No. 676,598. Patented June 18, 1901.

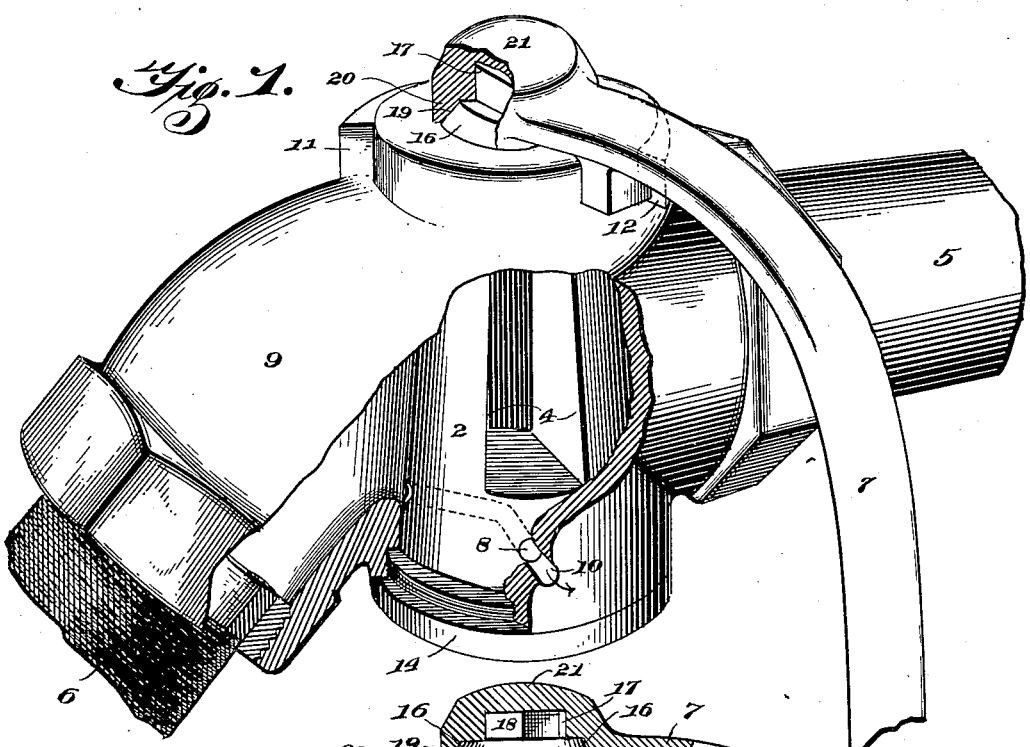
A. M. APPLEGATE.

ANGLE COCK FOR TRAIN PIPES OF RAILWAY AIR BRAKES.

(Application filed Jan. 3, 1901.)

(No Model.)

Fig. 1.



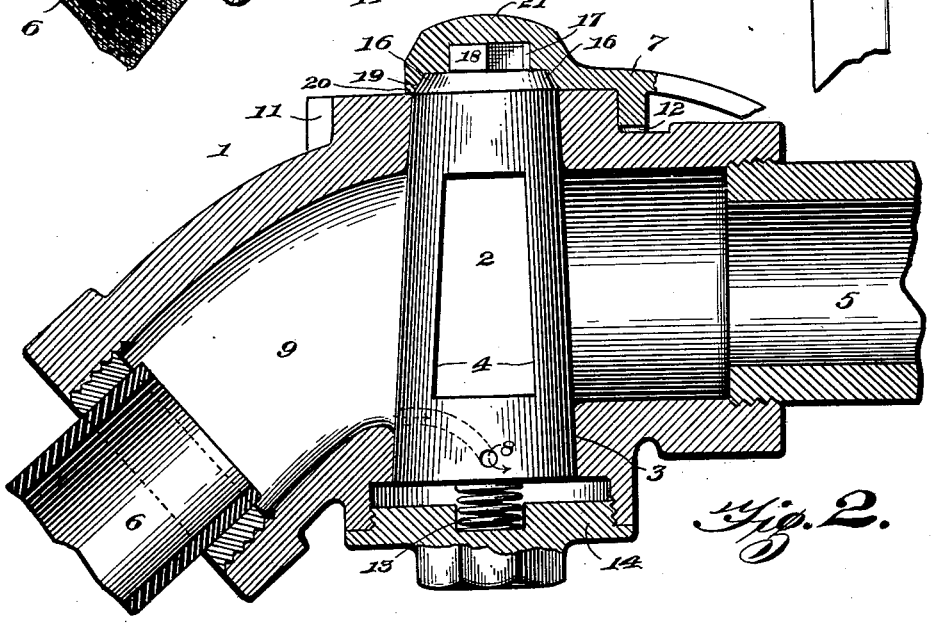


Fig. 2.

Witnesses
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UNITED STATES PATENT OFFICE.

ALONZO MONTGOMERY APPLEGATE, OF REYNOLDSVILLE, PENNSYLVANIA.

ANGLE-COCK FOR TRAIN-PIPES OF RAILWAY AIR-BRAKES.

SPECIFICATION forming part of Letters Patent No. 676,598, dated June 18, 1901.

Application filed January 3, 1901. Serial No. 42,017. (No model.)

To all whom it may concern:

Be it known that I, ALONZO MONTGOMERY APPLEGATE, a citizen of the United States, residing at Reynoldsville, in the county of Jefferson and State of Pennsylvania, have invented a new and useful Angle-Cock for the Train-Pipes of Railway Air-Brakes, of which the following is a specification.

My invention is an improved angle-cock for the train-pipes of railway air-brakes, one object of my invention being to effect improvements in the construction of the angle-cock whereby when the same is closed before uncoupling the hose between the cars the air-pressure in the hose is automatically relieved.

A further object of my invention is to effect improvements in the construction of the angle-cock and the handle or key used to turn the plug thereof, whereby dust and water are prevented from entering the space formed between the bore of the shell and the tapered plug when the latter is depressed against the tension of its supporting-spring.

My invention consists in the peculiar construction and combination of devices hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a sectional perspective view of an angle-cock embodying my improvements. Fig. 2 is a sectional view of the same.

The angle-cock is of the form shown and comprises the body 1 and the tapered plug 2, which is seated in a correspondingly-shaped vertical opening 3 in the shell or body of the angle-cock and is provided with the port or opening 4, which extends transversely through the plug and is adapted to establish communication between the train-pipe 5 and the hose 6. The latter, as is usual in this class of devices, is provided with a coupling member. The plug is turned by a key or handle 7 in the usual manner, and before uncoupling the hose between cars in a railway-train provided with air-brakes it is necessary to cut off the supply of compressed air to the hose. One object of my invention is to relieve the air-pressure in the hose after the angle-cocks are closed and before the hose is uncoupled, and to effect this I provide the plug 2 of the angle-cock with an air-passage 8, which is made near the base of the plug and extends through about ninety degrees of the circumference thereof and does not communicate with the port 4, but establishes communication between the channel 9, to which the hose is attached, and a port 10, made in one side of the body or shell 1.

It will be observed by reference to the drawings that, owing to the location of the port 10 and the comparatively small diameter of said port and the air-passage 8 in the plug, said port and air-passage are not effective in relieving the air-pressure in the hose until the plug is turned in such position that the port 4 thereof is disposed at right angles to the channel or bore of the shell or body of the angle-cock. Hence the plug may be turned so as to cut off communication between the pipe 5 and the hose 6 without relieving the pressure in the hose 6. To effect this, the plug must be only partially turned and not turned to the full extent permitted by the coacting stops 11 and 12 of the shell or body 1 and the key or handle 7.

As is usual in this class of devices, the plug 2 is supported by a spring 13, which is held by a cap 14, screwed to the lower side of the shell or body of the angle-cock. Under the conditions incident to the service the plug is liable to be at times depressed against the tension of its supporting-spring, and thereby form a space between the tapered plug and the tapered opening in the shell or body in which it is seated, which opening is liable to become obstructed by dust or to receive water. The dust impedes the operation of the plug and renders it difficult to turn the same to open or close the cock, and water which may find its way between the plug and the tapered bore in which it is seated, by rusting the body or shell at the point in contact with the plug, also impedes the movement of the latter. To obviate this defect, I provide the body or shell of the angle-cock, on the upper side thereof, with an annular collar 16 around the upper end of the plug and provide the handle or key on the lower side of the angular seat or recess 17 therein, which fits on the angular stem 18 at the upper end of the plug, with a countersink 19, which receives said collar 16, and with a depending flange 20, which surrounds said collar. The angular seat in the handle or key is closed on its upper side, as at 21.

It follows from the above description and will be observed by reference to the drawings that the upper portion of the plug is completely housed and covered by the key or handle when the latter is applied thereto for turning the plug and that thereby dust and water are effectually excluded from the joint between the plug and the tapered bore of the shell or body in which it is seated.

Having thus described my invention, I claim—

1. An angle-cock for the train-pipes of railway air-brakes, having the plug provided with the port 4, an air-passage 8 extending from one side of said plug at a point in line with the axis of the port to a point at right angles to the axis of said port, said passage 8 not communicating with said port, the shell or body of the angle-cock having a port 10 with which said air-passage registers when the plug is turned to cut off communication between the train-pipe and hose, said passage also communicating with the channel in the shell or casing leading to the hose, and thereby relieving the latter of air-pressure, substantially as described.

2. An angle-cock of the class described having the collar 16 formed on the upper side thereof around the upper portion of the plug, in combination with the key or handle having a seat to fit on and engage the upper end of the plug, the said seat being closed on its upper side, having the countersink 19 on its lower side to fit on and receive said collar 16 and provided with the depending flange 20 around said collar, for the purpose set forth, substantially as described.

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

ALONZO MONTGOMERY APPLEGATE.

Witnesses:

M. M. DAVIS,

T. E. EVANS.