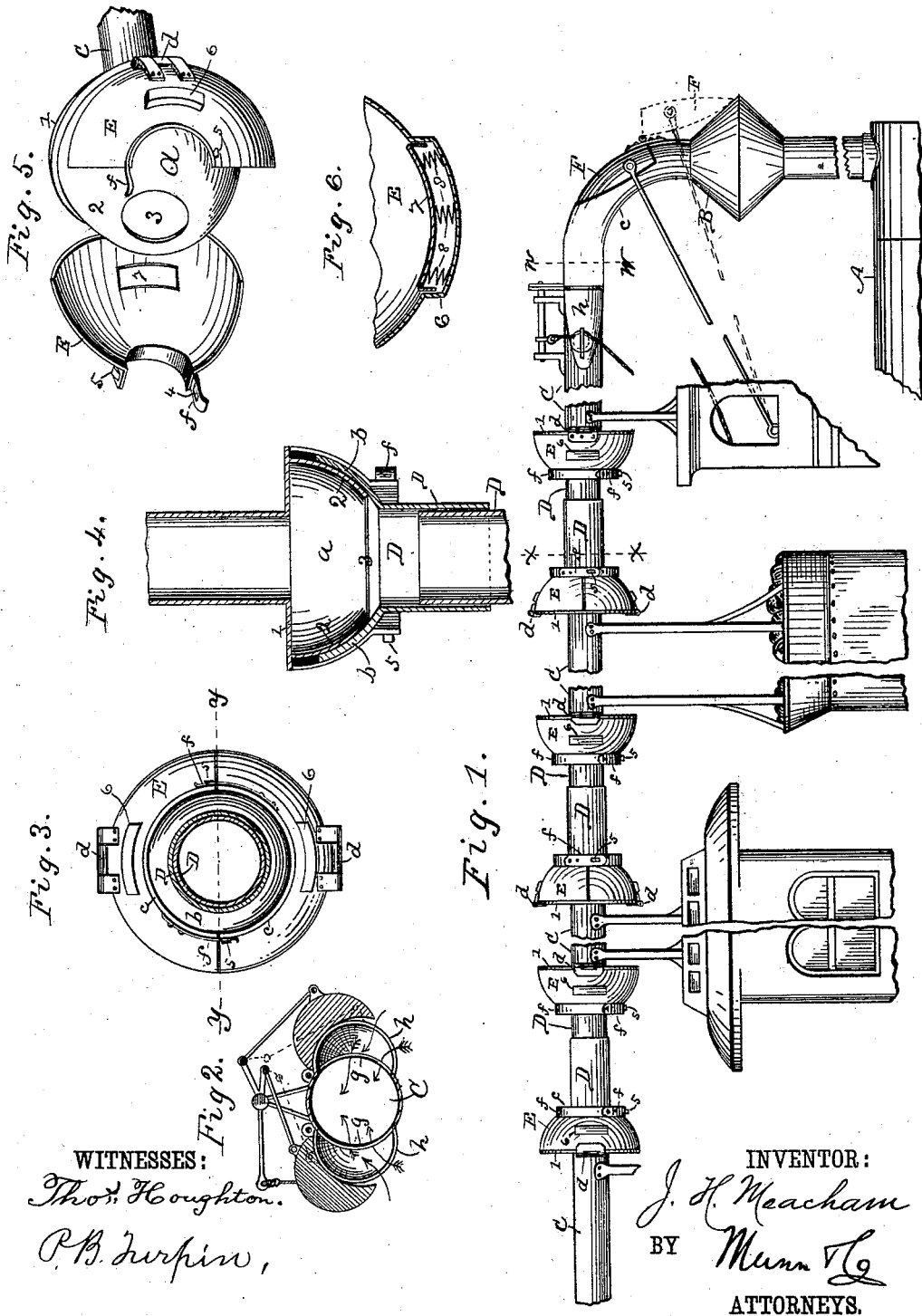


(No Model.)

J. H. MEACHAM.
SMOKE AND CINDER CONDUCTOR.

No. 345,524.

Patented July 13, 1886.



UNITED STATES PATENT OFFICE.

JAMES H. MEACHAM, OF PETERSBURG, VIRGINIA.

SMOKE AND CINDER CONDUCTOR.

SPECIFICATION forming part of Letters Patent No. 345,524, dated July 13, 1886.

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To all whom it may concern:

Be it known that I, JAMES H. MEACHAM, of Petersburg, in the county of Dinwiddie and State of Virginia, have invented a new and useful Improvement in Smoke and Cinder Conductors for Railway-Cars, of which the following is a description.

My invention is an improvement in tubular conductors employed for conveying smoke and cinders from the stack of a locomotive to the rear of the train hauled by the locomotive.

In the accompanying drawings, Figure 1 represents a side view of my invention applied to portions of a locomotive and train of cars. Fig. 2 is a cross-section on line *ww*, Fig. 1. Fig. 3 is a cross-section on line *xx*, Fig. 1. Fig. 4 is a longitudinal section on line *yy*, Fig. 1. Fig. 5 is a detail perspective view of the gripping section of coupling, and Fig. 6 is a detached section showing the packing-springs.

The invention consists in certain novel constructions and combinations of parts, as will be described.

The letter A indicates a locomotive-boiler, and B the stack thereof, to which my improved construction is suitably attached. The body C of the conductor has a uniform diameter throughout, and extends over the locomotive-tender, also over the top of each car. Between the locomotive and the tender, also between the latter and the next car, and between every two cars of a train, it is necessary to provide a jointed and detachable coupling which will allow movement in any direction without, however, permitting escape of smoke or cinders at the joints. The main feature of my invention is an improved coupling for this purpose, and I will now briefly describe the same.

On each end of a permanent or fixed section, C, of the conductor is formed a coupling-head, *a*, Fig. 4, comprising a radial flange or plate, 1, and a semi-globular seat or rest, 2, the crown or extremity of which is cut away at 3, so that it becomes the frustum of a hollow cone. On or over the open end of such conical head *a* fits the concavo-convex end *b* of a coupling-tube section, D. There are two such coupling-sections D, one fitting into and sliding in the other, as shown in Fig. 1, as is requisite in order to compensate for the movements of the cars to and from each other

in stopping, starting, and while in motion. Over or around the two described heads *a b* of sections CD is fitted what, for convenience, I will term an "annulus," E. It has the form of a hollow frustum, save that one end is prolonged into a cylinder, *c*. This annulus E is made in halves or sections, being divided lengthwise. Each half is permanently attached to the head *a*, and usually to the plate 1 thereof, by means of hinges *d*, so that the two parts of the annulus may be opened outward from each other, Fig. 5, for the purpose of connecting and disconnecting the conductor as required in making up or breaking a train. To hold the halves of this coupling-annulus or retaining-section E together and in normal position, as shown in full lines, Figs. 1, 3, 4, I employ spring-catches *f*. These consist of curved steel plates riveted at one end to one half of the cylindrical portion *c* of the annulus, and provided with a lengthwise slot, 4, at the other end, for the purpose of engaging with a lug, 5, fixed on the other part of said annulus. (See particularly Fig. 3.) By this arrangement it is obvious the conductor can be quickly uncoupled by springing the free ends of the catches *f* off said lugs, thus allowing the halves of the annulus or retaining-sections E to swing laterally off the conical contracted heads *a b* of sections CD. Then the cars to which the respective portions of the conductor are applied may be drawn apart. The coupling operation is of course effected in reverse manner.

Instead of hinging the sections E to the permanent tube-sections CD and the contacted heads *a b* formed thereon, as specified, the arrangement may be reversed, and the head *a* be formed on coupling-sections D and head *b* on permanent sections C, and, by consequence, the annuli E being hinged to the coupling-sections D.

In order to secure the portion *b* in close contact with head *a*, I provide springs arranged to press against the outer surface of the portion *b* and hold the same close to head *a* and take up any wear in the use of the device. In carrying out this feature I prefer to form the sections E with pockets 6, and provide a head-plate, 7, movable into and out of such pockets and connected with springs 8, which bear between the base-wall of the pockets and plate

7. These springs hold the plate 7 firmly against portion *b*, and cause the latter at all times to bind closely against the head *a*.

A hood, *F*, is applied at the angle of the conductor where it turns to join the locomotive-stack *B*. This hood is hinged at its lower edge, and when closed overlaps the fixed portion of the conductor, so as to form a close joint. When open, as shown in dotted lines, it allows smoke to ascend direct from the stack, instead of causing it to enter the conductor, which is necessary when the locomotive is standing at stations, in depots, &c.

To open and close the hood, I propose to employ a rod extending back to the cab, as shown in dotted lines, Fig. 1. Air-openings *g* are formed in the conductor *C*, Fig. 2, and hoods *h*, Figs. 1, 2, which cover them and open forward, so as to catch the air and conduct it into the tube *C*, as indicated by arrows. This construction is for the purpose of accelerating the draft or inducing a more rapid flow of the smoke, &c., through the conductor when running on downgrades, when the throttle-valve of the locomotive is closed.

Suitable valves may be provided for temporarily closing openings *g*, if found desirable. These valves may be arranged as shown and operated by a rod extending to the cab and having arms connected one with each of the valves, so that by turning the rod the valves may be opened or closed at pleasure.

Having thus described my invention, what I claim as new is—

1. A conductor, substantially as described, comprising a tubular section having a concave or bell-shaped end or head, a second tubular section provided with a convex head fitted to said concave end, and an annulus fitted over said parts and securing devices therefor, substantially as and for the purposes specified.

2. In combination with the tubular sections

having respectively concave and convex heads fitted together, the hinged retaining-sections provided at their movable ends with clamps, substantially as and for the purposes specified.

3. The combination, with the tubular sections having concave and convex heads, of the retaining-annulus fitted thereover and a spring-bearing interposed between the said heads and the retaining-annulus, substantially as set forth.

4. In a conveyer, substantially as described, the combination of the meeting heads and the retaining-annulus formed in two sections hinged or pivotally supported at one end and provided at their outer ends with spring plates or latches secured at one end to the sections, and provided near their opposite ends with slots fitted to engage the lugs on the other section, substantially as set forth.

5. The combination, with the sections having respectively concave and convex heads fitted together, of a spring engaging one of said heads, whereby the latter are held snugly together, substantially as set forth.

6. The combination, with the fixed sections having convex heads, of the coupling-sections sliding at one end, one within the other, and provided at their other ends with concave heads of the fixed sections, and devices connecting said concave and convex heads, substantially as set forth.

7. The combination of a tubular section having a head comprising a radial flange or plate, 1, and a semi-globular seat or rest, 2, a second section having a concave head fitted to the convex head of the first section and a securing-annulus, substantially as set forth.

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Witnesses:

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