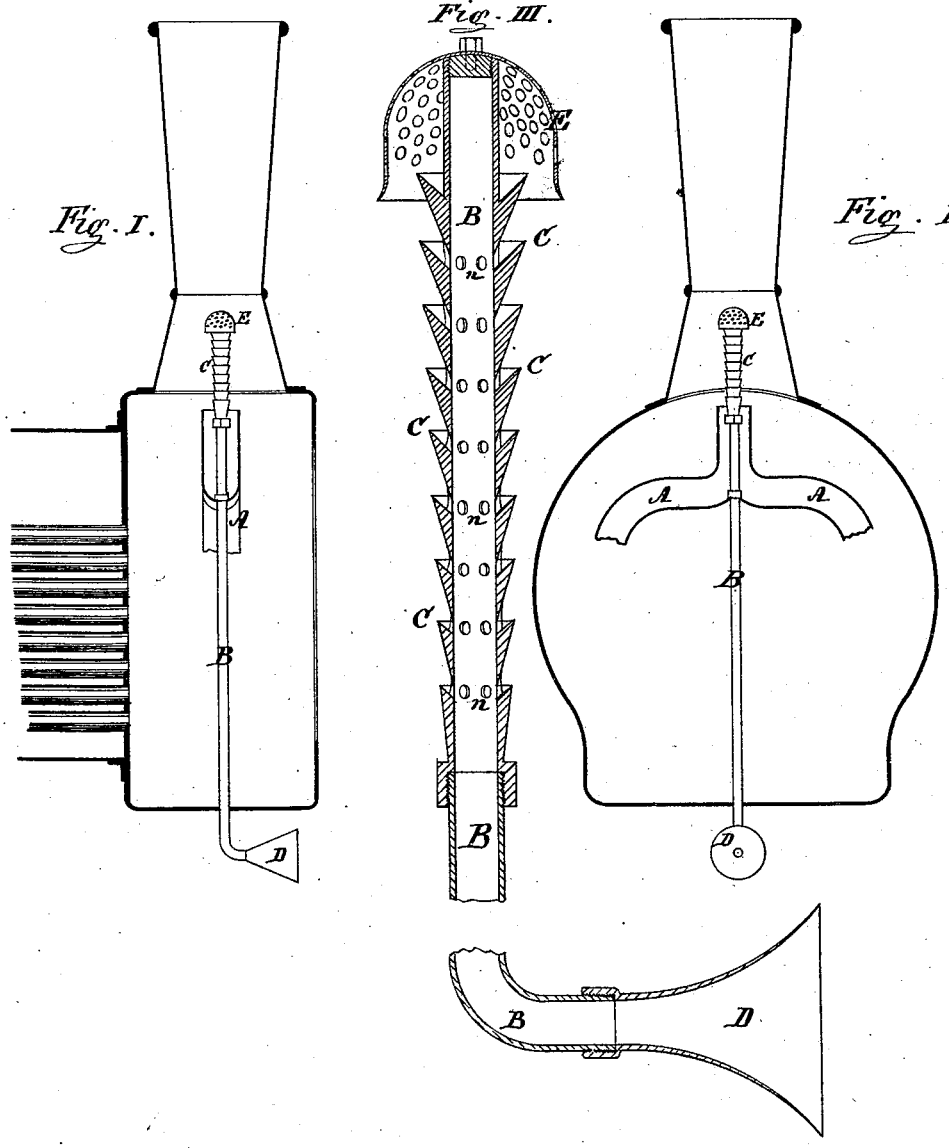
C. H. PRÜSMANN.

SPARK-EXTINGUISHER.

No. 187,047. Patented Feb. 6, 1877.

Fig. III.



Witnesses.

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UNITED STATES PATENT OFFICE.

CARL H. PRÜSMANN, OF BUCKAU, NEAR MAGDEBURG, PRUSSIA, ASSIGNOR TO BERNHARD SCHÄFFER AND CHRISTIAN BUDENBERG, OF SAME PLACE.

IMPROVEMENT IN SPARK-EXTINGUISHERS.

Specification forming part of Letters Patent No. **187,047**, dated February 6, 1877; application filed December 13, 1876.

To all whom it may concern:

Be it known that I, CARL HEINRICH PRÜSMANN, of Buckau, near Magdeburg, in the Kingdom of Prussia, have invented a new and useful Spark-Extinguisher for Locomotives and Portable Engines, which improvement is fully set forth in the following specification and accompanying drawing, in which—

Figure I is a longitudinal section of part of a locomotive-boiler, and Fig. II is a cross-section of the same, showing the manner of arranging my improvement in the same. Fig. III is an enlarged view of the extinguisher in section.

The object of my invention is the construction of an apparatus which is designed to extinguish the burning sparks rising from the fire-grate of a locomotive or portable engine before leaving the chimney, for the purpose of protecting the property alongside of railway-tracks or surrounding a portable engine against injury by fire; and my invention consists in the application of a system of nozzles, mounted upon a tube, through which atmospheric air is allowed to enter the chimney in such a manner as to condense the exhaust steam from the exhaust-pipe, and thus extinguish any burning sparks by means of this condensed steam.

In the drawing, A represents part of the exhaust-pipe. B is a tube, arranged in the central part of the exit-branch of the exhaust pipe, and extending through the smoke-box of a locomotive communicating with the external air. C is a system of nozzles fastened upon said tube B, and provided with a bell-shaped perforated hood, E. At the lower end of the tube B a bell-shaped mouth-piece or funnel, D, is attached to conduct the air into said tube.

The action of the apparatus is as follows: The exhaust steam on its exit from the exhaust-pipe will take its passage along the edges of the nozzles C of the apparatus, and acts to increase the speed of the atmospheric air, which, in consequence of the vacuum inside of the chimney, will naturally be blown into the interior of the same. The condensation of the exhaust steam is hereby so considerable that the moisture, which, by the aid of the hood E, gets distributed through the whole section of the chimney, will not allow a single spark passing the same without being extinguished.

The funnel D, attached to the lower end of the tube B, may be turned in such direction that the speed of the locomotive will increase the natural draft.

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

The bell-shaped perforated hood E, to distribute the condensed steam and air through the whole section of the chimney, substantially as set forth.

C. H. PRÜSMANN.

Witnesses:
W. HEUERMANN,
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