

T. TOMKINSON.

Fire Grate.

No. 93,925.

Patented Aug. 17, 1869.

Fig. 1.

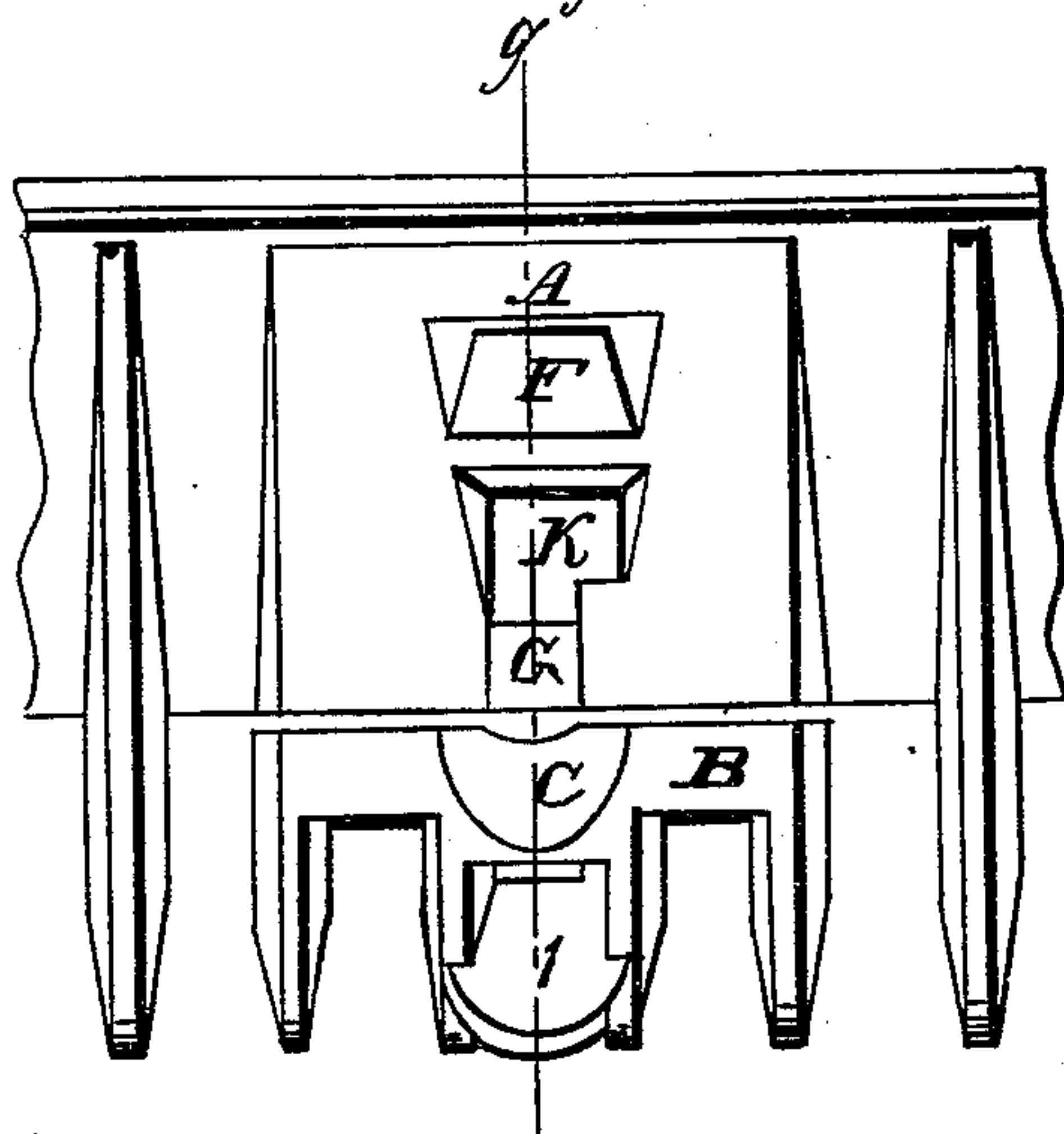


Fig. 2.

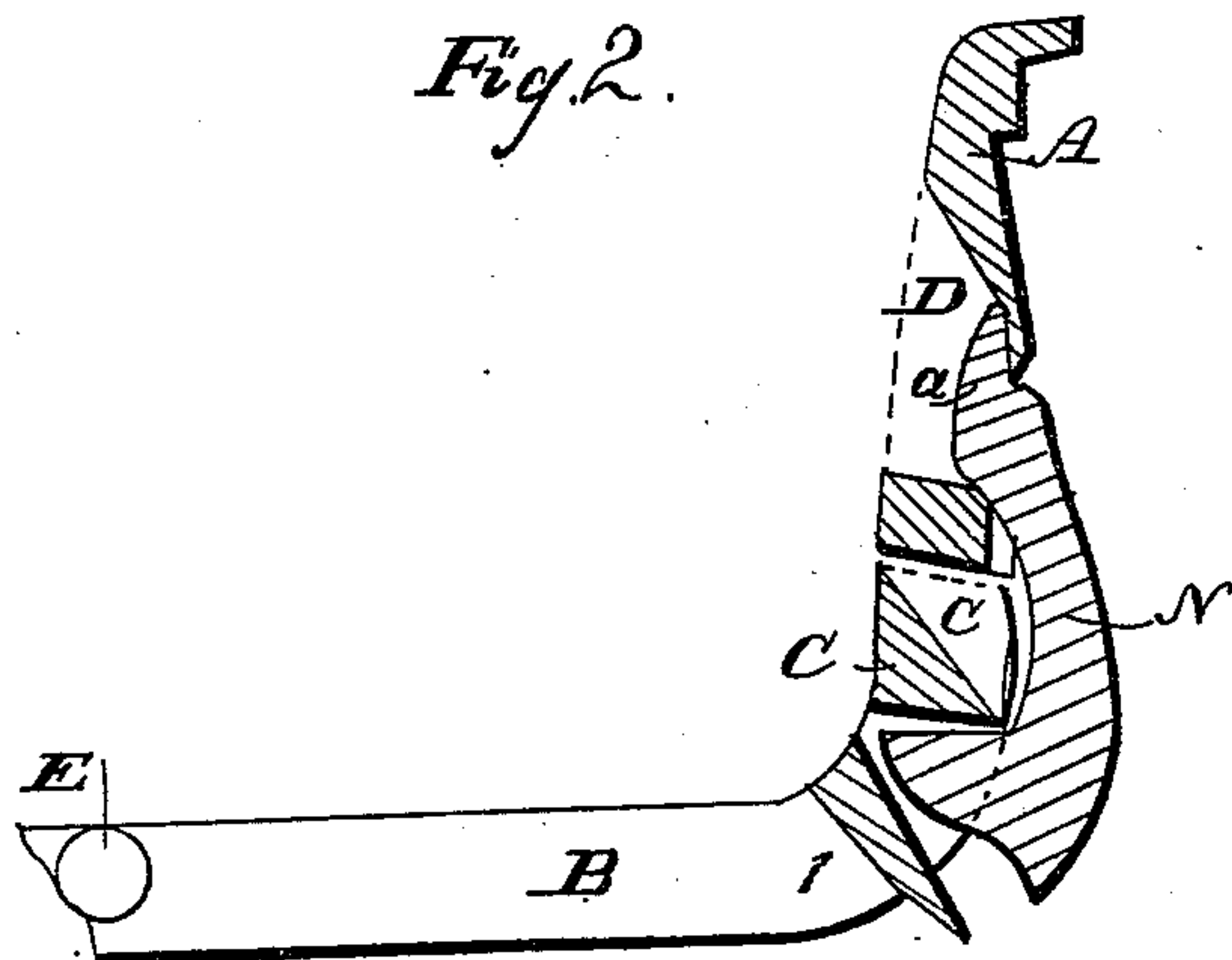
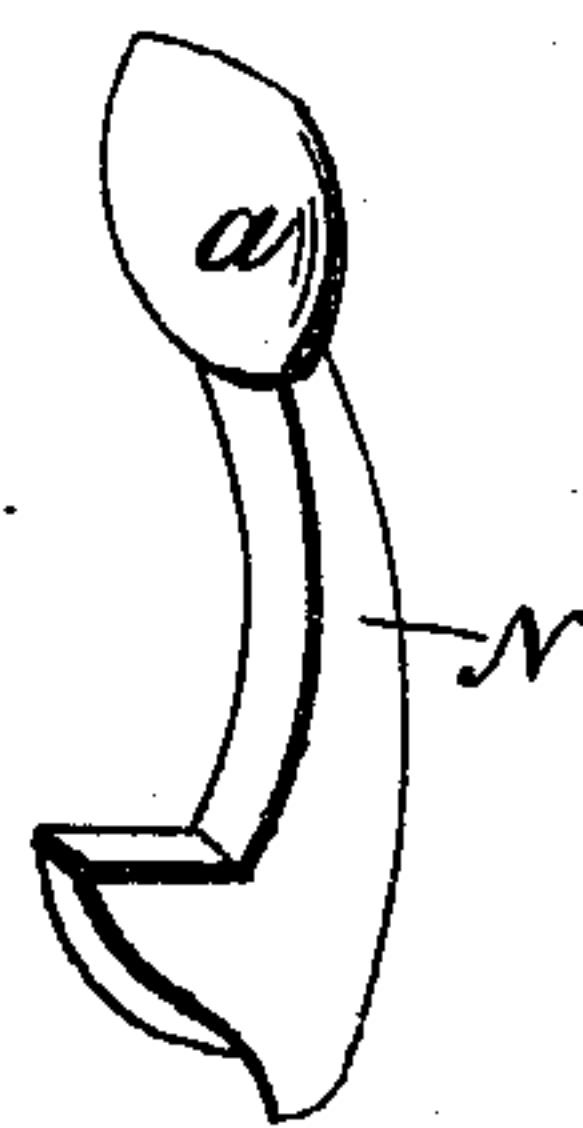


Fig. 3.



Witnesses:

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THOMAS TOMKINSON, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 93,925, dated August 17, 1869.

IMPROVEMENT IN GRATES.

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, THOMAS TOMKINSON, of the city of Philadelphia, in the State of Pennsylvania, have invented a Self-Adjusting Hook, and its necessary appendages, for drop-grates of stoves, &c.; and I do hereby declare the following to be a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a front view of a section of a fixed grate, A, and of the drop-grate B, without the hook N; and Figure 2, a vertical section through the line *g*, fig. 1, showing the hook N in place, when the drop-grate is in its proper position.

Similar letters denote like parts in both figures, as also in Figure 3, which is a perspective view of the hook.

This invention consists of certain devices and arrangements, more fully described hereafter, whereby a drop-grate for stoves, &c., can be let down and again replaced in its proper position, with the utmost ease and facility.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

The whole arrangement is intended to be of metal, of a kind suitable to bear the necessary amount of heat for the use to which it is to be applied.

A, fig. 1, is a front section of an ordinary stove-grate, cast with a plate along its upper front part, in which there is an aperture, K, to receive the top of the hook N.

This plate has a recess or pocket, D, in its inner or back surface, which is intended to receive the head of the hook N.

This pocket is bordered by a projection, (the upper and lower parts of which are shown in fig. 2,) which protects the flange *a*, surrounding the neck of the hook N, (and constituting its head,) from contact with the ignited fuel used in the grate.

Below the aperture K there is an upright recess or rabbet in the face of the plate, extending from said aperture K to the lower edge of said plate, to allow free play to the hook N.

Said plate has also a recess, F, above the aperture K, to receive the projections necessary for the fastenings of the stove doors.

The drop-grate B is hinged at its rear end in the ordinary way, by journals or necks E, resting in suit-

able open notches or rests, cast on the bars of the fixed grate A.

The bars of the front part of the drop-grate are cast with the usual connections at top, except the two central ones, which are connected together by a piece, C, which is about square or level at its bottom edge, forming a catch for the hook N, but has a hollow or gutter cast in its upper face, the bottom of which hollow forms an inclined plane, *c*.

A fender or shield, 1, is also cast between and attached to these two bars, to protect the hook N.

The said hook N is shown in its place (when the drop-grate is in position) in fig. 2. This hook is so shaped, with a comparatively small neck, surmounted by a flat head or flange, *a*, as shown in fig. 3, that it can be removed from or attached to the fixed grate, at pleasure, by passing said flange through the opening K, with the edge of said flange oblique to the face of the plate of the fixed grate, and it is retained in its place, forming a hinge at its upper end, by placing the edge of said flange horizontally parallel with the plate or face of the said grate, which is done by manipulating the hook.

When the hook is thus hinged in the fixed grate, and the drop-grate in position, as shown in fig. 2, its lower end is easily drawn forward by a poker, or similar instrument, and out of the catch formed by the lower edge of the piece C, thus causing the front of the drop-grate B to fall.

To fix the grate again in position, it is only necessary to elevate it, as the hook is operated by the inclined plane *c*, and as the grates approach each other, its lower end is thrown forward sufficiently to cause it to drop into or under the catch formed by the lower edge of the piece C, when the grate and hook again resume their proper position, as shown in fig. 2.

I do not claim a drop-grate made in the usual manner, as that is a common device; but

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

The hook N, front section of the fixed grate A, and the front of the drop-grate B, made, arranged, and operating substantially in the manner described, and for the purpose specified.

THOMAS TOMKINSON. [L. s.]

Witnesses:

JAMES P. DAVIS,
ANDREW FRENCH.