No. 849,954. PATENTED APR. 9, 1907.

E. L. WRITESMAN.

VALVE.

APPLICATION FILED APR. 17, 1906.

Fig. 1.

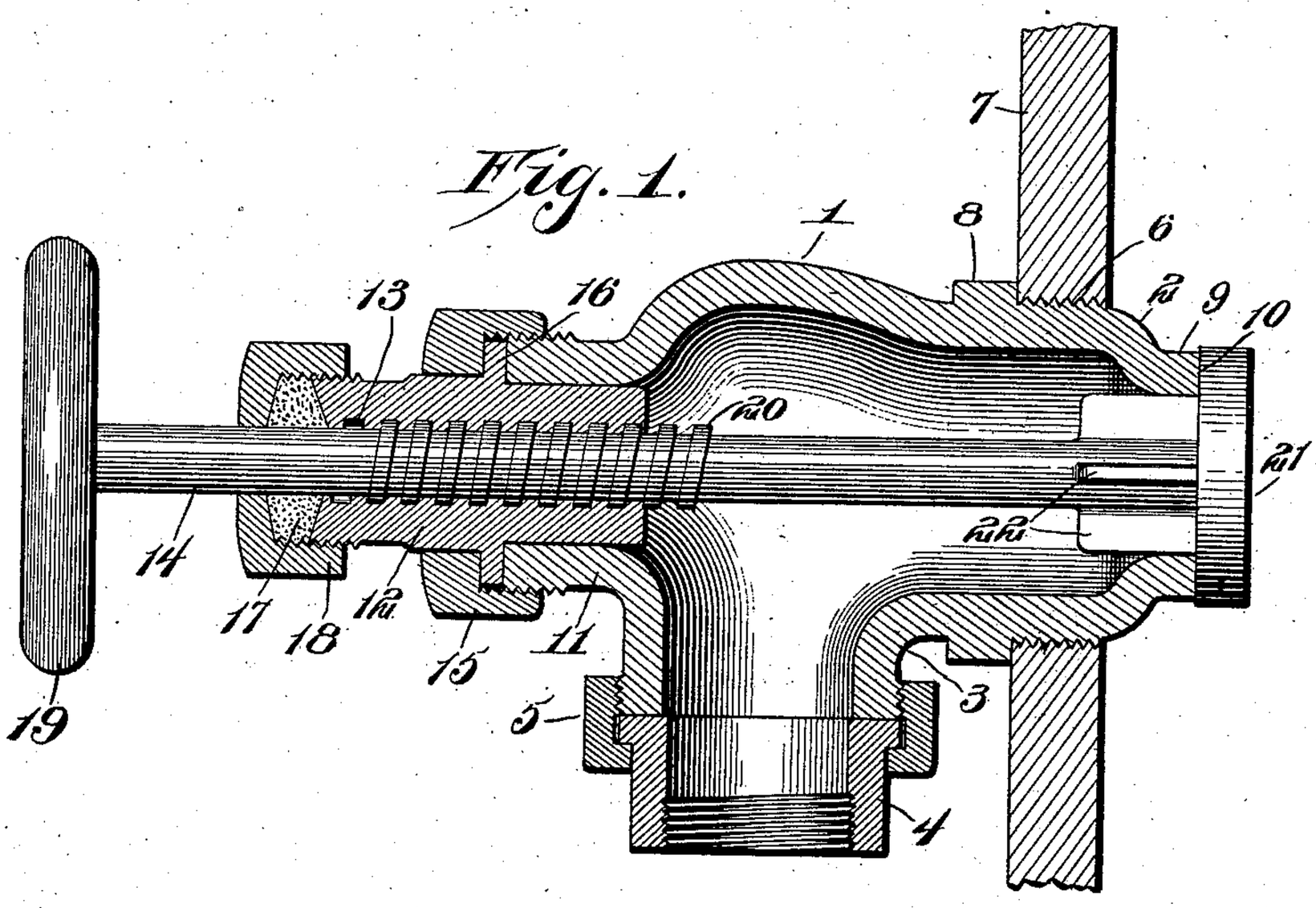
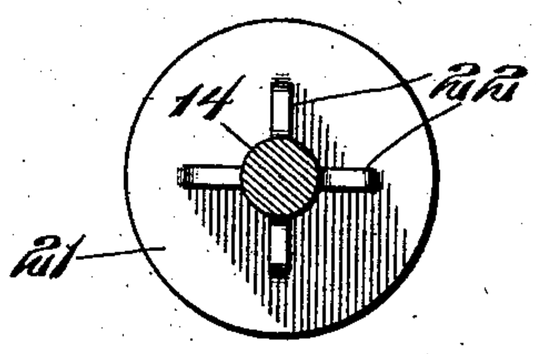


Fig. 2.



Witnesses

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EDWIN L. WRITESMAN, OF HUME, ILLINOIS.

VALVE.

No. 849,954. Specification of Letters Patent. Patented April 9, 1907.

Application filed April 17, 1906. Serial No. 312,185.

To all whom it may concern:

Be it known that I, EDWIN L. WRITESMAN, a citizen of the United States of America, residing at Hume, in the county of Edgar and State of Illinois, have invented new and useful Improvements in Valves, of which the following is a specification.

The invention relates to an improvement in valves designed primarily for use in the water-inlet of steam-boilers.

The main object of the present invention is the production of a valve arranged for connection with the boiler-wall, so as to dispose the cut-off of the valve wholly within the boiler, the body of the valve beyond the cut-off being arranged for ready drainage, whereby when the valve is closed no water will remain therein, so that all danger incident to the freezing of water remaining in the usual inlet-valve after the same is closed is obviated.

The invention in its preferred details of construction will be described in the following specification, reference being had particularly to the accompanying drawings, in which—

Figure 1 is a longitudinal section of a valve constructed in accordance with my invention, the valve-stem and cut-off disk being shown in elevation. Fig. 2 is a section through the valve-stem adjacent the cut-off disk.

Referring particularly to the drawings, my improved valve comprises a body 1, formed with a forwardly-projecting branch 2 and a depending branch 3, the latter being arranged for connection with a feed-water pipe 4 through the medium of any desirable coupling 5. The branch 2 of the valve-body is provided at some distance from its free end with an exteriorly-threaded portion 6, designed to engage a threaded opening formed in the wall 7 of the boiler. In rear of the threaded portion the valve-body is preferably provided with an extension 8 of angular shape in cross-section to provide for the use of a tool in the proper seating or removal of the valve-body. The extension 2 forward of the threaded portion 6—that is, within the boiler when the valve is in position—is circumferentially reduced and projected forward for a short distance to form an outlet, as 9, the forward or free edge of which may be suitably ground or otherwise shaped to provide a valve-seat 10. In alinement with the extension 2 the valve-body is formed with a rearward extension 11, in which is mounted a bearing-sleeve 12, interiorly threaded at 13 to receive the valve-stem 14. The sleeve is held in fixed relation to the valve-body through the medium of a coupling-nut 15, having threaded engagement with the extension 11 and bearing upon an annular projection 16, extending from the sleeve and abutting the free edge of the extension. The rear opening of the sleeve 11 is guarded by the usual packing 17, encircling the valve-stem 14 and secured in position by an ordinary gland-nut 18.

The valve-stem 14 is provided in rear of the gland-nut with any ordinary form of hand-controlling means 19, and within the sleeve 12 is provided with thread projections 20 for coöperation with the interior threads of the sleeve, whereby revolution of the valve-stem will reciprocate the same longitudinally of the body, as will be obvious.

The forward end of the valve-stem is provided with a valve proper, 2, preferably in the form of a disk, to abut against the valve-seat and close the outlet 9 of the valve-body.

The stem adjacent the disk is preferably provided with radiating wings 22, secured to said stem and to the disk, the extreme width through any two of the alined wings and the stem being approximately equal to the interior diameter of the outlet, so that said wings, in addition to reinforcing the connection between the valve proper and stem, serve to guide the parts in operation, whereby to properly seat the valve.

In use, a revolution of the valve-stem will move the valve proper inward from the seat, permitting the water through the feed-pipe 4 and the valve-body to find its way into the boiler. A reverse operation of the valve, however, will seat the valve-disk against the end of the outlet 9, closing the same against the passage of the water. The feed-pipe being disconnected from the valve-body permits the water remaining in said body to drain therefrom, so that the valve is wholly free of water, and no quantity of the latter is held beyond the walls of the boiler.

By this construction of valve no confined body of water remains beyond the body of the water in the boiler when the valve is closed, so that all danger incident to the freezing of such body of water in the ordinary valve construction is avoided.

The valve structure as a whole may be of any desirable material and in any of the ap-

propriate or usual sizes, the essential features of the improved valve residing in cutting off the flow of water beyond the valve-outlet and in providing for a ready draining of the body of water between said outlet and the feed-pipe proper.

Having thus described the invention, what is claimed as new is—

The combination with a boiler and a feed-pipe therefor, of a valve projecting within the boiler and in open communication with the feed-pipe, said valve comprising a body exteriorly threaded for connection with a threaded opening in the boiler-wall, the end of the body beyond the threaded portion being arranged for projection within the boiler, the threaded portion of the body being materially increased in diameter interiorly with respect to that portion of the body disposed within the boiler, whereby to insure a gravity discharge of water from that portion of the body within the boiler, and a valve-disk operatively mounted within the body and adapted to overlie the reduced end of the body.

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

EDWIN L. WRITESMAN.

Witnesses:
GERTRUDE JULIAN,
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