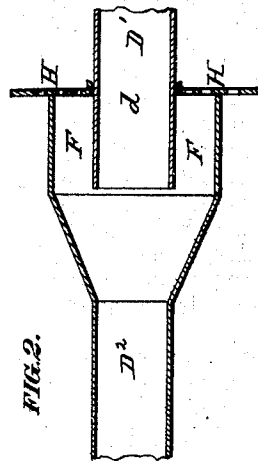
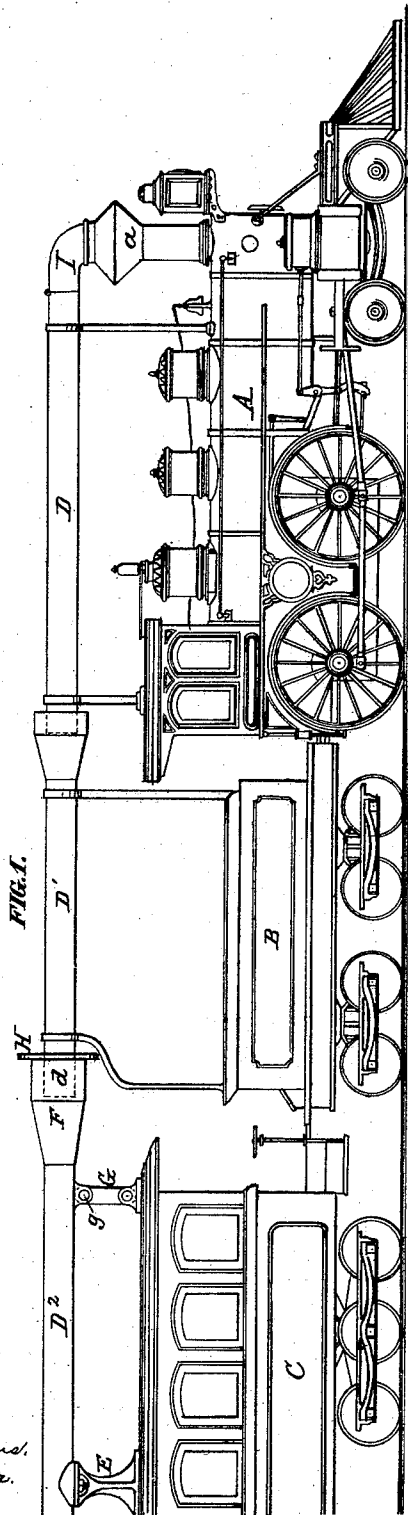


J. S. THOMAS.

Smoke-Conveyors for Locomotives.

No. 156,187.

Patented Oct. 20, 1874.



ATTEST:

Robert Burns,
Henry Tanner.

INVENTOR:

John S. Thomas,
By Knight Bros.
Atty.

UNITED STATES PATENT OFFICE.

JOHN S. THOMAS, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN SMOKE-CONVEYERS FOR LOCOMOTIVES.

Specification forming part of Letters Patent No. **156,187**, dated October 20, 1874; application filed September 14, 1874.

To all whom it may concern:

Be it known that I, JOHN S. THOMAS, of St. Louis, St. Louis county, State of Missouri, have invented new and useful Improvements in Smoke-Conveyers for Railway-Trains, of which the following is a specification:

This invention consists in placing above the locomotive, tender, and cars sections of a pipe, extending, when connected, the whole length of the train, each section having a central connection to the car, on which it is turned to reverse it end for end. The joints between the sections are made so as to allow the necessary movement. The forward end of each section has an enlarged mouth, which receives the rear end of the next section, and on the latter slides a loose disk or shield, which covers the said mouth.

This shield may be perforated to allow more or less air to pass through it. It is held in contact with the mouth by the pressure of air resulting from the forward movement of the train.

The front end of the front section of pipe has a jointed cap, which may be thrown down over the top of the chimney to connect the pipe therewith, or may be thrown over backward to disconnect it.

In the drawings, Figure 1 is a side view of a locomotive, tender, and part of the first car of a train, to which my apparatus is applied. Fig. 2 is an axial section of one of the pipe-joints.

A is the locomotive; B, the tender, and C the front portion of a car. D D¹ D² are sections of pipe supported over the locomotive, tender, and cars, respectively. The sections over the cars are supported on a central standard, E, the connection between the standard and pipe being made by means of a socket or other joint, which will allow of the pipe being turned around end for end on said joint, so as to bring its forward end to whichever end of the car may be forward in the train. At the front end of each section is an enlarged mouth, F, which receives the rear end *d* of the next section of pipe.

The enlargement F has sufficient diameter

to allow the end *d* to move in it as the cars move laterally and vertically in relation to each other; and the end *d* is inserted a sufficient distance into the mouth or enlargement F to allow of relative longitudinal movement in the cars without detriment to the connection between the sections.

The pipe-sections may be steadied upon their central hinged support (when in action) by attachment to the car at one or both ends. The means I adopt is to place at one or both ends of the car top a standard, G, hinged at the bottom, so as to fall longitudinally, and whose upper end, when raised, is connected to lugs upon the lower side of the pipe-section D² by a pin, *g*.

H is a cap or shield to close the annular opening of the mouth F outside the pipe end *d*. The said cap or shield slides on the end *d*, and is so loosely fitted upon it that it may oscillate thereon sufficiently for the rear side of the shield to remain in contact with the edge of the mouth during the flexions of the joint, the shield sliding freely against the edge of the mouth, and having sufficient breadth to lap past the edge in all positions of the joint.

The shield is preferably perforated to allow the passage of air through it to accelerate the passage of smoke through the pipe. The shield is kept in contact with the mouth by the pressure of air resulting from the movement of the train.

The pipe D is connected to the smoke-stack *a* by a hinged cap, I, that may be swung back, when desired, from the smoke-stack, so as to allow the smoke to escape therefrom without passing back through the pipes D D¹ D².

The operation of the apparatus is as follows: The connections between the sections being made and the train in motion, the smoke passes from the smoke-stack *a* into the pipe-sections D D¹ D², the discharge of the smoke at the rear end of the pipe being assisted by the partial vacuum caused by the forward motion of the train.

The cap or shield H may be dispensed with, and in this case the air carried into the mouth

F by the forward motion of the train causes a forcible draft through the pipe D D¹ D² to carry the smoke and sparks through the pipe.

I claim as my invention—

1. The pipes D D¹, &c., having each an enlarged mouth, F, and provided with a loose cap, H, supported above the train and connected to the locomotive smoke-stack, substantially as set forth.

2. The combination of the car C, pipe D², pivot-standard E at or near the center of the pipe, and end attachment G, all substantially as and for the purpose set forth.

JOHN S. THOMAS.

Witnesses:

SAML. KNIGHT,
ROBERT BURNS.