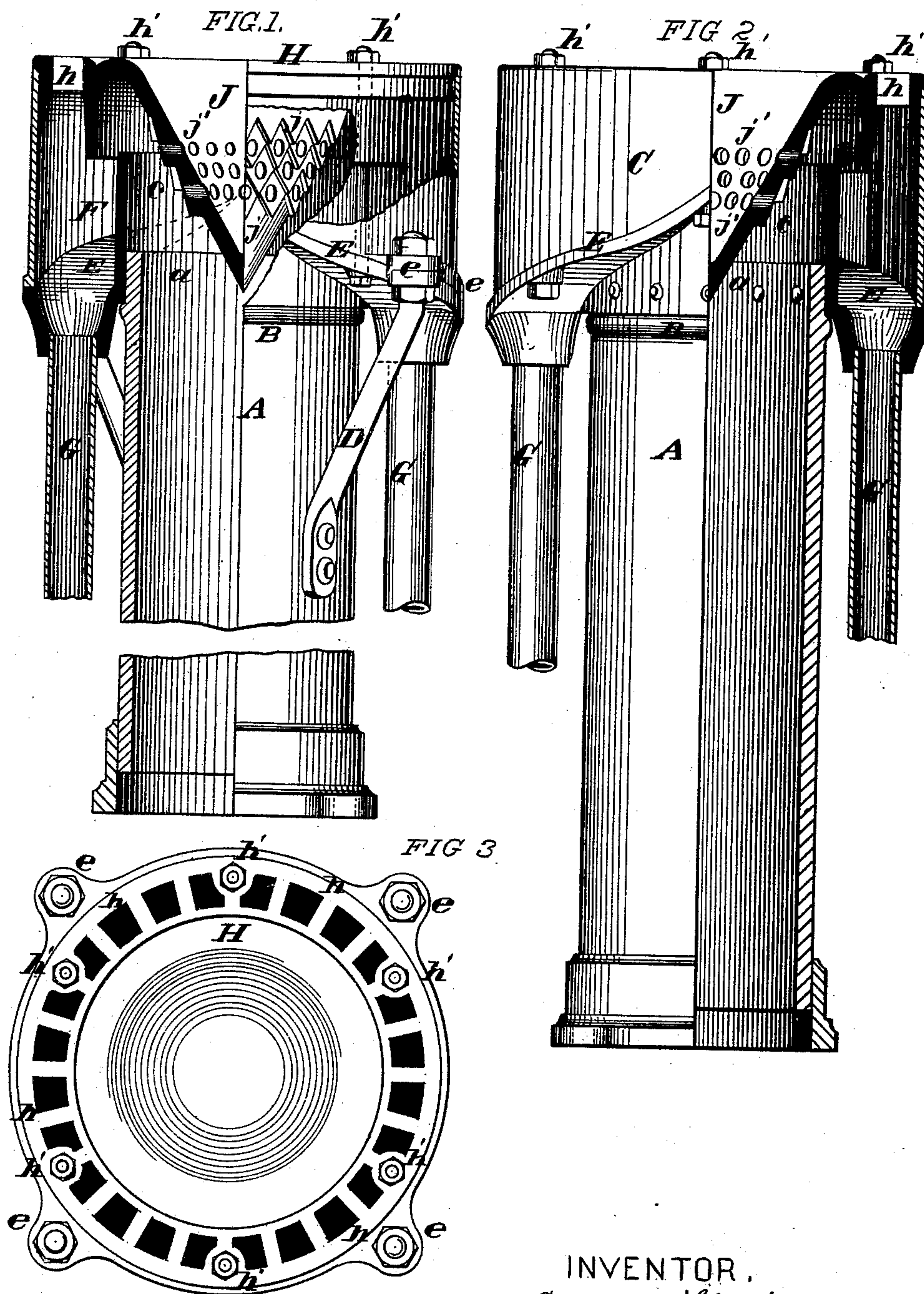


D. J. TIMLIN.
Spark-Arrester for Smoke-Stacks.
No. 223,191. Patented Dec. 30, 1879.



ATTEST.

Geo. H. Knight
Charles Pickles

INVENTOR.

David J. Timlin
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UNITED STATES PATENT OFFICE.

DAVID J. TIMLIN, OF FLORISANT, MISSOURI.

IMPROVEMENT IN SPARK-ARRESTERS FOR SMOKE-STACKS.

Specification forming part of Letters Patent No. **223,191**, dated December 30, 1879; application filed June 17, 1879.

To all whom it may concern:

Be it known that I, DAVID J. TIMLIN, of Florissant, in the county of St. Louis and State of Missouri, have invented a certain new and useful Improvement in Spark-Arresters for Smoke-Stacks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

This is an improvement upon my Patent No. 215,694, patented May 20, 1879.

According to the present invention the cone has cast upon it annular bosses. The cone is perforated directly through each boss. The head is fixed upon the body by riveting or otherwise, and has a perforated top. An annular chamber extends from the head, and has in its bottom downwardly-extending pipes, through which the sparks entering the annular chamber are discharged.

In the drawings, Figure 1 is a view, half in section and half in elevation, with part of the outside casing of the head broken away to show the bosses. Fig. 2 is a similar view of modified form of attaching the head to the body. Fig. 3 is a plan, showing the perforated top.

A is the body of the smoke-stack, having a collar, B, for the support of the head C. The head C has a mouth, *c*, which fits over the top *a* of the body A and rests upon the collar B.

The head may be attached to the body either by rivets passing through the portion *c* of the head C and through the portion *a* of the body A, as shown in Fig. 2, or it may be held in place by braces D passing through lugs *e* on the flange E, extending outward from the bot-

tom portion *c* of the head C, said braces being fixed to the body at their lower ends.

The flange E constitutes the bottom of the annular chamber F, and to it are attached downwardly-extending pipes G, whose upper ends open into the chamber F, and whose lower ends may discharge onto the ground or into a chamber beneath the locomotive.

The top H of the head C has perforations *h*, and is attached to the head C by bolts *h'* passing through them.

The deflector J is conical at the center, and extends outwardly with a regular curve, and its outward portion is curved downwardly, so as to project the sparks downward into the chamber F. The conical center of the deflector J has cast upon it deflecting-bosses *j*, through which pass perforations *j'*, for the creation of a greater draft. These bosses act to prevent the sparks striking the upper portion of the perforations and being driven out through them.

I prefer to make the perforations *j'* horizontal, so that they shall not be in line with the smoke-current, and consequently the sparks cannot be projected through them without a change of direction.

I claim as my invention—

A spark-arrester having body A, head C, annular chamber F, spark-discharge pipes G, perforated top H, and perforated deflector J, having bosses *j*, all constructed and arranged substantially as set forth.

DAVID J. TIMLIN.

Witnesses:

SAML. KNIGHT,
GEO. H. KNIGHT.