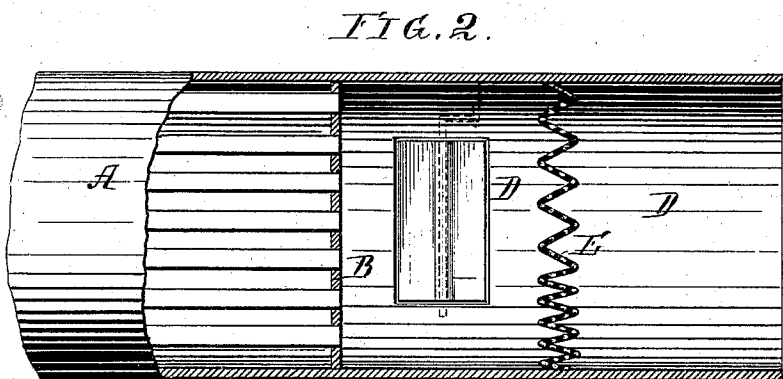
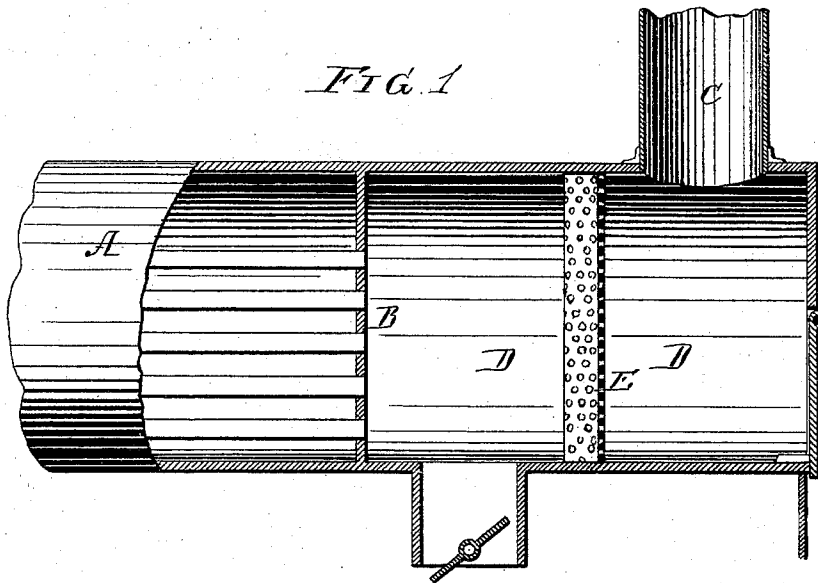


J. L. FERRIS.
Spark-Arresters.

No. 144,081.

Patented Oct. 28, 1873.



Witnesses, Harry Smith
Thomas M. Shaw

Jas. L. Ferris
By his Attys.
Howson and Son

UNITED STATES PATENT OFFICE.

JAMES L. FERRIS, OF SOUTH BRUNSWICK, ASSIGNOR TO HIMSELF AND
ISAAC S. BUCKALEW, OF JAMESBURG, NEW JERSEY.

IMPROVEMENT IN SPARK-ARRESTERS.

Specification forming part of Letters Patent No. **144,081**, dated October 28, 1873; application filed
February 21, 1873.

To all whom it may concern:

Be it known that I, JAMES L. FERRIS, of South Brunswick, Middlesex county, New Jersey, have invented an Improvement in Spark-Arresters, of which the following is a specification:

My invention relates to that class of spark-arresters on which a perforated screen or plate, situated across the shell of the boiler, between the rear tube sheet and the chimney, is the prominent feature, an example of such a spark-arrester being shown in the Patent No. 129,274, granted to me July 16, 1872.

My present invention, which is an improvement on that described in the said patent, has for its object economy in construction and greater strength and rigidity than in spark-arresters of this class, objects which I attain by placing a corrugated perforated plate, E, in the smoke-chamber D, of a tubular boiler, between the rear tube-sheet B and the chimney C, as shown in the vertical section, Fig. 1, and plan view, Fig. 2, of the accompanying drawing.

A represents the rear portion of the shell of a locomotive-boiler, within which, between the rear tube-sheet B and the chimney C, I secure the corrugated plate E, which fits snugly in

and is firmly secured to the said shell, the plate being perforated throughout, so as to permit the free escape of the gaseous products of combustion, while all, excepting the more minute sparks, are arrested, and falling onto the bottom of the shell of the boiler may be removed therefrom from time to time through a suitable opening provided with a door or valve, as shown in Fig. 1.

One of the main advantages of my present invention is the strength of the perforated screen or plate E, which, being formed into a series of parallel corrugations united to the shell of the boiler, presents a system of rigid perforated girders well adapted to resist the violent action of the heavier sparks as they are projected from the end of the tubes.

I claim as my invention—

The perforated plate E, formed into a series of parallel corrugations fitted and united to the shell of the boiler between the tube-plate B and chimney C, all as set forth, for the purpose specified.

JAMES L. FERRIS.

Witnesses:

JAMES T. GRAHAM,
T. B. MOSHER.