

No. 763,311.

PATENTED JUNE 21, 1904.

W. O. MUNDY.

AIR BRAKE.

APPLICATION FILED FEB. 6, 1904.

NO MODEL.

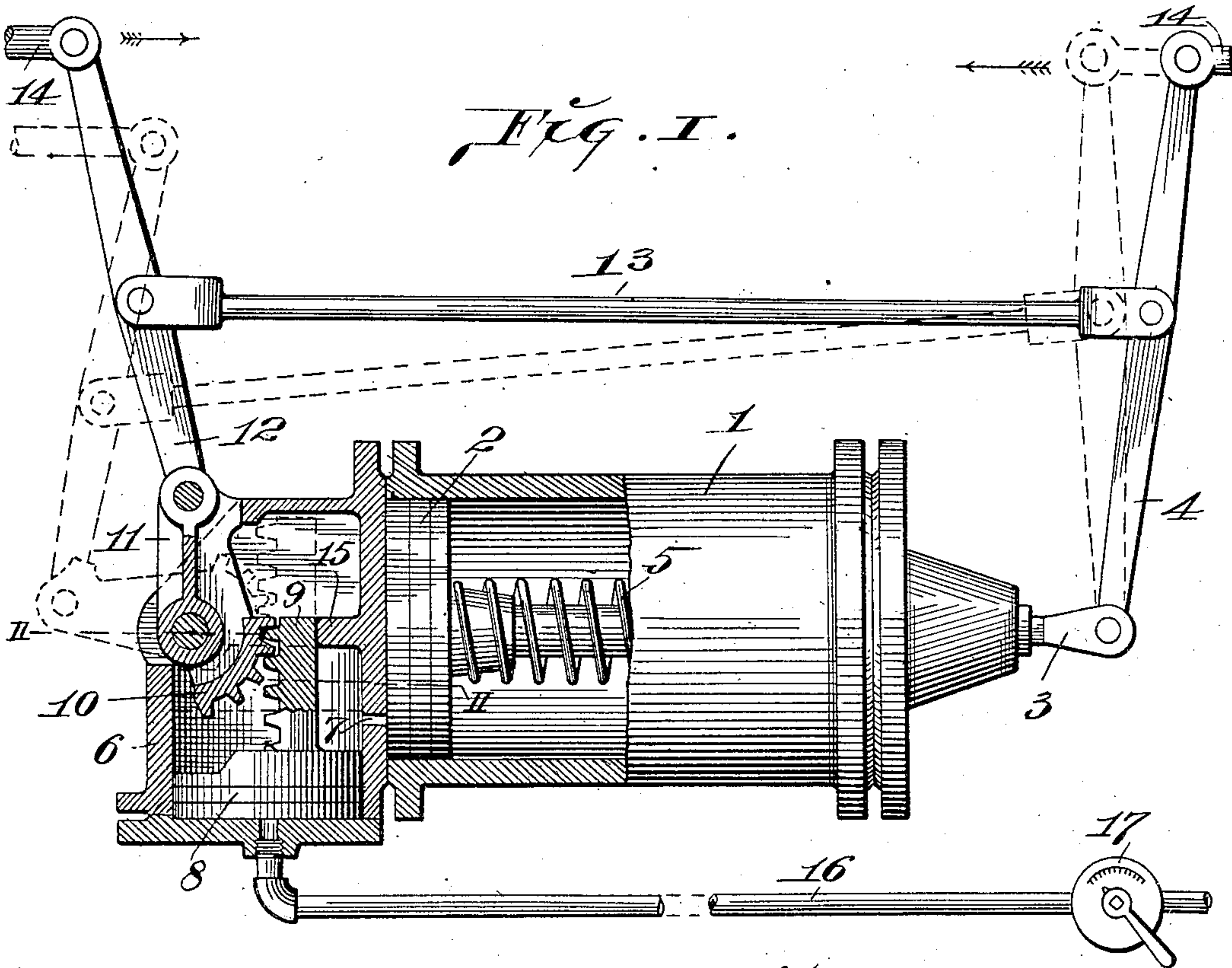


Fig. II.

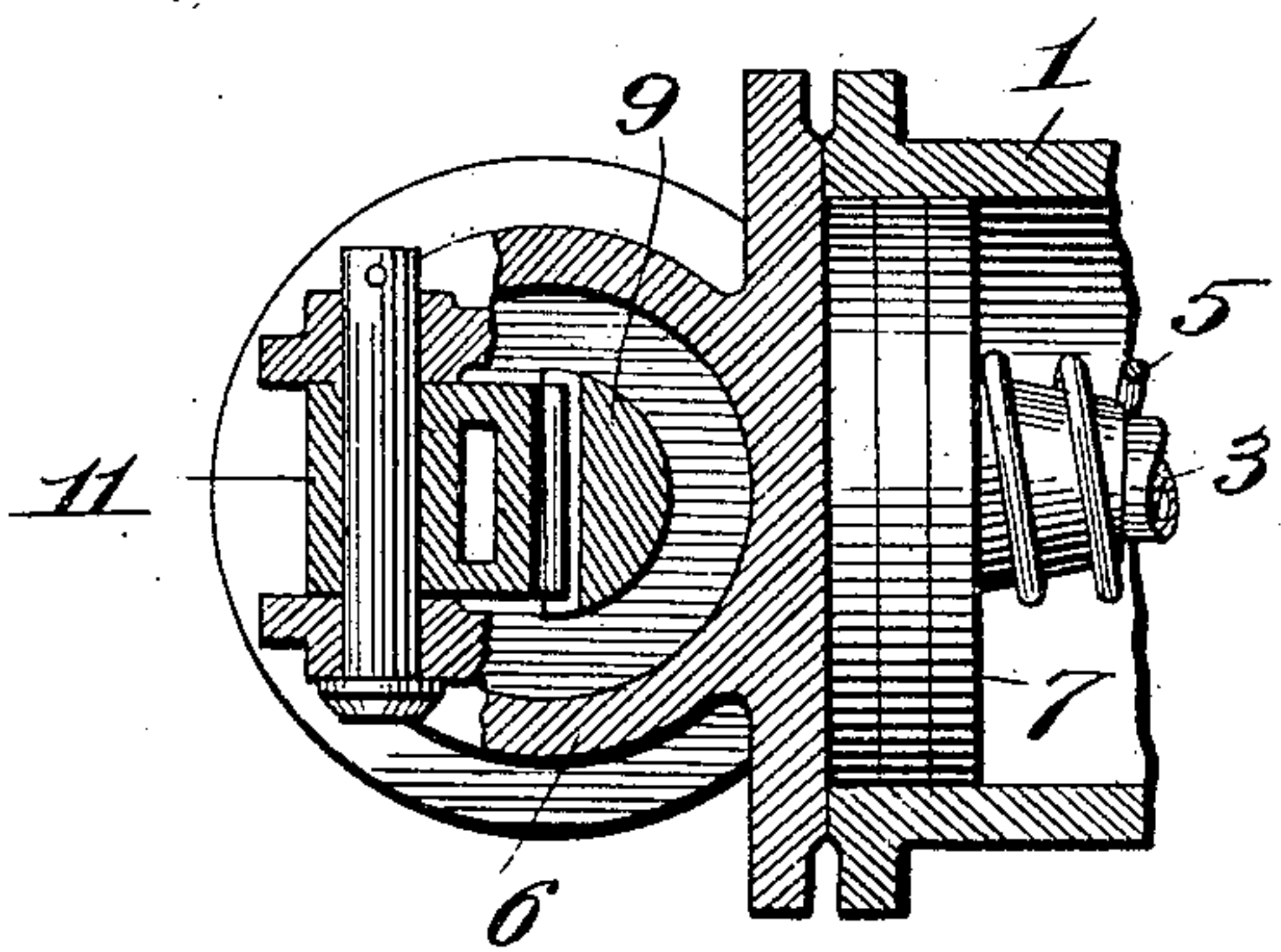


Fig. III.

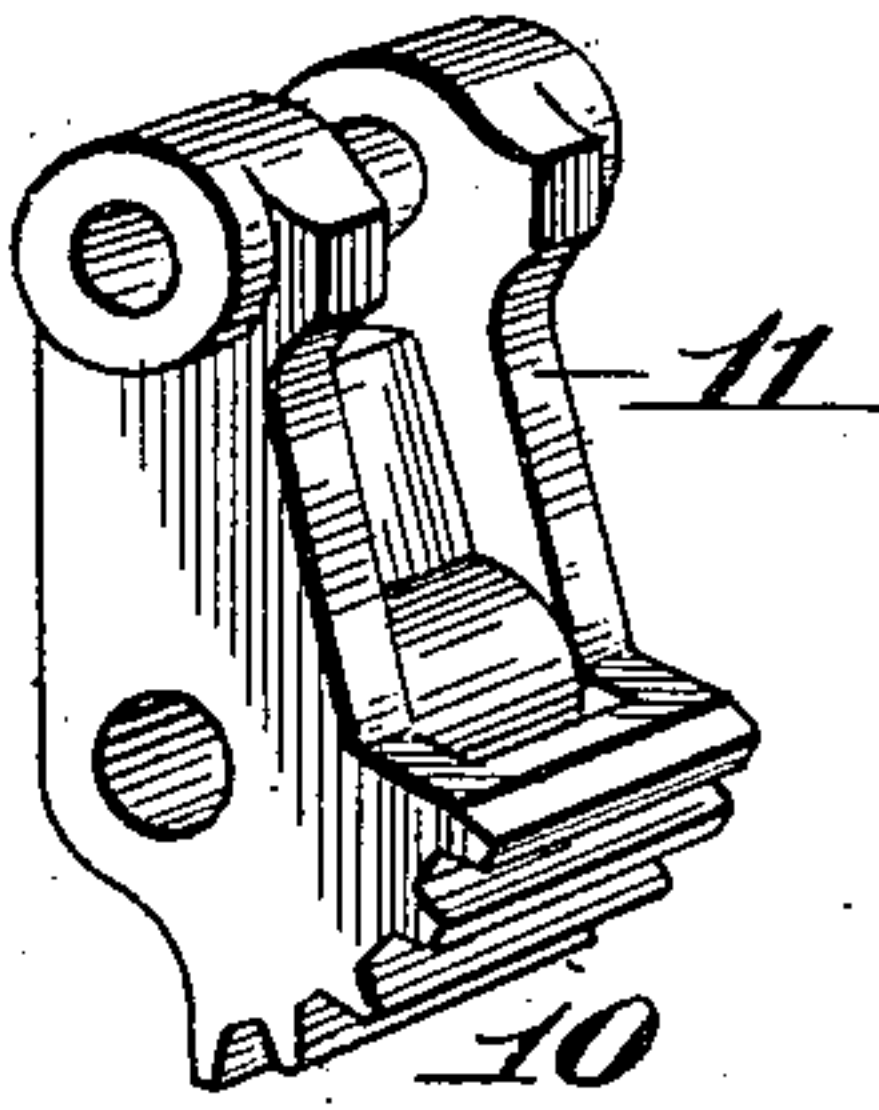
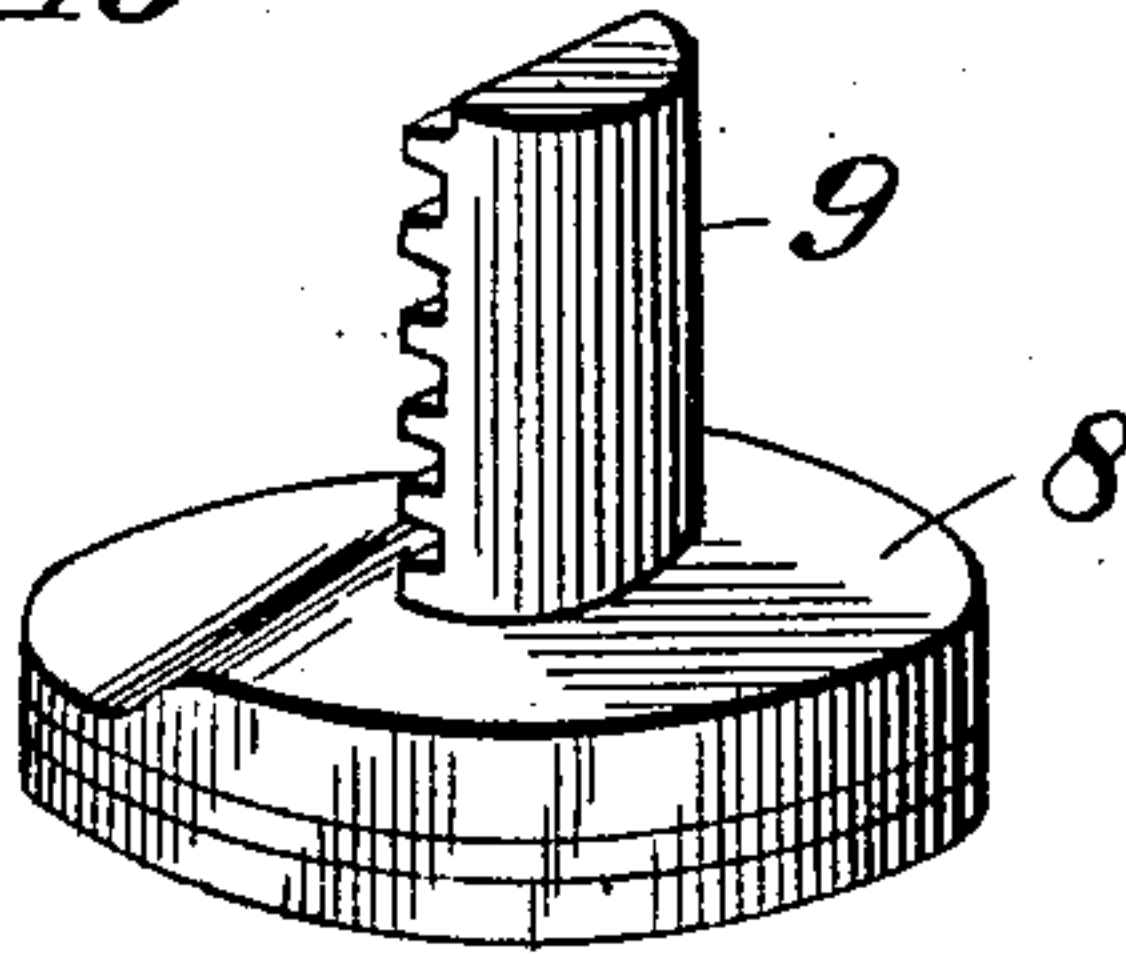


Fig. IV.



Attest:—

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UNITED STATES PATENT OFFICE.

WILLIAM O. MUNDY, OF ST. LOUIS, MISSOURI.

AIR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 763,311, dated June 21, 1904.

Application filed February 6, 1904. Serial No. 192,458. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM O. MUNDY, a citizen of the United States, residing in the city of St. Louis, in the State of Missouri, have
 5 invented certain new and useful Improvements in Air-Brakes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

10 This invention relates to the same class of air-brakes as that upon which I have filed an application of even date herewith, and on which I filed an application May 18, 1903, Serial No. 157,711, and wherein a small cylinder
 15 and piston are employed to effect the first or initial movement of the brake-shoes and a large cylinder and piston used to exert the final pressure upon the shoes.

20 The object of my present invention is to construct an apparatus of this kind which will be simple in its construction, effective in its operation, and which will not be likely to get out of operative condition.

25 Figure I is a top or plan view of the apparatus, part in horizontal section. Fig. II is a detail horizontal section taken on line II II, Fig. I. Fig. III is a perspective view of the segment and lever of the apparatus. Fig. IV
 30 is a perspective view of the piston and stem of the small cylinder.

1 represents the main cylinder of the apparatus, which is provided with a piston 2, connected by a stem 3 to one lever, 4, of the brake system.

35 5 is a coil-spring that surrounds the stem 3 and which acts to move the piston 2 toward its normal or inner position.

6 represents a small cylinder located adjacent to the cylinder 1 and communicating therewith by means of a port 7. In the cylinder 6 is a piston 8, having a stem 9, provided
 40 with cogs or teeth that engage a segment 10 on the lower end of a crank-arm 11. The crank 11 is pivoted to the housing of the cylinder 6, and its upper end is connected to the other lever, 12, of the brake system. The levers 4 and 12 are connected together by a rod 13, and to the outer ends of these levers are connected the rods 14 of the brake system.

50 The inner wall of the cylinder 6 is provided

with a projection 15, that acts to hold the stem 9 up against the segment 10.

16 represents the air-pipe of the brake system, provided with the usual valve 17. This pipe connects with the lower end of the cylinder 6 beneath the piston 8. 55

The operation is as follows: When the brakes are to be applied, air is admitted through the pipe 16 to the cylinder 6 and the piston 8 is moved upwardly, causing the crank 60 11 and the levers 4 and 12 to be moved to the positions shown by dotted lines in Fig. I. This takes up the slack of the brakes and imparts the initial movement to the brake-shoes. When the piston 8 has moved to a position above the 65 port 7, air enters the cylinder 1 behind the piston 2 and in moving the piston forward applies the final pressure to the brake-shoes. The initial movement is thus imparted by the small piston, which gives a quick movement 70 with the use of a small amount of air, while the final pressure is applied by the large piston and cylinder, which affords the requisite power for the application of the brakes.

I claim as my invention—

1. In a brake mechanism, a small cylinder and piston for imparting the initial movement to the brake-shoes, and a large cylinder and piston for exerting the final pressure on the shoes; said small cylinder communicating 80 with said large cylinder through a port that is opened through the movement of the small piston, and said small piston being connected to one of the levers of the brake system by means of a crank-segment meshing with the 85 stem of said piston, substantially as set forth.

2. In a brake mechanism, the combination of a small cylinder and piston for imparting initial movement to the brake-shoes, a large cylinder and piston for exerting the final pressure on the shoes, a port forming communication between said cylinders, and means for connecting the piston of the small cylinder to one of the levers of the brake system; consisting of a crank-segment meshing with the 95 stem of the piston of said cylinder, substantially as set forth.

3. In a brake mechanism, the combination of a small cylinder and piston for imparting initial movement to the brake-shoes, and a 100

large cylinder and piston for exerting the final pressure on the shoes; said small piston being connected to one of the levers of the brake system by a crank-segment meshing with the stem of said piston, and said large piston being connected to the other lever of the brake system, said levers being connected together

and said small cylinder having communication with said large cylinder by means of an air-port, substantially as set forth.

WILLIAM O. MUNDY.

In presence of—

E. S. KNIGHT,

BLANCHE HOGAN.