(No Model.)

G. WESTINGHOUSE, Jr.

BRAKE CYLINDER HEAD.

No. 432,715. Patented July 22, 1890.

Fig. 1.

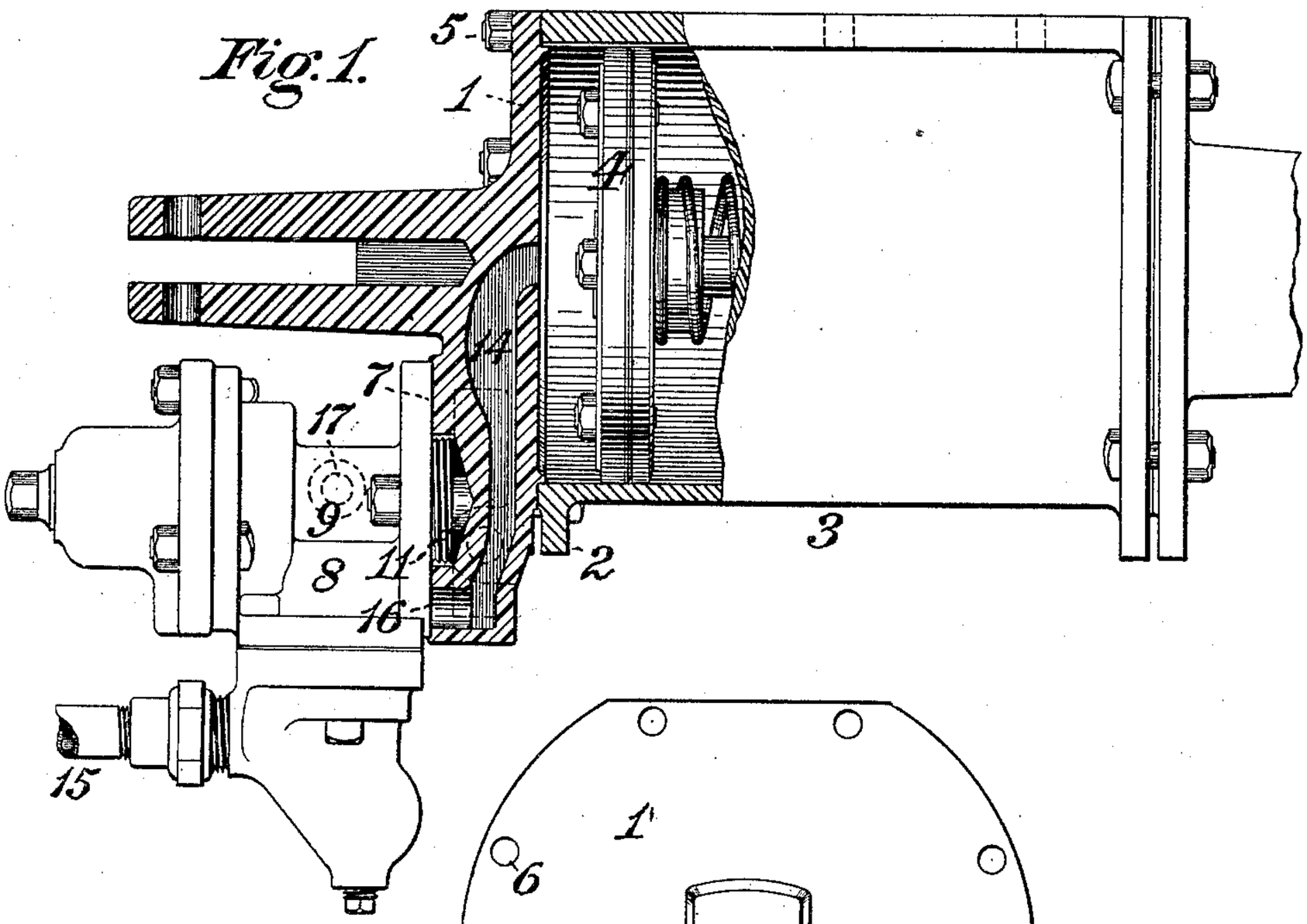

Fig. 2.

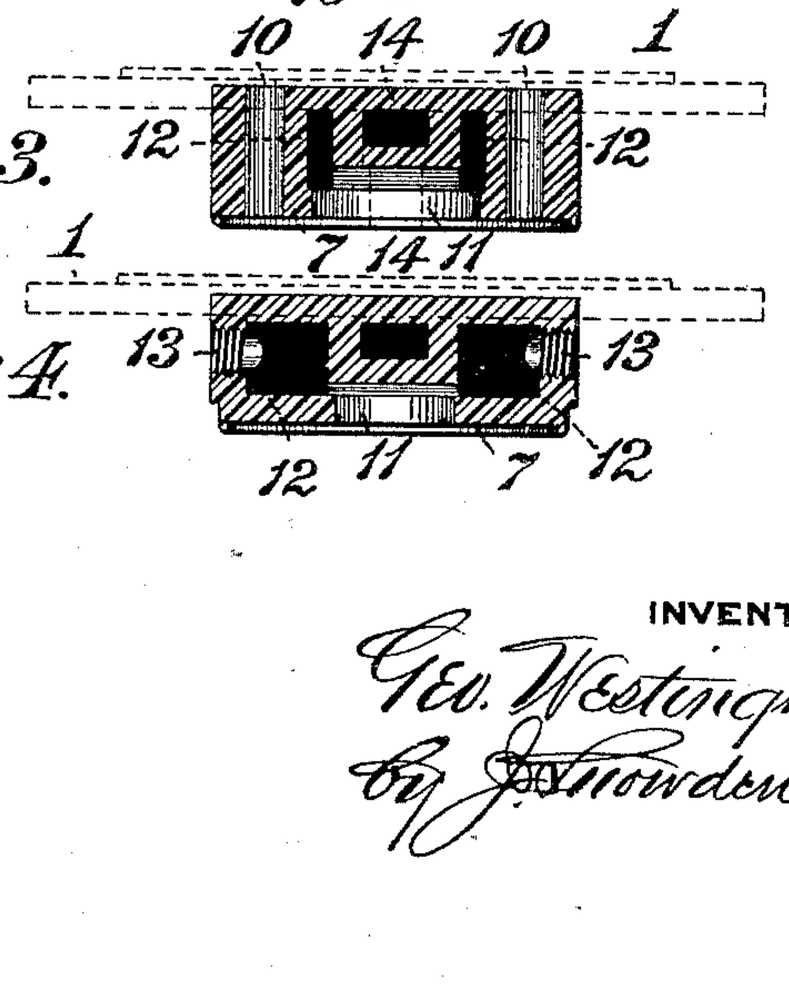

Fig. 3.

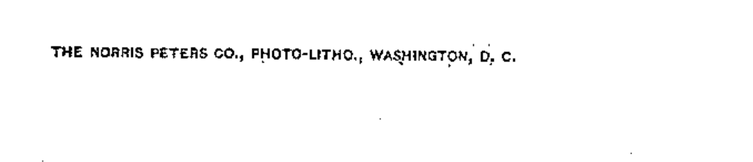

Fig. 4.

WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORGE WESTINGHOUSE, JR., OF PITTSBURG, PENNSYLVANIA.

BRAKE-CYLINDER HEAD.

SPECIFICATION forming part of Letters Patent No. 432,715, dated July 22, 1890.

Application filed July 27, 1889. Serial No. 318,913. (No model.)

To all whom it may concern:

Be it known that I, GEORGE WESTINGHOUSE Jr., a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented or discovered a certain new and useful Improvement in Brake-Cylinder Heads, of which improvement the following is a specification.

The object of my invention is to provide a brake-cylinder head for automatic air-brake apparatus of such construction as will effect a reduction of joints and intermediate connections and a shorter traverse for air, and admit of a compact arrangement of parts in the attachment of the brake-cylinder, triple valve, and auxiliary reservoir in proper operative relation to the framing of a railroad-car.

To this end my invention, generally stated, consists in a brake-cylinder head, having an outer face for the connection of a triple-valve mechanism, and ports leading from said face to the inner side of the head, and connections for an auxiliary reservoir to the head on either side of the cylinder.

The improvement claimed is hereinafter fully set forth.

In the accompanying drawings, Figure 1 is a view, partly in elevation and partly in section, of a brake-cylinder, cylinder-head, and triple valve, illustrating the application of my invention; Fig. 2, an outer face view, in elevation, of the cylinder-head detached; and Figs. 3 and 4, transverse sections through the same at the lines *x x* and *y y*, respectively, of Fig. 2.

In the practice of my invention, I provide a brake-cylinder head 1, of diameter corresponding, substantially, with that of the flange 2 of that end of a brake-cylinder 3 into which air under pressure is admitted to actuate its piston 4, the head being secured to the cylinder-flange by bolts 5, passing through holes 6 near the periphery of the head. A face 7 is formed upon the outer side of the head 1, and is properly trued off to make a tight joint with the casing 8 of the triple-valve mechanism of an automatic air-brake apparatus, the triple valve communicating with the main air or brake pipe by a connecting-pipe 15, and being secured directly to the head by bolts 9, passing through holes 10 in the head. The construction of the "triple-valve mechanism" (by which term is meant any device provided for the admission of air under pressure to an auxiliary reservoir, and the supply and exhaust of air from said reservoir to and from a brake-cylinder) being well known in the art and not forming part of my present invention will not be herein described.

The open end of the slide-valve chamber of the triple valve communicates with a central port 11 in the adjacent face 7 of the head, said port in turn communicating through a passage 12 with a lateral auxiliary reservoir connection-port 13, which is threaded or otherwise suitably adapted for the attachment of a pipe leading to the auxiliary reservoir of the brake system. In order to admit of the location of the auxiliary reservoir on either the right or the left side of the brake-cylinder, as desired, I preferably provide a port 13 on each side of the central port 11, one of said ports being connected to the auxiliary reservoir-pipe, and the other closed by a tight plug.

The supply and exhaust of air to and from the brake-cylinder are effected through a port 14, formed in the cylinder-head 1 and extending from an opening 16 in the face 7, to which the triple valve is secured, to the inner face of the head. The outer opening 16 of the port 14 communicates directly with the air-supply port of the triple valve, by the operation of whose mechanism, as is familiar to those skilled in the art, air under pressure is admitted from the auxiliary reservoir to the brake-cylinder, passing through the ports 13 and 11 to the slide-valve chamber of the triple valve, and thence through the opening 16 and port 14 to the brake-cylinder. In the release of the brakes, air is discharged through said opening and port to the exhaust-port 17 of the triple valve.

While I have illustrated a cylinder-head which is made separate from and secured to the brake-cylinder, such being the ordinary and preferred construction, it will be obvious that the head might, if desired, be formed integral with the cylinder, and the ports could, further, be lateral instead of endwise, preserving their described relation to the triple-valve mechanism, brake-cylinder, and reservoir-connection.

My improvement simplifies the equipment

by the avoidance of intermediate connections between the triple valve and brake-cylinder head, correspondingly reducing tendency to leakage and degree of traverse of air, and enables a convenient and compact arrangement and connection of the several members to be attained without involving modification of structure other than as relates to the construction of the cylinder-head, as above described.

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

In an automatic-brake mechanism, the combination of a brake-cylinder, a triple valve, an auxiliary reservoir, and a brake-cylinder head, having a port establishing communication between the brake-cylinder and triple valve, and a port opening into a passage or recess in the head, having connections by which a separate auxiliary reservoir may be directly connected to the head on either side of the cylinder, substantially as set forth.

In testimony whereof I have hereunto set my hand.

GEO. WESTINGHOUSE, JR.

Witnesses:

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J. SNOWDEN BELL.