C. MATTONI, Jr.
Spark-Arrester.

No. 197,281. Patented Nov. 20, 1877.

Fig. 1.

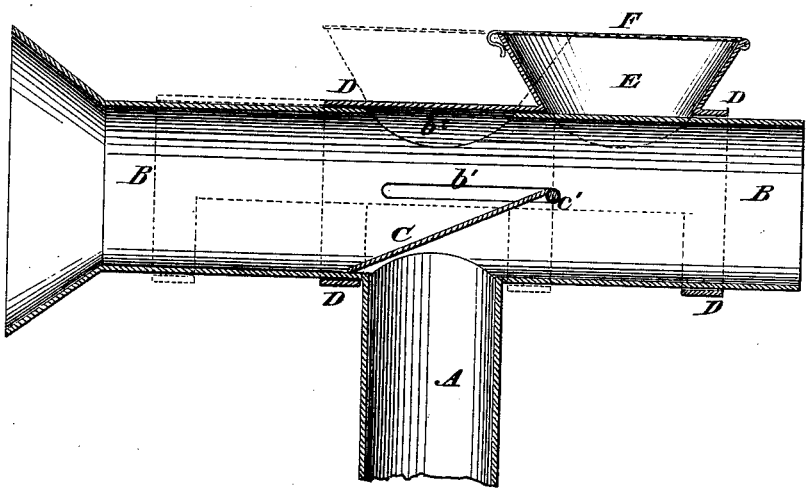
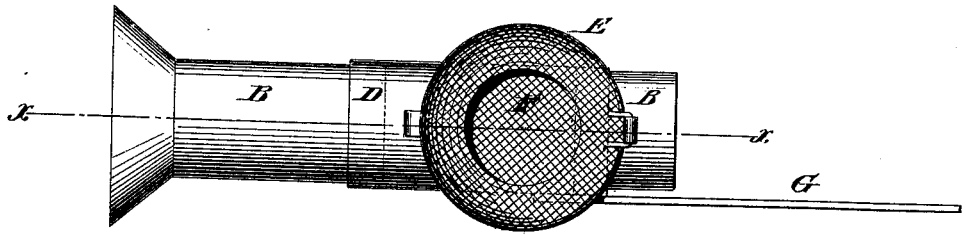


Fig. 2.



WITNESSES:
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UNITED STATES PATENT OFFICE.

CHARLES MATTONI, JR., OF BELMONT, ASSIGNOR TO HIMSELF, GIDEON O. CRANDALL, OF SAME PLACE, AND AARON MARKS, OF HORNELLSVILLE, NEW YORK.

IMPROVEMENT IN SPARK-ARRESTERS.

Specification forming part of Letters Patent No. **197,281**, dated November 20, 1877; application filed October 6, 1877.

To all whom it may concern:

Be it known that I, CHARLES MATTONI, Jr., of Belmont, in the county of Allegany and State of New York, have invented a new and useful Improvement in Spark-Arresters, of which the following is a specification:

Figure 1 is a vertical longitudinal section of my improved spark-arrester, taken through the line *x x*, Fig. 2; and Fig. 2 is a top view of the same.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved device to be attached to locomotive smoke-stacks, to arrest the sparks and prevent the smoke from entering the cars and annoying the passengers, and to be attached to passenger-cars, public halls, house-tops, chimney-tops, and other places where it is desired to increase or induce an upward draft, and which shall be simple in construction, effective in use, and not liable to get out of order.

The invention will first be described in connection with the drawing, and then pointed out in the claim.

A represents the smoke-stack of a locomotive or other draft-flue, to the upper end of which is attached a horizontal pipe or hollow cylinder, B, provided with a flaring mouth-piece.

In the cylinder B, directly over the mouth of the pipe A, is placed an inclined plate, C, the lower forward end of which rests, fits, and slides upon the concave bottom of the cylinder B. The upper rear end of the plate C is attached to a rod or pin, c', which passes through slots b^1 in the sides of the cylinder B, and its ends are attached to a cylinder or jacket, D, placed upon the cylinder B. The lower part of the cylinder D is cut away to receive the pipe A, and allow the said cylinder D to slide back and forth upon the cylinder B. In the top of the cylinder B, directly over the pipe A, is formed a hole, b^2, which is covered by the cylinder D. In the rear part of the top of the cylinder D is formed a hole, in which is secured a funnel, E, which is covered with wire-gauze F.

With this construction, when the locomotive is in motion, a current of air will be forced through the cylinder B, which, as it passes over the inclined plate C, tends to form a vacuum beneath the plate C, and thus increases the draft through the pipe A, and carries the cinders and smoke back through the cylinder B.

Other pipes are designed to be connected with the rear end of the cylinder B, leading back to the tender, where the sparks and cinders are deposited in a reservoir, the smoke being carried down at the sides of the tender, or carried back to the rear end of the train. When firing up, and a direct draft is required, the cylinder D is pushed forward, removing the plate C from over the pipe A, and bringing the funnel E directly over the said pipe A, so that the smoke can pass out in a vertical line. When ready to start, the cylinder D is drawn back to its former position.

The cylinder D and its attachments are moved forward and back by a rod, G, attached to the said cylinder D, and extending back to the cab of the engine.

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

The combination of the horizontal cylinder B, the inclined plate C, the outer sliding cylinder D, and the funnel E, with the stack or flue A, operating together, substantially as herein shown and described.

CHAS. MATTONI, JR.

Witnesses:

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