(No Model.)

# S. M. BEERY.

## AIR BRAKE HOSE COUPLING.

No. 509,114. Patented Nov. 21, 1893.

Fig. 1.

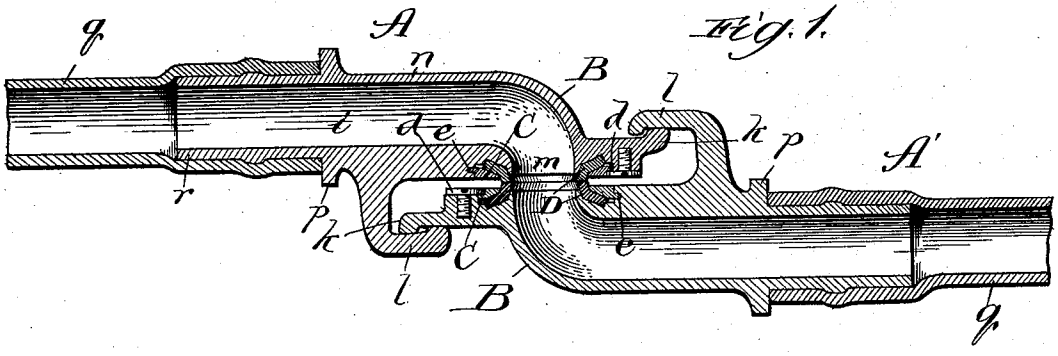



Fig. 2.

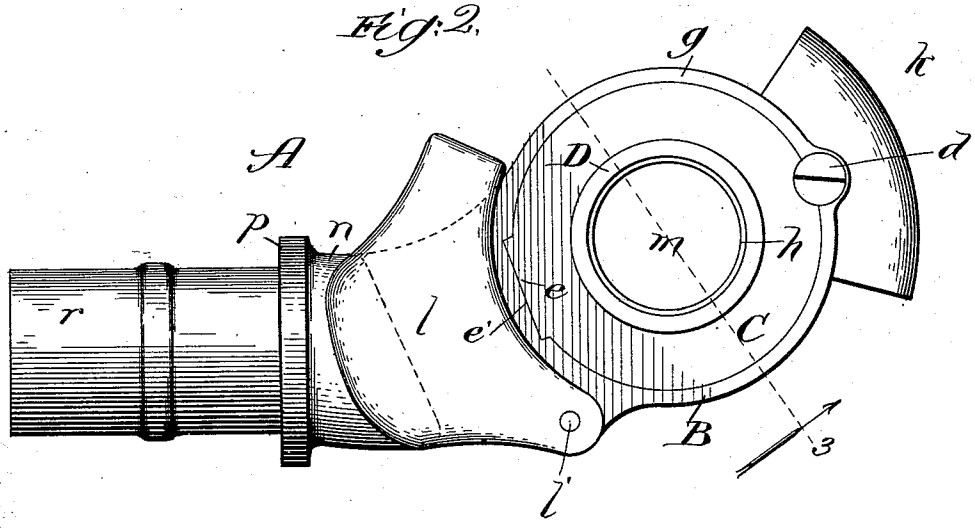
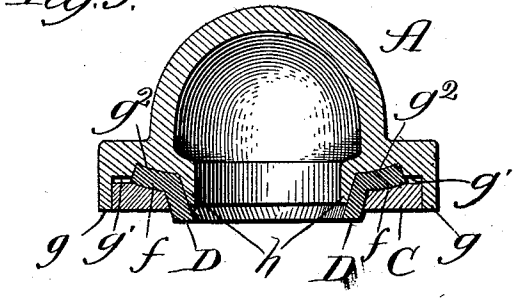



Fig. 3.

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# UNITED STATES PATENT OFFICE.

SAMUEL M. BEERY, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE BEERY VALVE COMPANY, OF SAME PLACE.

## AIR-BRAKE HOSE-COUPLING.

SPECIFICATION forming part of Letters Patent No. 509,114, dated November 21, 1893.

Application filed February 23, 1893. Serial No. 463,364. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL M. BEERY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Hose-Couplings, of which the following is a specification.

My invention relates to an improvement in the class of couplings employed for coupling together between cars the hose-extensions of air-brake pipes.

One of the objects of my improvement is to provide an unobstructed curved passage through the coupling-head from its nipple-end to the mouth, whereby the air may pass through it with the least impediment or retarding effect.

Another object is to provide a construction of gasket packing for the coupling-head which shall afford a perfectly tight joint without undue pressure against and consequent mashing of the gasket, and whereby ready adjusting means for the gasket shall be afforded; and my further object is to provide a generally improved construction of coupling-head in the class referred to and which shall, moreover, be interchangeable with the various Westinghouse types of such coupling.

In the accompanying drawings—Figure 1 is a longitudinal, horizontal sectional view of a pair of operatively connected hose-coupling heads involving my improvements. Fig. 2 is a face view of one of my improved coupling-heads; and Fig. 3 is a section taken at the line 3 on Fig. 2 and viewed in the direction of the arrow.

A and A′ are coupling-heads for air-brake hose, shown as operatively applied to each other in Fig. 1, both, however, involving identically the same construction, so that the following detailed description of one (the coupling A) will suffice: The coupling comprises a nipple $r$, over which the hose $q$ to be connected is slipped and which abuts against a stop-flange $p$, whence extends the neck-portion $n$ terminating in the expanded head B, having its mouth or opening $m$ in the side. On the inner side of the neck $n$ is provided, as usual, a socket-portion $l$ having the stop $l'$ to receive and engage the lug $k$ extending from the forward end of the head of the companion coupling.

As will be noticed, by reference to Fig. 1, the passage $i$ through the coupling-head from the rear end of the nipple $r$ is preferably uniform throughout and devoid of any abrupt or angular turn in its direction toward the lateral mouth $m$ in the head, as is usual in these devices, but curves gradually on the rear or outer side to the mouth, as indicated at $x$. That is to say, by causing the passage through the nipple to lead in a straight line into the head nearly to the opening in its face and thence curving the passage, in an inward direction throughout the curvature, to the said opening, I avoid any obstruction in the passage. This produces an improvement possessing very great advantage, inasmuch as it enables the air-pressure to pass freely, or without other than frictional impediment, from one coupling-head to the other and thus avoids the rebounding and obstructing action of the rectangular or approximately rectangular or other turn usually provided in coupling-heads of the class to which my invention relates. Moreover, it will be noticed that the nipple $r$ is set more than usually out of line with the center of the opening $m$ in the head, whereby I am enabled to avoid the offset common to former such couplings in the junction between the nipple and neck-portion, and afford an unobstructed passage for the air through the nipple.

About the opening $m$ in the face of the coupling-head, I provide a marginal circular flange $h$; and inside the outer rim $g$ of the head, I prefer to provide a circular shoulder $g'$, whereby an annular depression $g^2$ is afforded between the flange $h$ and the shoulder $g'$ to receive the base portion of the flange of the rubber gasket, hereinafter described.

C is a flat metal (preferably malleable iron) gasket-ring adapted to fit inside the margin $g$ on the face of the head B, and having in its under side an ogee seat into which fits the flange-portion $f$ of the rubber gasket D, which protrudes from its flange through and slightly beyond the opening in the ring C. When the ring is adjusted in position, it also adjusts the gasket in place, and the latter thus sur-

rounds the marginal flange *h*, which, as will be seen, should be slightly tapering in an outward direction about its external circumference, whereby fastening the ring presses the gasket tightly against the circular flange *h*, affording a tight joint; and the bearing which it affords to the gasket prevents its being mashed inward by compression with the gasket of the companion coupler when the two couplings are adjusted together in the usual manner.

Any suitable means may be provided without departing from the spirit of my improvement, for fastening the gasket-ring C in place; but I show, as preferred means for the purpose, a lip *e* extending from one side of the periphery of the gasket-ring, and adapted to fit in a recess *e'* in the face of the head, and a screw *d* diametrically opposite the lip, and inserted into an opening provided to receive it in the head, whereby the head of the screw overlaps an offset in the periphery of the gasket-ring, thus fastening the latter while extending flush with its outer surface.

As will be seen by my improved construction, all impediment to the passage of air through the coupling, except that incidental to mere friction, is avoided, thereby rendering possible the quicker operation of the brakes; besides the means for packing the coupling afford a perfectly tight joint without requiring undue pressure to be exerted against the gasket, and are conveniently removable and adjustable, without requiring the coupling-head to be taken off for the purpose of removing a worn-out gasket and replacing it with a new one.

My improvement is equally as advantageous for steam as for air.

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

1. In a hose-coupling, the combination of the hollow head B having its face provided with the opening *m*, locking means adapted to interlock with the locking means on the head of a companion-coupler, when the two heads are coupled at the hanging ends of adjacent hose-sections, and a nipple *r* having the passage *i* leading straight through it and through the head nearly to the opening *m*, said passage leading entirely in the plane to the rear of the said face, whereby obstruction in the passage by any offset is avoided between the nipple and head, said passage curving from the termination of its straight course to the opening *m* in an inward direction throughout the curve, substantially as and for the purpose set forth.

2. In an air-brake hose-coupling, the combination with the coupler-head having an opening *m*, of an annular flange *h* on the face of the head about the said opening, an annular recess in the said face about the flange *h*, a gasket-ring C having an annular gasket-seat in its under side and removably fastened in the said recess, and a gasket D clamped between the ring and annular flange in said recess, substantially as described.

3. In an air-brake hose-coupling, the combination with the head B having the opening *m*, of an annular flange *h* on the face of the head about the said opening, an annular shoulder *g'* on the said face and forming thereon with the flange *h* an annular recess $g^2$, a gasket-ring C having an annular gasket-seat in its under side and removably fastened against the face of the head about the flange *h*, and a gasket D seated at its flange in the recess $g^2$ and annular gasket-seat and clamped between the ring and said flange *h*, substantially as described.

4. In an air-brake hose-coupling, the combination with the head B having the opening *m*, of a recess *e'* in one side of the face of the head, a gasket-ring C having a lip *e* to enter the said recess and a screw-fastening opposite the lip, and a gasket D seated at its flange against the under side of the ring and protruding through the opening thereof, substantially as described.

SAMUEL M. BEERY.

In presence of—
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