

T. Curley,

Gas Retort.

No. 103579.

Patented May 31. 1870.

Fig. 1.

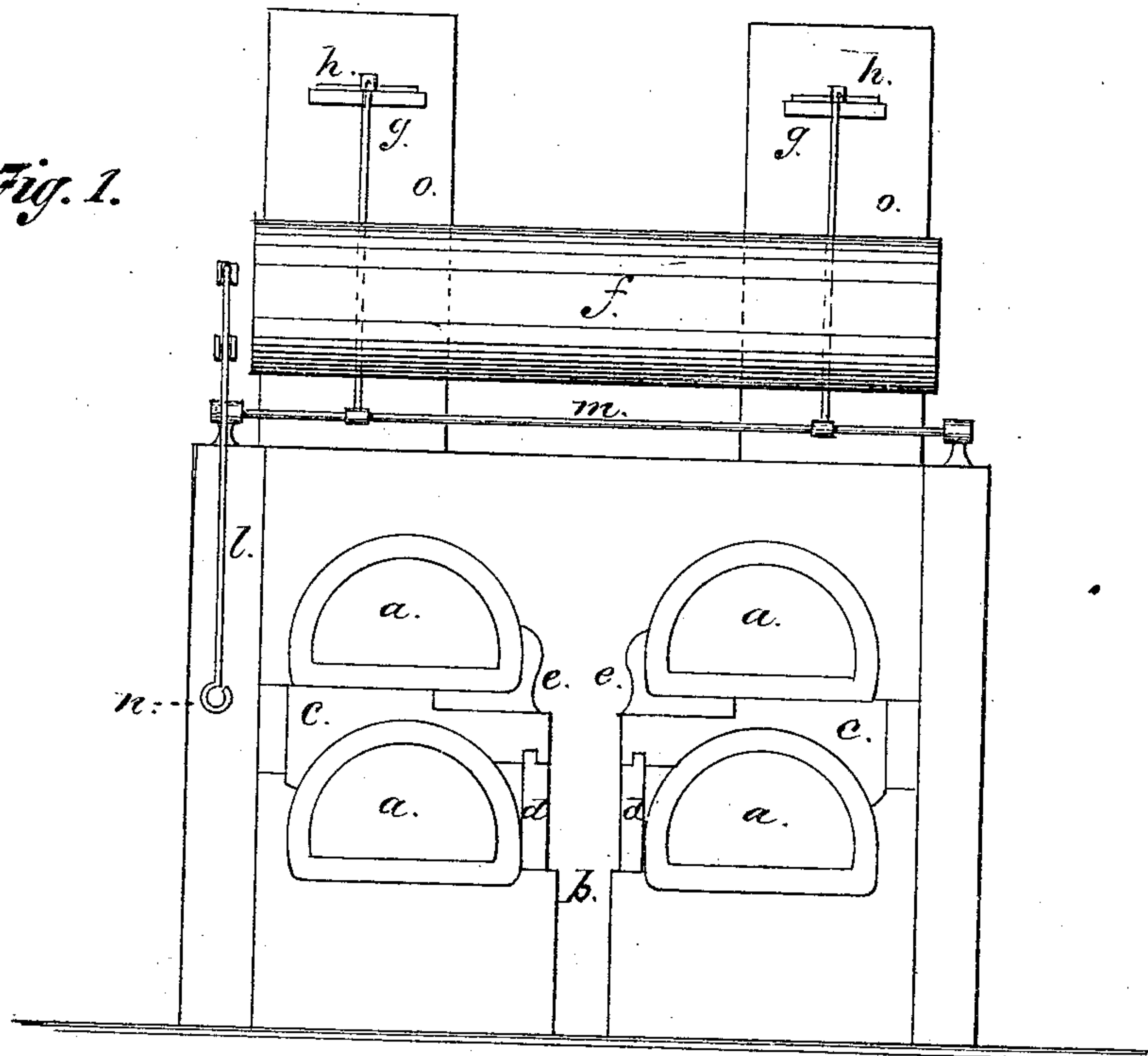


Fig. 2.

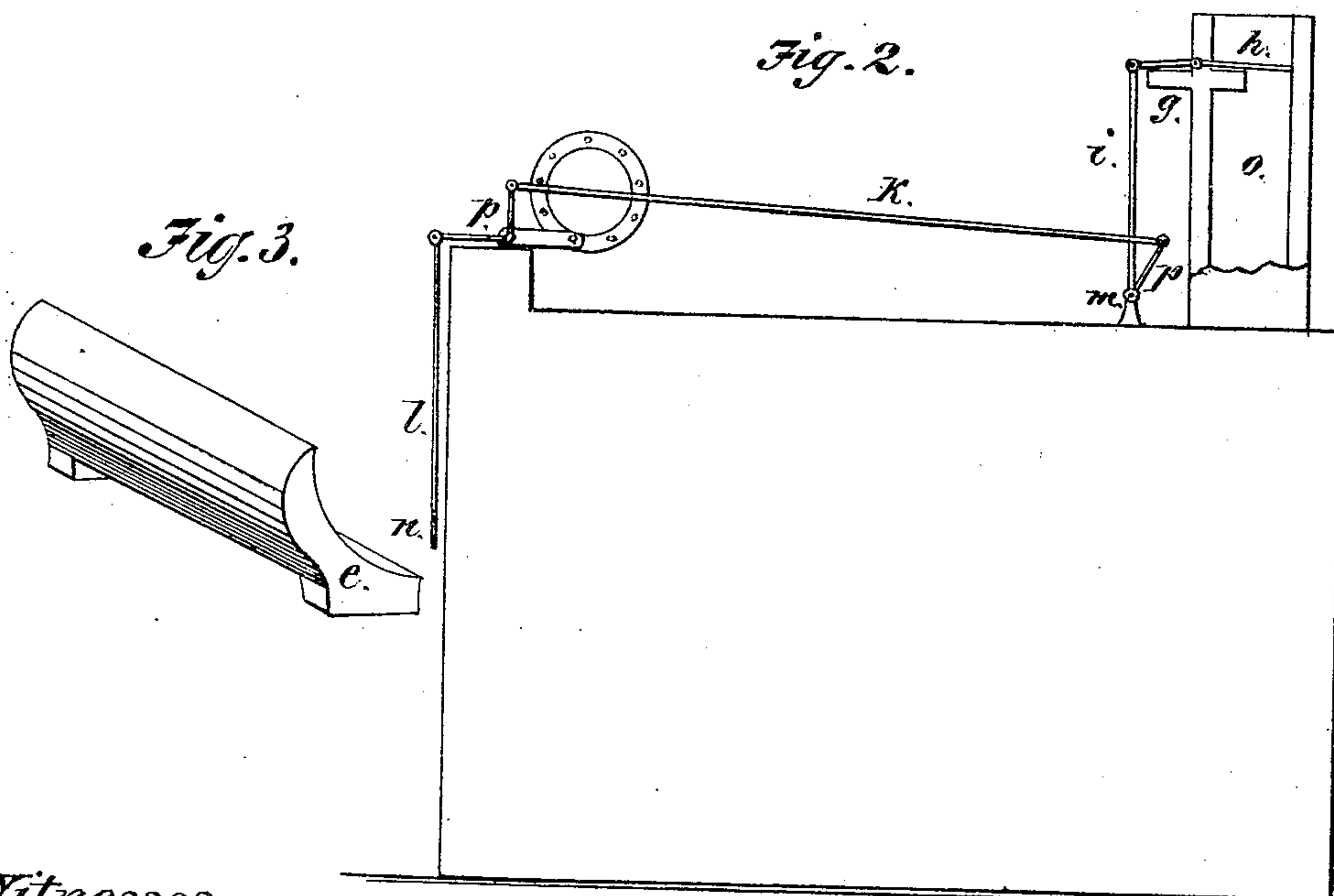
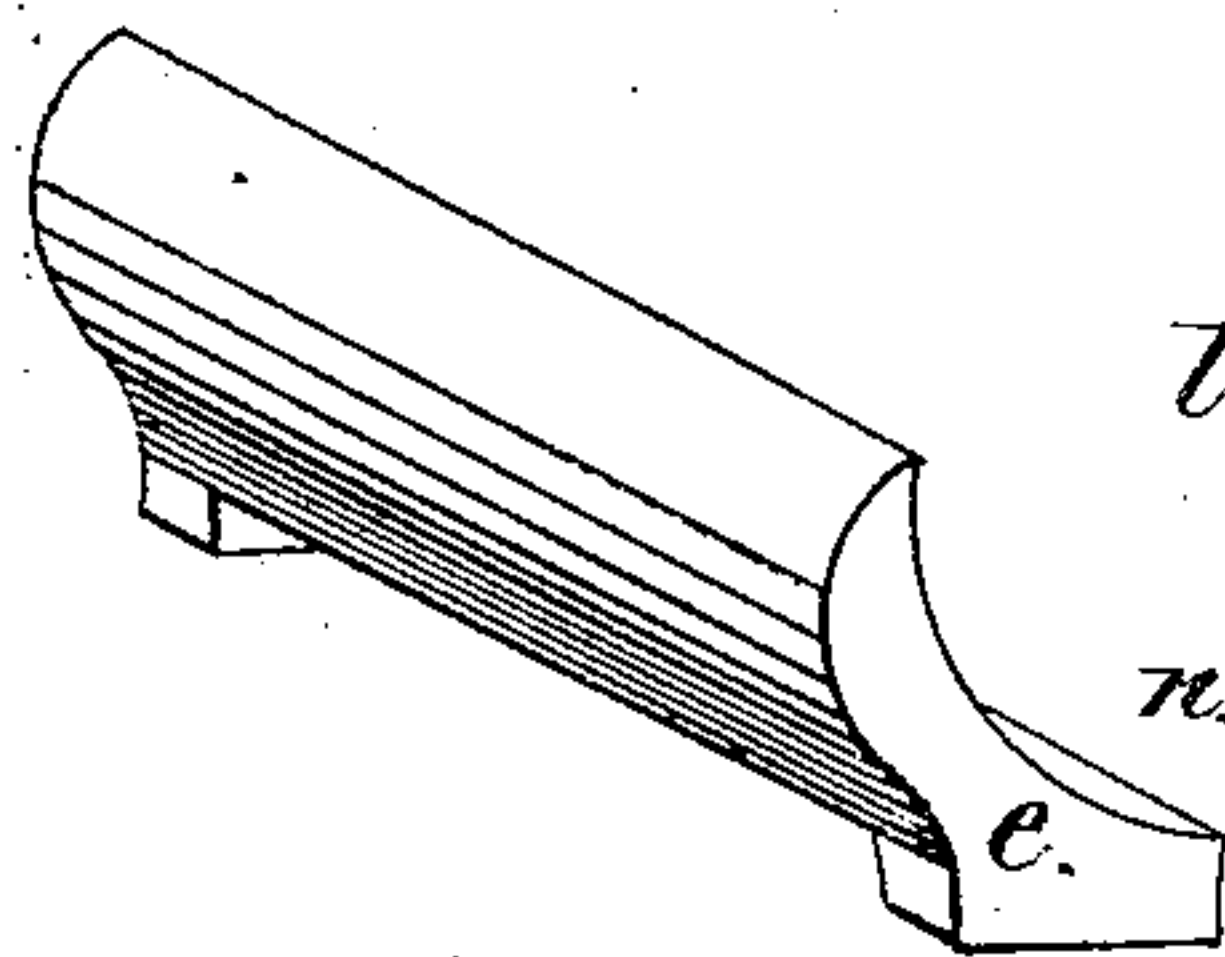


Fig. 3.



Witnesses.

*E. Sanderson
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Inventor.

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United States Patent Office.

THOMAS CURLEY, OF WILMINGTON, DELAWARE.

Letters Patent No. 103,579, dated May 31, 1870.

IMPROVEMENT IN SETTING GAS-RETORTS.

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

I, THOMAS CURLEY, of Wilmington, State of Delaware, have invented certain Improvements in the Setting of Gas-Retorts, of which the following is a specification:

The first part of my invention relates to providing clay retorts with protecting tile or shields where the action of the flame or heat strikes with greatest force, to prevent uneven expansion and contraction, and consequent rapid destruction of the same.

The second part of my invention relates to providing adjustable dampers in the exit-flues of retort-settings, in such a manner that, when the dampers are closed, the heat is confined so as to permit the furnace-doors to be opened to supply fuel or to remove clinkers and the like, without permitting a cold draught of air to enter, and, by sudden cooling of the retorts, cause them to crack and give out, as they are liable to do in ordinary settings.

Figure 1 is a front elevation of a setting of one bench.

a a a a are the retorts.

b is the furnace.

c c are the saddle-tiles.

d d, the lower protecting shield-tiles.

e e, the upper protecting tiles or shields.

At *o o* are the exit-flues.

g g are the ordinary fixed dampers.

h h, the adjustable dampers and mechanism for operating them, consisting of shaft *m*, bell-cranks *p p*, connecting-rods or levers *i i* and *k k*, pendant *l*, and handle *n*.

Figure 2 is a side elevation of a bench, showing the position of the hydraulic main *f*, and the different parts of the damper mechanism before mentioned.

Figure 3 is a perspective view of the protecting-tile *e*, shown at *e e* in fig. 1.

In ordinary settings of retorts, those parts of the retorts shown herein as protected by tile *d d* and *e e* are exposed to the full action of the heat from furnace *b*, and more especially at the middle parts of the retorts.

This causes unequal expansion and contraction, which soon causes the retorts to crack and give way, causing frequent expensive renewals.

By the use of the protecting-tiles or shields at such parts of the retorts as are most exposed to the heat, the retorts will last from seventy-five to one hundred per cent. longer.

The protecting-tiles are so arranged as to be replaced with little trouble, without resetting the retorts or other disturbance of the settings.

In ordinary settings, also, the fixed damper at *g g* allows a strong draught of cold air to enter the furnace when the doors are opened for the purpose of clinking, the time for which, and until the fresh fuel is again ignited, is about half an hour. This suddenly cools the retorts and settings, and causes them to crack and give way.

It also cools off the bench, which lessens the quantity and injures the quality of the gas, and increases the quantity of fuel necessary to distil an equal volume of gas, all of which is avoided by the use of the adjustable dampers *h h*, operated, as will be readily understood, by simply moving up or down the handle *n* of rod *l*, which acts through the cranks *p p* and levers *k k* and *i i*, and shaft *m*, to close or open the exit-flues *o o*.

I do not confine myself to this particular mechanical arrangement, but any other equally efficient, for closing and opening the exit-flues.

Claims.

I claim as my invention—

1. The renewable protecting-tiles or shields *d d* and *e e*, in clay retort-settings, substantially as and for the purposes hereinbefore set forth.

2. The adjustable or independent damper *h h*, placed in the exit-flue of retort-settings or benches, for the purposes described and set forth.

3. The combination, in retort-settings, of the shield-tiles *d d* and *e e*, or either of them, with the independent damper *h h*, substantially as and for the purposes set forth.

THOMAS CURLEY.

Witnesses:

D. CHANDLER,

GEORGE O'NEILL.