No. 607,252. Patented July 12, 1898.

E. H. LUNKEN.

VALVE.

(Application filed Dec. 17, 1897.)

(No Model.)

Fig. 1.

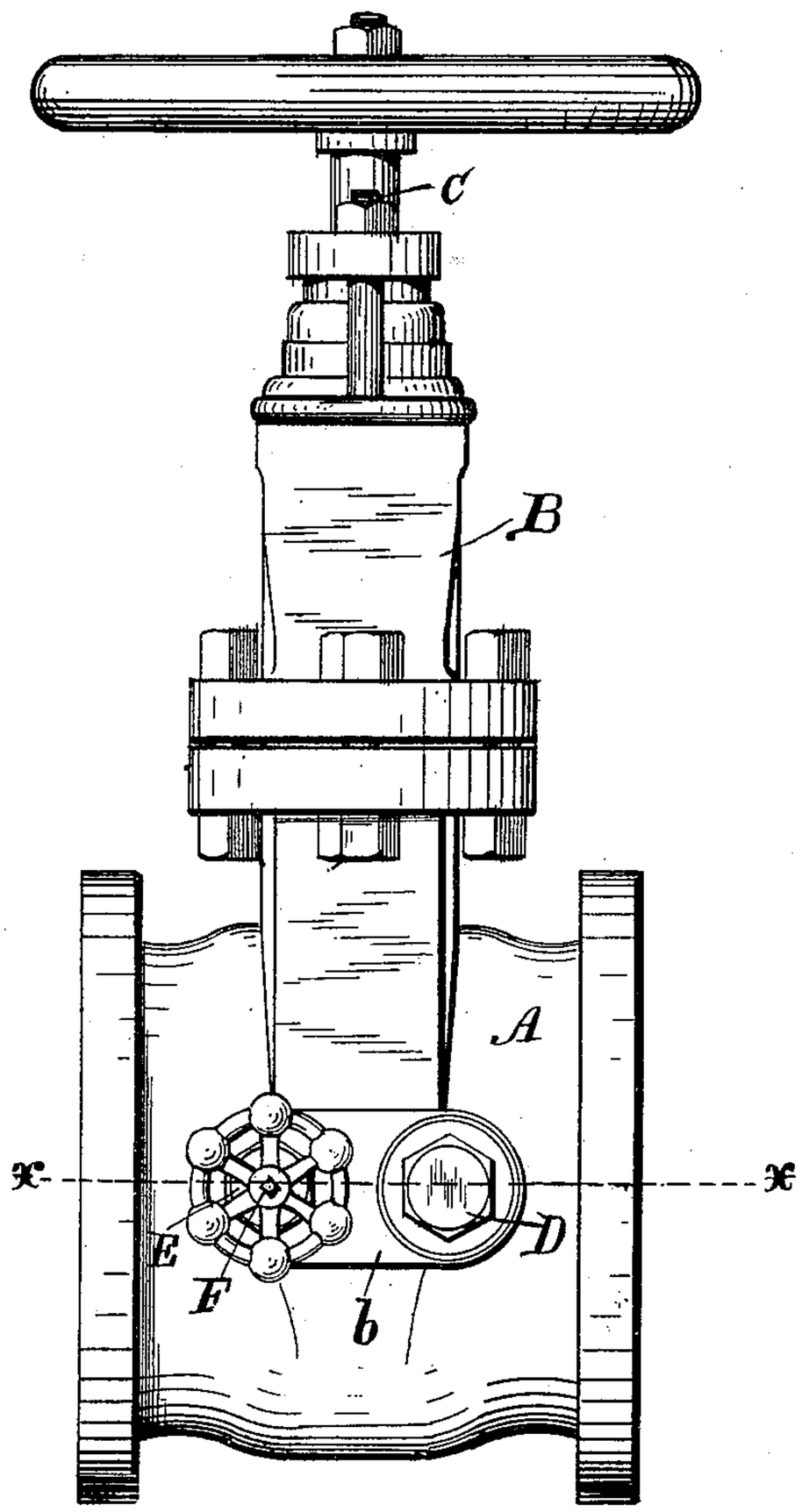
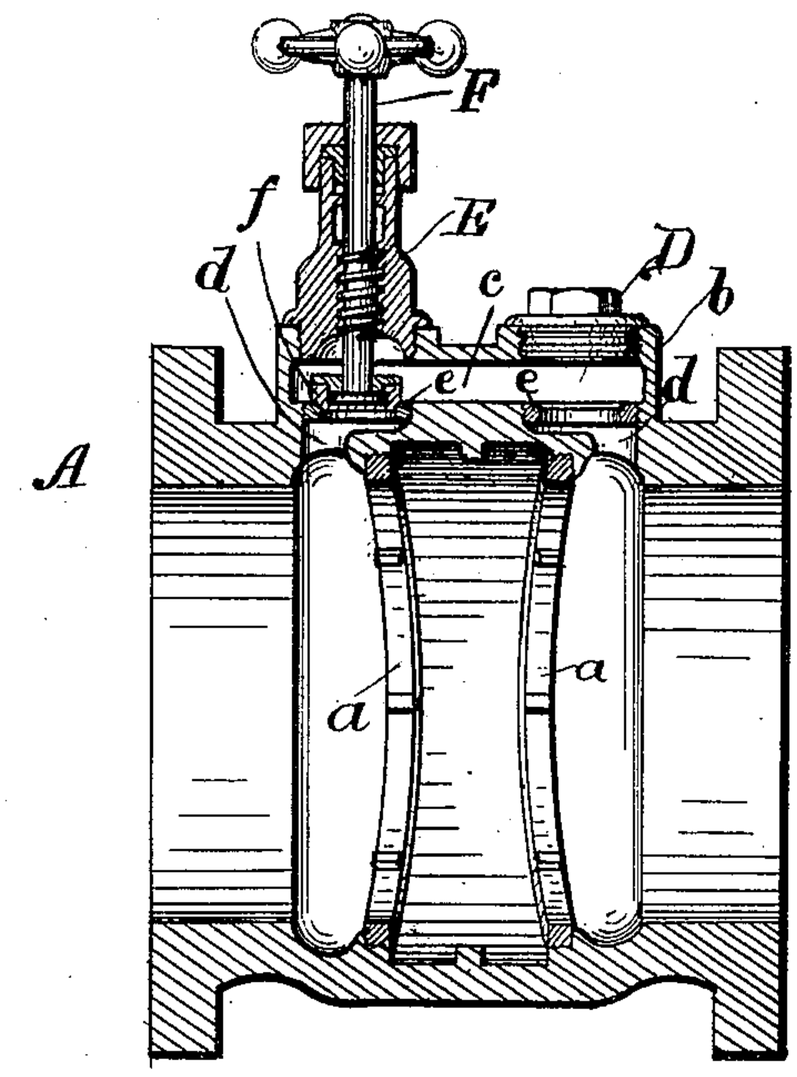


Fig. 2.



WITNESS

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EDMUND H. LUNKEN, OF DENVER, COLORADO, ASSIGNOR TO THE LUNKENHEIMER COMPANY, OF CINCINNATI, OHIO.

VALVE.

SPECIFICATION forming part of Letters Patent No. 607,252, dated July 12, 1898.

Application filed December 17, 1897. Serial No. 662,347. (No model.)

To all whom it may concern:

Be it known that I, EDMUND H. LUNKEN, a citizen of the United States, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Straightway Valves, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to that class of straightway valves which are provided with a by-pass controlled by its own valve and communicating with the opposite sides of the main valve; and it has for its object a simplified construction of such by-pass and its adjuncts that the by-pass channel is formed integral with the main-valve shell at a convenient point, preferably at its side, at right angles to the main valve and is provided with two external screw-threaded openings registering with openings through the shell of the valve on opposite sides of the main valve, one of such external threaded openings receiving a screw-plug and the other a bonnet for the by-pass valve in such manner that the two are interchangeable to enable the by-pass valve to be transferred from the one opening to the other as occasion may require.

The novelty of my invention will be hereinafter more fully set forth, and specifically pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a straightway valve embodying my invention. Fig. 2 is a sectional plan view on the dotted line *x x* of Fig. 1 with the position of the valve reversed.

The same letters of reference are used to indicate identical parts in both the figures.

A represents the shell of the main straightway valve, of the usual or any suitable construction, provided with bonnet B, through which extends the stem C of the main valve, (not shown,) but in this instance wedge-shaped and closing against tapering seats *a*, as indicated in Fig. 2. All of these parts are old and well known and may be of the usual or any suitable construction, so that no further description thereof is necessary.

On the side of the main shell A is a projection or thickening of the metal *b* sufficient to have cast therein a channel *c* at right angles to the main valve and having ports *d* opening from said channel into the main-valve shell on opposite sides of the main valve, as clearly indicated in Fig. 2. These ports *d* are exteriorly screw-threaded to receive removable valve-seats *e*, and registering with these valve-seats are screw-threaded openings, the one of which receives a screw-plug D and the other the bonnet E, having passed therethrough a valve-stem F, carrying a valve *f* to engage the adjacent valve-seat *e* to open or close the same, as will be readily understood.

Should the valve-seat *e*, engaged by the valve *f*, become worn and require replacement, the bonnet E and the screw-plug D are removed and interchanged, so that the valve *f* when thus transferred engages the opposite valve-seat *e*, which has not been worn or used. Then at any convenient time the worn valve-seat *e* can be removed and a new one substituted for it, and this interchange between the parts can be readily and easily made and will prolong the life or utility of the valve very materially.

While I prefer the use of the removable seats *e*, yet they might be dispensed with, the valve *f* in such case seating against permanent seats in the shell and a large part of the advantage of my invention would still be retained.

As the use and operation of a by-pass to relieve pressure against the main valve and facilitate its opening and closing are so well known it is not necessary to enter into a description of the same here. The arrangement, however, of the by-pass channel in the shell of the valve and the interchangeable plug and by-pass valve, with or without the removable seats *e*, constitute the essence of my invention in its most practical form, though there may be some cases where the exteriorly-operated by-pass valve might be used without using any screw-plug D at all.

Having thus fully described my invention, I claim—

1. In a valve, the combination of the main shell, a flat-faced disk valve therein with means for opening and closing the same, a by-pass channel in the shell with ports open-

ing to the interior thereof on opposite sides of the valve, and an exteriorly-operated valve adjacent to one of said ports and independent of the operation of the main valve, substantially as described.

2. In a valve, the combination of the main shell, its valve, a by-pass channel in the shell with seat-ports therein opening on opposite sides of the valve, exterior openings into the by-pass channel registering with the seat-ports, and an interchangeable valve-carrying bonnet and a plug for said exterior openings, substantially as described.

3. In a valve, the combination of the main shell, its valve, a by-pass channel in the shell with seat-ports therein opening on opposite sides of the valve, removable seats for said ports, exterior openings into the by-pass channel registering with the seat-ports, and an interchangeable valve-carrying bonnet and a plug for said exterior openings, substantially as described.

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