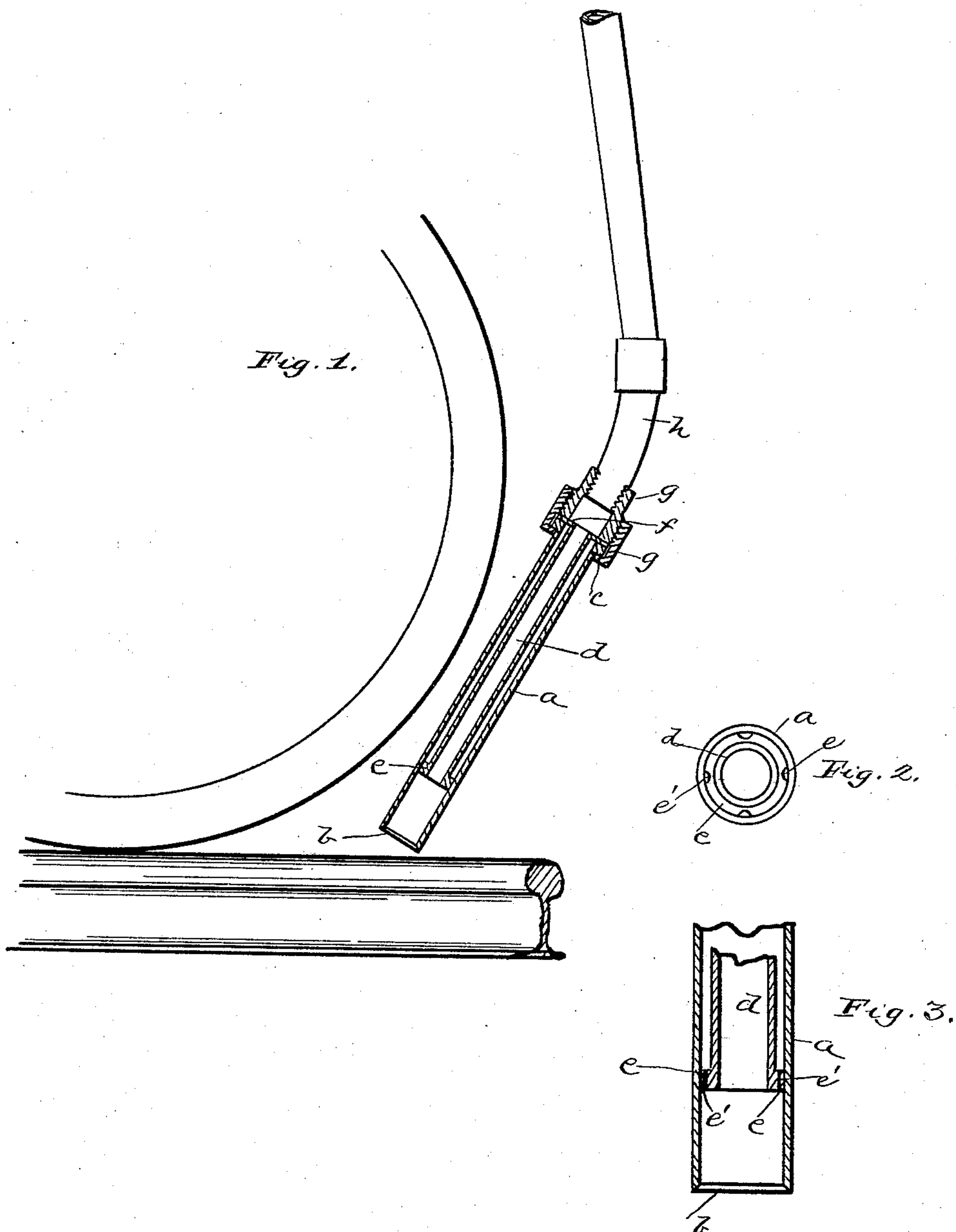


(No Model.)

M. DALY.  
SAND PIPE FOR LOCOMOTIVES.

No. 435,210.

Patented Aug. 26, 1890.



Witnesses:

*H. E. Harwood,*  
*J. A. Heron.*

Inventor.

*Michael Daly*  
Rev. *C. D. Lewis*

Att'y.

# UNITED STATES PATENT OFFICE.

MICHAEL DALY, OF PITTSBURG, PENNSYLVANIA.

## SAND-PIPE FOR LOCOMOTIVES.

SPECIFICATION forming part of Letters Patent No. 435,210, dated August 26, 1890.

Application filed June 26, 1890. Serial No. 356,874. (No model.)

*To all whom it may concern:*

Be it known that I, MICHAEL DALY, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Sand-Pipes for Locomotives, &c.; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to a sand-pipe nozzle for locomotives; and it consists of a double tube, or one pipe within the other, as will be fully set forth hereinafter.

In the accompanying drawings, Figure 1 is a sectional elevation of my improved nozzle, which is constructed in accordance with my invention. Fig. 2 is an enlarged inverted plan view of the nozzle. Fig. 3 is a sectional elevation of the lower portion of the nozzle.

To construct a sand-pipe nozzle in accordance with my invention, I provide a short section of pipe *a* and bevel the lower portion *b* inwardly, and form a flange or bead *c* on the upper end of the same. I now provide another section of pipe *d*, of less diameter and somewhat shorter, having on its lower end a flange *e* for centering the same within the larger tube *a*, and another flange *f* at its upper end for the same purpose. These concentric tubes *a d*, when in position, are attached by a coupling *g* to the sand-pipe *h* of a locomotive. The enlarged flange *e* at the lower end of the inner pipe *d* is provided with a series of notches *e* in its edge, and as the flange fits snugly within the outer pipe *a* the notches provide openings *e'* for the circulation of air in the spaces between the concen-

tric pipes. By means of a nozzle such as described the sand is prevented from becoming moist and adhering to the same. The beveled portion will prevent water from entering or adhering to inner walls of the tube *a*, and the sand passing down the inner pipe *d* will be free from moisture, as a current of air is permitted to freely circulate about the space between the two pipes *a d*.

Having thus described my invention, I claim—

1. The herein-described sand-pipe for locomotives, consisting of a double pipe, the one within the other, the said inner pipe being shorter than the outer casing, a suitable union having a cup-shaped flange fitted therein and joined to the upper extremity of the inner pipe for the purpose of supporting the same, and an annular bead provided with suitable vents, secured to the lower extremity of the said inner pipe, whereby a current of air may enter the said vents and freely circulate about the inner pipe to prevent moisture, and the said bead serving to center the lower end of the said pipe, substantially as set forth and described.

2. A sand-pipe for locomotives, consisting of the outer tube *a*, and an inner tube arranged concentrically within said outer tube to leave an intermediate air-space, and provided with the centering-flange having the air-openings, for the purpose described, substantially as set forth.

In testimony that I claim the foregoing I hereunto affix my signature this 9th day of April, A. D. 1890.

MICHAEL DALY. [L. S.]

In presence of—

M. E. HARRISON,  
J. A. HERRON.