N. C. LOCKE.

GLOBE-VALVE.

No. 169,817. Patented Nov. 9, 1875.

FIG. 1

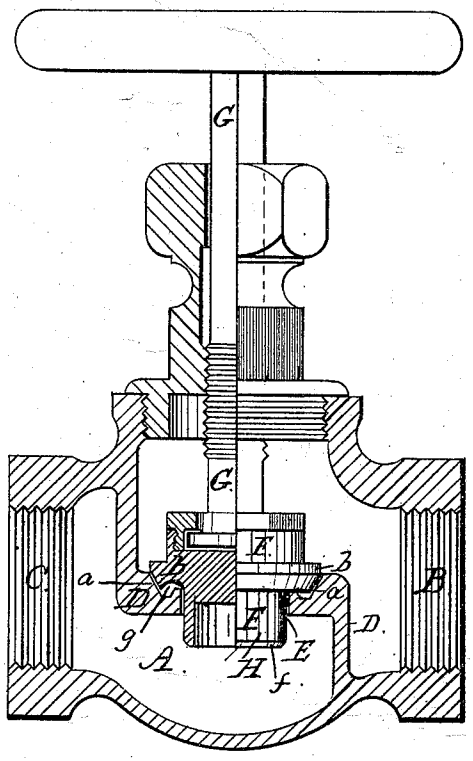
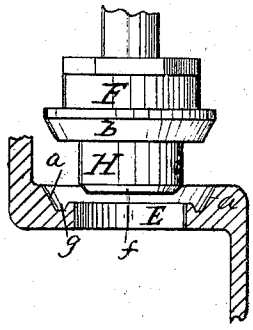


FIG. 2



WITNESSES.

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NATHANIEL C. LOCKE, OF SALEM, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND ALPHEUS C. LOCKE, OF SAME PLACE.

IMPROVEMENT IN GLOBE-VALVES.

Specification forming part of Letters Patent No. 169,817, dated November 9, 1875; application filed April 5, 1875.

To all whom it may concern:

Be it known that I, NATHANIEL C. LOCKE, of Salem, in the county of Essex and State of Massachusetts, have invented new and useful Improvements in Globe-Valves, of which the following is a specification:

The main object of this invention is to prevent cutting of the valve and of its seat by the steam, &c., passing through the valve when opened; and for this object the invention, among other features in detail, consists, principally, of a prolongation or extension of the valve-stem beyond its seat portion, which prolongation is of suitable form and size to closely fit within, and to continuously surround and close, the opening through the valve-seat, and is of such a length that, when it is drawn entirely out of the valve-opening to open said opening to the passage of steam, &c., its seat portion will be then situated without and beyond the direct course or flow of the steam, &c., through the valve-opening, thereby securing such seat against injury by the flow of steam, &c., through the valve; and, again, in the combination, with the above, of a seat for the seat portion of the valve-stem, which seat is located back and away from the valve-opening, so as to be outside of and beyond the direct course or flow of the steam through the valve-opening, thereby securing it against injury by the flow of steam, &c., through the valve.

In the accompanying plate of drawings, Figure 1 is a central section with the valve closed; and Fig. 2, a similar view to Fig. 1, but of only a part of the valve, which is shown as open.

In the drawings, A represents the globular chamber of a globe-valve; B, the inlet, and C the outlet, passages for the steam, &c., intercepted by a partition, D. The partition D has an opening, E, through it, for the passage of steam, &c., from the inlet to the outlet openings of chamber A. At the opening E the valve-stem seats, and this stem works, by its screw G, through the shell of the chamber A, all as ordinarily. The seat *a* for the valve-stem F is around, and outside of, and back away from, the valve-opening E, as shown in the drawings; and on this seat *a* the valve-stem F seats by its disk *b*, of truncated form, as shown. H, an extension or prolongation of the valve-stem F. This extension H is from the disk *b* of valve-stem, and it is made of a form and of a shape to nicely and closely fit within and to continuously surround and close the periphery of the valve-opening, so that before steam, &c., can pass through the valve-opening the full length of the prolongation must be drawn out of, and its end *f* made to clear, the valve-opening E; and, obviously, if this extension or prolongation H be either long or short, the seat portion *b* of the valve-stem F will be carried correspondingly a greater or lesser distance away from the valve-opening before steam, &c., can pass through the valve-opening, thereby proportionately removing it from the direct line of flow or course of the steam, &c., through the valve-opening, and securing protection to it against being injured and cut by the steam, &c., which passes through the valve-opening.

The location above described of the seat *a* about valve-opening E for the valve-stem seat *b* also secures its protection against being injured and cut by the steam, &c., flowing through the valve-opening.

The end *f* of valve-projection H is beveled, as shown, and this beveling serves to direct the flow of steam through the valve-opening when the valve is opened, as described, and thus to increase the protection of the valve-stem seat *b* against being injured and cut by steam, as described.

g, a groove or recess between valve-seat *a* and valve-opening E. This recess *g* catches the sediment in the steam, &c., and retains and holds it from contact with the two seat portions *a* and *b* of the valve.

What I claim as my invention is—

1. The prolongation or extension H to valve-stem seat *b*, constructed and formed to closely fit within and to continuously surround the valve-opening E, substantially as described, for the purpose specified.

2. The combination, with the prolongation or extension H of valve-stem seat *b*, constructed to closely fit within and to continuously surround the valve-opening E, of the seat *a*, located relatively to the valve-opening

E, all substantially as and for the purpose described.

3. The end *f* of the prolongation H to valve-stem seat *b*, beveled as and for the purpose specified.

4. The combination of the seat *a* of the valve-case, constructed with a recess, *g*, with the seat *b* of the valve-stem, all so as to leave the recess *g* open and clear when the seat *b* of the valve-stem is closed against the seat *a*, substantially as described, for the purpose specified.

NATHANIEL C. LOCKE.

Witnesses:
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