J. H. STREHLI.

Improvement in Stop-Valves.

No. 114,725. Patented May 9, 1871.

Fig. 1

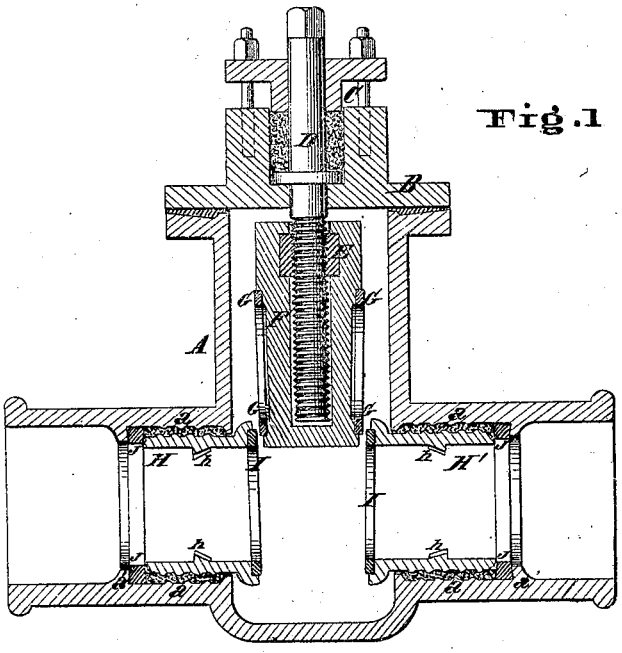


Fig. 3

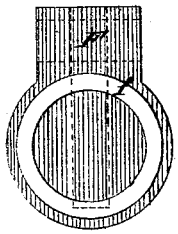


Fig. 4

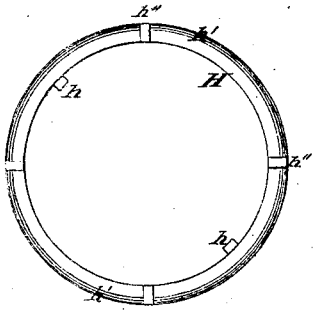
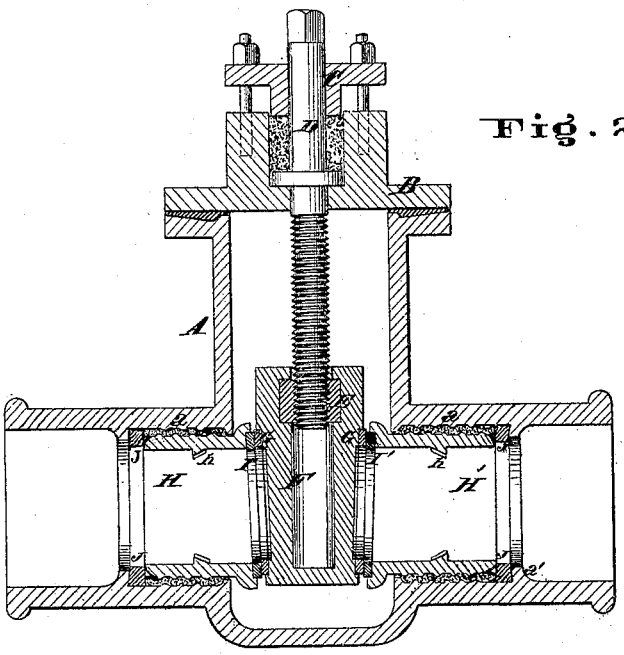


Fig. 2



Attest

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JOSEPH H. STREHLI, OF CINCINNATI, OHIO.

Letters Patent No. 114,725, dated May 9, 1871.

IMPROVEMENT IN STOP-VALVES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOSEPH H. STREHLI, of Cincinnati, Hamilton county, State of Ohio, have invented a certain new and useful Improvement in Stop-Valves for Water-Pipes, &c.; and I hereby declare the following to be a sufficiently full, clear, and exact description thereof to enable one skilled in the art to which my invention appertains to make and use it, reference being had to the accompanying drawing making part of this specification.

Nature and Objects of Invention.

My invention relates to double-seated stop-valves, in which the water-way, when the valve is open, is direct, free, and unobstructed; and consists in the combination of a tapering-sided double-face valve fitted with rings for faces, and two sleeves fitted with rings for seats, the sleeves being so attached to the shell or case of the stop-valve that the valve may seat with uniform pressure upon the entire surface of both seats.

Description of the Accompanying Drawing.

Figure 1 is a vertical section of my improved stop-valve in the open position.

Figure 2 is a vertical section of the same in the closed position.

Figure 3 is a face view of the valve detached.

Figure 4 is an end view of one of the sleeves.

General Description.

A is the shell or casing of the valve, and

B the covering of the same, fitted with the customary stuffing-box C.

D is the key or valve-stem, terminating in a screw at the end, and fitted with a nut, E, inclosed within the valve F.

The valve F being generally of large size and weight is made of cast-iron, and in order to obtain non-corrosive seats or faces for the same I form circular grooves, *f*, in the casting, and insert therein brass rings, G.

The rings G are forced into the grooves *f* after the valve F has been heated sufficiently to expand it, and the shrinkage of the casting in cooling causes it to hug the rings G tightly, thus preventing their displacement in use.

The sleeves H H′, which are necessarily heavy for large-size stop-valves, are also formed of cast-iron, and counterbored for the reception of the brass rings I I′, which form the seats, and are also secured firmly by the heating and shrinking of the sleeves upon them.

The exterior of the sleeves H H′ and the interior of the sockets *a* for the reception of the same within the casing or shell A, are ribbed or roughened, as shown, and a space between the said sleeves and casing A is left for the reception of molten metal to secure the sleeves firmly in place. Before the molten metal is poured in, however, the sleeves are drawn tightly against the faces of the valve F, when the latter is in the closed position, by the use of temporary bolts or screws inserted in the valve and pressing against clamps which rest against the slight projections *h*. The sleeves and valve are thus held firmly together with uniform pressure upon the entire valve-surface until the metal is run in and calked.

The rounded edges *h′* of the sleeves facilitate the entrance and operations of the calking-tool.

To provide against the possible contingency of the giving way of the sleeves in the soft metal surrounding them while in use, I provide the interior collars *a′*, and form upon the rounded ends of the sleeves right-angle ribs or webs, *h″*, between which and the collars *a′* small pieces of metal, J, are driven in and swaged, by hammering, to the dovetail form shown, so as to prevent an escape.

By reason of the provision of the molten metal to secure the sleeves H H′ in place there is no difficulty in giving the valve an equal and full bearing upon both seats, and this is done without the necessity of accurate workmanship in the preparation of the valve and sleeves. Cheap and accurate manufacture is, therefore, secured without skilled labor.

My peculiar method of connecting the rings I I′ and G G to the sleeves H H′ and valve F enables the rings to be turned upon an ordinary mandrel and faced off upon the periphery, and both sides at one operation, the inside of the rings not requiring boring. The iron castings are also simply counterbored at one operation to receive the rings.

This device, also, for enclasping the rings on the exterior edge, permits of their being swaged to fit tightly after becoming loose in use.

Claims.

1. The seats H I and H′ I′, secured in the case by means of molten metal poured around them while they are clamped to the valve, substantially as and for the purpose set forth.

2. In combination with the seats secured as set forth in the preceding claim, the collars *a′* of the case, and fastening pieces J, substantially as and for the purpose set forth.

In testimony of which invention I hereunto set my hand.

JOSEPH H. STREHLI.

Witnesses:

FRANK MILLWARD,

J. L. WARTMANN.