

J. J. FREY.
 Smoke and Cinder Conductor for Railroad Trains.
 No. 209,672. Patented Nov. 5, 1878.

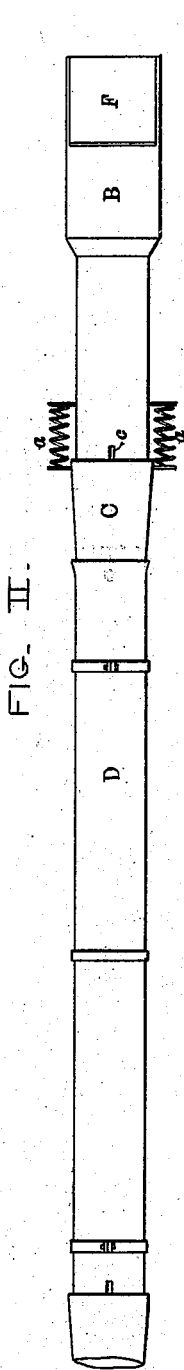


FIG. II.

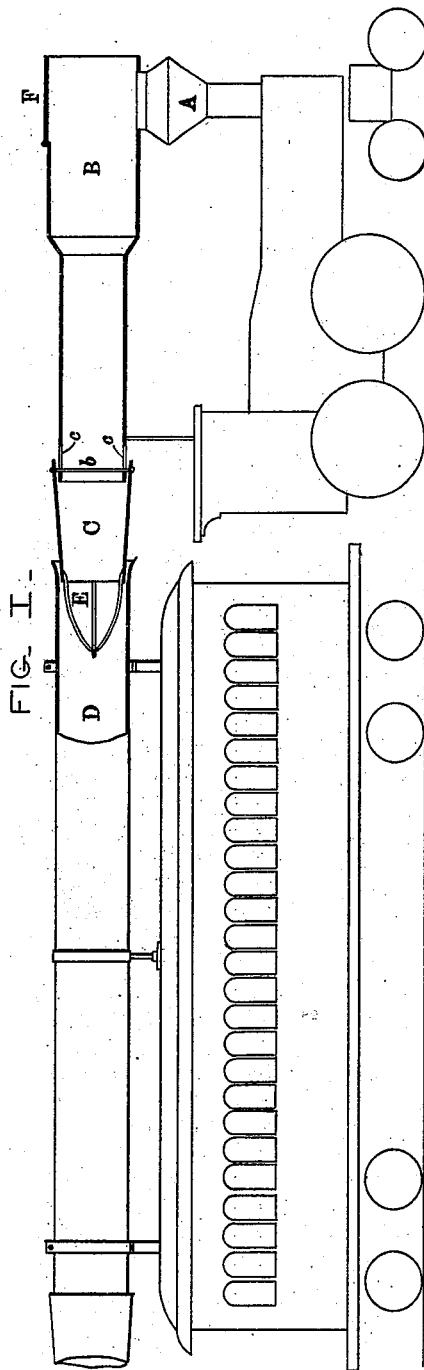


FIG. I.

—WITNESSES—

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UNITED STATES PATENT OFFICE.

JOHN J. FREY, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN SMOKE AND CINDER CONDUCTORS FOR RAILROAD-TRAINS.

Specification forming part of Letters Patent No. **209,672**, dated November 5, 1878; application filed July 11, 1878.

To all whom it may concern:

Be it known that I, JOHN J. FREY, of the city of Baltimore and State of Maryland, have invented certain Improvements in Smoke and Cinder Conductors for Railroad-Trains, of which the following is a specification; and I do hereby declare that in the same is contained a full, clear, and exact description of my said invention, reference being made to the accompanying drawing, and to the letters of reference marked thereon.

This invention relates to certain improvements in devices for conducting smoke, cinders, sparks, &c., from the smoke-pipe of a locomotive-engine to the rear end of the train; and consists in certain details of construction of the said devices, as will hereinafter fully appear.

In the description of the said invention which follows, reference is made to the accompanying drawing, forming a part hereof, and in which—

Figure 1 is an exterior side view of parts of a locomotive-engine and car, showing the invention partly in section; and Fig. 2, a plan of the invention.

Similar letters of reference indicate similar parts of the invention in both views.

A is the smoke-pipe of the engine, and B a funnel secured to the said smoke-pipe, and leading to near the rear end of the engine. The rear end of the funnel is cylindrical in form, and provided with a flexibly-attached extension, C, consisting of a tapering pipe connected to the said funnel by means of the springs *a* and a bolt or rod, *b*, which passes through a slot, *c*, in the funnel. By this means the funnel and its extension-pipe are capable of a telescopic movement, and the outer end of the said extension-pipe of sufficient lateral and vertical adjustment to enable it to connect with a pipe, D, located on an adjoining car or tender when the same is not in a direct

line therewith. It also allows of the car's turning a curve without injury to any part of the apparatus, as will be readily understood.

The smoke-conducting pipe D on the car or tender is provided with a flexibly-attached extension at one end thereof similar to that shown in connection with the funnel on the engine, and in order to admit of either end of the car being adapted as the forward one, the said pipe is pivoted about centrally of the car and provided with locking devices, substantially as shown. The free end of each extension-pipe is fitted with a pointed wire cage, E, which enters the adjoining stationary pipe, and guides the said extension-pipe to its proper place.

F is a hinged door, located directly above the smoke-pipe, which is opened when the train is stationary, to allow the smoke to ascend.

When the train is in motion a current is formed through the pipes described, the smoke, cinders, &c., being conducted to the rear end of the train without entering the cars.

Having thus described my invention, what I claim as new, and wish to secure by Letters Patent of the United States, is—

The engine or funnel pipe B, provided with the extension C and cage E, flexibly connected to said funnel through the medium of the slots *c*, bolt *b*, and springs *a*, combined with train-pipes centrally pivoted, as described, and each provided with one open end, and an end fitted with a flexible connection corresponding with that applied to the engine-funnel, all arranged substantially as set forth.

In testimony whereof I have hereunto subscribed my name this 28th day of May, in the year of our Lord 1878.

JOHN J. FREY.

Witnesses:

THOS. MURDOCK,
W. W. WHARTON.