No. 834,071. PATENTED OCT. 23, 1906.

W. K. OMICK.

VALVE.

APPLICATION FILED MAY 28, 1906.

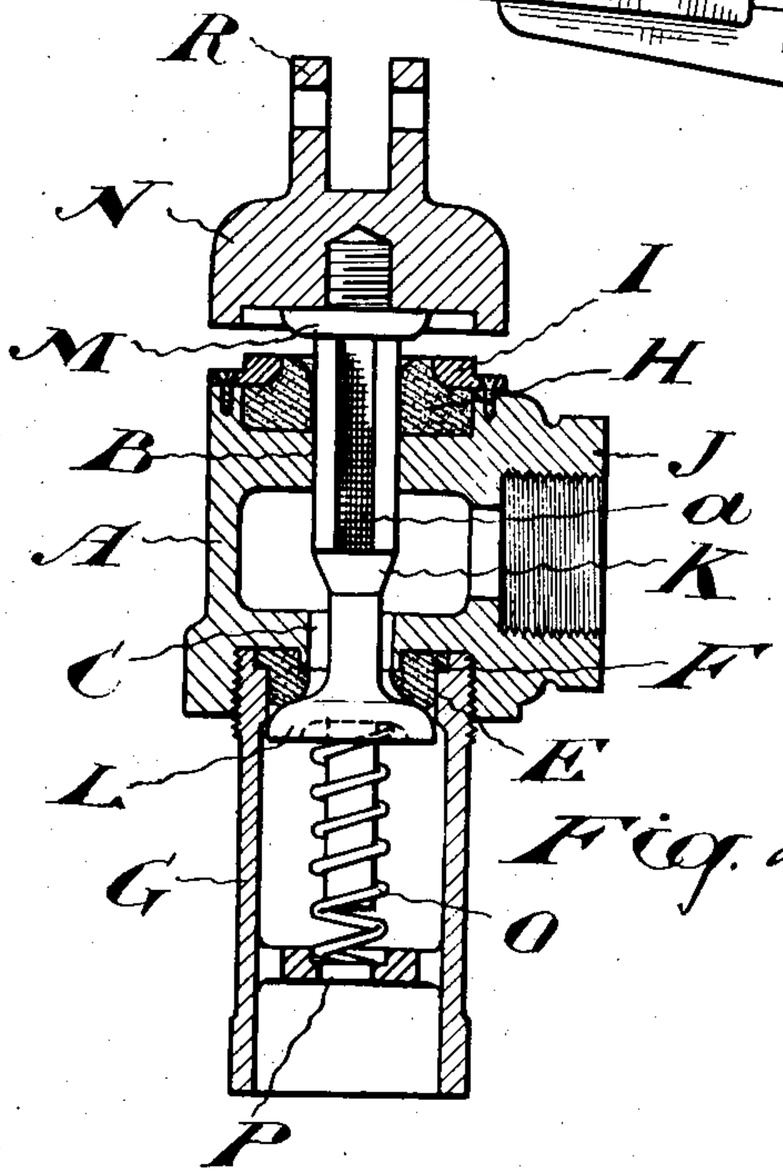
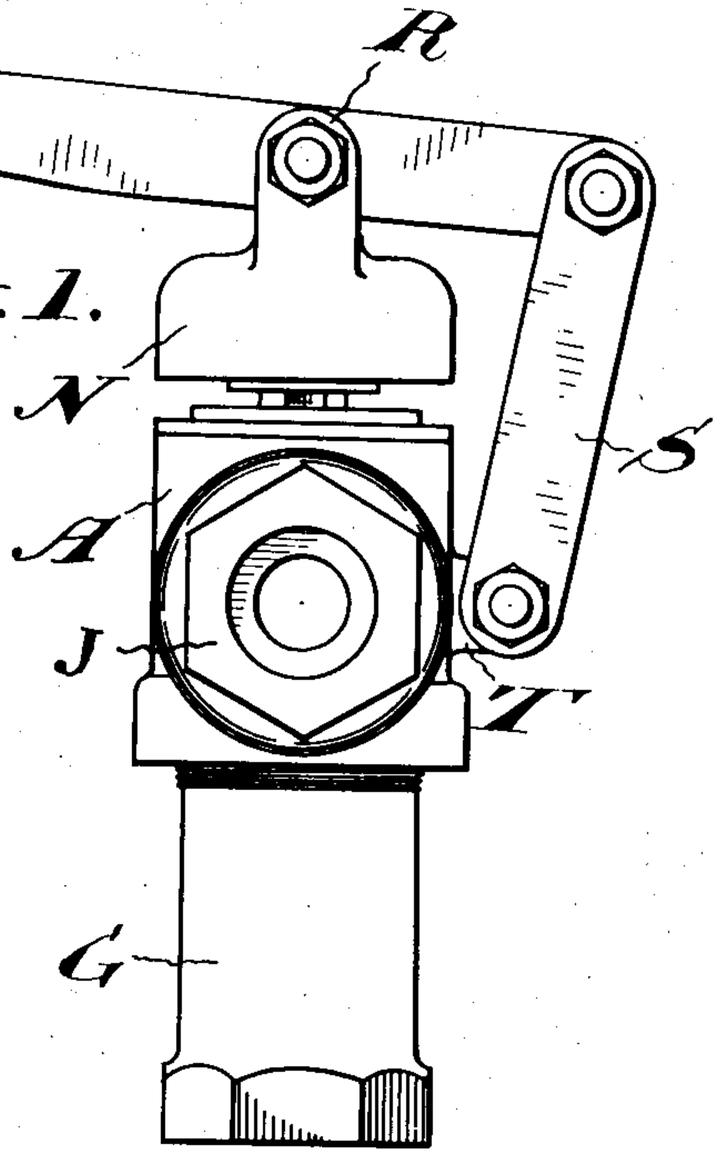


Fig. 2

Fig. 1.



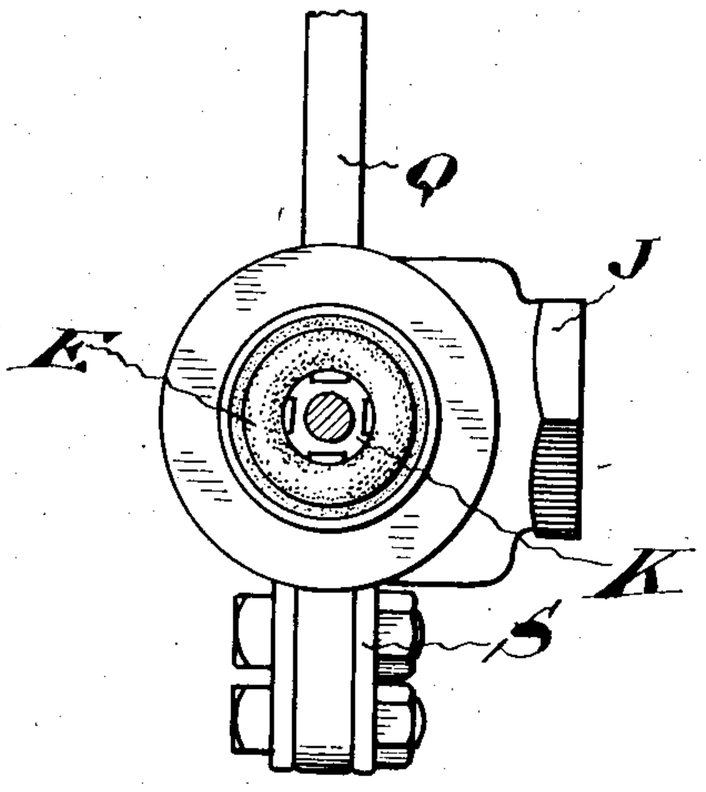


Fig. 3.

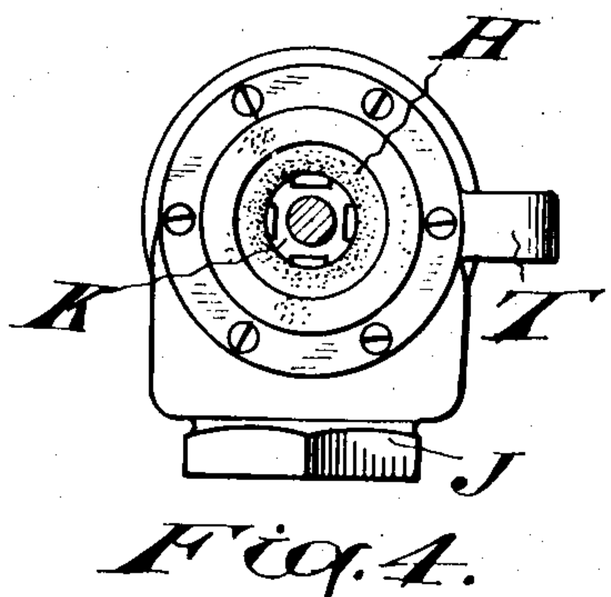


Fig. 4.

WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM KIRKE OMICK, OF DETROIT, MICHIGAN, ASSIGNOR TO THE MAGANN AIR BRAKE COMPANY, LIMITED, OF TORONTO, CANADA.

VALVE.

No. 834,071. Specification of Letters Patent. Patented Oct. 23, 1906.

Application filed May 28, 1906. Serial No. 319,146.

To all whom it may concern:

Be it known that I, WILLIAM KIRKE OMICK, of the city of Detroit, in the State of Michigan, have invented certain new and useful Improvements in Valves, of which the following is a specification.

This invention relates particularly to valves used in charging the storage-tanks of car air-brake systems from a source of supply through a connecting-hose; and my object is to devise a valve in which the cost of repairs will be reduced to a minimum, which may be quickly opened and automatically closed, and by which on closing the pressure remaining in the connecting-hose is automatically relieved.

With these objects in view my invention consists, essentially, of a valve-body having three ports therein—two diametrically opposite to one another, leading, respectively, to the supply-pipe and the atmosphere, and one at right angles thereto, leading to the outlet-pipe, the first two ports being controlled by two valve-disks secured to a common stem and engaging seats outside the valve-body, substantially as hereinafter more specifically described and then definitely claimed.

Figure 1 is a side elevation of my improved valve. Fig. 2 is a vertical section of the same at right angles to Fig. 1. Fig. 3 is a plan view showing the lower valve-seat. Fig. 4 is a plan view showing the upper valve-seat.

In the drawings like letters of reference indicate corresponding parts in the different figures.

A is the valve-body, provided with diametrically opposite ports B and C and a lateral port D. The lower port C is fitted with an external rubber valve-seat E, provided with an external flange F at its base. G is a supply-pipe which when the valve is in use is connected with a source of supply of compressed air. This pipe G is screwed into the body, as shown, and is shaped to engage the flange F to hold the seat E in position. The upper port B is also provided with an external rubber valve-seat H, held in position by a metal ring I, secured to the valve-body by screws or in any other suitable manner.

The port B is intended to communicate with the atmosphere, while the port D is surrounded by a threaded collar J, intended for connection with the hose or pipe used in charging the storage-tanks of a car with compressed air.

Extending through both ports B and C is a valve-stem K. This stem fits closely in one of the ports and is thus suitably guided. I prefer that it should be thus fitted in the port B. Shallow grooves or other passage-ways *a* are formed between the stem and the sides of the port to permit of the passage of air. These grooves are preferably formed in the stem itself. The stem is reduced in diameter where it passes through the port C, so as to permit of a free passage of air from the pipe G to the port D.

L is a valve-disk formed on or secured to the stem K and adapted to coöperate with the valve-seat E.

The upper end of the valve-stem K is preferably reduced in diameter and threaded. On the threaded end is slipped a valve-disk M, which is held in place by a cap N, screwed on the end of the stem.

It will be seen that the valve-disks are so placed that when one is engaged with its seat the other permits of communication with the interior of the body through the port which it controls.

The stem is normally maintained in the position shown in Fig. 1 by means of a coil-spring O, which engages a bar P or a suitable projection in the supply-pipe G.

A lever Q is pivoted on lugs R, formed on the cap N. It is also pivotally connected with a link S, pivoted on its lower end at the lug T, formed on the side of the body of the valve.

The operation of the device is as follows: There being normally a heavy pressure within the supply-pipe G, the disk L is firmly pressed to its seat, and the coil-spring O is thus only of service to hold the disk against its seat when there is no pressure in the pipe G, as is the case before the compressor starts running. When it is desired to supply air through the valve for renewing the supply in the storage-tanks of a car, the lever Q is pressed down, preferably with the foot, until the upper valve-disk M engages its seat. There is then free communication through the body of the valve from the supply-pipe G through the port D. The disk M being held pressed against its seat prevents escape of air through the grooves *a*. As these

grooves are of small area in cross-section, the total air-pressure on the upper valve-disk is comparatively small. As soon as the tanks on the car are filled the operator removes pressure from the lever Q, whereupon the parts resume their normal position, as shown in Fig. 2, and any air-pressure remaining in the coupling-pipe and valve-body is vented through the grooves *a*.

From the construction above described it will be seen that I have devised a very simple charging-valve with which the air may be turned on and subsequently cut off and the air-pressure vented from the coupling-pipe by two movements. There is also nothing to get out of order in the valve or to wear with the exception of the rubber seats, and these are quickly and easily renewed at any time at small expense.

What I claim as my invention is—

1. A valve-body provided with an inlet-port and an outlet-port; a flanged rubber seat surrounding the inlet-port; a supply-pipe screwed into the body and engaging the flange on the seat; a valve-disk adapted to engage the seat; and a stem carrying the disk and passing through the port and valve-body, substantially as described.

2. A valve-body provided with an inlet-port and an outlet-port; a flanged rubber seat surrounding the inlet-port; a supply-pipe screwed into the body and engaging the flange on the seat; a valve-disk adapted to engage the seat; a stem carrying the disk and passing through the port and valve-body; and a coil-spring tending normally to press one of the disks into contact with its seat, substantially as described.

Detroit, Michigan, April 24, 1906.

WILLIAM KIRKE OMICK.

In presence of—

ADOLPH BARTHEL,

J. B. MORRISON.