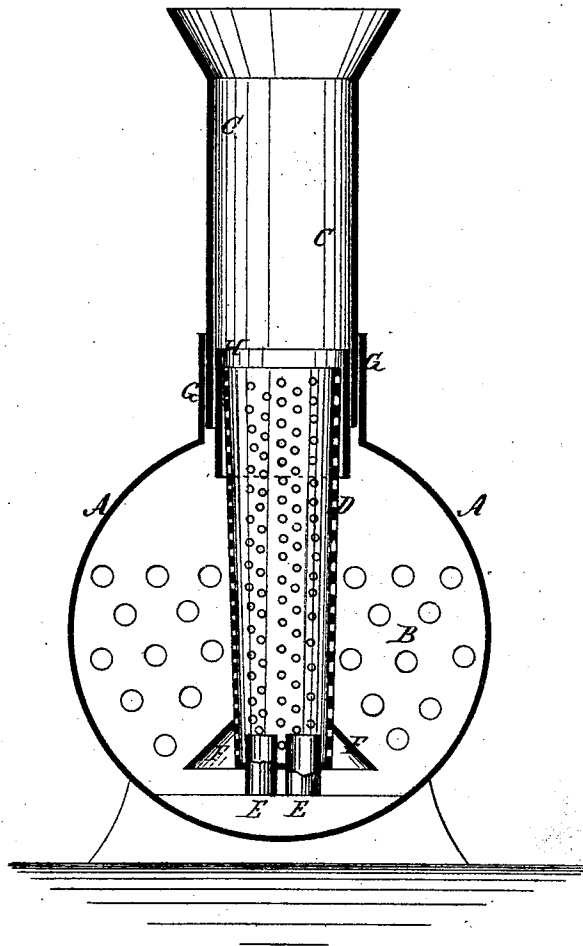


R. D. GRANT.

Spark-Arrester for Locomotives.

No. 133,981.

Patented Dec. 17, 1872.



Witnesses:

Chas. Nida.
C. Sedgwick.

Inventor:

R. D. Grant

PER

Wm. L.
Attorneys.

UNITED STATES PATENT OFFICE.

ROSWELL D. GRANT, OF BEARDSTOWN, ILLINOIS.

IMPROVEMENT IN SPARK-ARRESTERS FOR LOCOMOTIVES.

Specification forming part of Letters Patent No. **133,981**, dated December 17, 1872.

To all whom it may concern:

Be it known that I, ROSWELL D. GRANT, of Beardstown, in the county of Cass and State of Illinois, have invented a new and useful Improvement in Spark-Arresters, of which the following is a specification:

This invention relates to a mode of arresting sparks from locomotive and other steam boiler chimneys; and consists in a perforated or wire-gauze tube at the bottom of the smoke-stack, within the smoke-box, and in a conical flange around the tube, and in a slip-joint at the top thereof, and connected with the exhaust-tubes at the bottom, the construction and arrangement being as hereinafter described.

The accompanying drawing illustrates my invention.

Similar letters of reference indicate corresponding parts.

A is the smoke-box. B is the tube-sheet of the boiler. C is the chimney. D is a tube which is perforated and extends from the base of the chimney to near the bottom of the smoke-box, where it receives the exhaust-tubes from the engines. E E are the exhausts. F is a conical flange on the tube-joint above the exhausts. G is the collar on the smoke-tube D. H is a short section of the tube, which is interposed between the tube D and the chimney, which may be raised or lowered to equalize the draft through boiler-tubes and prevent the lodgment of dead sparks or cinders around the top of the tube.

By the interposition of the perforated tube D, or its equivalent in the smoke-box, wire-netting on the chimney for arresting sparks may be omitted.

It is a perfect spark-arrester, while it allows of a free exhaust and discharge of smoke and dust.

The lower end of the tube D is closed, with the exception of apertures for the exhaust-pipes E E. The conical flange or collar F conducts the cinders which may collect, away from the exhaust-pipes, and may be made of any desired diameter.

Instead of a tube of perforated metal, a wire-gauze tube may be arranged to receive the exhaust.

The conical flange F, as well as the section H, may be omitted, and still the essential features of my invention would be retained.

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

The adjustable shield H, combined with exhaust-pipes E E, perforated pipe D, smoke-box A, and chimney C, arranged as and for the purpose described.

ROSWELL D. GRANT.

Witnesses:

WILLIAM WASHBURN,
THEODORE A. HOFFMANN.