

No. 857,915.

PATENTED JUNE 25, 1907.

W. H. WOODY, F. P. CANBY & P. TENNANT.

ANGLE COCK.

APPLICATION FILED JAN. 29, 1907.

3 SHEETS—SHEET 1.

Fig. 1.

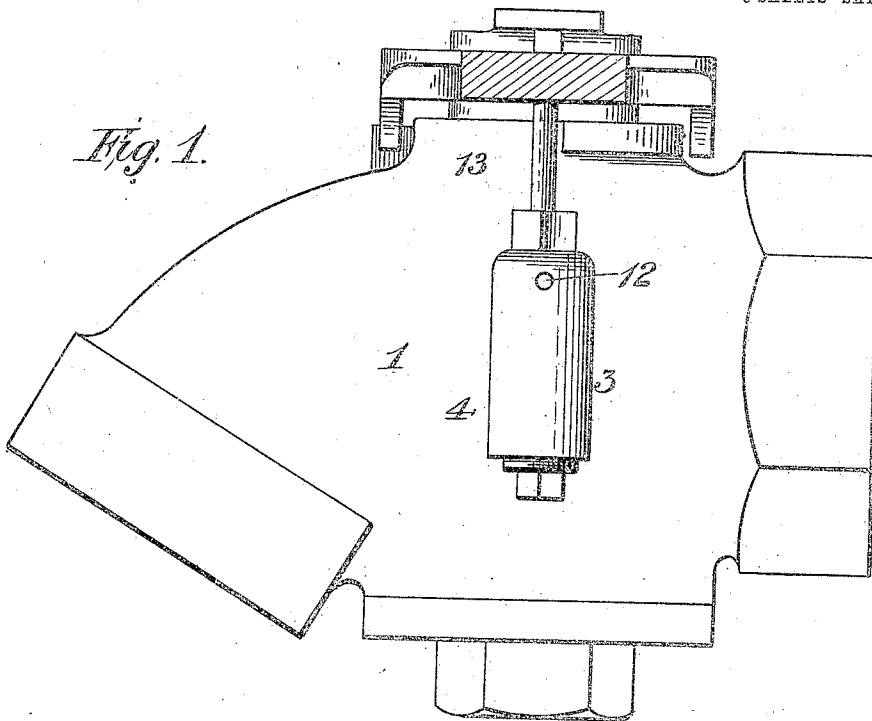
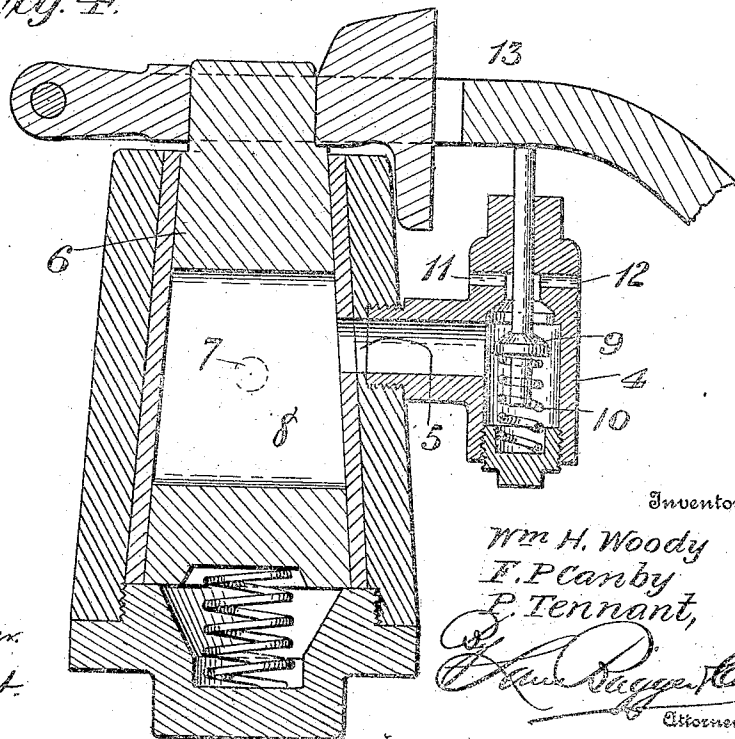


Fig. 4.



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3 SHEETS—SHEET 2.

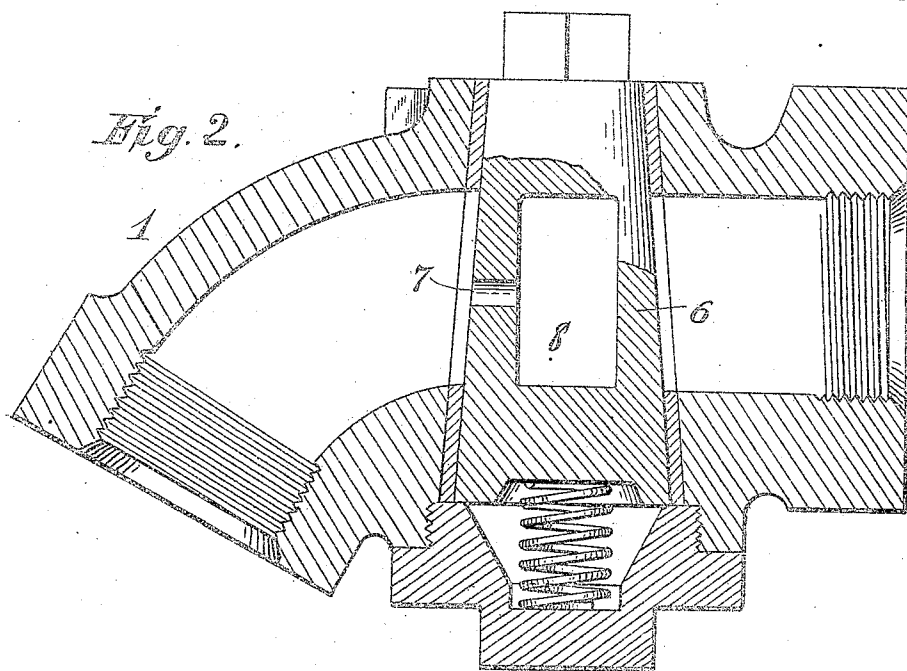
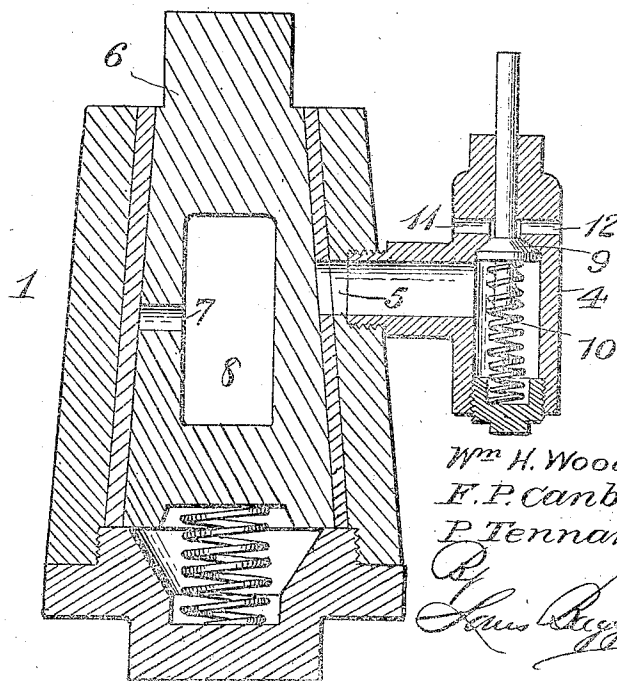


Fig. 3.



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3 SHEETS—SHEET 3.

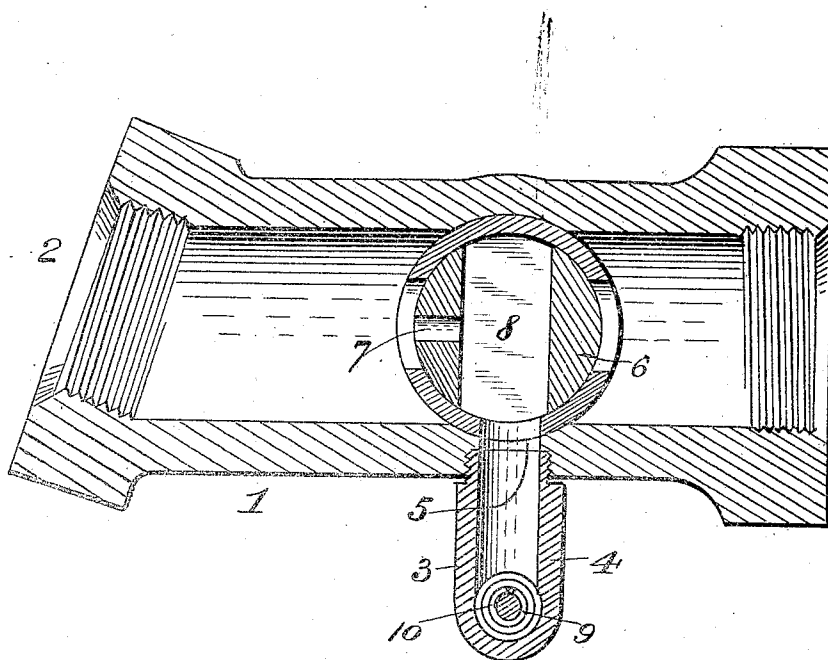


Fig. 5.

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UNITED STATES PATENT OFFICE.

WILLIAM H. WOODY, OF CHAMBERSBURG, PENNSYLVANIA, AND FRANKLIN P. CANBY AND PALMER TENNANT, OF HAGERSTOWN, MARYLAND.

ANGLE-COCK.

No. 857,915.

Specification of Letters Patent.

Patented June 25, 1907.

Application filed January 29, 1907. Serial No. 354,761.

To all whom it may concern:

Be it known that we, WILLIAM H. WOODY, of Chambersburg, in the county of Franklin and State of Pennsylvania, and FRANKLIN P. CANBY and PALMER TENNANT, of Hagerstown, in the county of Washington and State of Maryland, have invented certain new and useful Improvements in Angle-Cocks, of which the following is a specification.

My invention relates to improvements in what may be generally designated train-pipe stop valves, more especially angle-cocks therefor. Its objects are principally to provide for exhausting the air-pressure remaining in the train pipe-sections after the closing of the train-pipe valve or angle-cock as in applying the brakes in an emergency or for use as a service brake; and for facility in uncoupling the hose or flexible pipe sections; and to carry out these purposes in a simple, economic and effective manner.

Said invention consists of certain features or instrumentalities substantially as hereinafter fully disclosed and specifically pointed out by the claims.

In the accompanying drawing illustrating the preferred embodiment of my invention—Figure 1 is a side elevation thereof. Fig. 2 is a vertical longitudinal section taken through the angle-cock, with the latter in closed position. Fig. 3 is a vertical transverse section produced through the relief or exhaust valve. Fig. 4 is a like section with the parts as manipulated in opening said relief or exhaust valve. Fig. 5 is a horizontal section produced through the relief or exhaust valve and its port or passage opening into the port or passage of the angle-cock plug and the supplemental port of the latter, the same being shown in closed position.

In carrying out my invention, I provide the angle-cock 1 in general outline of the usual construction, except as to the nozzle or end of the casing or casting thereof to which is coupled the flexible hose or pipe section between the cars in connection with which the same may be used. Said angle-cock casing or casting has said end somewhat deflected or inclined laterally causing it to face at an angle as at 2, more conveniently for effecting the coupling therewith of the usual flexible pipe or hose section between the cars as will be readily understood.

Arranged laterally of the angle-cock 1 and

outstanding therefrom a short distance is what may be termed generally the relief or exhaust valve 3, the same comprising a tubular inclosure or shell 4 of preferably T-formation with its stem-member arranged horizontally and screwed a suitable distance into the casting or casing of said angle-cock. In alinement with the interior of said stem-member of said inclosure or shell 4 is a port or passage 5 formed in the casting of the angle-cock and opening thereinto and into the chamber of said casting just opposite the plug 6 of the angle-cock. Said plug is also provided with a port 7 opening into the usual port or passage 8 thereof, and which is effective for co-operation with the port or passage 5 and the relief or exhaust valve as presently more fully made apparent. Within said casing or shell 4 is arranged a valve 9 normally held closed or seating upward under the action or stress of a preferably helical spring 10, this, however, also being supplemented by the air-pressure within, for keeping the opposite ports 11, 12 in the shell or casing 4 initially closed.

When it may be required to apply the brakes, the angle-cock lever 13 is swung around, accordingly turning its plug until the usual lug or lugs thereof engage the stops provided upon the angle-cock casting as usual, thus cutting off the source of air-pressure supply to the flexible or hose sections and consequently to all the successive pipe and hose sections of the train-pipe. Simultaneously with such movement of parts, the lever 13 having now been brought around in alinement with the exhaust valve 3, said lever is forced downward, it being capable also of vertical movement and of the type of lever already in use in connection with angle-cocks on railroad air-brakes. The downward movement of said lever will bring it into engagement with the stem of the valve 3 accordingly unseating the latter which will open the exhaust ports 11, 12 in the exhaust-valve casing, thus allowing the confined air-pressure within the following hose or flexible and other pipe-sections of the train-pipe to be exhausted which, of course, will result in applying the brakes and bringing the train to a standstill. It will be understood that this manipulation of parts is performed by the train-conductor or brakeman, as in an emergency, as an instance of which, it may

be noted, when the signals cannot be seen by the engineer, as well as under other conditions which it may not be necessary to mention herein. Also, it is observed that this device is equally available as a brake-valve in service, as well as an emergency stop-brake. Its use also provides for the exhausting of air-pressure from the flexible or hose sections, to remove premature wear and mutilation of gaskets at hose-section joints, as in parting or uncoupling the same, while this may be done with greater facility or freedom from embarrassment than when air-pressure remains in said hose-sections, as is apparent. It also prevents the liability, with the air-pressure exhausted, as by its use, of the blowing out of gaskets or packings in parting or uncoupling the hose-sections; also it has no connection with the train pipe-line when the angle-cock is in working position. It cannot be applied in the event of the accidental breaking in any way of the valve or adjunctive parts when the angle-cock is in operative position, and it is not liable to get out of repair or become inoperative by freezing or otherwise becoming choked or stopped up. In the use of the angle-cock with its casting provided with a laterally deflected nozzle, the hose-sections are adapted to be retained in a straight line, which prevents undue wear and breaking of the latter in effecting the coupling and uncoupling thereof, as well as renders the handling of the same with more ease or facility.

35 I claim—

1. A device of the character described, having an air-pressure brake cock, and an exhaust valve effective in connection with said cock and with the hose or pipe coupling for applying the brakes and for exhausting the air-pressure from said hose or pipe coupling.

2. A device of the character described, having an air-brake pressure cock and a valve with its port-passage effective for co-operation with the usual passage or port of said cock and an additional port communicating with said angle-cock passage and with the hose or pipe coupling, for exhausting the air-brake pressure from the train-pipe including the hose or pipe coupling.

3. A device of the character described, having an air-brake pressure cock, provided with an additional port communicating with

its usual air-passage or port, said cock also having its casting or casing provided with a lateral port or passage, and an exhaust valve having its casing provided with opposite ports and an upward seating valve proper, for controlling said opposite ports, said valve-casing communicating with the usual air-passage or port of said angle-cock via said lateral port and said additional port of said angle-cock communicating with the hose or pipe coupling.

4. A device of the character described, comprising an angle-cock having its plug provided with an additional port communicating with its usual air-passage or port, a relief or exhaust valve whose casing has communication with the usual passage-way of said angle-cock, and provided with an upward seating valve controlling opposite ports in said valve-casing, and means, in common with that for operating said angle-cock, for actuating said exhaust or relief valve.

5. A device of the character described, having an air-pressure brake-cock, and a relief or exhaust valve effective in connection with said air-pressure brake-cock for exhausting the air-pressure from the hose or pipe coupling, and means in common with that for turning or closing said air-pressure brake-cock, for depressing or opening said relief or exhaust valve.

6. A device of the character described, having an air-pressure brake-cock provided with an additional port communicating with its usual straight-away passage or port through a lateral wall of said passage, and a relief or exhaust valve effective for co-operative action with said air-pressure brake-cock, said additional port adapted to be brought into communication with the hose or pipe coupling as said air-pressure brake-cock is turned to close off communication between its usual straight-away passage or port and the train-air pipe line.

In testimony whereof we affix our signatures, in presence of two witnesses.

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