(No Model.) 2 Sheets—Sheet 1.

F. EGNER & J. W. HARRISON.

VALVE.

No. 404,392. Patented June 4, 1889.

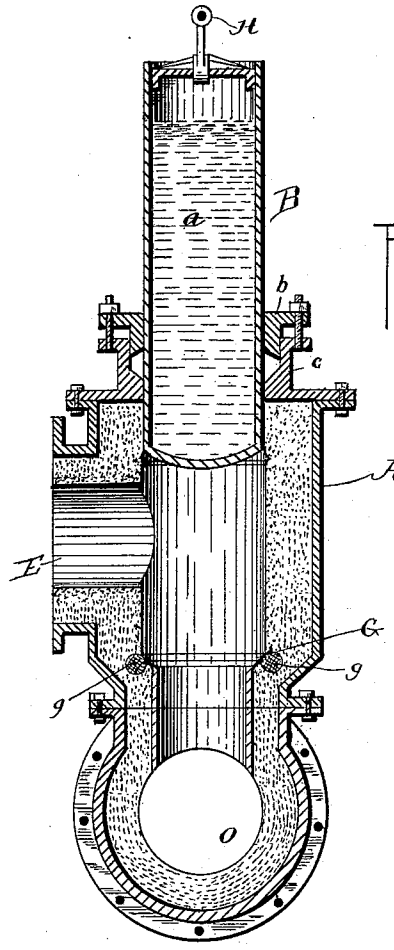


Fig. 2.

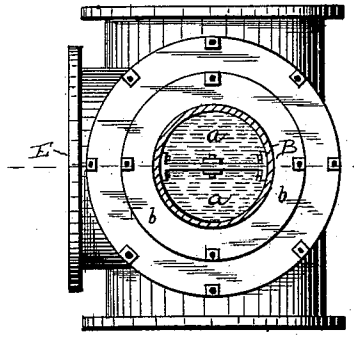


Fig. 1.

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(No Model.) 2 Sheets—Sheet 2.

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VALVE.

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Fig. 1.

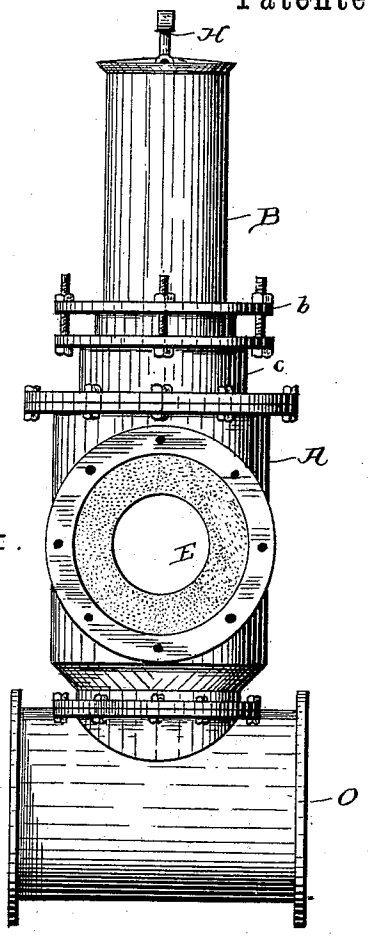
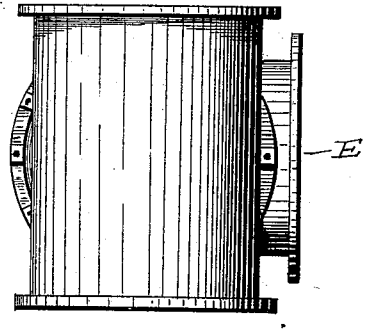


Fig. 2.



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UNITED STATES PATENT OFFICE.

FREDERIC EGNER AND JOHN W. HARRISON, OF ST. LOUIS, MISSOURI.

VALVE.

SPECIFICATION forming part of Letters Patent No. 404,392, dated June 4, 1889.

Application filed February 23, 1889. Serial No. 300,825. (No model.)

To all whom it may concern:

Be it known that we, FREDERIC EGNER and JOHN W. HARRISON, of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Valves, of which the following is a specification.

Our invention has relation to valves for controlling the flow of highly-heated gases and other fluids; and its object is to furnish a valve which will withstand the very high heat to which it may be subjected.

The invention can best be explained and understood by reference to the accompanying drawings, in which—

Figure 1 is a plan and Fig. 2 is a bottom view of the valve. Fig. 3 is a vertical section on line 3 3, Fig. 1. Fig. 4 is a side elevation in a plane at right angles to the plane of section in Fig. 3.

A is the metallic valve-casing, made in sections, as shown, to permit it to be readily taken apart for removing the lining or for any other purpose. It is provided at the top with a stuffing-box *c* and packing-gland *b*, through which passes the valve proper B.

E is the inlet and O is the outlet through which the hot fluids enter and leave the valve-casing. The casing is lined with fire-brick or other refractory material, and in this lining, at a point intermediate between E and O, is molded or otherwise formed the valve-seat G. This valve-seat can be constructed in various ways. We prefer to make it by forming in the seat a recess, which is packed or filled with asbestus rope *g*, as seen in Fig. 3.

The valve proper is a vessel or kettle B, open at the top and having a closed water-tight bottom, which will fit the valve-seat. This vessel is of cylindrical or other form in cross-section to fit the stuffing-box *c* and the valve-seat, and is in practice filled with water *a*. At its top it has a suitable cross-head provided with a link H, by which it may be fastened to any suitable appliance for raising and lowering the vessel away from and toward the valve-seat, in this way permitting or cutting off, as the case may be, the passage of the hot gases.

We are aware that a water-cooled valve is not new, broadly considered. What we have done, however, is to simplify and cheapen the construction of the parts without detracting from the fire-proof qualities of the structure. The valve is an open vessel, which protrudes through the stuffing-box of the valve-case to the atmosphere, with an open top to admit of free evaporation and ready water-supply, and it can readily be lifted out from the case through the stuffing-box for repairs. The valve-case also is of extremely simple construction, and so made that it can readily be taken apart and put together for the purpose of permitting the lining to be replaced or repaired.

What we claim is—

The sectional valve-case A, provided with stuffing-box *c* and inlet and outlet openings, and with a refractory or fire-brick lining having a valve-seat therein, in combination with the water-vessel B, fitting and extending up through the stuffing-box, with its mouth or upper end projecting outside of the valve-case and open to the atmosphere, all constructed and arranged as hereinbefore shown and described.

In testimony whereof we have hereunto set our hands this 20th day of February, 1889.

FREDERIC EGNER.
JOHN W. HARRISON.

Witnesses:
EWELL A. DICK,
WILL E. AUGHINBAUGH.