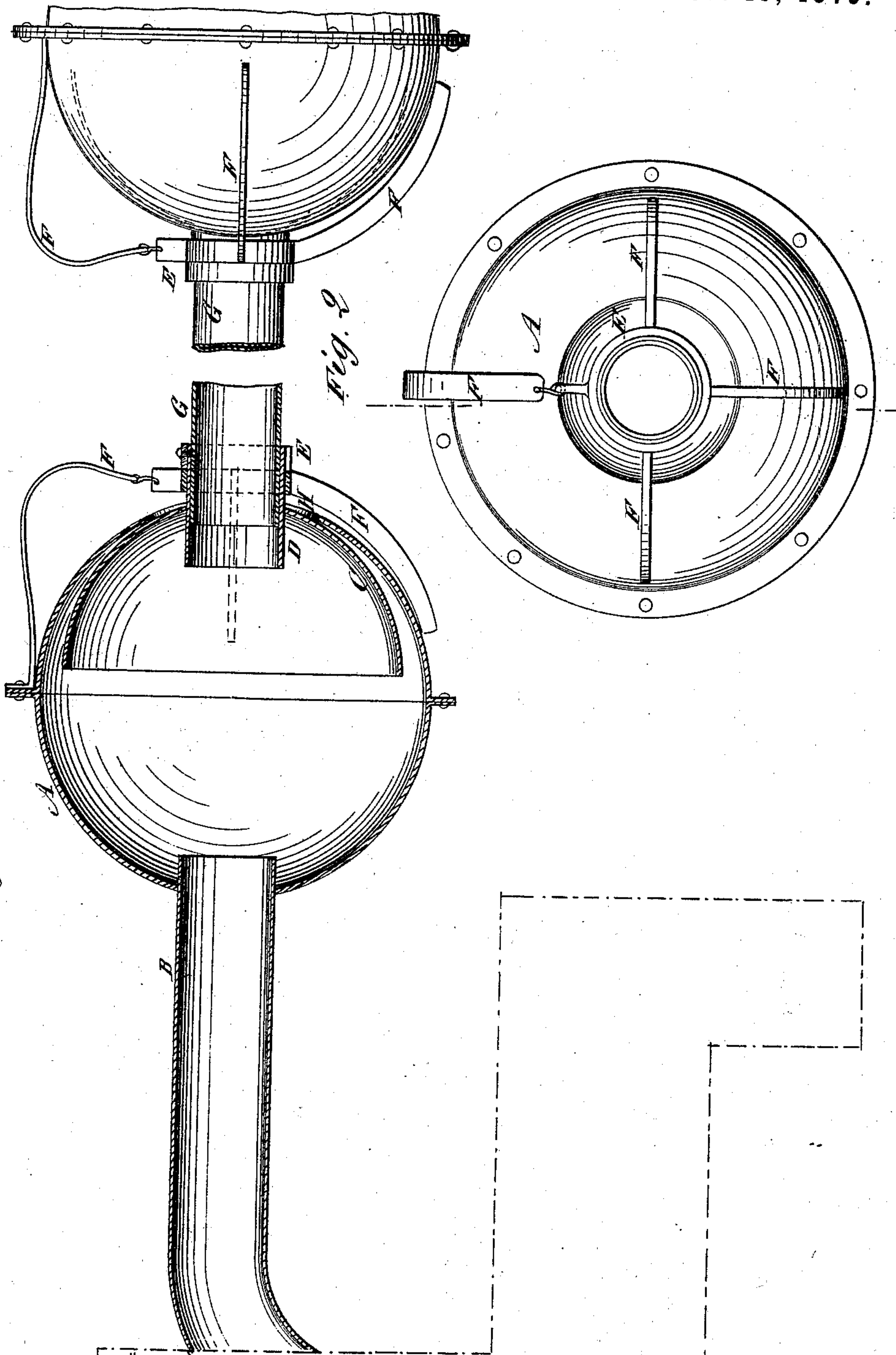


C. K. CULLERS.  
SPARK-CONVEYER.

No. 169,964.

Patented Nov. 16, 1875.



WITNESSES:

*C. Newell*  
*A. J. Perry*

INVENTOR:

*C. K. Cullers*

BY

*Munn & Co.*

ATTORNEYS.

# UNITED STATES PATENT OFFICE.

CHARLES K. CULLERS, OF BUNCETON, MISSOURI.

## IMPROVEMENT IN SPARK-CONVEYERS.

Specification forming part of Letters Patent No. **169,964**, dated November 16, 1875; application filed September 25, 1875.

*To all whom it may concern:*

Be it known that I, CHARLES K. CULLERS, of Bunceton, in the county of Cooper and State of Missouri, have invented a new and Improved Smoke-Conductor, of which the following is a specification:

My invention is a joint composed of a hollow sphere on the end of one pipe-section, and a cup on the other pipe-section, and within the sphere, together with springs for keeping them in position relatively to each other, making a kind of ball-and-socket joint for connecting the sections of pipe for conducting the smoke from the locomotive back along the top of the train to the rear end, the said joint being free to oscillate to any required extent, and allowing the necessary contraction and extension of the pipe, and at the same time keeping tight.

Figure 1 is partly a side elevation and partly a sectional elevation of my improved smoke-conductor, and Fig. 2 is an end elevation of one of the sections.

Similar letters of reference indicate corresponding parts.

A is a hollow sphere, attached to the end of one pipe-section, B. C is a cup inside of A, and attached to a short pipe-section, D, held by the collar E and springs F, and having another joint, G, of pipe fitted in it. The pipe D enters the sphere A through a large hole, H, allowing it to oscillate freely, said hole being closed by the bottom of cup C, which is kept in position by the springs F, keeping the hole closed whatever may be the inclination of the pipes. The pipe G slides in and out of pipe D as the train extends and shortens up.

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

The combination of the collar E and springs F with pipe D, cup C, and hollow sphere A, substantially as specified.

CHARLES K. CULLERS.

Witnesses:

JOHN F. ROGERS,  
H. COLLIER.