

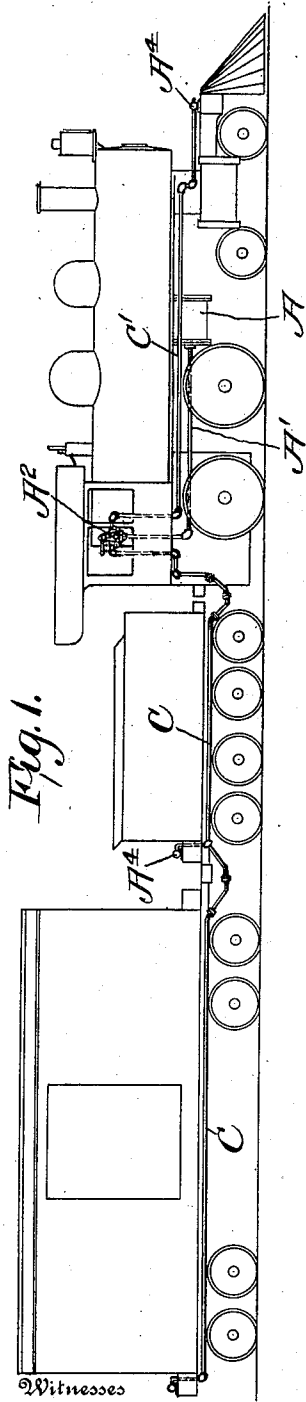
F. E. DAMRON.

VALVE.

APPLICATION FILED JUNE 6, 1907.

Patented Dec. 26, 1911.

1,012,604.



Witnesses

Oliver M. Holmes
E. B. McEach

Fig. 4.

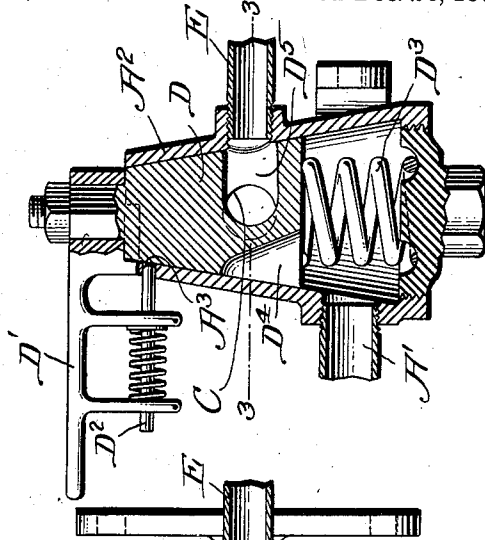


Fig. 3.

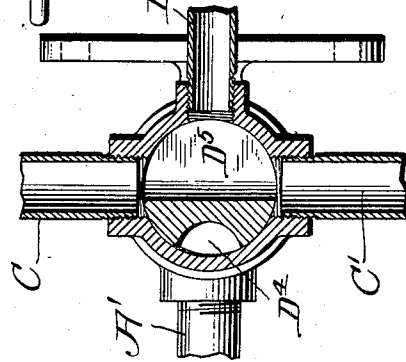
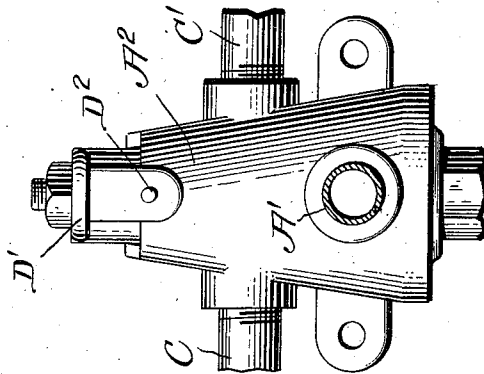


Fig. 2.



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VALVE.

1,012,604.

Specification of Letters Patent.

Patented Dec. 26, 1911.

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To all whom it may concern:

Be it known that I, FRANK E. DAMRON, a citizen of the United States, residing at Roanoke, in the county of Roanoke and State of Virginia, have invented a new and useful Improvement in Valves, of which the following is a specification.

This invention relates to a valve especially designed for use in connection with a car coupling intended to be locked and unlocked by air pressure, said valve being in communication with the compressed air supply of the train and being operable by the engineer for the purpose of actuating the coupling.

The invention consists of the novel features of construction hereinafter fully described, pointed out in the claims and shown in the accompanying drawings, in which,

Figure 1 is a diagrammatic view of an engine and one car showing the relative position of the parts of my invention. Fig. 2 is a side elevation of the valve to be carried by the engine cab. Fig. 3 is a section on the line 3—3 of Fig. 4. Fig. 4 is a vertical section through the valve and valve casing.

In these drawings A represents the air reservoir from which leads a pipe A' which enters the lower portion of a suitable valve casing A². A⁴, A⁴ are suitable cylinders connected with the releasing mechanism of the coupler and to which air is admitted through pipes C and C' the latter of which extends to the forward end coupler of the engine.

Referring to the details of construction, within the valve casing A² is arranged a rotatable valve D, the stem of which has secured to it a handle D'. The casing A² is also provided with a suitable socket A³ which when the valve is in its normal position is engaged by a spring pressed locking pin D² carried by the under side of the valve handle D' and which locks the valve in proper position. It will be readily understood that this pin works on the snap order slipping into the socket when the handle is brought into normal position and riding out of it when sufficient pressure is brought to bear upon the handle to rotate it in either direction, thus preventing its rotation by jarring or vibration due to the running of the engine.

The valve casing receives upon one side a pipe C and upon the opposite side the pipe C' and in its lower portion communicates at a point midway the two pipes above men-

tioned with the air reservoir pipe A', which pipe has free communication at all times with the interior of the lower portion of the valve casing. Upon the opposite side of the casing from the pipe A' and half way between the pipes C and C' is an exhaust pipe which will be termed the release pipe and shown at E. The pipes C, C' and E are all in the same horizontal plane.

The pipe E can lead to any desired point without the cab, or so far as the operation of the device is concerned could be entirely omitted, an exhaust opening being simply provided in the side of the casing A². It is preferable, however, to introduce a pipe of more or less length to carry the exhaust air from without the cab. The valve D is arranged only in the central and upper portion of the casing A² being held in its proper position by a coil spring D³. The valve is cut away upon one side as shown at D⁴ which cut away portion opens downwardly into the lower portion of the valve casing and upwardly into either of the pipes C or C' when the valve handle is turned one-fourth of a revolution, to the right or left of its normal position. The valve is also cut out as shown at D⁵ whereby a passage is formed entirely through the valve throwing the pipes C and C' both into communication with the exhaust E, when the valve is in its normal position and it will be understood that the passage thus formed has no communication at any time with the lower portion of the valve casing or with the air pipe A'. It will therefore be obvious that if the handle is turned a fourth of a rotation in one direction, for example to the right the passage D⁴ of the valve D will aline with the pipe C and communication will be afforded between the air reservoir A through the air pipe A' and the lower portion of the valve casing through the passage D⁴ and the pipe C with the cylinder A⁴ upon the rear end of the tender, and also that if the movement is in the opposite direction communication will be effected between the air reservoir A and the pipe C' leading to the cylinder A⁴ at the front end of the engine. It will also be obvious that the handle can not be swung into the first mentioned position and then back past its normal position and to the last mentioned position without bringing both pipes C and C' into communication with the release pipe E. It will be seen therefore that the engineer by

means of the valve herein shown and described can regulate the operation of any suitable coupler designed to be operated by compressed air through the train pipe.

5 Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In a device of the kind described, a valve casing provided with compressed air
10 ports and an exhaust port in the same plane, and arranged forty five degrees apart, said casing having a fourth port in a different plane from the other ports, a rotatable valve
15 mounted in said casing and adapted to close connection between the first three mentioned ports and the said fourth port, said valve having a cut out portion by means of which the compressed air ports and the exhaust port
20 are brought into communication at one time when the valve is in one position and by means of which only two of the said ports are brought into communication when the valve is in another position, said valve having also a cut out portion whereby commu-

25 nication may be effected between either one of the compressed air ports and the said fourth port.

2. A valve casing having oppositely arranged openings in its upper portion, and having an exhaust opening midway be- 30
tween the first mentioned openings, said casing having also an inlet opening in its lower portion and upon the side opposite the exhaust opening, a spring pressed rotatable
35 valve held in the upper portion of the casing, said valve being cut out upon one side to afford communication between the first mentioned and the exhaust openings, and
40 having also a downwardly extending cut out portion for the purpose of bringing the lower inlet opening into communication with either one of the first mentioned openings, as and for the purpose set forth.

FRANK E. DAMRON.

Witnesses:

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M. J. WINFREE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."