W. E. PEARE.

STOP COCK AND DRAIN VALVE.

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968,794.

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Fig. 1

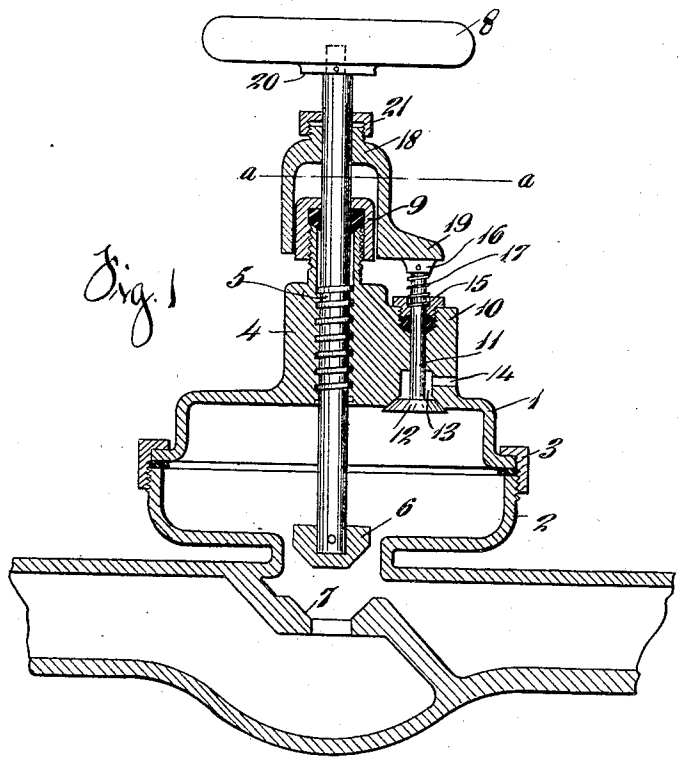
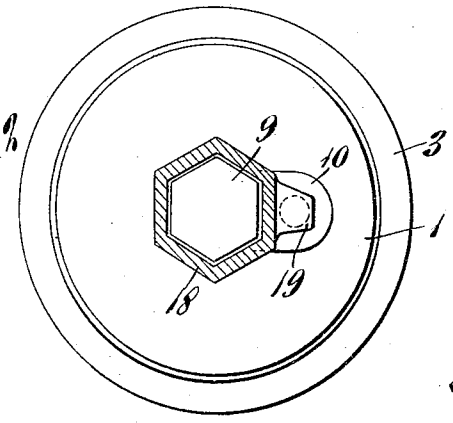


Fig. 2



Witnesses

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STOP-COCK AND DRAIN-VALVE.

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To all whom it may concern:

Be it known that I, WILLIAM E. PEARE, a citizen of the United States, and a resident of Cincinnati, county of Hamilton, and State of Ohio, have invented a new and useful Stop-Cock and Drain-Valve, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to a stop cock and drain valve in which the drain valve operates automatically to drain the distribution pipes when the main supply valve is shut off.

To prevent waste by the draining of incoming water from the supply source, and to obviate the possibility of neglect in the draining of the distribution pipes, it is necessary to accomplish the final shutting off of the supply valve and the opening of the drain valve as near simultaneously as possible, and it is the attainment of this purpose which my invention has as its primary object.

A further object of my invention is to provide a drain valve to be used automatically in connection with a stop cock, which, by reason of the simplicity of its construction, and the independent location of its several parts with reference to the main or supply valve, may be readily repaired without interfering with said supply valve.

In the drawings: Figure 1 is a vertical section through the middle of my new stop cock and drain valve. Fig. 2 is a section of the same on the line *a*—*a* of Fig. 1.

The numeral 1 indicates the upper, and 2, the lower, part of the casing of my new stop cock and drain valve. The said upper and lower parts are held together by the union joint 3, screw-threaded on the lower part, and the union is made tight by a suitable ring of packing between the said upper and lower parts. The upper part 1 is provided with the central heavy portion 4 through which the supply valve stem 5 is screw-threaded. The said valve stem 5 carries at its lower end the valve head 6 to fit the valve seat 7, and at its upper, the cross-bar or other suitable turning device, 8. On the upper, reduced, part of the heavy portion 4, the stuffing box 9 is threaded. Projecting from one side of the heavy portion 4, is the shoulder 10, through which the drain valve stem 11 operates. Said valve stem 11 is provided at its lower end with the washer, or valve head, 12, which is made to seat on the inside of the upper part 1 of the casing, and thus to close the valve chamber 13, which communicates, when open, with the chamber of the supply valve. The valve chamber 13 drains through the passage 14, and is made tight by the stuffing box 15, threaded into the upper part of the shoulder 10. On the upper end of the valve stem 11 is the head 16, between which and the stuffing box 15, a spring 17 is interposed to coöperate with the pressure of the water against the drain valve in keeping said drain valve closed while the supply valve is open.

Fitting loosely around the upper portion of the supply valve stem 5 is a sleeve 18; the lower part of said sleeve being enlarged and shaped to fit over the stuffing box 9, which is hexagonal in shape, as shown in Fig. 2, to prevent said sleeve's turning when said valve stem 5 is turned. A shoulder 19 projects from the lower end of said sleeve over, and bearing on, the head 16 of the drain valve stem 11.

Around the upper portion of the supply valve stem 5 is the collar 20, which meets the cap 21 on the upper end of the sleeve 18 when the said supply valve stem is made to go downward in shutting off the supply valve. The said cap is screw-threaded on to the sleeve 18, and by the raising or lowering of said cap the time of operation of the drain valve is regulated.

The operation of my new stop cock and drain valve is as follows: Suppose the supply valve to be open as shown in Fig. 1, and the drain valve consequently closed; the cap 21 having been properly regulated, the collar 20 will strike the said cap and force it and the sleeve 18 downward during approximately the last quarter turn of the supply valve stem in closing the supply valve; the shoulder 19 of the sleeve will in turn force down the drain valve stem 11 against the spring 17 and thus open the drain valve. In opening the supply valve, the reverse will take place, and the drain valve close with the first quarter turn of the supply valve stem.

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

1. In a device of the character specified,

the combination with a supply valve having a valve stem, of a drain valve connected with the chamber of said supply valve, means on the stem of said supply valve to operate said drain valve during the operation of said supply valve, and means to regulate the interval of operation of said drain valve, relatively to the operation of said supply valve, without interrupting the use of said supply valve.

2. In a device of the character specified, the combination with a supply valve having a valve stem, of a drain valve, connected with the chamber of said supply valve, having a valve stem, a sleeve loosely mounted on the stem of said supply valve and bearing on the stem of said drain valve, means on the stem of said supply valve to force said sleeve against the stem of said drain valve, whereby said drain valve is operated during the operation of said supply valve, and means to regulate the interval of such force, relatively to the operation of said supply valve, without interrupting the use of said supply valve.

3. In a device of the character specified, the combination with a supply valve having a valve stem, of a drain valve, connected with the chamber of said supply valve, having a valve stem, a sleeve loosely mounted on the stem of said supply valve and bearing on the stem of said drain valve, means to hold said drain valve closed against the normal pressure of said sleeve, means on the stem of said supply valve to force said sleeve against the stem of said drain valve, whereby said drain valve is opened during the closing of said supply valve, and means to regulate the interval of such force, relatively to the operation of said supply valve, without interrupting the use of said supply valve.

WILLIAM E. PEARE.

Witnesses:
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