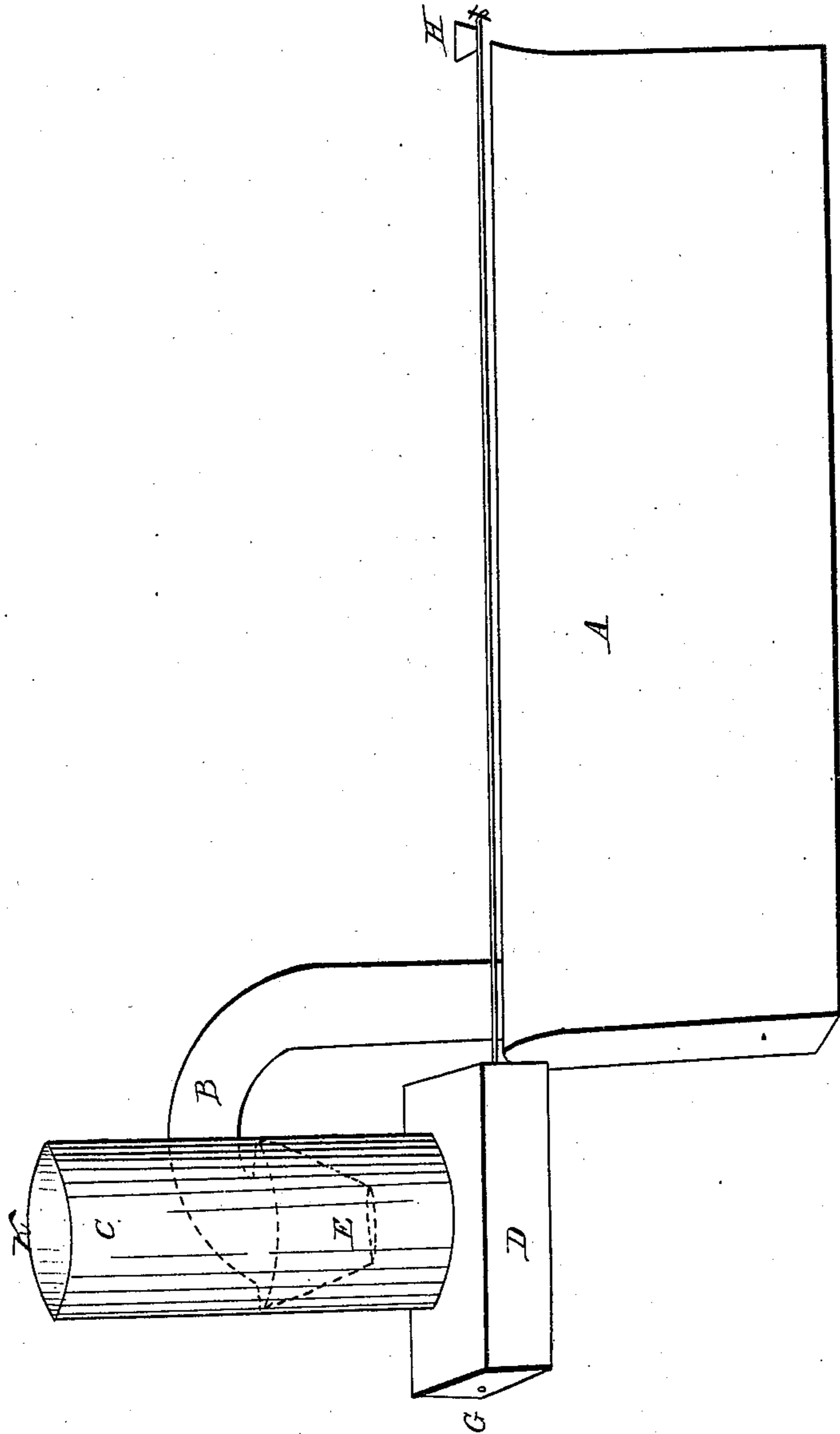


*T. Newhall, Jr.,
Spark Arrester,*

No 585,

Patented Jan. 27, 1838



Witnesses.

*Benj. C. Honkida
Geo. Newhall*

Inventor.

Timothy Newhall Jr.

UNITED STATES PATENT OFFICE.

TIMOTHY NEWHALL, JR., OF LYNN, MASSACHUSETTS.

APPARATUS FOR EXTINGUISHING SPARKS IN THE CHIMNEYS OF STEAM-BOILERS
FOR LOCOMOTIVES, STEAMBOATS, &c.

Specification of Letters Patent No. 585, dated January 27, 1838.

To all whom it may concern:

Be it known that I, TIMOTHY NEWHALL, Jr., of Lynn, in the county of Essex and in the State of Massachusetts, have invented a
5 new and useful Improvement for Preventing Sparks and Cinders Escaping from Funnel or Chimneys of Railroad-Locomotives; and I do declare the following is a full and exact description.
10 As there is steam thrown into the chimneys of locomotives to increase the draft of the furnace, the sparks are driven out and annoy passengers, &c., to prevent this I have invented an improvement which operates in the following manner: The fire is
15 built at one end of the boiler A and the blaze passes through a number of tubes which extend through the boiler. When the engine is put in motion steam is let into the
20 funnel B, like the discharge of a gun, which causes such a quick and sudden draft that it carries cinders and sparks through the tubes in A, up into the funnel B, down through the same very rapid into the box D,
25 which contains a few inches of water, with which they become saturated. When the

steam and cinders strike the water with great force which is in D, it would soon fly out and waste, and then the cinders would bounce out. To prevent these effects I have
30 a conical funnel E, inside of the funnel C, which prevents the waste of water and the escape of cinders. The funnel C, is to carry off the smoke and retain the sparks and cinders with the water in their place with the
35 assistance of the conical funnel E. The tube H, is to draw out (water) or to put water into the vessel D, as the case may require. G, is an opening to clean out the sparks. 40

What I claim as my invention and desire to secure by Letters Patent is—

The manner of applying the conical funnel E, for the purpose of preventing the waste of water, and this I claim in combination with the other parts of the apparatus
45 with which it is connected, substantially in the manner set forth.

TIMOTHY NEWHALL, JR.

Witnesses:

JAMES WHEELER, JUNI,
JONATHAN S. TARBOX.