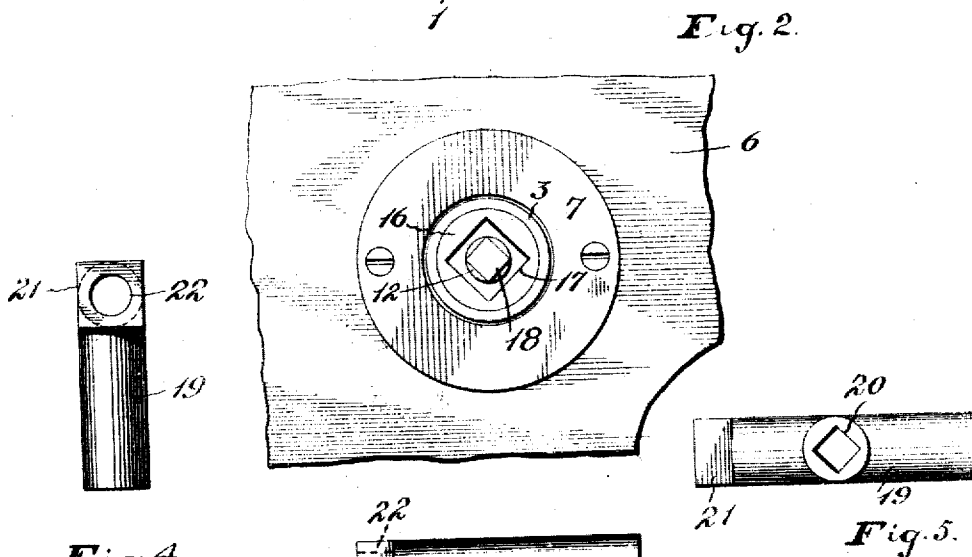
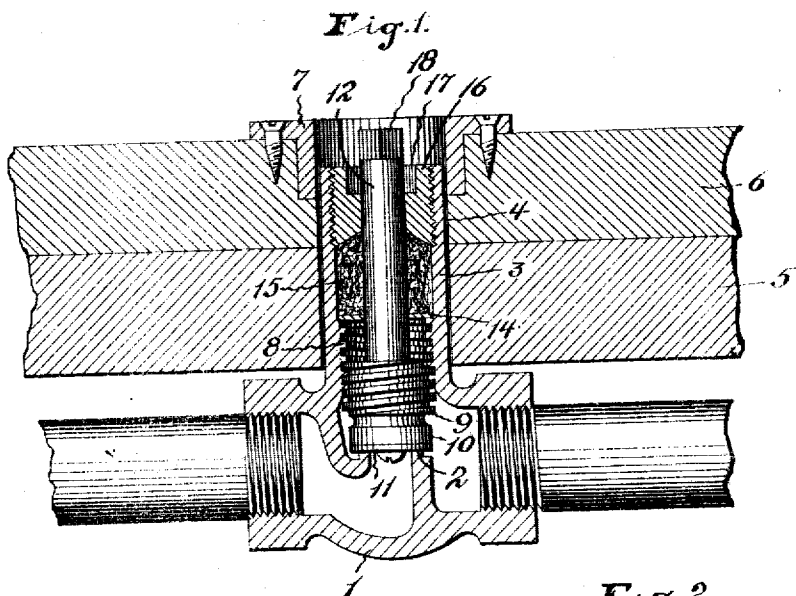


No. 896,285.

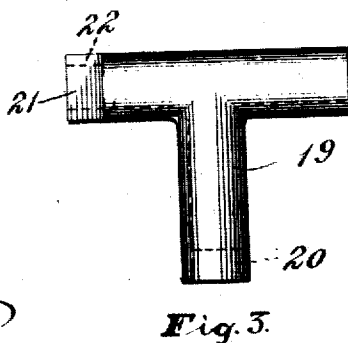
PATENTED SEPT. 17, 1907.

W. KLIE.
VALVE.

APPLICATION FILED MAR. 1, 1906.



WITNESSES
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UNITED STATES PATENT OFFICE.

WALTER KLIE, OF COLUMBUS, OHIO.

VALVE.

No. 866,285.

Specification of Letters Patent.

Patented Sept. 17, 1907.

Application filed March 1, 1906. Serial No. 303,573.

To all whom it may concern:

Be it known that I, WALTER KLIE, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Valves, of which the following is a specification.

My invention relates to new and useful improvements in valves.

Heretofore valves, especially those used in connection with gas grates and heaters, have been constructed with a joint just over the valve seat, so that in order to gain access to the valve seat and the valve, it was necessary to disconnect the casing at this point and in case the valve leaked or it was necessary to repack the valve or grind the seat, the plumber was compelled to tear up the flooring or tiling in order to disconnect the valve, that is, where the valve was placed between a floor and ceiling. In many instances hard wood floors were laid over floors of soft wood, so that it was necessary to tear up both floors in order to gain access to the valve and seat, as that part of the valve extending through the opening in the floors was considerably smaller than the joint, making it impossible to insert a wrench or other tool.

The object of this invention is to form the valve casing with a vertically extending sleeve, so that by simply removing a packing nut the valve may be removed from the casing and access had thereto and also to the seat of the valve without disturbing the floor or any of the other parts as in the old way.

Another object is to provide a device of the character described that will be strong, durable and efficient, simple and comparatively inexpensive to make and one in which the several parts will not be liable to get out of working order.

With the above and other objects in view, the invention consists of the novel details of construction and operation, a preferable embodiment of which is described in the specification and illustrated in the accompanying drawings, wherein:

Figure 1 is a longitudinal vertical sectional view of my improved valve showing a portion of the floors in section and the valve and valve stem in elevation. Fig. 2 is a plan view of the parts shown in Fig. 1, Fig. 3 is a side elevation of the key used with the valve, Fig. 4 is an end elevation of the key showing the nut removing part, and, Fig. 5 is an underside view.

In the drawings the numeral 1 designates the valve casing which is of the usual construction and is formed with the ordinary valve seat 2. A vertical sleeve 3 ex-

tends upwardly from the casing over the valve seat and through a suitable opening 4 provided in the floors 5 and 6. The upper end of the sleeve 3 terminates within the lower portion of a flanged guard ring 7 suitably secured to the upper floor 6 and having its inner walls substantially flush with the walls of the opening 4. At its lower end the sleeve is formed with internal square screw threads 8 which are adapted to receive a similar threaded portion 9 of the valve 10. The valve 10 carries on its lower end a suitable washer 11 adapted to bear on the seat 2. A stem 12 extends upwardly from the valve and projects slightly above the sleeve, but terminates below the upper surface of the ring 7.

It will be noted that the inner periphery of the valve sleeve tapers or flares slightly upward, while the threaded portion 8 provides a support for a washer 14 surrounding the valve stem and supporting a suitable packing 15. This packing is held in place by a packing nut 16 screw threaded into the upper end of the sleeve about the valve stem. This nut is formed centrally with a rectangular recess 17, while the upper end of the stem is provided with a square portion 18.

In Figs. 3, 4 and 5 I have illustrated a key 19, which is also a wrench, the key being T-shaped and having at its lower end a square opening 20 adapted to receive the square portion 18 of the valve stem 12, so that by placing the key on the stem the latter may be turned, causing the screw threaded portion 9 of the valve 10 to be carried upward in the threaded portion 8, thus opening the valve, while by turning the key in the opposite direction the valve is screwed down so that the washer 11 bears on the seat 2, closing the valve. For the purpose of removing the nut 16, the key is formed at one end with a rectangular portion 21 having a central cylindrical opening 22. When it is desired to remove the valve, the squared portion 21 is inserted in the recess 17, the stem of the valve being received in the cylindrical opening 22, so that the nut 16 may be screwed from the sleeve without turning the valve stem or the valve 10. The nut being removed, the key is then placed on the stem so that its opening 20 receives the square portion 18. The valve may now be screwed upward, the threaded portion 9 engaging the washer and carrying the latter together with the packing 15 out of the sleeve. Access may now be freely had to the valve seat 2 and the washer 11 may be replaced or treated as desired. Also new packing 15 may be readily inserted.

From the foregoing it will be apparent that the valve, packing and packing nut may be readily removed without disturbing any of the other parts, even the guard

ring 7 and also that the said operation may be carried out in a comparatively short time with a great saving of expense and labor.

What I claim, is:

- 5 A valve comprising a casing having an elongated sleeve, a valve threaded into said sleeve and adapted to control the flow of fluid through the valve casing, a valve stem extending upwardly through said sleeve, a packing nut threaded into said sleeve and surrounding said valve stem,
10 the upper face of said packing nut being adapted to be

engaged by a tool and the upper end of the valve stem being adapted to be engaged by a tool, and a T-shaped tool one of the arms of which is adapted to engage the valve stem and the other arm of which is adapted to engage the packing nut.

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

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WALTER KLINE.

Witnesses:

A. L. PHELPS,

M. B. SCHLEY.