

(No Model.)

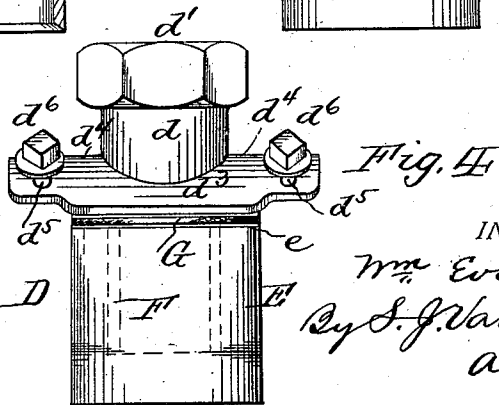
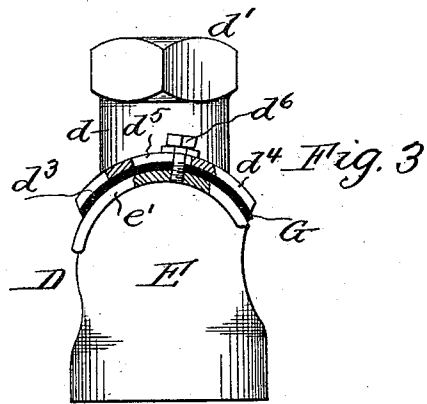
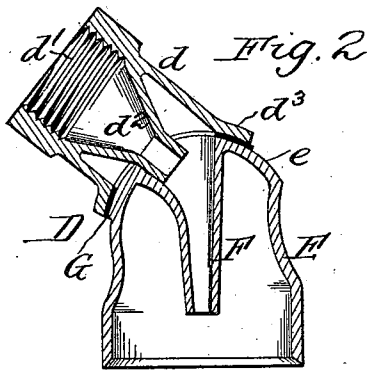
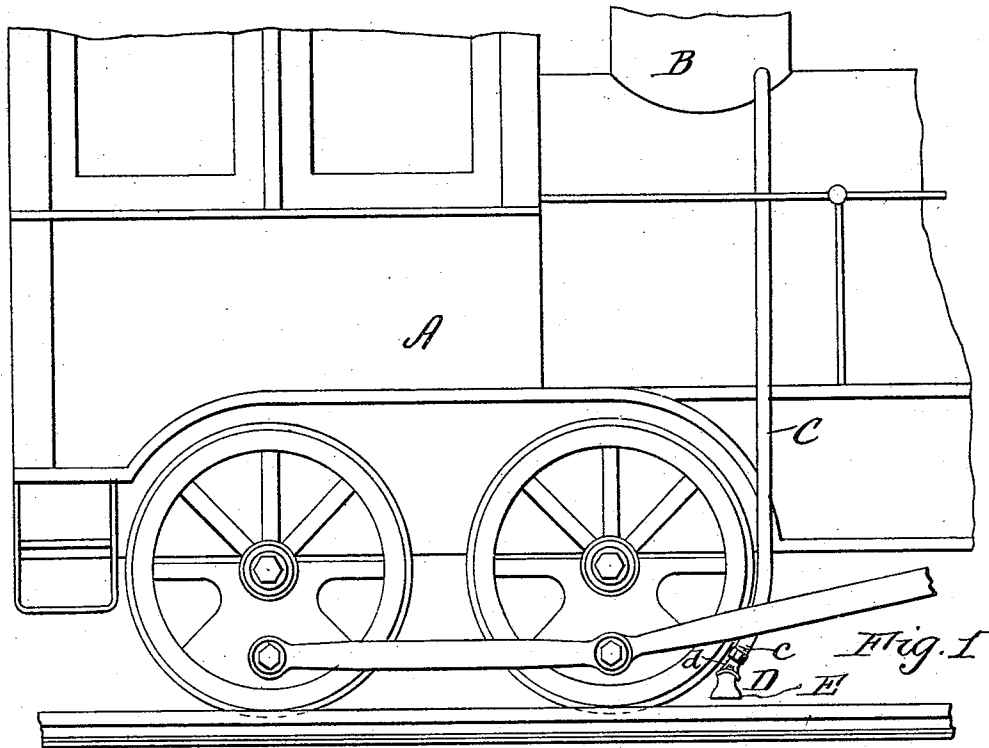
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W. EVANS.

BELL MOUTH COUPLING FOR LOCOMOTIVE SAND PIPES.

No. 460,530.

Patented Sept. 29, 1891.



WITNESSES:

Chas. F. Van Horn
Wm. J. Van Horn

INVENTOR,

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Attorney

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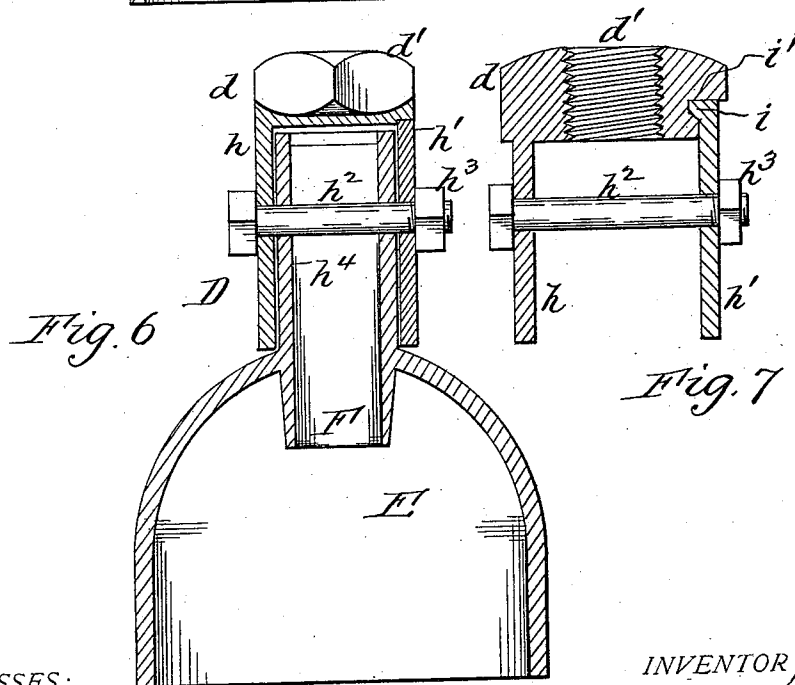
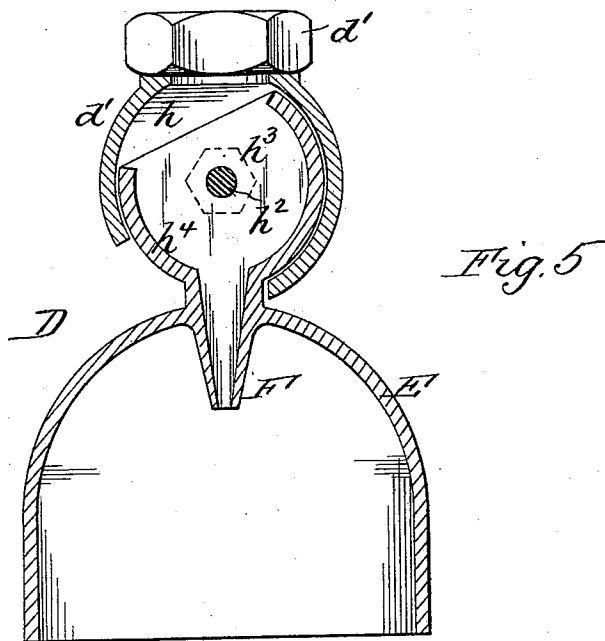
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UNITED STATES PATENT OFFICE.

WILLIAM EVANS, OF PHILADELPHIA, PENNSYLVANIA.

BELL-MOUTH COUPLING FOR LOCOMOTIVE SAND-PIPES.

SPECIFICATION forming part of Letters Patent No. 460,530, dated September 29, 1891.

Application filed May 6, 1889. Renewed May 21, 1891. Serial No. 393,515. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM EVANS, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Bell-Mouth Couplings for Locomotive Sand-Pipes; 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 appertains to make and use the same.

My invention has relation to locomotive sand-pipe outlets of the form having a bell-mouth secured thereto, so as to project over but not to come into contact with the pipe-outlet; and it has for its object a construction of bell-mouth in which is formed the outlet-nozzle for the sand-pipe, which bell-mouth is so constructed and arranged for operation that it and said nozzle are adjustable or are capable of being set in a perpendicular position or at an angle thereto, in order to most advantageously throw the sand upon the track-rails, and also to admit of them being applied to any existing or desired forms and locations of sand-pipe without necessitating an arrangement of sand-pipe to suit the bell-mouth coupling.

My invention accordingly consists of the combinations, constructions, and arrangements of parts, as hereinafter described in the specification and pointed out in the claims, having reference particularly to a coupling-body to which are pivoted, hinged, or loosely secured the sand-pipe outlet and bell-mouth, reference being had to the accompanying drawings, wherein—

Figure 1 is an elevation of a part of a locomotive with sand-pipe outlet or mouth embodying my improvements. Fig. 2 is a vertical section of the outlet or mouth detached from the pipe. Fig. 3 is an end view, partly sectional, of the same. Fig. 4 is a face or side elevation. Figs. 5 and 6 are vertical sections of a modified form of same, and Fig. 7 is section of a detail modification of the form shown in Figs. 5 and 6.

A represents a locomotive, B its sand-box, C its sand-pipe, and D the coupling-outlet for

said pipe. Said coupling consists of an upper section or body d , having an interiorly-threaded or other constructed coupling-nut d' for connection with lower end c of pipe C and an interior contracted nozzle d^2 , which may, if desired, and as shown, project beyond its concave bottom plate d^3 , having side extensions or wings d^4 , in which are transverse slots d^5 , (see more plainly Fig. 3,) through which loosely pass screws d^6 for connection with the bell-mouth E, having an upper concave end e , with correspondingly-formed side extensions e' , fitting the concave of body bottom d^3 . Said screws d^6 form pivotal or loose connections for securing the bell-mouth E to the coupling-body d , and by loosening said screws d^6 the bell-mouth may be adjusted in a perpendicular position or at an angle thereto within the limit of movement of the screws d^6 in slots d^5 , and by tightening said screws the bell-mouth is held in its adjusted position. Within the bell-mouth is a nozzle F, which is preferably of a shorter length and of less area or diameter in cross-section than that of the length and area or diameter of the bell-mouth, so that the latter will project over but not contact with said nozzle to prevent access of drip or moisture to the nozzle. The latter is preferably of an elongated form or width of narrow cross-section, so as to extend across the top of the rails and deposit sand thereon from side to side. The nozzle d^2 of body d projects into nozzle F to communicate therewith and lead the sand thereto, so that the nozzle F practically forms the outlet for the sand-pipe and is adjustable with the bell-mouth E.

A coupling end D constructed as above described can be applied to any existing forms and location of sand-pipes on locomotive or other cars, and the bell-mouth E adjusted or set in the most advantageous position for throwing the sand on the track-rails. The joint between the body d and the bell-mouth E may be ground or otherwise finished to make it water-tight, or a packing or plate of asbestos, red fiber, rubber, or other suitable material may be inserted, as indicated at G, Figs. 2, 3, and 4.

It is obvious that the various constructions

of bodies and bell-mouths for coupling D, as well as different forms of pivotal, hinged, or loose connections between said parts, may be provided without departing from the spirit of my invention. Thus, for instance, the form shown in Figs. 5 and 6 may be used, wherein the body *d* is cylindrical in form and has ends *h h'*, the latter of which may be separate from said body, and through which passes a pivotal bolt *h²*, with nut *h³*, for a corresponding upper end *h⁴* of bell-mouth E. To give a support on the body *d* for the end *h'*, its upper edge is provided with a flange *i*, which seats in a recess *i'* on said body, as plainly shown in Fig. 7, or said support may be otherwise provided for by screwing or soldering the end *h'* to the body, as desired, said end *h'* being separate from the body to admit of inserting the upper end *h⁴* of bell-mouth E into body *d*. I therefore do not limit my invention to any particular form of body or bell-mouth nor to the kind of pivotal or loose connection between them.

What I claim is—

1. A sand-pipe coupling end composed of a coupling-body and a bell-mouth loosely con-

nected thereto, so as to be adjustable thereon, substantially as set forth.

2. In combination with sand-pipe coupling end or body *d*, the adjustable bell-mouth E, having interior nozzle or outlet F, substantially as set forth.

3. The combination, with the sand-pipe nozzle or outlet F and a bell-mouth projecting over but not contacting with said nozzle, of a body or coupling end *d* and pivotal or loose connection between said end and bell-mouth, substantially as set forth.

4. A sand-pipe coupling end D, composed of a body or section *d* and a bell-mouth and nozzle adjustable on said body, substantially as set forth.

5. The combination, with a locomotive sand-pipe, of an angularly-adjustable bell-mouth therefor, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM EVANS.

Witnesses:

FRANK H. MASSEY,
S. J. VAN STAVOREN.