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H. E. HADDOCK.

AIR BRAKE MECHANISM.

APPLICATION FILED JULY 21, 1904.

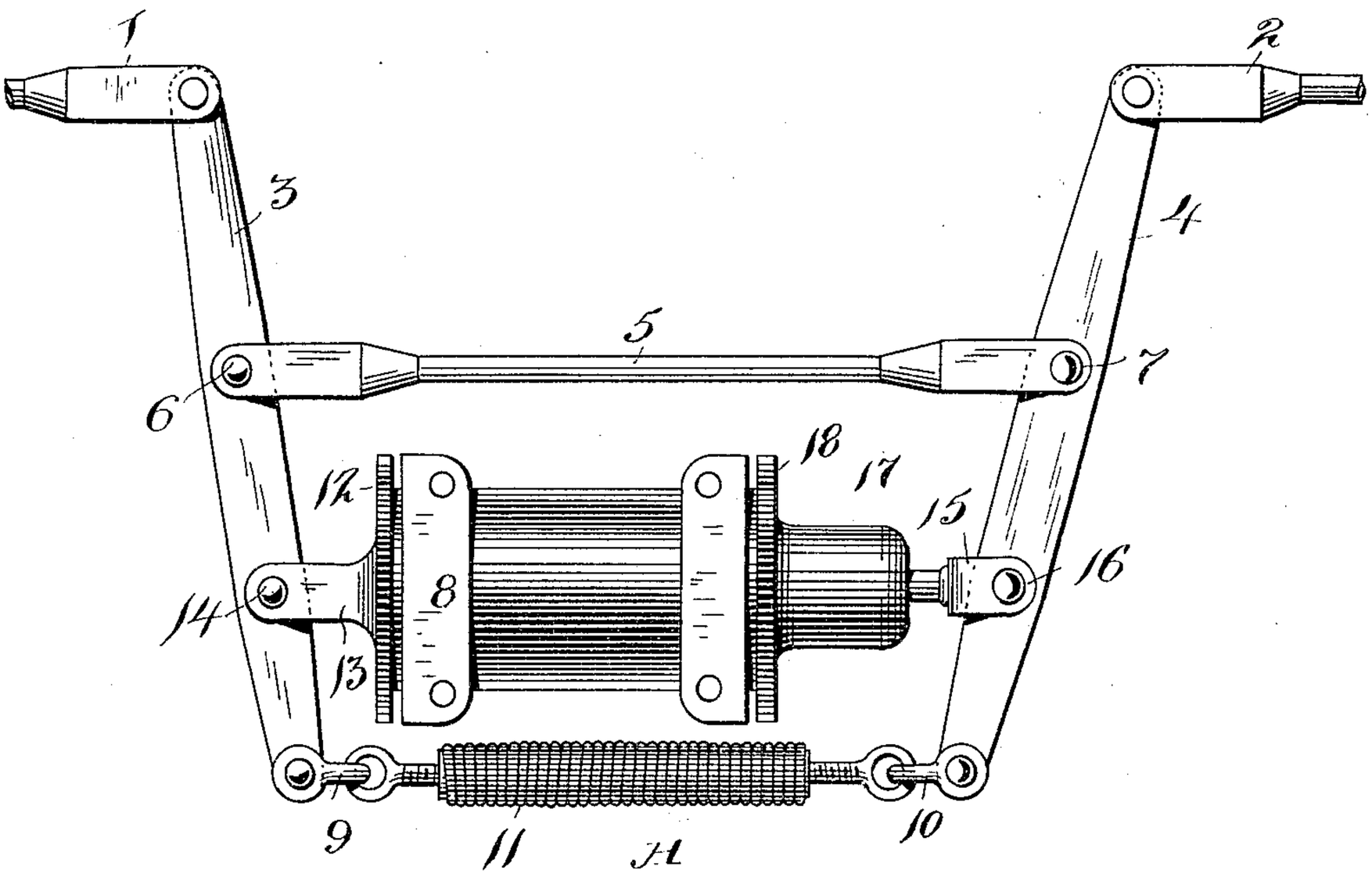

Fig. 1.

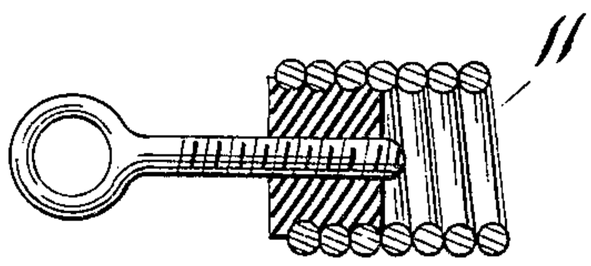

Fig. 2.

Witnesses
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No. 784,321. Patented March 7, 1905.

UNITED STATES PATENT OFFICE.

HENRY E. HADDOCK, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO JOHN A. BRILL, OF PHILADELPHIA, PENNSYLVANIA.

AIR-BRAKE MECHANISM.

SPECIFICATION forming part of Letters Patent No. 784,321, dated March 7, 1905.

Application filed July 21, 1904. Serial No. 217,465.

To all whom it may concern:

Be it known that I, HENRY E. HADDOCK, a citizen of the United States, and a resident of the city and county of Philadelphia, State of Pennsylvania, have made new and useful Improvements in Air-Brake Mechanism, of which the following is a specification.

The object of my invention is to provide means whereby the brakes will be released promptly and efficiently when the air-brake cylinder ceases to act, and this I accomplish by the means hereinafter disclosed.

For a more particular description of my invention reference is to be had to the accompanying drawings, in which—

Figure 1 is a plan view of that part of the brake mechanism to which my improvement relates, and Fig. 2 is a section of the end of the spring.

1 and 2 are the brake-rods, which are pivoted to the levers 3 and 4, respectively, at the ends of said levers. The levers 3 and 4 are united by the link 5, which is pivoted to said rods at 6 and 7, and the air-brake cylinder 8 is also pivotally connected to these levers 3 and 4 in the manner described below. At the other extreme ends of the levers 3 and 4 are shackles 9 and 10, respectively, which are united by means of a coil-spring 11. The brake-cylinder 8 has the usual connection with the source of air-supply, which is not shown, and is connected with the car-body in any suitable manner. The cylinder-head 12 has projecting lugs 13, which pass on each side of the lever 3, and a pivot 14 passes through both the lugs 13 and the lever 3, thereby pivotally connecting one end of the brake-cylinder with the lever 3. The other lever, 4, is pivotally connected to the piston-rod 15 of the cylinder 8 by means of a pivot-pin 16. A stuffing-box 17 surrounds the rod 15 and causes it to have a right-line motion only. This stuffing-box 17 is attached to the cylinder-rod 18 of the cylinder 8.

From the foregoing the operation of my improved brake mechanism will be readily understood. Assuming the mechanism to be in the position shown in Fig. 1, when air is admitted to the cylinder the rod 15 is thereby thrust outwardly and moves the lever 4 against the action of the spring 11. The pivot 7 forms a fulcrum which has a slight movement, but not as great as the movement of the pivot 16, so that the rod 2 is drawn in the direction of the rod 1, thus causing the brakes to be applied to the wheels of one truck. As soon as the rod 2 reaches the limit of its movement the link 5 draws the rod 3, which is fulcrumed on the pivot 14 and through the rod. The brakes are applied to the wheels on the other truck, the rod 1 being drawn in the direction of the rod 2, and the lower end of the lever 3 acts against the spring 11, thereby elongating it. When air is released from the brake-cylinder 8, the spring 11 draws the lower ends of the levers 3 and 4 together, thereby causing the piston 15 to assume the position shown in the figure and separating the ends of the levers 3 and 4, to which the rods 1 and 2 are attached.

Having thus described my invention, what I claim is—

1. In a brake mechanism, levers, a link and spring connecting said levers, and a brake-cylinder connecting said levers and located between said link and spring.

2. In an air-brake mechanism, levers, a link pivotally connecting said levers, a spring pivotally connected with the ends of said levers, and an air-cylinder pivotally connected with said levers and located between said link and spring, said air-cylinder having its piston connected with one link and a cylinder-head connected with the other.

Signed at the city of Philadelphia, county of Philadelphia, and State Pennsylvania, this 11th day of July, 1904.

HENRY E. HADDOCK.

Witnesses:

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WALTER S. ADAMS.