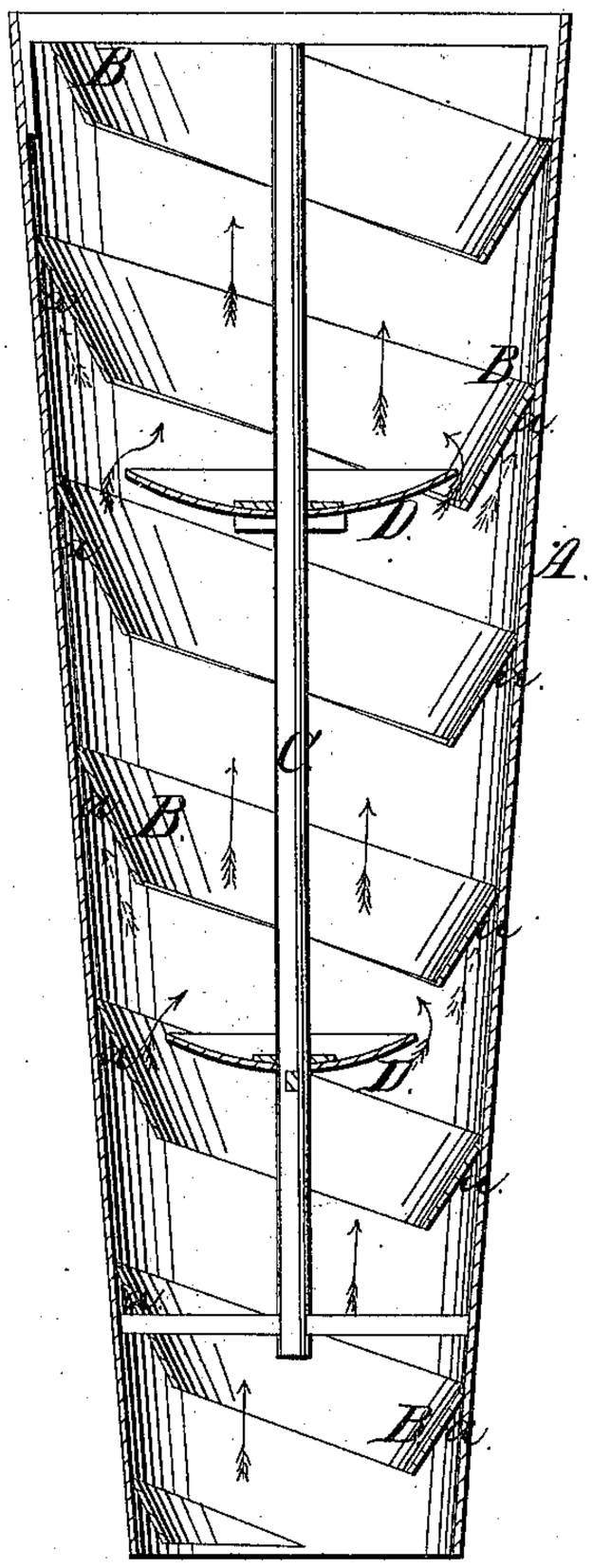
G. Richards,

Spark Arrester,

No. 12,829. Patented May 8, 1855.



UNITED STATES PATENT OFFICE.

GILBERT RICHARDS, OF CUMMINGTON, MASSACHUSETTS.

SPARK-ARRESTER.

Specification of Letters Patent No. 12,829, dated May 8, 1855.

To all whom it may concern:

Be it known that I, GILBERT RICHARDS, of Cummington, in the county of Hampshire and State of Massachusetts, have invented a new and Improved Spark-Arrester, to be Applied to the Smoke-Pipes of Locomotives; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawing, making a part of this specification, said drawing being a vertical section of my improvement.

The nature of my invention consists in placing within the usual inverted conical casing at the top of the smoke box a spiral flange, the upper edge of which is attached to or in close contact with the inner side of the casing the lower edge of the flange inclining inward toward the center so as to form an acute angular recess around the casing. And using in connection with the spiral flange a suitable number of deflecting plates arranged as will be presently shown.

To enable others skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A, represents an inverted conical casing, constructed in the usual manner, and B, represents a spiral flange placed within the casing A. This flange may be formed of a single strip of sheet metal of requisite breadth bent in spiral form, the upper edge of the flange being attached to, or placed in close contact with the inner side of the casing and the lower edge bent inward so as to form acute angular recesses (*a*) around the inner side of the casing A.

C, is a vertical rod placed within the casing A, and secured permanently at its center in any proper manner. On this rod C, there are secured two or more deflecting plates D, the lower surfaces of which are convex. The plates D, are circular and their diameters vary so as to correspond with the space between the lower edges of the flange B, immediately beneath it.

The sparks it will be seen as they are carried upward by the draft will be thrown by the deflecting plates D, into the angular recesses (*a*) formed by the flange B, the sparks having a tendency to pass therein owing to their momentum, while the smoke will pass around the edge of the plates D, and ascend through the center of the casing as shown by the arrows the sparks being represented by dotted arrows.

The above invention is extremely simple and will operate well. The spiral flange while it arrests the sparks does not form a barrier to the draft because there is a free spiral passage all around the inner side of the casing. Concentric flanges would be objectionable or would not answer as good a purpose, as they would in a measure obstruct the draft.

Having thus described my invention what I claim as new and desire to secure by Letters Patent, is—

The spiral flange B, and deflecting plates D, arranged as herein shown and for the purpose as set forth.

GILBERT RICHARDS.

Witnesses:
ALMON MITCHELL,
NATHAN ORCUTT.