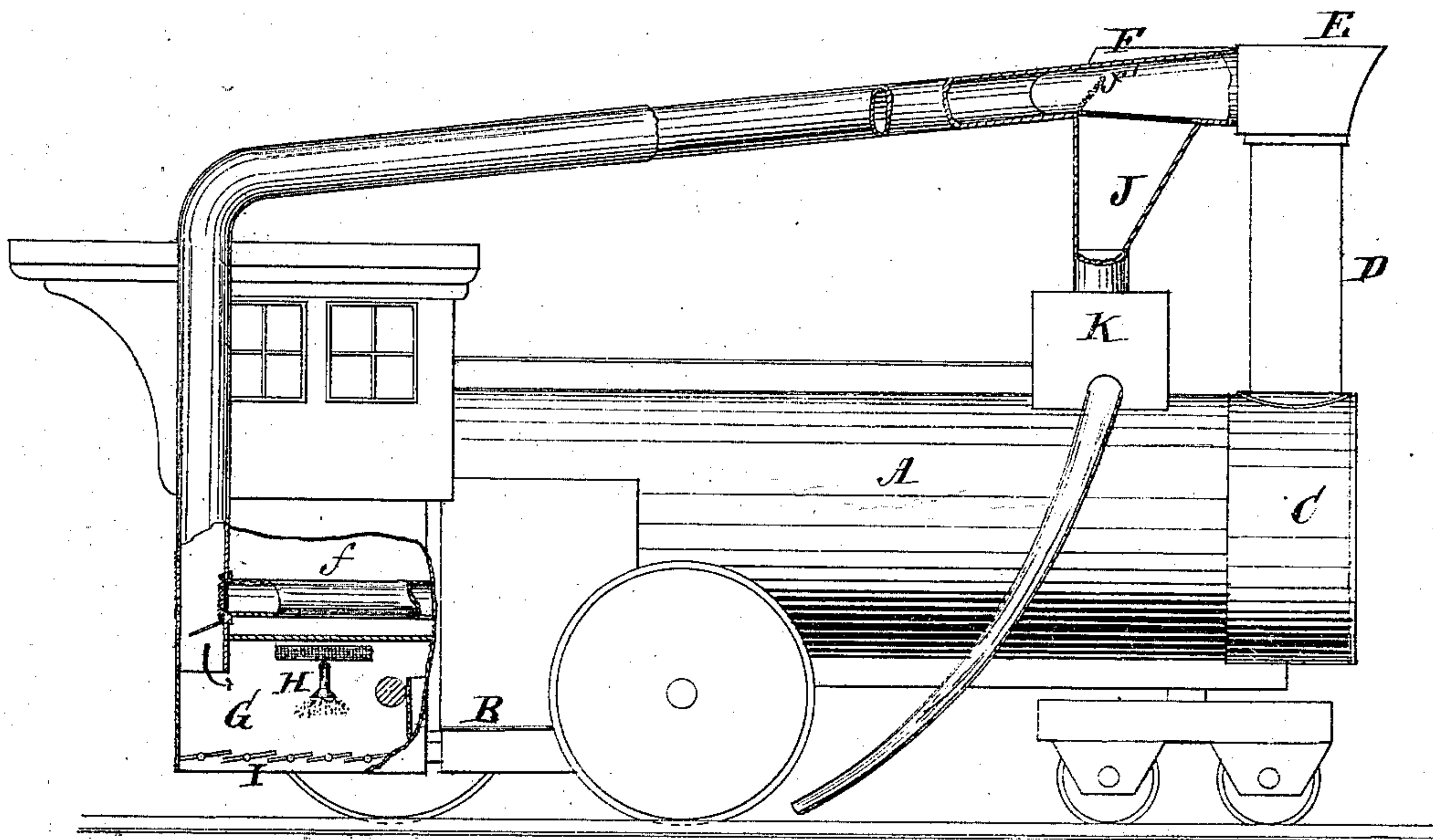


W. MARTIEN.

Spark-Arrester for Locomotives.

No. 133,656.

Patented Dec. 3, 1872.



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM MARTIEN, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN SPARK-ARRESTERS FOR LOCOMOTIVES.

Specification forming part of Letters Patent No. **133,656**, dated December 3, 1872.

CASE B.

To all whom it may concern:

Be it known that I, WILLIAM MARTIEN, of Baltimore, in the county of Baltimore and State of Maryland, have invented a Spark-Arrester and Smoke-Consumer for Freight-Locomotives, of which the following is a specification:

The invention relates to that special class of locomotives which are used for freight-cars; and consists in combining, with a hooded smoke-stack, a bi-branched pipe, through which are forced the cinders, sparks, and smoke—the two former into cinder-boxes prepared to receive them, and the latter into the fire-box.

In the drawing, the figure is a side elevation, partly broken out.

A in the drawing represents the boiler; B, the fire-box; C, the smoke-box; D, the smoke-stack; E, a hood or cover opening out toward the front of locomotive; and F, a bi-branched pipe connecting with hood, passing down on each side of cab, and connecting with both fire-box and cinder-boxes G G. H is a water-jet pipe leading from feed-water pipe, and employed to extinguish the fire still burning in cinders after they have reached boxes. I I are slat-folding bottoms in the cinder-boxes, which are opened at suitable times to allow egress to the cinders.

The operation is as follows: The sparks, smoke, and cinders, passing from fire-box and into smoke-box, ascend the smoke-stack, and are stopped by the hood or cover E. Being then taken by the draft from the front, they are carried backward through pipe F and the cinders dropped into boxes G G, while the smoke passes through pipes *f f* into the fire-box. On the under side of pipe F is joined a vertical pipe, J, into which the heavier cinders fall by their own

gravity, and are conveyed to sand-box K, from whence they may be discharged on the track, with or without sand.

It is well known that a sand-box is employed on locomotives for creating friction on the rails where the latter are wet, or where, for other reasons, the wheels slip and will not take hold on the rail. These sand-boxes are provided with valves or dampers and connecting mechanism, by which a person in the cab may discharge the sand whenever there is a necessity for it. It is discharged on the rail in front of the driving-wheels, and is sometimes swept off by brushes placed behind the wheels. These sand-boxes require repeated filling, while, by connecting my pipe F by tube with the sand-box K, and emptying the cinders thereinto, no necessity any longer exists for the use of sand, while the supply is automatic, never-failing, and without the use of hand labor. In pipe F is a sieve, *f'*, which arrests the heavier cinders and directs them into pipe J.

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

1. The smoke-stack D having hood or cover E, combined with pipe F *f*, cinder-boxes G, and fire-box B, constructed and arranged as and for the purpose described.

2. The means described for taking the cinders from pipe F and distributing them on the rails, consisting of the pipe J and box K having lateral pipes discharging in front of wheels, in the manner and for the purpose set forth.

WILLIAM MARTIEN.

Witnesses:

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