

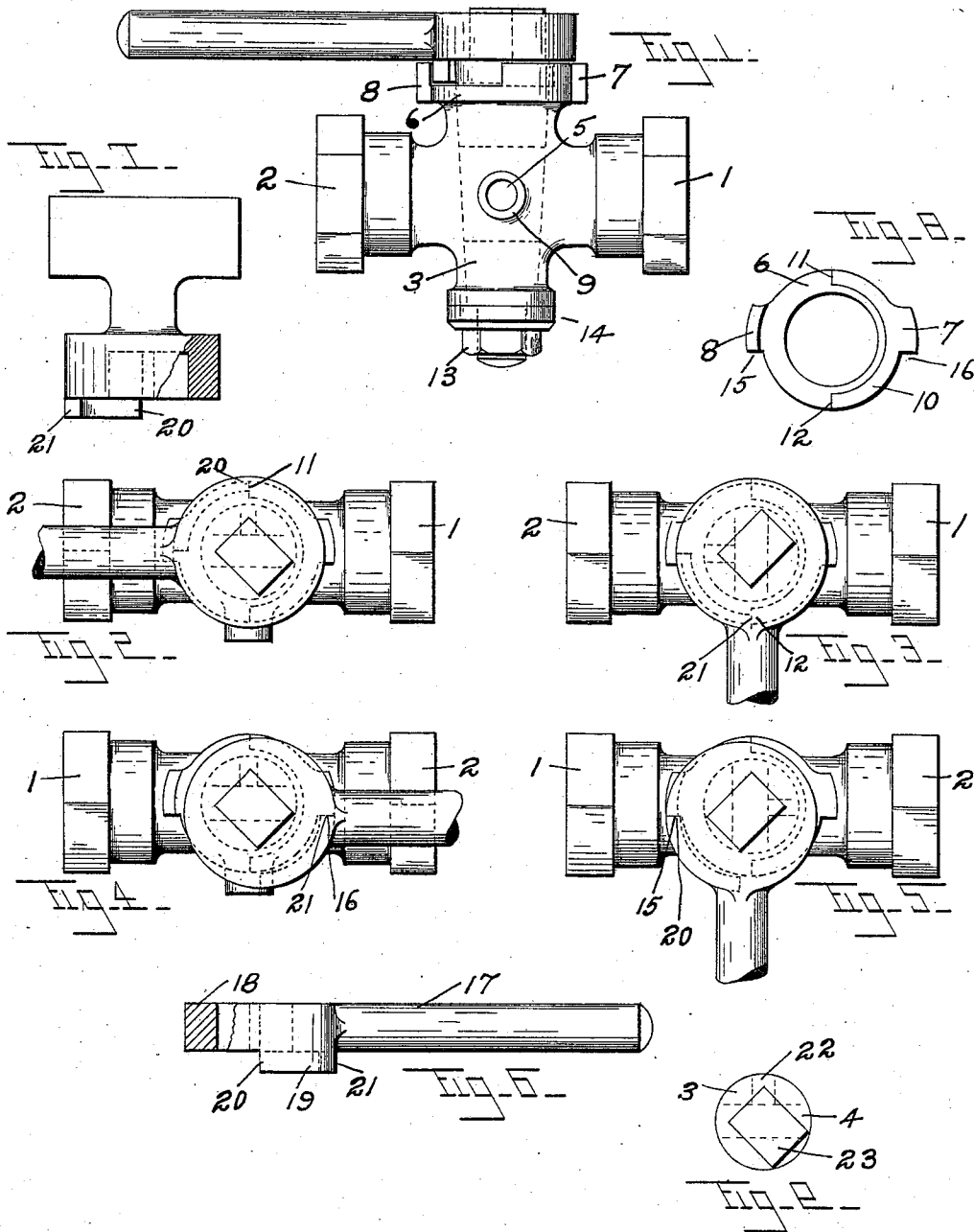
(No Model.)

W. HALL.

RIGHT AND LEFT HAND STOP AND WASTE COCK.

No. 577,510.

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Witnesses.

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UNITED STATES PATENT OFFICE.

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RIGHT AND LEFT HAND STOP AND WASTE COCK.

SPECIFICATION forming part of Letters Patent No. 577,510, dated February 23, 1897.

Application filed June 17, 1896. Serial No. 595,836. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HALL, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Right and Left Hand Stop and Waste Cocks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in right and left hand stop and waste cocks; and its object is to construct and arrange the parts of a cock and the cock-wrenches and the stops thereon so that the cock can be changed from a right to a left hand, and vice versa, without the use of additional or auxiliary parts, and to obtain the greatest efficiency in the use of the article with the minimum of expense to manufacture.

To this end my invention consists in the stop and waste cock constructed and operating as hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings like figures of reference designate like parts in the several figures, and represent, in—

Figure 1, a side elevation of a right-hand cock in its open position, complete with lever-wrench; Fig. 2, a plan view of a right-hand cock in its open position; Fig. 3, a plan view of a right-hand cock in its closed position; Fig. 4, a plan view of a left-hand cock in its open position; Fig. 5, a plan view of a left-hand cock in its closed position; Fig. 6, a side elevation of the lever-wrench; Fig. 7, a side elevation of a T-wrench; Fig. 8, a plan view of the flange and stop-shoulders; Fig. 9, a plan view of the plug.

The body of the cock, as herein shown and described, is of the ordinary construction, having a street end 1 and house end 2, both of which are adapted to be engaged by a wrench, and are internally threaded for the reception of the necessary connecting-pipes. The terms "house" end and "street" end designate the connections; that is, the street end is connected with the main through which the water enters the cock and the house end is connected with the house and through which the water flows when the cock is open.

Upon the side of the body of the cock and integral therewith is the waste-nozzle 9, through which the opening or orifice 5 extends, connecting with the plug-seat and by means of which the water from the house end 2 may drain.

The body of the plug 3 is constructed in the ordinary manner with a longitudinal opening 4, extending transversely through the center, for the passage of the water when the cock is open. At a right angle to this opening and through the side of the plug is a waste-passage 22, terminating in the longitudinal slot or opening 4. The plug 3 is secured to the cock by the usual nut and washer 13 14 upon the lower end of the plug-body.

The head or neck 23 of the plug (see plan view in Fig. 9) is rectangular and located out of the center of the plug-body, one of the sides of the rectangle forming a chord to the periphery of the plug-body. Neck 23 is adapted to receive a wrench, which wrench has in its head portion a recess of the same size as the rectangular neck upon the plug.

The rectangular neck upon the plug may be located in a position different to the one herein shown without altering my invention, provided it is eccentric to the center of the plug-body.

Flange 6, which is integral with the neck of the cock-body and forms a bearing for the plug, is provided with stop-shoulders 7 and 8, which project laterally and then upwardly at right angles to the said flange. Stop 7 is integral with the stop 10, which projects upward from the said flange 6 and extends around the periphery thereof for one-half its distance, terminating in the two faces 11 12, which are diametrically opposite to each other.

Lever-wrench 17 is constructed with a circular head portion 18, which has a recess therein corresponding in size and shape to the rectangular neck 23 of the plug, so that the said wrench may be placed on said plug and the latter rotated thereby. Upon the under side of the circular head 18 of the said wrench 17 and concentric thereto is the stop 19, which projects downward therefrom and around the periphery thereof and terminating in the two faces 20 21, which are ninety degrees from each other. The rectangular

recess in the head portion 18 of the wrench is located out of the center thereof a distance corresponding with that of the neck of the plug. As the rectangular neck 23 of the plug 3 and the recess in the head 18 of the wrench 17 are equally distant from the respective centers of the plug and wrench-head, the stop 19 will assume two different positions and travel in two distinct paths in relation to the flange 6, according to the position upon which the wrench is placed upon the plug-neck. In one position it will be concentric to the flange 6, as shown in Figs. 1, 2, and 3, and in the other position it will be eccentric thereto, as shown in Figs. 4 and 5. When the cock is open, the waste-passage 22 in the plug 3 is directly opposite to the orifice 5 in the waste-nozzle 9 on the cock-body, as seen in Figs. 2 and 4, and when the cock is closed the waste-passage 22 will face the house end 2, as shown in Figs. 3 and 5, allowing any water that may be in the house-pipes to drip out through the waste-passage 22 into the longitudinal slot 4 and thence out through the orifice 5 in the waste-nozzle 9. When the right-hand cock is open, the face 20 of the stop 19 on the under side of the wrench-head 18 is in contact with the face 11 of the stop 10 upon the flange 6 of the cock-body. It will be seen that by the contact of these two faces 20 and 11 the plug 3 is prevented from rotating farther, and it is in a position whereby the water will enter from the street end through the plug and out the house end.

To close the right-hand cock, the wrench is rotated until it assumes the position shown in Fig. 3, in which position the face 21 of stop 19 on the under side of the wrench-head 18 is in contact with the face 12 of the stop 10, which prevents the plug from rotating farther in the same direction, and the cock is thereby closed.

To change from a right-hand cock to a left-hand, the ends are reversed, that is, the street end of the right-hand cock, which is shown in Figs. 1, 2, and 3, becomes the house end of the left-hand cock, as shown in Figs. 4 and 5. This necessitates the changing of the position of the plug, so that the waste-hole 22 therein may be in alinement with the house end 2 when the cock is closed. In Fig. 4 the wrench is applied to the neck of the plug of a left-hand cock when open. The wrench is lifted from the neck of the plug as used in a right-hand cock, (shown in Fig. 2,) and rotated one-half a revolution and then replaced upon the plug, when it assumes the position shown in Fig. 4. The stop 10 upon the under side of the head 18 is now eccentric to the center of the plug which throws it out of the path of the stop 10 and into the path of stops 7 8.

When the left-hand cock is open, as shown in Fig. 4, the face 21 of the stop 19 is in contact with the face 16 of the stop 7. The left-hand cock is closed by rotating the wrench to the position shown in Fig. 5, whereby the

face 20 of the stop 19 meets the face 15 of the stop 8. Frequently these cocks are located in a building where a wrench, as shown in Fig. 6, could not be operated, and a wrench with a T-head must be used and operated by a key from above, as shown in Fig. 7.

The body of the T-wrench, as shown in Fig. 7, is constructed the same as the head 18 of the lever-wrench 17, (shown in Fig. 6,) and operates the same in relation to the plug 3 and flange 6. In cocks heretofore made that could be changed from a right to a left hand, or vice versa, it was necessary to add a false or extra piece to the neck of the plug, or change the position of the wrench, so that the under side of the wrench when used as a right-hand cock becomes the upper side when used as a left-hand cock. When a wrench is used in this manner, a stop or projection is required upon each side of the wrench. By means of my construction, whereby I locate the stops upon the flange 6 at unequal distances from the center thereof and with but one stop upon the wrench-head, I do away with the false or extra piece referred to. The wrench is not turned over when it is desired to change the cock from a left to a right hand, or vice versa. There being a stop on but one side of the wrench-head a T-wrench can be used instead of a lever-wrench when required without the addition of further parts, which dispenses with the extra or false piece upon the neck of the plug, which is commonly used with a T-wrench of this description.

The location of the stop-shoulders upon flange 6 and upon the head portion of the wrench may be changed or varied, or the shape of the neck of the plug may be changed without materially altering the operation of my device.

It is obvious that there are many minor changes and alterations that can be made within my invention, and I would therefore have it understood that I do not limit myself to the exact construction herein shown and described, but hold myself at liberty to make such changes as fall fairly within the spirit and scope of my invention; but

What I claim as new, and desire to secure by Letters Patent, is--

1. A wrench for a stop and waste cock having a head portion provided with a recess eccentric to the center of the said head, an integral stop upon the under side of, and concentric with, the said head, substantially as described.

2. A plug for a stop and waste cock the neck or head portion of which is eccentric to the body portion, substantially as described.

3. A stop and waste cock body having a flange upon its upper portion provided with the stops 7 8 10 which project upward from the said flange, are integral therewith, and are concentric thereto, substantially as described.

4. A stop and waste cock with a flange upon the upper portion of its body provided with

stops as herein described; in combination with a plug having a neck eccentric to the center thereof, substantially as described.

5 5. A stop and waste cock provided with a flange upon which are stops, as herein shown and described, having a plug provided with a rectangular neck eccentric to the center of the said plug-body, in combination with a wrench having a head portion provided with
10 a rectangular recess eccentric to the said head, an integral stop concentric thereto and projecting therefrom, substantially as described.

15 6. A stop or waste cock having a flange as herein shown and described, stop-shoulders

upon said flange, a plug provided with a rectangular neck and a wrench having a stop upon the under side thereof adapted to be placed upon the neck of said plug whereby changing the position of the wrench upon
20 said neck one-half a revolution the cock may be changed from a right to a left hand or vice versa, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM HALL.

Witnesses:

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JOHN A. HALL.