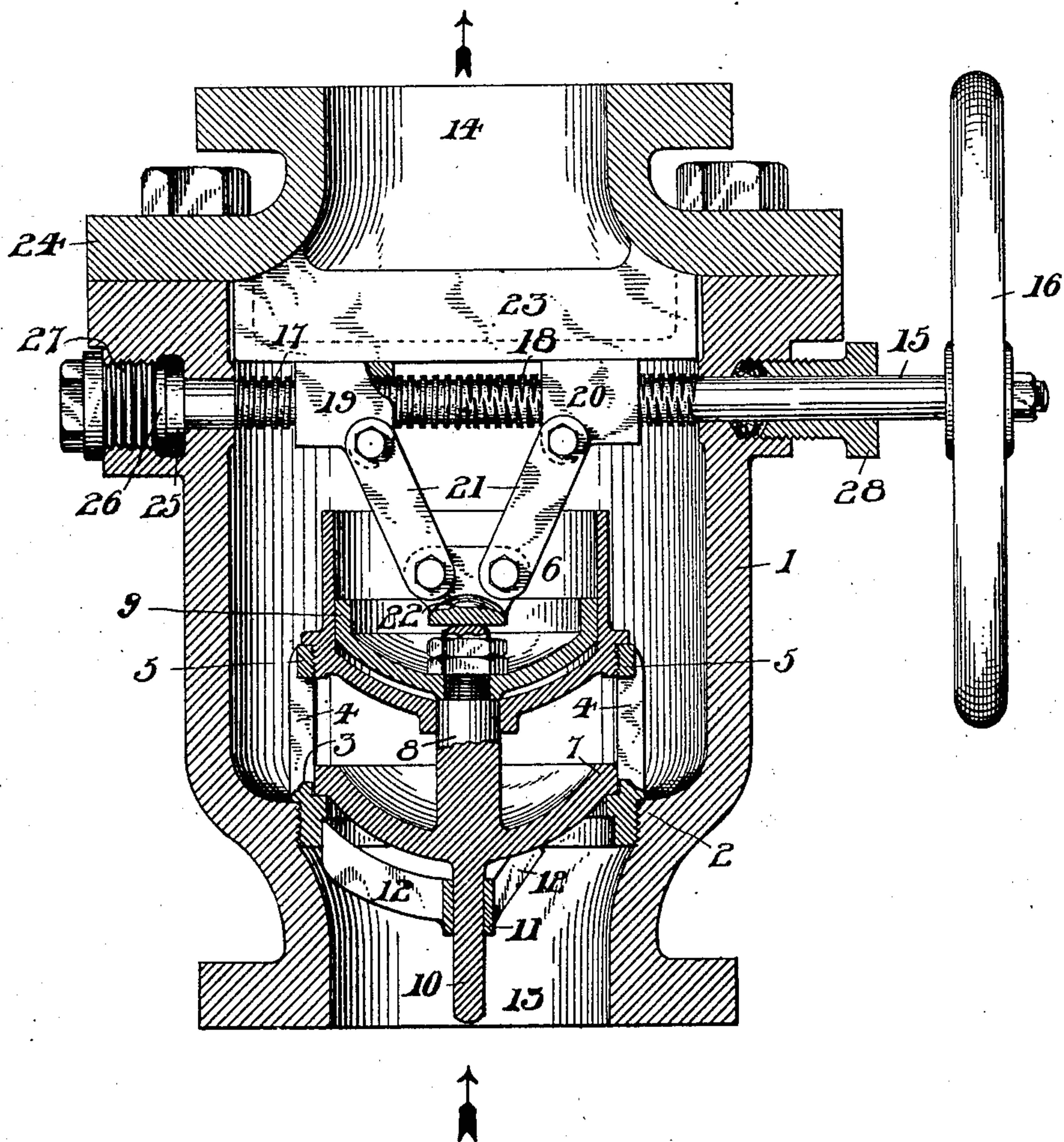


J. R. TANNER.
NON-RETURN VALVE.
APPLICATION FILED JULY 12, 1907.

916,218.

Patented Mar. 23, 1909.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JULIUS R. TANNER, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO THE PITTSBURGH VALVE, FOUNDRY AND CONSTRUCTION COMPANY, OF PITTSBURG, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

NON-RETURN VALVE.

No. 916,218.

Specification of Letters Patent.

Patented March 23, 1909.

Application filed July 12, 1907. Serial No. 383,441.

To all whom it may concern:

Be it known that I, JULIUS R. TANNER, a citizen of the United States, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented or discovered new and useful Improvements in Non-Return Valves, of which the following is a specification.

My invention relates to non-return valves which are a kind of check-valve constructed to be unaffected by sudden changes in the pressure of fluid passing through the same, whereby the hammering of the valves on their seats is prevented.

It is the object of the present invention to construct a non return valve, such, for example, as is shown in Letters Patent of the United States, No. 840,174, for use with a vertical outlet pipe connected to the valve casing directly above the valve. Valves like those shown in United States Patent No. 524,049 are adapted for connection to a horizontal outlet pipe only and in case connection is desired to be made to a vertical pipe, an elbow must be provided.

It is my object to provide an improvement for valves of the type shown in said patent arranging the valve closing means at such a place in the casing as will permit the outlet pipe to occupy the position of the valve closing means, shown in my said patent and said Patent, No. 524,049.

The drawing shows in vertical section a valve containing my improvements.

On the drawing, 1 represents a valve-casing containing therein the bridge or partition 2, in which is screwed the valve-seat 3, supporting by means of the vertical parts 4 the horizontal ring 5. In the ring 5 is screwed the dash-pot 6 having its top open. The valve proper 7 has its stem 8 extending up through the bottom of the dash-pot and provided with the piston 9, which is seated within the dash-pot. The bottom of the valve 7 is provided with a stem 10 guided in the sleeve 11 secured to the arms 12 extending from the valve-seat 3. So far as described the parts are the same as in my said patent.

I show the inlet 13 to the casing directly

under the valve, but it may be lateral as in my said patent, if preferred. I place the outlet 14 from the casing directly above the dash-pot and valve, where the valve-closing devices of my said patent are located. This change of location renders it advisable to locate the valve-closing devices in the lateral wall of the casing. Accordingly, I have mounted in the opposite lateral walls of the casing the shaft provided outside the casing with the hand-wheel 16. This shaft lies above the dash-pot 6 and has within the casing its left-hand portion 17 provided with a single screw thread and the right-hand portion 18, with both right and left threads, the diameters of the threaded portions 17 and 18 being the same.

19 is a nut on the portion 17, and 20, a nut on the portion 18. To the nuts are pivotally secured the links 21, whose lower ends are pivoted to the head or block, adapted to engage the top of the stem 8 but not secured thereto. The nuts are prevented from rotation by their engagement with the bar 23 on the bottom of the cap 24 of the casing 1. The shaft is provided with the head 25 seated in the socket 26 in the casing 1. The screw-plug 27 works in this socket and engages the outer face of the head 25. This plug acts to prevent the escape of steam at the left side of the casing. A gland 28 prevents the escape of steam at the opposite side of the casing. It is readily seen that, when the wheel 16 is rotated in one direction, the nuts 19 and 20 will travel away from each other, causing the block 22 to be lifted, which permits the valve 7 to rise; and that when the wheel is rotated in the opposite direction the nuts will travel toward each other, causing the block to force or hold the valve to its seat.

In assembling the shaft and the nuts in the casing, the shaft is first inserted through the socket 26 and into the nuts. The nut 19 is first started on the threaded portion 18 and then the nut 20 is started, this being done before the cap 24 has been placed on the casing and the links 21 have been connected to the nuts. When the nuts have been adjusted on the shaft at equal distances on opposite sides

of the center of the stem 8 the links are connected to the nuts and the cap 24 is placed on the casing.

I claim—

- 5 In a non-return valve, a casing having a top outlet, a horizontal gravity valve in the casing movable toward the said outlet to open the valve, a rotatable threaded shaft extending through the casing between the valve and
10 the outlet, a means arranged between the

valve and the shaft and adapted to actuate and seat the valve, and means actuated by said shaft for moving said actuating means to close said valve.

Signed at Pittsburg, Pa., this eighth day of 15
July, 1907.

JULIUS R. TANNER.

Witnesses:

ALICE E. DUFF,
F. N. BARBER.