(No Model.)

E. P. JONES & E. R. WILLIAMS.

DAMPER.

No. 421,576. Patented Feb. 18, 1890.

Fig. 1.

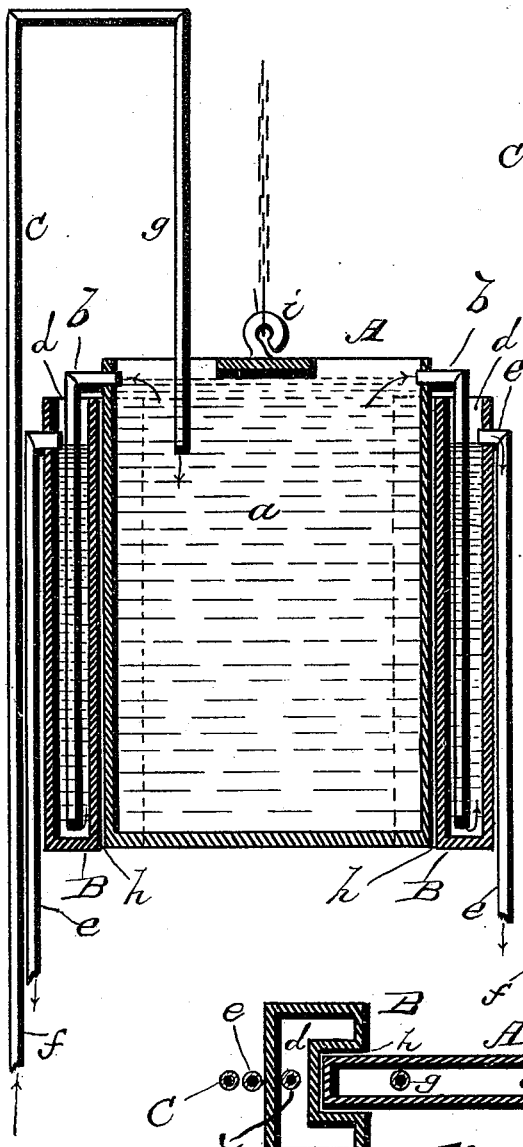
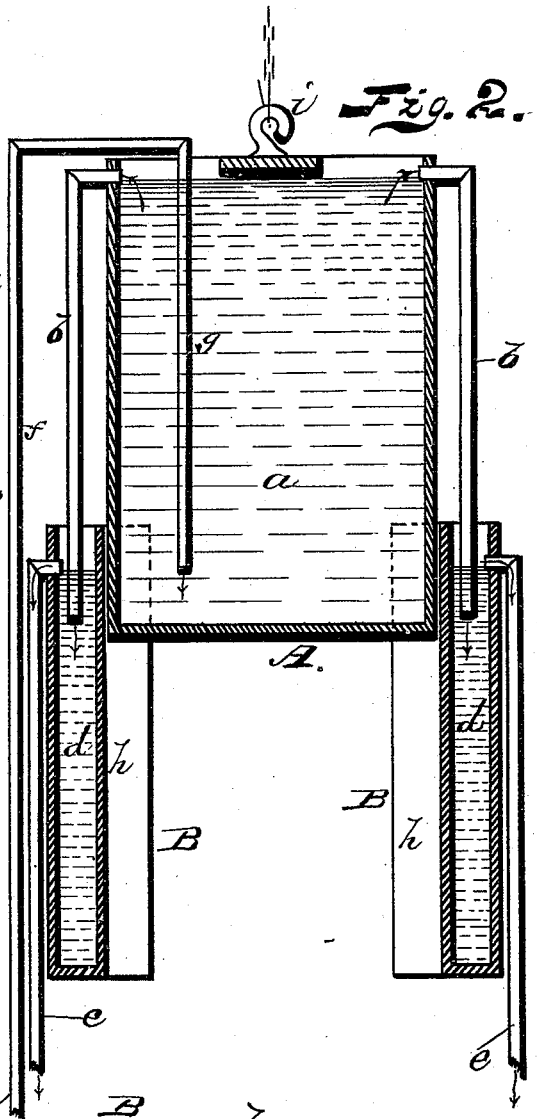


Fig. 2.



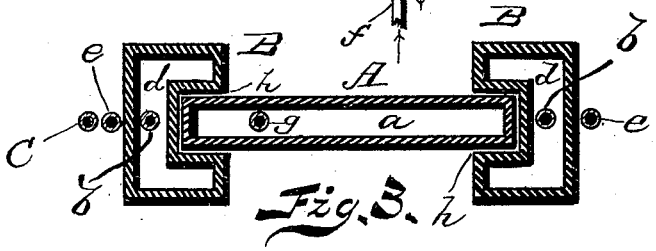


Fig. 3.

WITNESSES

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EDWARD P. JONES AND EVAN R. WILLIAMS, OF GIRARD, OHIO.

DAMPER.

SPECIFICATION forming part of Letters Patent No. 421,576, dated February 18, 1890.

Application filed November 22, 1889. Serial No. 331,217. (No model.)

To all whom it may concern:

Be it known that we, EDWARD P. JONES and EVAN R. WILLIAMS, citizens of the United States, residing at Girard, in the county of Trumbull and State of Ohio, have invented certain new and useful Improvements in Dampers; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in dampers; and it consists in the novel construction and arrangement of the same, in combination with service-pipes and a hollow frame, all as will be hereinafter fully described.

The annexed drawings, to which reference is made, fully illustrate our invention, in which—

Figure 1 represents a vertical longitudinal sectional view of our device, showing the damper closed. Fig. 2 is a similar view showing the damper open, and Fig. 3 is a horizontal sectional view of the same.

Referring by letter to the accompanying drawings, A designates the damper, which is constructed of iron and made hollow, as shown at *a*. On each vertical edge of this damper is arranged a vertical pipe *b*, which communicates with the space *a* in the damper and extends downwardly and into a space *d*, formed in the frame B. From the upper portion of this frame extend downwardly waste or overflow pipes *e e*, whereby the water, after passing through the frame and damper, is carried off, as will be further explained hereinafter.

C represents a supply-pipe for water, consisting of the vertical portion *f*, the lower end of which connects in any suitable manner with a street water-main or other suitable supply, a horizontal portion which extends somewhat above the top of the damper, and the portion *g*, extending downwardly into the space or hollow of the damper. Thus it will be seen that the frame, as well as the damper, is kept cool by the cold water passing in and out. The water is brought through the pipe C and enters the space in the damper. It then passes out by overflow through the pipes *b* and into the space in the frame, and from this latter space it flows through the waste-pipes *e e*. This constant flow of water through the frame and damper is kept up, whether the damper is opened or closed, and serves to always keep the same cool and from burning out where there is excessive heat.

This damper has its vertical movement in guideways *h h* on the inside of the frame, and in the top thereof is a hook *i*, to which a chain is attached, which passes over a pulley, whereby the damper is raised or lowered.

This damper we use in connection with what is known as the "porcupine" boiler, which receives its heat from one or more puddling-furnaces, the boiler being inclosed by a brick wall, into which leads the flue of the furnace, and where there is but one furnace a damper is placed on top of the stack above the boiler, but where two furnaces are used the damper is placed between boiler and furnace in the neck of each, there being a damper for each furnace, all of which construction of furnace, flue, and boiler being well known we do not deem it necessary to further describe them or illustrate them in the drawings.

Prior to our invention dampers for these furnaces have been constructed of brick, inclosed with an iron band, and the same is soon burned out by the intense heat and becomes worthless; but it will be observed that our damper, as herein explained, has a constant supply of water passing through it, as well as the frame. Hence it is kept cool and cannot be burned or melted.

What we claim is—

The combination of the hollow damper and hollow frame, said frame having the interior guideways for said damper, the inlet-pipe extending upward above the frame and bent inwardly and downwardly, the outlet entering the space in said damper, the overflow-pipes connected to each side and near

the top of the damper and communicating with the space therein, the downwardly-bent portion entering the space in said frame, and the latter provided with overflow-pipes which are arranged near the top on either side thereof and communicate with the space within the frame, all substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

EDWARD P. JONES.
EVAN R. WILLIAMS.

Witnesses:
FRED VEITH,
W. J. WILLIAMS.