

(No Model.)

2 Sheets—Sheet 1.

D. DUNN.
COMPRESSOR FOR AIR BRAKES.

No. 473,302.

Patented Apr. 19, 1892.

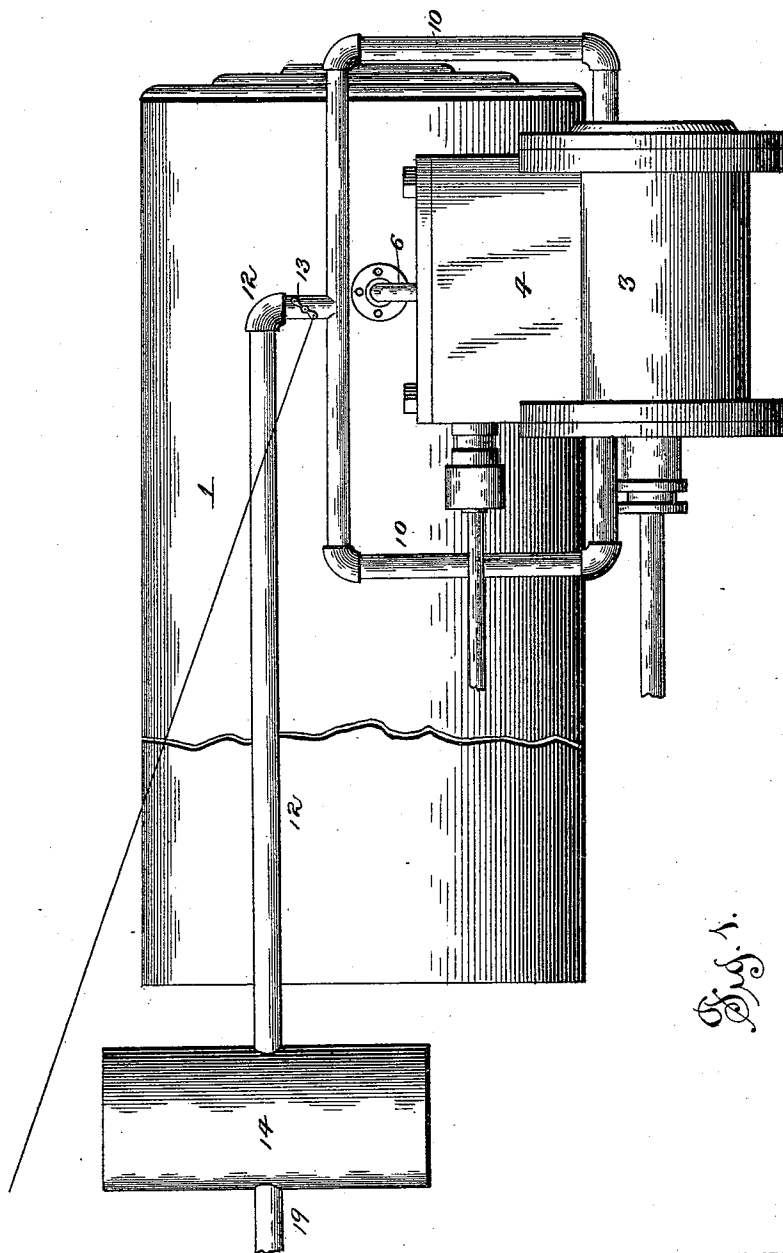


Fig. 1.

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INVENTOR:
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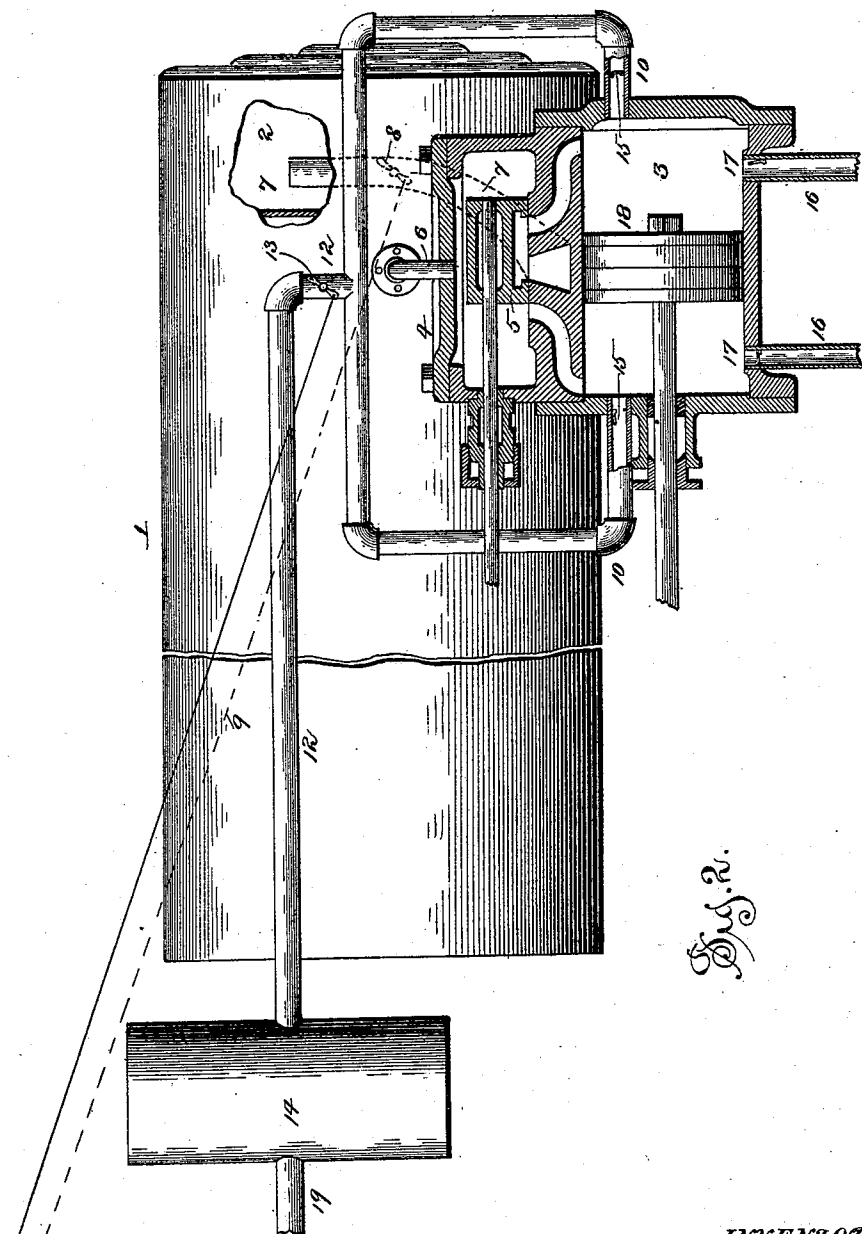
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2 Sheets—Sheet 2

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COMPRESSOR FOR AIR BRAKES.

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Patented Apr. 19, 1892.



WITNESSES:

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INVENTOR:

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UNITED STATES PATENT OFFICE.

DENNIS DUNN, OF MAHANOEY CITY, PENNSYLVANIA.

COMPRESSOR FOR AIR-BRAKES.

SPECIFICATION forming part of Letters Patent No. 473,302, dated April 19, 1892.

Application filed April 17, 1891. Serial No. 389,336. (No model.)

To all whom it may concern:

Be it known that I, DENNIS DUNN, a citizen of the United States, and a resident of Mahanoy City, in the county of Schuylkill and State of Pennsylvania, have invented certain new and useful Improvements in Compressors for Air-Brakes; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in means for compressing air to be used for setting and releasing the brakes of railroad-cars.

The object of the invention is to provide simple and efficient means whereby the momentum of the pistons on the steam-cylinders of locomotives when the steam-supply is shut off is utilized to compress the air for actuating the brakes.

The invention consists in the novel construction and combination of parts hereinafter fully described, and definitely pointed out in the claim.

In the accompanying drawings, Figure 1 is a side elevation of part of a locomotive, showing my improvements applied thereto. Fig. 2 is a sectional view of the same.

In the said drawings the reference-numeral 1 indicates a locomotive-boiler, and 2 the smoke-box.

The numeral 3 designates the steam-cylinder; 4, the steam-chest; 5, the valve; 6, the steam-supply pipe; and 7 the exhaust-pipe leading to the smoke-box and provided with a stop-cock 8, under control of the engineer, being provided with an operating-rod 9, extending into the locomotive-cab.

Connected with each end of the cylinder at the upper part are pipes 10 10, which are brought together centrally above the cylinder and connected with a pipe 12, provided with a cock 13, under the control of the engineer. The pipe 12 extends rearwardly and is connected and communicates with an air tank or receptacle 14 for containing compressed air. The pipes 10 10 near their junction with the cylinder are provided with oppositely-acting check-valves 15, which are so constructed and arranged that one is open when the other is closed. The cylinder is also provided with air-pipes 16, provided with oppositely-

55 ranged check-valves 17, which are also so constructed and arranged that while one thereof is open the other is closed. They also work oppositely to the valves 15—that is to say, when one of said valves 15 is open the valve 17 in the same end of the cylinder is 60 closed, and vice versa.

The operation is as follows: When going downgrade or in approaching a station, the steam-supply is cut off from the cylinder and the cock 8 in the exhaust-pipe closed and cock 13 in pipe 12 opened. The piston in the cylinder, owing to the momentum of the train, will continue to reciprocate, creating a vacuum in the cylinder and causing air to enter the cylinder alternately at each end and be 70 forced through the valves 15 and pipes 10, 10, and 12 to the air-tank, from which it is supplied to the brake-cylinders by means of pipe 19.

I prefer to use in connection with the above-described devices the brake-actuating mechanism described and shown in a concurrent application filed by me, Serial No. 389,337, although I do not wish to confine myself to any particular construction thereof, as the invention is applicable to any of the ordinary compressed-air brakes in common use. 80

In the drawings I have illustrated but one side only of the locomotive; but the construction will be alike on both sides, as will be obvious. 85

Having thus described my invention, what I claim is—

In an air-compressor, the combination, with a locomotive-boiler, the steam-cylinders, the steam-chest, the valve, the steam-supply pipe, and the exhaust-pipe provided with a stop-cock, of the pipes connected with the cylinders, provided with oppositely-arranged check-valves, the pipe connected therewith 95 and provided with a stop-cock, the air-tank connected with said last-mentioned pipe, and the pipes in the steam-cylinder leading to the atmosphere and provided with oppositely-arranged check-valves, substantially as described. 100

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

DENNIS DUNN.

Witnesses:

THOS. F. GORMAN,
JOHN T. QUIN.