no wise interfered with by the respective deflectors. At the same time the escape of all cinders and sparks is effectually prevented.

This invention is particularly applicable to the stacks of threshing-machines and steam-locomotives, as the cinders and sparks ascending from the stacks of the same have long been a source of danger and annoyance.

My improved device may be applied in a few minutes to any stack already in use by simply clamping the respective bands *a'* and *b* in the proper positions about the upper end of a stack. The mesh of the deflector C is of such a size as to permit the passage of the smoke therethrough, but is sufficiently small to catch and deflect all cinders and sparks. The deflectors B and C may be adjusted vertically upon the upper end of a stack, so as to secure the proper draft in the stack and at the same time positively catch the cinders and sparks.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a spark-arrester, the combination with an inverted conical deflector, pendent spaced bars mounted upon the same, a hinged clamping ring connected to the lower ends of said bars and adapted to be drawn together by a suitable clamp-bolt whereby the deflector is secured in position above the discharge end of the smoke-stack, and a water-receptacle mounted upon the stack below its upper end, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

ABRAHAM C. WILLIAMS.

Witnesses:

H. C. JONES,
WM. FRAZER.