

J. J. Pierce.

Tyre.

N^o 87,702.

Patented Mar. 9, 1869.

Fig. 1.

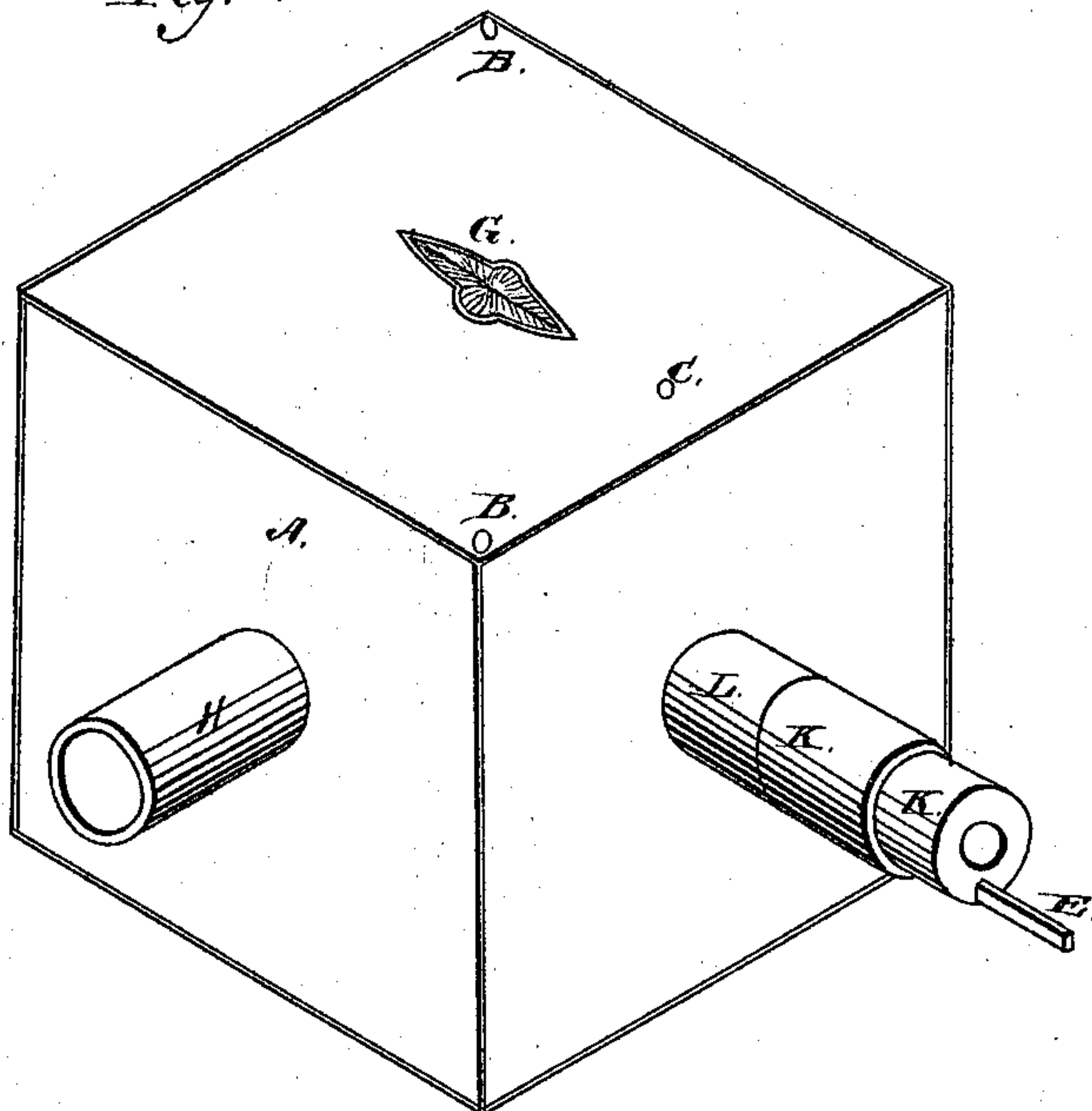
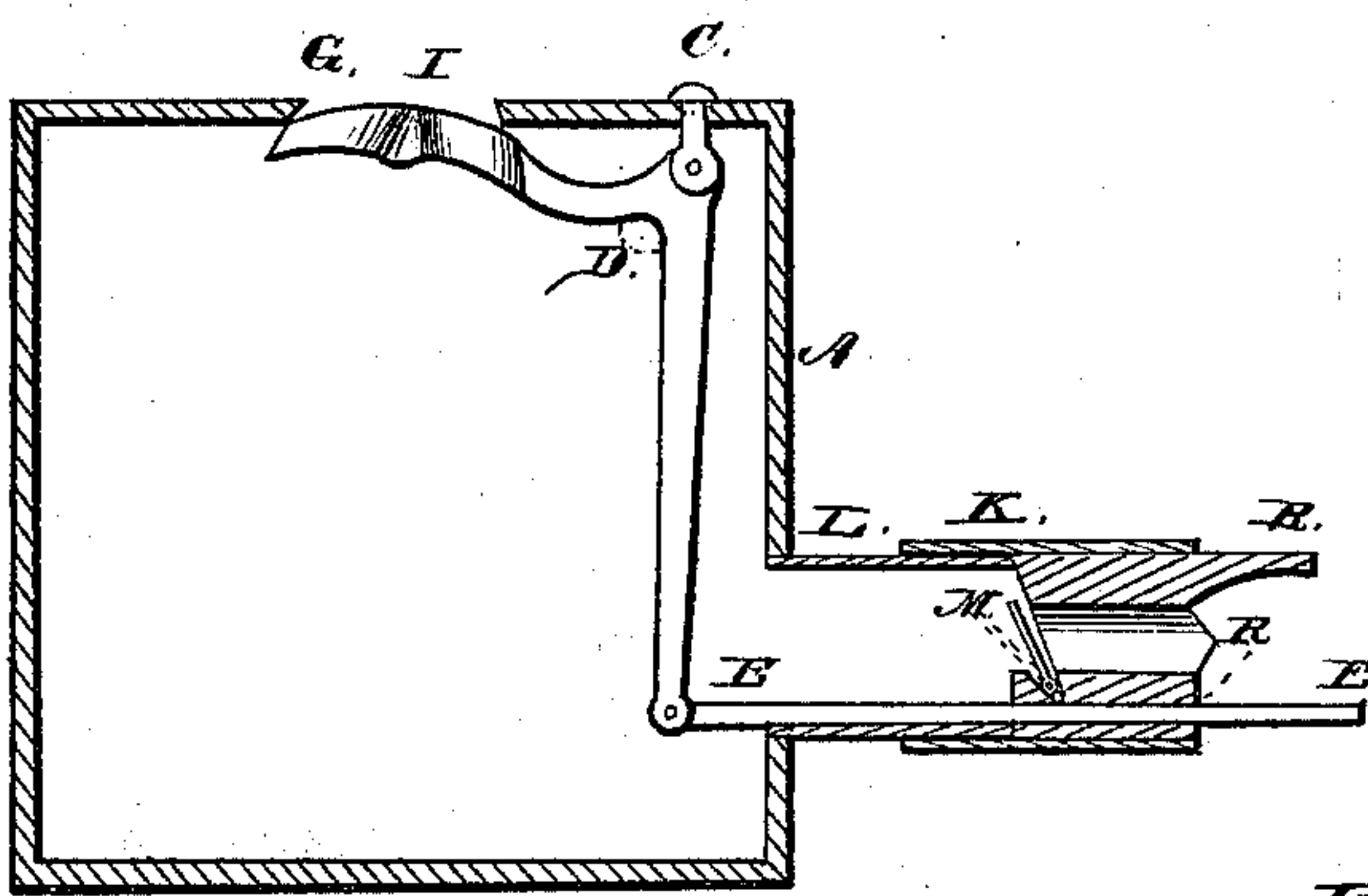


Fig. 2.



Witnesses.
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Inventor.
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United States Patent Office.

JOSEPH J. PIERCE, OF EMMETT, MICHIGAN.

Letters Patent No. 87,702, dated March 9, 1869.

IMPROVED TUYERE.

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 J. PIERCE, of the town of Emmett, in the county of Calhoun, and State of Michigan, have invented a new and useful Improvement in Tuyeres for blacksmiths' forges; and I do declare the following to be a full, clear, and exact description, which will enable others skilled in the art to make and use my invention, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 is a perspective view of the tuyere.

Figure 2 is a transverse section, showing the regulator, for which the petitioner desires Letters Patent.

The nature of this invention is to produce counter-currents of air through the forge, to regulate the quantity of air passing through the tuyere, and to modify the intensity of the heat, so as to produce a uniform melting-heat, instead of a concentrated burning-heat, which, in all cases, injures the quality of refined steel, when an attempt is made to weld over an imperfect tuyere.

This tuyere is cast in a square-box form, the bottom of which is cast separate, and in a form to fit closely, when secured to the box marked A, by means of the two bolts marked B B.

The upper side of the box is provided with a slot, G, in the centre, and of a form as shown on the drawings.

The slot is cut bevelling from the upper surface inward, so that it is wider inside the box than outside.

On the inside of the box, and in line with the slot G, is a fulcrum, C, provided with a pin, for the purpose of securing the lever D, being a part of the regulator.

The lever is constructed with an elbow at the centre of the point, where it is attached to the fulcrum C, by means of a pin.

The lower end of the lever D is provided with a hinge-joint, to receive a rod, E, which passes through the box A and pipe L K sufficiently far to be opened by the hand.

The opposite end, I, of the lever D, is provided with a bevel-edge, having a swell in the centre, so as to fit precisely the slot G.

The box is provided with two tubes, H and L, placed at right angles.

The tube H is to receive a bellows-pipe.

The tube L is provided with a joint of pipe, K, of sufficient length to reach from the box to the front side of the forge.

This pipe K is provided with a wooden plug, R, made hollow, to which is attached a valve, marked M.

This valve is connected to the plug by a hinge on the lower side of the valve, so that when the blast from the bellows ceases, the valve drops down to about 10°, thus allowing a direct current of air to pass through the tube into the box, and through the slot above, keeping the fire alive until the coal is consumed. The operation of the bellows closes the valve.

All parts of the regulator, with the exception of the part immediately under the slot, do not come in contact with the box, and, consequently, are not subject to expansion, and contraction, and warping out of place.

The plug can readily be withdrawn, and the regulator closed in the slot. Then, by means of the bellows, the ashes and dirt accumulated in the box can be blown out.

By briskly moving the regulator, the slot can readily be cleared of all obstructions.

Having thus described my invention,

What I claim, and desire to secure by Letters Patent, is—

The arrangement of the box A, with bevelled slot G, tubes H L, fulcrum C, knee-lever D, with bevel I, rod E, pipe K, hollow plug R, and valve M, all constructed substantially as set forth.

JOSEPH J. PIERCE.

Witnesses:

H. H. HUBBARD,
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