No. 872,369. PATENTED DEC. 3, 1907.

W. K. RANKIN.

BRAKE CYLINDER.

APPLICATION FILED FEB. 11, 1907.

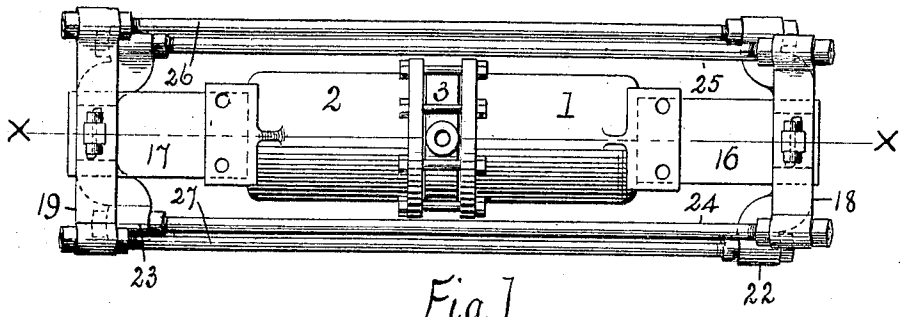


Fig. 1

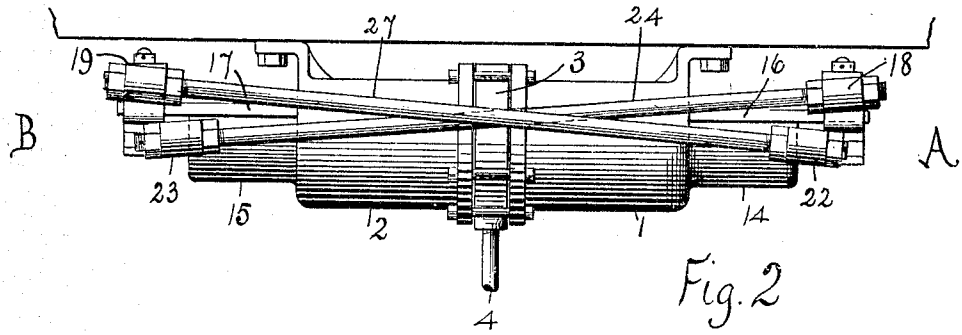


Fig. 2

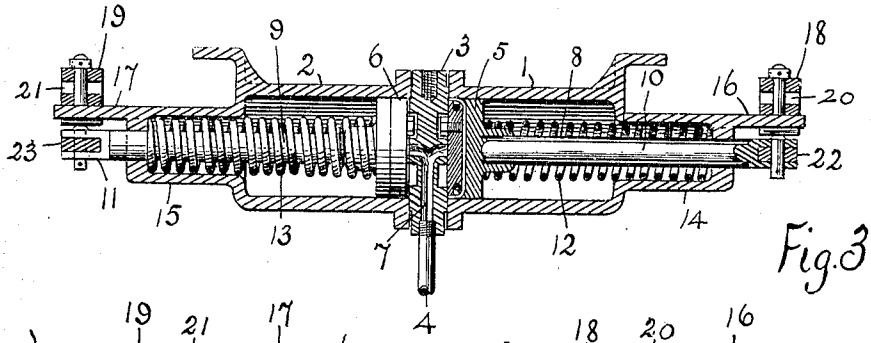


Fig. 3

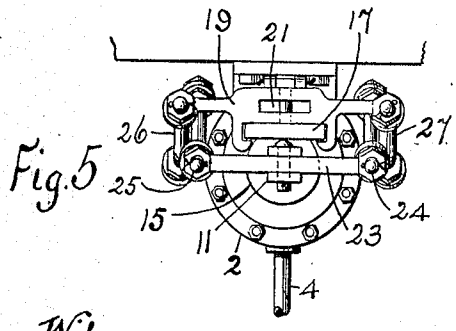


Fig. 5

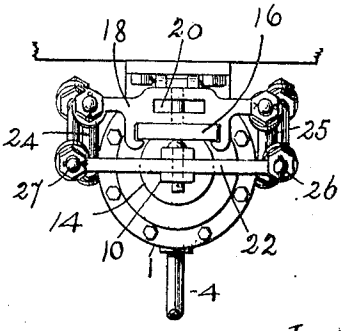


Fig. 4

Witnesses.
Henry F. Colvin
F. E. Stebbins.

Inventor.
William K. Rankin
By R. C. Wright
Atty.

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM K. RANKIN, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO JOHN E. REYBURN, OF PHILADELPHIA, PENNSYLVANIA.

BRAKE-CYLINDER.

No. 872,369. Specification of Letters Patent. Patented Dec. 3, 1907.

Application filed February 11, 1907. Serial No. 356,723.

To all whom it may concern:

Be it known that I, WILLIAM K. RANKIN, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Brake-Cylinders, of which the following is a specification.

This invention relates to cylinders for air brakes, the cylinders being placed end to end and attached to an intermediate portion through which the pressure is simultaneously delivered to each cylinder to actuate its piston to apply the brake on the truck diametrically opposite thereto, and is an improvement on Patent 723,297 of March 24, 1903. In cylinders heretofore constructed for similar use, as in the patent cited, the means for connecting the pistons to their respective trucks was much extended and occupied a long space under the car, sufficient in many constructions of cars to prohibit its use. Also, the extended overhang of the connections, was an added expense and the cause of much annoyance from the rattling noise incident to the car's movements.

In the present invention the above enumerated defects have been eliminated, and a machine produced which is so compact as to be applied to any car, thoroughly effective, noiseless and at reduced cost.

The invention is illustrated in the accompanying drawings in which similar characters of reference indicate similar parts wherever used, and in which

Figure 1 is a top view; Fig. 2 is a side elevation; Fig. 3 is a section on line X X Fig. 1; Fig. 4 is an elevation of end A; Fig. 5 is an elevation of end B.

As heretofore, cylinders 1, 2 are secured to a central portion 3 at their inner ends, which receives the air through pipe 4 and delivers it to pistons 5, 6 through port 7. The pistons are also provided with pipes 8, 9 rods 10, 11 and return springs 12, 13 as heretofore. The cylinders have projecting outer ends 14, 15 of less diameter than the cylinders, which, at their upper part have integral guides 16, 17 upon which ride crossheads 18, 19 with pockets 20, 21 for the reception of brake connections to the brake levers of the trucks. Connected to piston rods 10, 11 are crossheads 22, 23. The pistons are shown in their inoperative positions, as when the brakes are off or unapplied. Crosshead 18 is connected to crosshead 23 by rods 24, 25 while cross head 19 is connected to crosshead 22 by rods 26, 27 the rods running diagonally of each other and in opposite directions and free from contact where they cross. By this construction the piston's crossheads are close coupled to the guided crossheads which move the brake lever connections; a long overhang of parts which occupy needless and often unavailable space is avoided, together with much needless expense, and a compact construction is produced and which is free from rattling annoyance.

I claim.

1. In a brake, cylinders joined at their inner ends to an intermediate portion having an air connection and ports to the cylinders, and outer ends for the cylinders of less diameter than the cylinders, and guides thereon for crossheads.

2. In a brake, cylinders joined at their inner ends to an intermediate portion having an air connection and ports to the cylinders, and outer ends for the cylinders of less diameter than the cylinders, and integral guides thereon for crossheads.

3. In a brake, cylinders having an intermediate ported connection member and crosshead guides formed at their outer and opposite ends.

4. In a brake, cylinders having an intermediate ported connection member, crosshead guides formed at their outer and opposite ends, and crossheads thereon having means for brake lever connections.

5. In a brake, cylinders connected at their inner ends to an intermediate portion having an air connection and ports to the cylinders; pistons and rods therefor and crossheads for the piston rods; guides and crossheads therefor attached to the outer ends of the cylinders, and connections from each piston rod crosshead to the opposite guided crosshead.

6. In a brake, cylinders connected at their inner ends to an intermediate portion having an air connection and ports to the cylinders; pistons and rods therefor and crossheads for the piston rods; guides and crossheads therefor attached to the outer ends of the cylinders and located above the piston rod crossheads, and connections from each piston rod crosshead to the opposite guided crosshead.

7. In a brake, cylinders connected at their inner ends to an intermediate portion having an air connection and ports to the cylinders;

pistons and rods therefor and crossheads for the piston rods; guides and crossheads therefor attached to the outer ends of the cylinders and located for movement parallel to the piston rod crossheads, and diagonal connections from each piston rod crosshead to the opposite guided crosshead.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM K. RANKIN.

Witnesses:
LEWIS H. REDNER,
RANSOM C. WRIGHT.