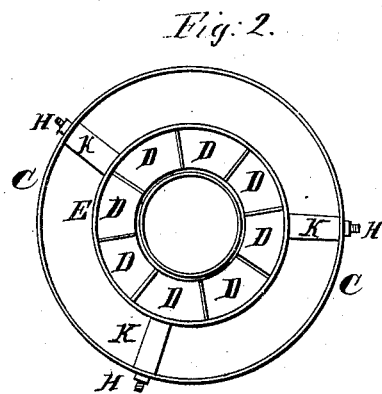
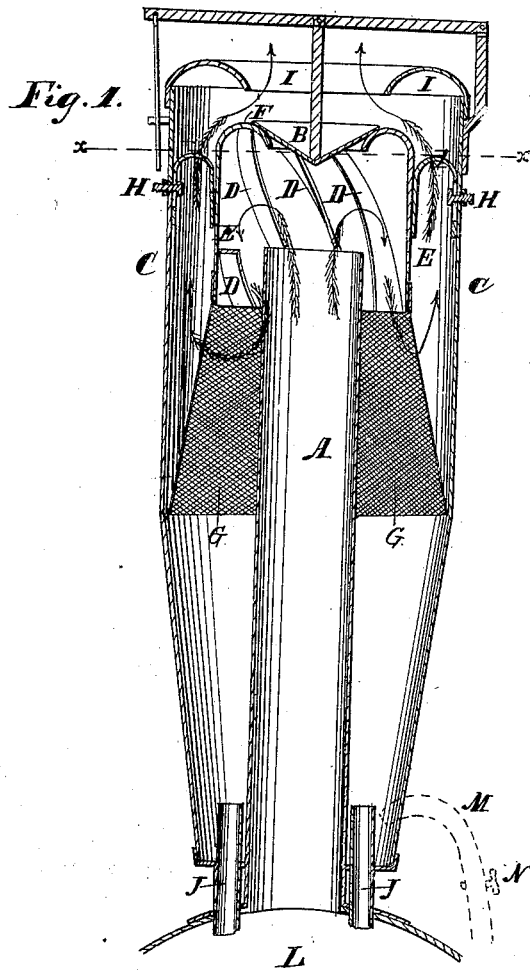


J. HODGE.
SPARK ARRESTER.

No. 2,685.

Patented June 22, 1842.



UNITED STATES PATENT OFFICE.

JONATHAN HODGES, OF TAUNTON, MASSACHUSETTS.

SPARK-ARRESTER.

Specification of Letters Patent No. 2,685, dated June 22, 1842.

To all whom it may concern:

Be it known that I, JONATHAN HODGES, of Taunton, in the county of Bristol and State of Massachusetts, have invented a new and useful Improvement in Spark-Arresters for Locomotive-Engines, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification, of which—

Figure 1 is a vertical section through the center of the chimney. Fig. 2 is a horizontal section at the line *x x* of Fig. 1.

The chimney A, inverted conical cap B, outer case *c* of chimney, are made in the usual manner.

The improvement consists in arranging a circle of spiral, winding or screw formed segment slate D around the upper part of the chimney and below the inverted conical cap B for arresting and turning downward the sparks and combining therewith a cylinder E of larger diameter than the chimney and smaller diameter than the outer case arranged concentric therewith leaving a space between it and the chimney equal to the width of the slats which occupy said space also a space between the cylinder and case, the upper ends of the winding slats coming against the under side of the inner circular concave disk F, which forms part of the concentric cylinder E.

The concentric cylinder extends from said disk to the lower ends of the spiral slats the outer edges of said slats being secured to the inside thereof to which at its lower end is secured a cylindrical reticulated wire guard G whose meshes are smaller than the sparks for preventing their passage through the same, made flaring outward till its larger diameter fills the space between the cylinder and case. That cylinder containing the spiral slats circular disk inverted cone and reticulated guard is put over the top of the chimney and held by screws H with heads or other fastenings passed through vertical oblong slots in curved arms K fastened to the outside of the cylinder and through the outer case *c* the slots allow-

ing the cylinder E to be raised or lowered at pleasure for adjustment for draft.

The upper edge of the case *c* is surrounded with a circular concave disk I reducing the diameter of the outlet of the case to that of the chimney.

The operation of the spark arrester produces a different effect from those like Grimes' and others which have concave slats whose edges are vertical and parallel and without a cylinder around them for preventing the sparks being thrown or whirled around centrifugally and horizontally against the inside of the outer case near the top thereof. In this improved spark arrester the sparks are prevented from having the above described motion being whirled downward in a spiral direction to the bottom of the outer case into water or otherwise by means of said spiral slats, cylinder, and guard, arranged as above described against which the sparks strike and by which they are turned downward as described.

The water for extinguishing the sparks is conveyed to the case from the boiler through a suitable tube M and let off with the sparks in the usual manner, said tube extending nearly to the bottom of the boiler and provided with a stop cock N. The water may be dispensed with and the sparks may be conveyed directly from the case into the smoke arch L through suitable vertical tubes J. The aforesaid tubes J are extended above the bottom of the outer case C for preventing the escape of the water which should not rise as high as the top thereof. When water is not used the tops of the tubes may be even with the bottom of the case.

I claim—

The arrangement of the spiral slats D or spark arresters in combination with the cylinder E and guard G in the manner and for the purpose above set forth.

JONATHAN HODGES.

Witnesses:

WM. P. ELLIOT,
E. MAHER.