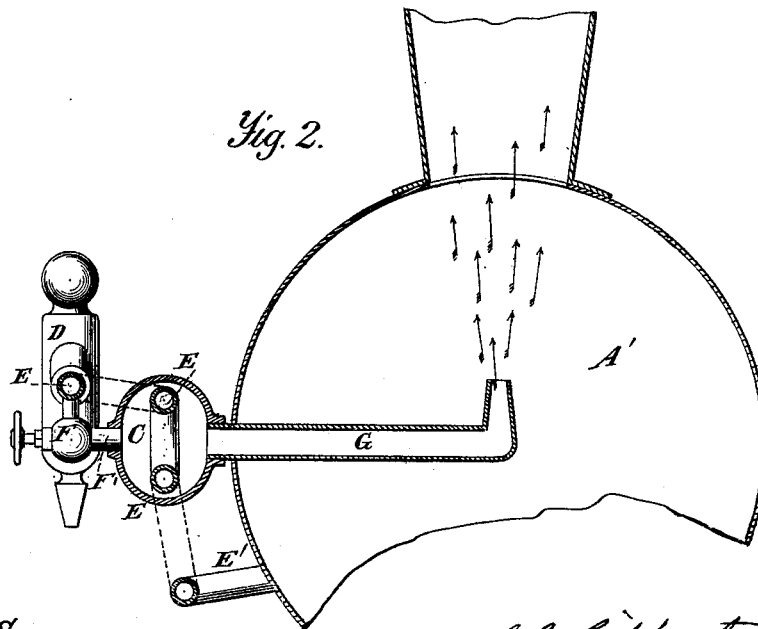
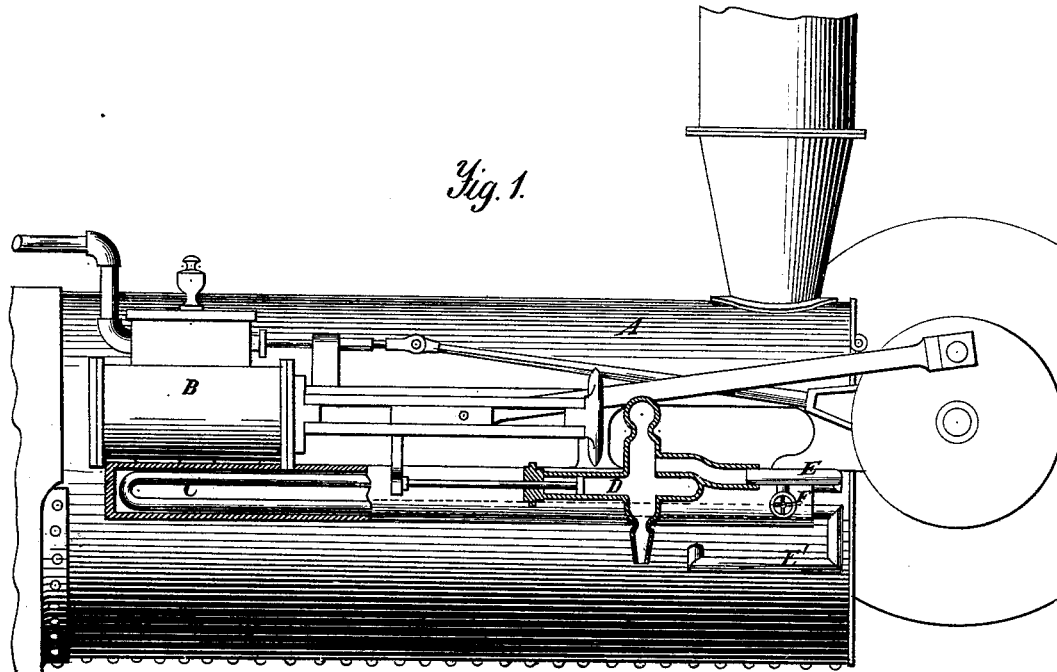


J. J. GILBERT.  
SPARK EXTINGUISHER.

No. 188,887.

Patented March 27, 1877.



*Witnesses:*  
*A. Ruppert,*  
*Wm. H. Bates.*

*J. J. Gilbert*  
*Inventor.*  
*D. P. Holloway & Co.*  
*Attys.*

# UNITED STATES PATENT OFFICE

JOHN J. GILBERT, OF LEWISVILLE, INDIANA.

## IMPROVEMENT IN SPARK-EXTINGUISHERS.

Specification forming part of Letters Patent No. **188,887**, dated March 27, 1877; application filed June 18, 1874.

*To all whom it may concern:*

Be it known that I, JOHN J. GILBERT, of Lewisville, in the county of Henry and State of Indiana, have invented a new and useful Improvement in Spark-Extinguishers, of which the following is a specification:

The object of my invention is to provide an efficient means for extinguishing the sparks in the uptakes of steam-generators; and it consists in injecting water from the feed-pump into the exhaust, where it is vaporized, and so passes into the exhaust in the form of wet steam or fine spray, and there encounters and extinguishes the sparks.

In the annexed drawing, making part of this specification, Figure 1 is an elevation of a portable engine with my extinguisher attached, partly in section. Fig. 2 is a transverse section.

The same letters are employed in all the figures in the indication of identical parts.

A represents the steam-generator. B is the engine standing on the tube C, which constitutes a bed-plate, forms part of the pipe for conveying the exhaust steam, and also serves as a heater. D is the pump, and E the water-pipe, which, passing through the heater, feeds

the boiler at E'. The exhaust steam passes into the heater around the coil of feed-water pipe, and thence into the uptake A' of the steam-generator.

All these parts are in common use. I add to the water-pipe E a valve, F, by opening which water may be delivered through the pipe F', from the feed-water pipe E, and injected into the current of escaping steam. Mingling with this exhaust steam, it will form a very wet steam or vapor, and be ejected into the uptake through the pipe G. The saturation of the exhaust steam in the exhaust-pipe, by the water mingled with it, will be such that the sparks passing up through the uptake will be completely extinguished.

What I claim as my invention, and desire to secure by Letters Patent, is—

In combination with the exhaust-pipe of a steam-engine, a pipe through which water is discharged into the exhaust pipe to mingle with the steam.

JOHN J. GILBERT.

Witnesses:

E. H. DENNIS,  
WM. T. DENNIS.