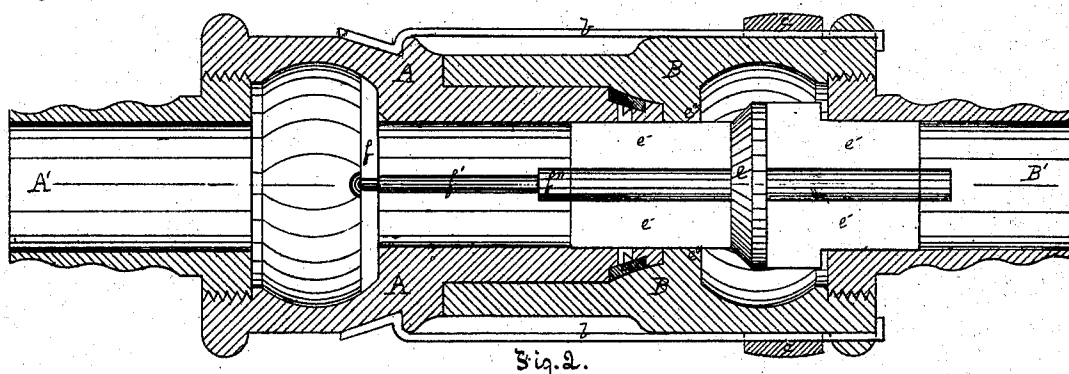
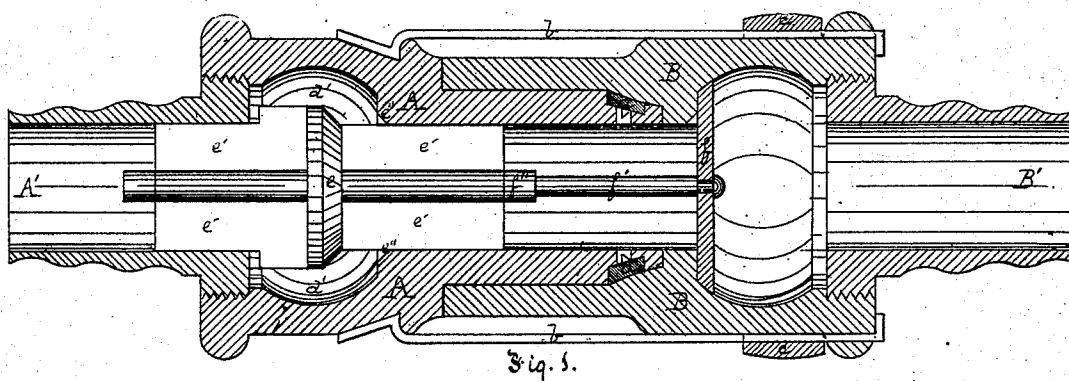


George Westinghouse Sr.

Valve Device for Steam Power Air Brake Couplings.

116655

PATENTED JUL 4 1871



Witnesses:

R. W. Henshall
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Inventor:

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by Bakewell, Christy & Kerr,
his Attys.

UNITED STATES PATENT OFFICE.

GEORGE WESTINGHOUSE, JR., OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN VALVE DEVICES FOR STEAM-POWER AIR-BRAKE COUPLINGS.

Specification forming part of Letters Patent No. 116,655, dated July 4, 1871.

To all whom it may concern:

Be it known that I, GEORGE WESTINGHOUSE, Jr., of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Valve Device for Steam-Power Air-Brake Couplings; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a longitudinal section of the male and female parts of a pipe-coupling fitted with my improvement, the valve being in the male part; and Fig. 2 is a like view of the same, except that the valve is in the female part and the stem by which it is unseated is in the male part.

Like letters of reference indicate like parts of each.

My present invention relates to the construction of valve devices for the coupling-pipes of steam-power air-brakes of railway cars, of the same class as is described in Letters Patent already granted to me, April 13, 1869, and November 29, 1870; and consists in a combination of devices somewhat modified from any of the forms heretofore patented to me, and in which modified form a valve arranged in one part of the coupling is unseated by a fixed inflexible stem in the other part, the valve in all other respects operating in the manner heretofore described.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and manner of use.

The male and female parts A and B of the coupling are made of any suitable form. They are attached to the flexible pipes by their corrugated ends A' B', and are fitted with packing *a*, fastening spring-hooks *b*, and adjustable rings *c* in the usual way. In Fig. 1 the male part A has a valve-chamber, *d'*, in which is arranged the valve *e*, having guiding-wings *e'*, or other equivalent devices, by which it is guided in its motion to and from its seat *e''*. When the two parts of the coupling are disconnected the pressure of the air back of the valve *e* will always press it to its seat, so that in such case it will be practically a pipe having a closed end, and the air will be prevented from escaping. In the female part, and across the opening at any suitable point, is fixed

a bar, *f*, from which a rigid inflexible stem, *f'*, projects forward far enough, and in such position as that, when the couplings are united, it will engage some part, say the stem *f''* of the valve *e*, and force it back from its seat far enough to leave an open passage-way around for the flow of air. In Fig. 2 the same combination is shown, except that the valve *e* is arranged in a suitable valve-chamber of the female part of the coupling, and the cross-bar *f* and stem *f'* in the male part of the coupling.

In furnishing cars with such couplings the female parts may be placed on the corresponding ends of all the cars of any one road, and the male parts on the opposite ends; or, what is a better arrangement, two coupling-pipes may be employed at each end of each car, such pipes of each pair meeting at or short of the brake-cylinder. Then, on all the cars of the road, and on both ends of each car, the right-hand coupling-pipe should be fitted with a male or female coupling, and the left-hand coupling-pipe with the corresponding female or male coupling, the arrangement of the valve in the male or female parts being uniform in all the couplings, and likewise that of the bar and stem. This latter arrangement, however, will constitute a part of the subject-matter of a separate application. Then, when the cars are coupled together, an open uninterrupted passage-way will be open through the entire train for the flow of the air, which for this purpose is to be compressed by steam-power into a suitable reservoir, and the pipes of the rear end of the last car may be coupled together. This construction and arrangement, however, will form the subject-matter of a separate application. The stems *f* I prefer to make of such length that if two couplings, both fitted with cross-bars *f* and stems *f'*, happen to come together, they will not prevent the uniting of the couplings. In the combination set forth any other suitable form of valve may take the place of the valve *e*, the only essential points being that it shall be free to close by pressure from behind, and shall be unseated, when the couplings are united, by means of a rigid stem, *f*, engaging it, or some part of it, or some device connected therewith.

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

A rigid inflexible stem, *f'*, arranged in one part of a pipe-coupling, in combination with a valve in the other part, the two being so arranged that when the couplings are united the valve shall be unseated by being brought in contact with the stem, substantially as described.

In testimony whereof I, the said GEORGE

WESTINGHOUSE, Jr., have hereunto set my hand.

GEO. WESTINGHOUSE, Jr.

Witnesses:

A. S. NICHOLSON,

R. C. WRENSHALL.