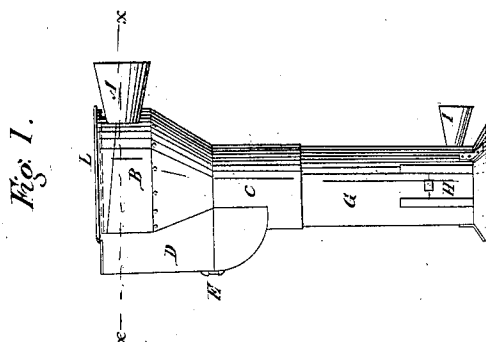
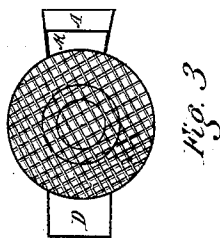
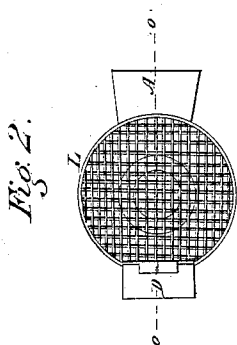
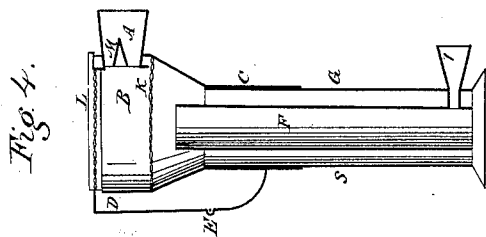


*H. Wilton,*  
*Spark Arrester,*  
*No. 1,292,*  
*Patented Aug. 17, 1839.*



# UNITED STATES PATENT OFFICE.

HENRY WILTON, OF WRIGHTSVILLE, PENNSYLVANIA.

## SPARK-CATCHER.

Specification of Letters Patent No. 1,292, dated August 17, 1839.

*To all whom it may concern:*

Be it known that I, HENRY WILTON, of Wrightsville, in the county of York and State of Pennsylvania, have invented a new and useful Improvement in the Construction of Chimneys of Locomotive-Engines for Arresting the Sparks, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

The nature of my invention consists in inserting a horizontal funnel A in the side of the chimney cap B for collecting the wind to increase the draft and forming a conductor D on the opposite side of the cap from that in which the funnel is placed for conducting the sparks from the top of the cap down on the outside to an aperture in a neck or collar C of the cap communicating with the chamber S between the outer and inner flues F and G, where the sparks are collected and from whence they are removed through a door H near the bottom of the outer flue G, and inserting a funnel I into the inner flue F communicating with the external atmosphere for the purpose of increasing the draft of the chimney, and in making the cap B to turn freely on top of the outer flue G, so as always to present the mouth of the funnel to the wind, and in hinging the cap to the neck of the same, so that it can be turned down to allow of passing under low bridges, &c.

Figure 1 is a side elevation. Fig. 2 is a plan of the top. Fig. 3 is a horizontal section through *xx* of Fig. 1. Fig. 4 is a vertical section through *oo* of Fig. 2.

In the several figures similar letters refer to similar parts, namely: A in Figs. 1, 2, 3, 4 represents the funnel inserted in the cap; B, the cap; C, the neck or collar of the cap; D, the conductor for conducting the sparks from the cap to the outer flue; E, hinges of the cap to allow it to be turned down in passing bridges, &c.; F, the inner flue; G, the outer flue; H, door in the outer flue for discharging the sparks; I, funnel leading to the inner flue near the bottom thereof for increasing the draft; K, wire gauze across the center of the cap; L, wire gauze over

the top of the cap; M, triangular prism placed across the center of the funnel for dividing the current of air between the two sheets of wire gauze.

The outer and inner flues are made in the usual manner excepting the openings in the same for the bottom funnel I for increasing the draft in the flue by the cold air rushing in through said funnel to the flue filled with rarefied air and gases. The partitions K L of wire net work in the cap B are likewise made in the usual manner, the upper one L being of finer meshes than the lower one K.

The funnel A is made of sheet iron, flaring outward from the cap, its larger end being always pointing in the direction of the movement of the locomotive engine. The triangular prism M in the funnel is also made of sheet iron, its base being about one third as large as the smaller opening of the funnel in which it is placed and its apex being about in the center of the funnel.

The conductor D for conveying the sparks from the cap B down to the space S between the inner and outer flues consists of an enlargement of the cap B on the opposite side from that in which the funnel and prism are placed, covering an opening in the side of the cap and another opening in the neck or collar through which the sparks pass from the one to the other. The hinge E for allowing the cap to be turned down is in this enlargement. The door H through which the sparks are removed is made in the usual manner.

The invention claimed and desired to be secured by Letters Patent consists in—

The before described combination of the funnel, prism and conductor with the ordinary flues, cap, and wire gauze, for preventing the escape of sparks at the top of the chimney of locomotive engines, as before described; also inserting the funnel I in the inner flue near the bottom for increasing the draft, as before described.

HENRY WILTON.

Witnesses:

WM. P. ELLIOT,  
EDMD. MAHER.