No. 655,798. Patented Aug. 14, 1900.

W. REICHOW.

SPARK ARRESTER.

(Application filed May 11, 1900.)

(No Model.)

Fig. 1.

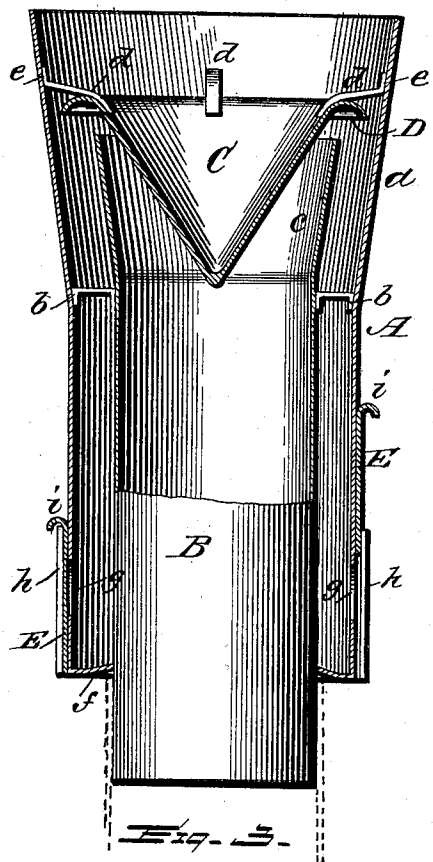


Fig. 2.

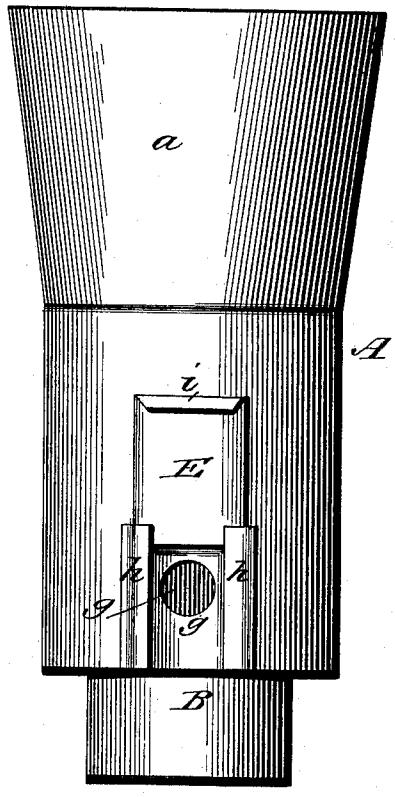


Fig. 3.

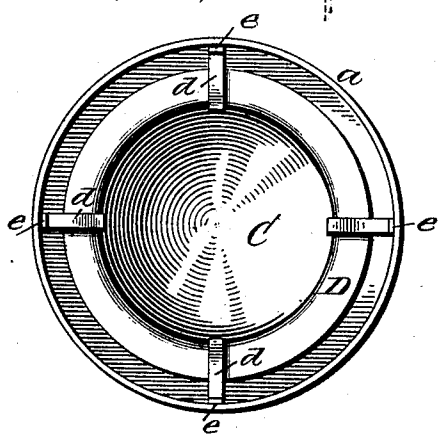
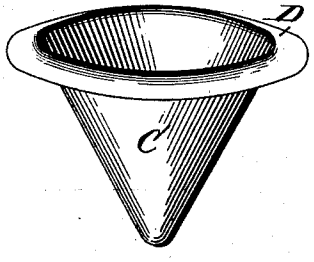


Fig. 4.



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SPARK-ARRESTER.

SPECIFICATION forming part of Letters Patent No. 655,798, dated August 14, 1900.

Application filed May 11, 1900. Serial No. 16,298. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM REICHOW, a citizen of the United States, residing at Princeton, in the county of Millelacs and State of Minnesota, have invented certain new and useful Improvements in Spark-Arresters; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

The present invention has for its object to provide a simple, durable, and effective device to be used in connection with the smoke-stacks used on locomotives and all classes of boilers and furnances or wherever a spark-arrester may be found necessary in providing means whereby the sparks and other elements of combustion will be conducted to and caught in a suitable receptacle, from whence such elements may be removed whenever required, thereby preventing the same from escaping and being deposited upon the surrounding objects.

The invention consists in a spark-arrester constructed substantially as shown in the drawings and hereinafter described and claimed.

Figure 1 of the drawings is a sectional elevation of a spark-arrester constructed in accordance with my invention; Fig. 2, a side elevation thereof, showing one of the slides in a raised position; Fig. 3, an end view showing the conoidal deflector and its connections with the casing; Fig. 4, a detail view in perspective of the conoidal deflector.

In the accompanying drawings, A represents the casing of the spark-arrester, provided with a flaring top *a*, the smoke-stack B being located centrally in the casing and its upper end retained in position by radial braces *b*, secured thereto and to the casing. The upper end of the smoke-stack B is flaring, as shown at *c*, and extending down into this flaring extension and slightly below the base thereof is a conoidal deflector C. This deflector C has a circumferential concavo-convex gutter D, and the deflector is held in its suspended position by radial braces *d*, as shown in Figs. 1 and 3 of the drawings. The braces *d* extend over the concavo-convex gutter D and are secured thereto, whereby said gutter is braced and strengthened, the outer ends of the braces having upwardly-extending feet *e* for securing them to the flaring extension *a* of the casing A. The lower end of the smoke-stack B extends down below the end of the casing A to form a collar, whereby the same may be connected to a stack of a furnace, boiler, or other smoke-conducting device, the lower end of the casing being slightly concave, as shown at *f*, to form a better support around the extended end of the smoke-stack. The concave bearing *f* extends entirely around the circumference of the casing A, its greatest depth being at a point where it joins the wall of the coupling end of the stack B, thereby holding the spark-arrester in position upon the end of the smoke-pipe and against lateral or sidewise movement when the diameter of the smoke-pipe is greater than the diameter of the coupling end of the smoke-stack, thus preventing the spark-arrester from shifting its position from any cause when coupled to the smoke-pipe.

The casing A has openings *g* diametrically opposite each other through which the products of combustion may be removed, said openings being retained closed by suitable slides E, which engage with guide-flanges *h* upon the sides of the openings.

The slides E have thumb-flanges *i* at their upper ends for convenience in raising or lowering them and are slightly concave to correspond with the convexity of the casing A, the conoidal deflector C extending some distance down into the upper end of the smoke-stack B, by which a perfect means is provided for guiding the ascending products of combustion against the deflecting-gutter D. The convex or dish shape of the gutter D prevents the products of combustion as they pass upward against the same from escaping through the space between the gutter and the side wall of the flaring extension *a* of the casing A.

A spark-arrester constructed as above described provides a very simple and effective device that can be manufactured at a comparatively small cost and which may be connected with any smoke-stack or pipe, as circumstances require.

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

A spark-arrester consisting of a casing having openings through its sides and slides for closing the same, a central smoke-stack extending into the casing, a conoidal deflector having a gutter-shaped rim at its base, the apex of the deflector extending into the smoke-stack and the lower end of the stack extending below the lower end of the casing to form a coupling-collar, and a concave circumferential bearing between the walls of the casing and the walls of the coupling end of the smoke-stack, substantially as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

WILLIAM REICHOW.

Witnesses:
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