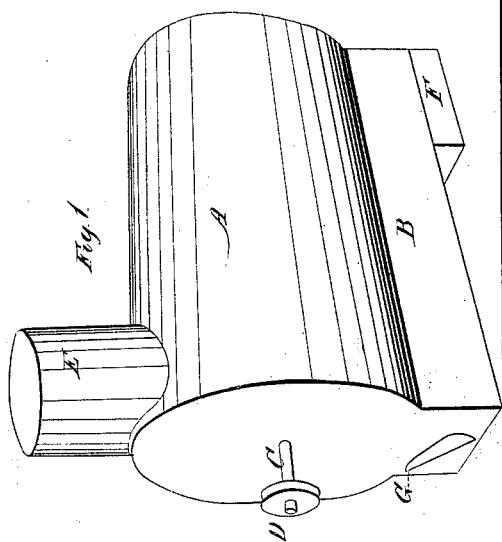


*J. Finlay,*  
*Spark Arrester,*

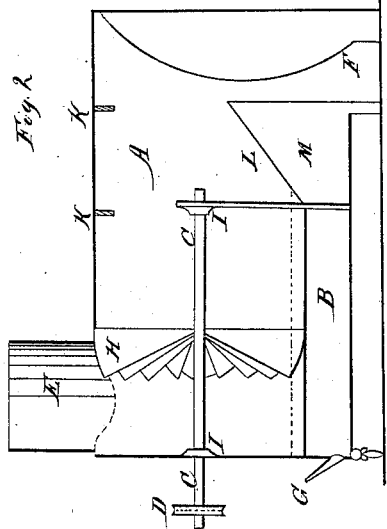
*No. 1,042,*

*Patented Dec. 28, 1838.*



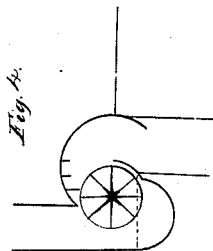
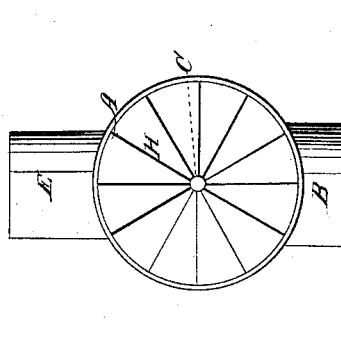
*Fig. 1.*

*Witnesses.*  
*John H. Hubbard*  
*Chas. L. Benson*



*Fig. 2.*

*Fig. 3.*



*Fig. 4.*

*Inventor*  
*John Finlay*

# UNITED STATES PATENT OFFICE.

JOHN FINLAY, OF BALTIMORE, MARYLAND.

## APPARATUS FOR EXTINGUISHING SPARKS AND ARRESTING CINDERS IN THE CHIMNEYS OF LOCOMOTIVES AND OTHER STEAM-ENGINES.

Specification of Letters Patent No. 1,042, dated December 28, 1838.

*To all whom it may concern:*

Be it known that I, JOHN FINLAY, of the city of Baltimore, in the State of Maryland, have made certain improvements in the construction of chimneys or stacks of steam-boats, locomotives, or other steam-engines, by which I destroy the sparks and arrest the cinders arising therefrom so effectually as to render them perfectly safe for passengers, goods, or property.

My improvements are described as follows, reference being had to the annexed drawings, or representations, the same making part of this specification.

The nature of my improvement consists in providing a cylindrical box or drum, the bottom portion of which is so constructed as to form a square case, in which water is contained. Through the center of the body of the cylindrical box runs a mandrel sustained at each end of the cylinder by collars in which the mandrel revolves, one end projecting beyond the collar outside the cylinder, upon which is a small grooved wheel, by means of which the motive power is communicated. From this end of the cylindrical box, the chimney or stack rises to convey off the smoke. A square opening at the other end of the cylindrical box underneath, forming a part of the square case above mentioned, admits of the juncture of this apparatus with any chimney or stack. The smoke arising from the furnace passes through this square and enters into the body of the cylinder; at the other end of which on reaching the chimney or stack, it encounters the action of a wheel, constructed

with arms or wings, similar to a ventilating or fan wheel. This wheel is placed upon the mandrel above described, and so constructed as to allow the lower rim or periphery of the wheel to revolve constantly in the water contained in the water case above described. The peculiar construction of this wheel causes the water to be lifted and dashed in sprays against the surrounding sides and end of the cylindrical box forward of the wheel. The water which may escape back of the wheel is arrested by guards attached at suitable points to the upper and inner surface of the cylindrical box, which effectually checks the water or spray and returns it by means of an inclined plate to the water case. It is the action of this wheel upon the water which produces the effect of arresting and extinguishing sparks and cinders.

Now what I claim as my improvement, and which I desire to secure by Letters Patent, consists in—

The use and application of a ventilating or a fan wheel revolving through the water contained in a water case; thereby extinguishing and arresting the upward tendency or escape of sparks and cinders, they being thrown downward into the water case, and the smoke only escaping through the chimney or stack, the whole constructed substantially in the manner herein described, and represented in the accompanying drawings.

JOHN FINLAY.

Witnesses:

JOHN W. HUBBARD,  
C. H. WILTBERGER.