

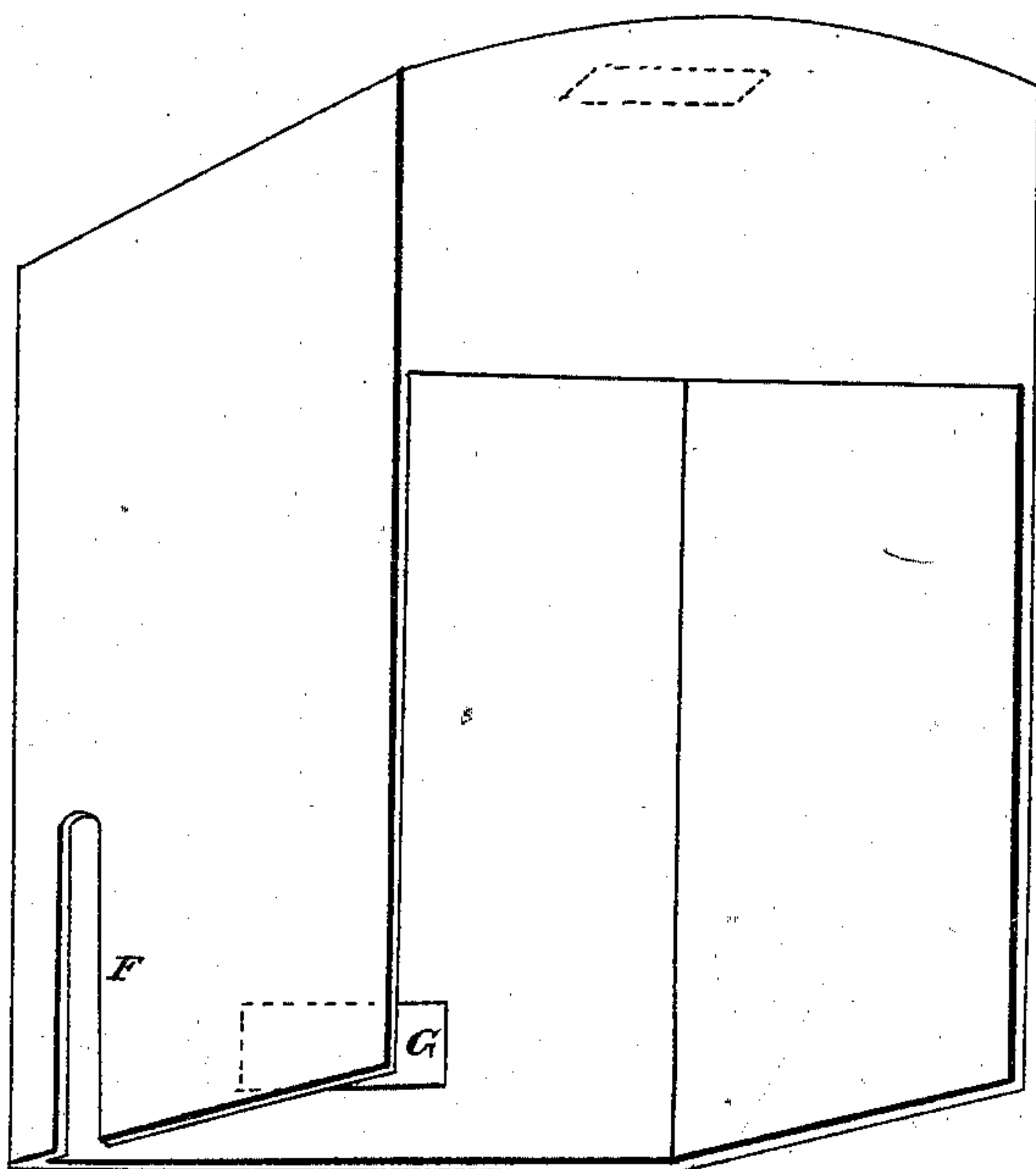
G. W. GRISWOLD.

Grate.

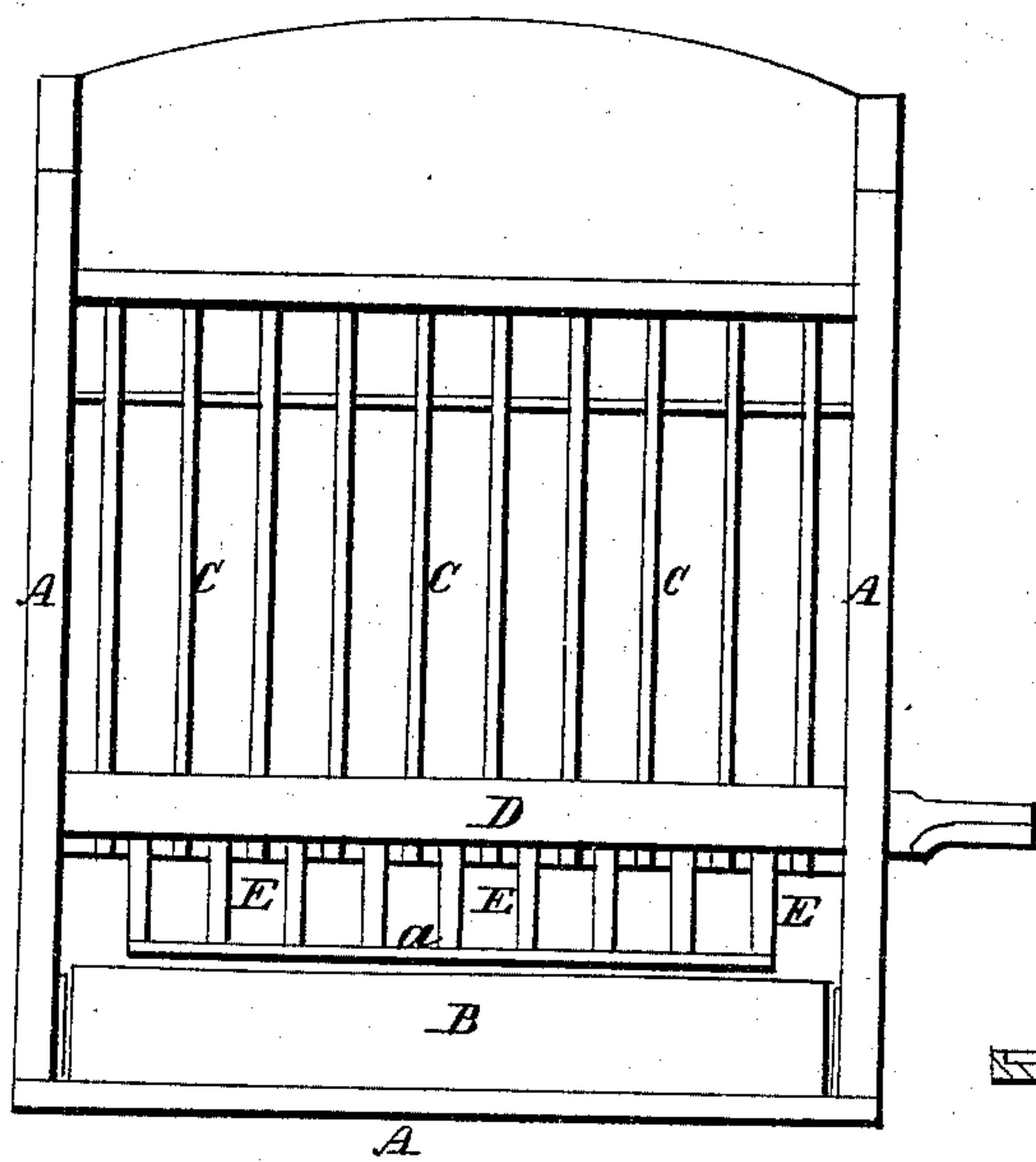
No. 11,371.

Patented July 25, 1854.

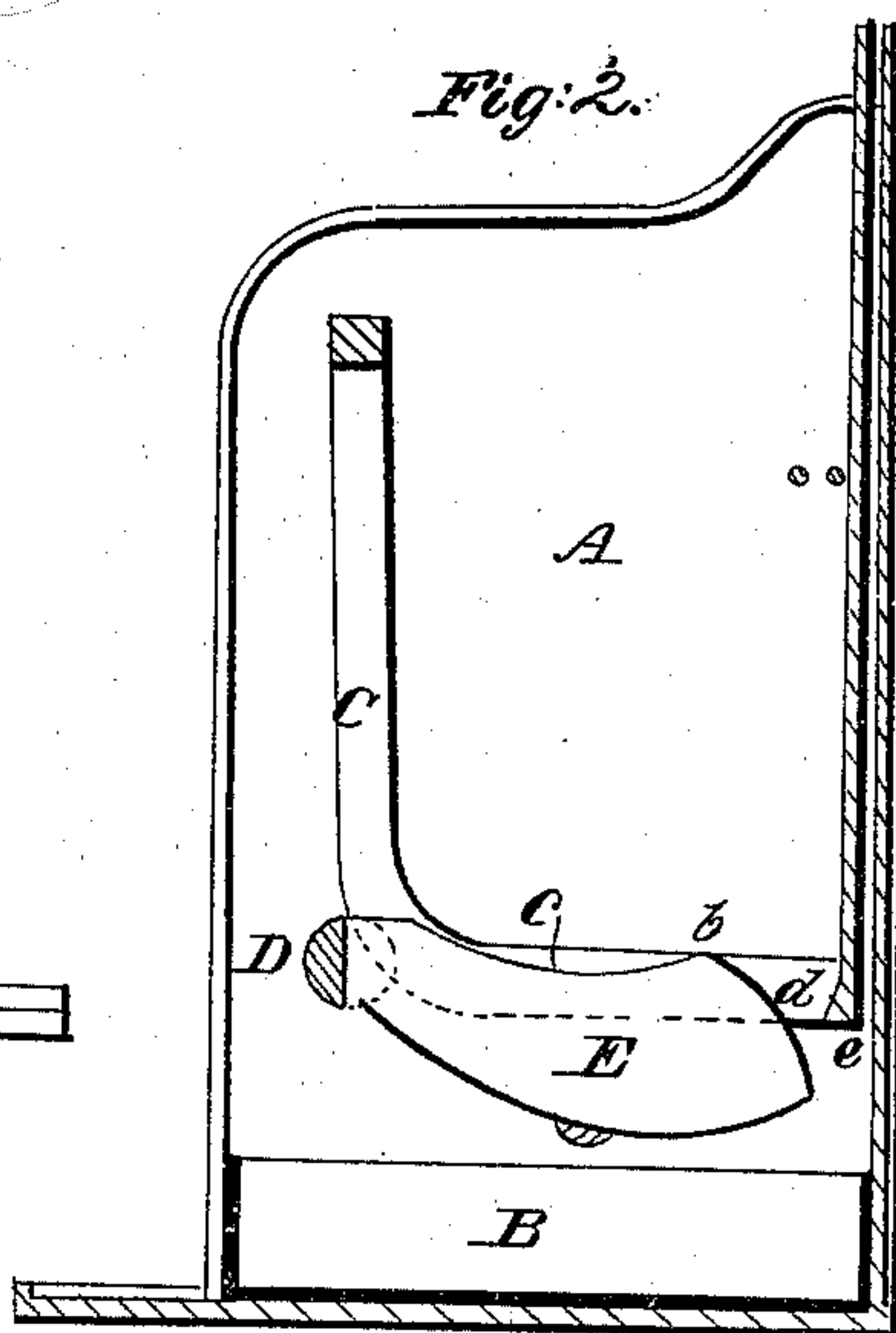
*Fig. 3.*



*Fig. 1.*



*Fig. 2.*





# UNITED STATES PATENT OFFICE.

GEORGE W. GRISWOLD, OF CARBONDALE, PENNSYLVANIA.

## GRATE.

Specification of Letters Patent No. 11,371, dated July 25, 1854.

*To all whom it may concern:*

Be it known that I, GEORGE W. GRISWOLD, of Carbondale, in the county of Luzerne and State of Pennsylvania, have invented certain new and useful Improvements in the Construction of Portable Grates; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part thereof, in which—

Figure 1, represents a front view of one of the grates, Fig. 2 represents a transverse section through the same, and Fig. 3, the blower for completely covering the grate when it is to be shaken or raked.

Similar letters in the several figures denote like parts.

I am aware that many forms of shaking grates have been essayed; and that fingers have been made to pass up vertically between the bars of fixed grates for the purpose of raking or shaking out the ashes. I do not pretend to be the inventor of either of these methods, as my grate bars are not movable, but fixed, and my shakers beside the agitation of the coal, turns it partially over, and separates it instead of making it more compact as in the methods referred to.

The nature of my invention relates to the peculiar shape of the shakers, and the mode of hanging them so as to raise up, partially turn over, and separate the coal in the grate, while they are prevented at any time from rising higher than the bottom grate bars, in which event the coal getting underneath them would entirely prevent their successful operation.

To enable others to make and use my invention I will proceed to describe the same, with reference to the drawings.

My grate may be called portable, as it is made to set in any ordinary fire place, and to make it a fixture would not still destroy its portable character.

A represents the sides and bottom of the grate, and B the ash box.

C are the grate bars constructed in any of the well known forms.

D, is a rock shaft placed near the bottom part but in front of the grate, said shaft

being suitably supported in the sides of the grate. The shakers E, (the particular form of which is seen in Fig. 2) are connected to this rock shaft D, which is squared up at its end to receive a suitable lever for the purpose of oscillating it.

On the bottoms of the series of shakers E, is placed a cross bar *a*, which prevents said shakers from rising beyond a certain distance. For, if allowed to rise above the grate bars, the coal settling under them would prevent their being brought back. The two curves on the top part of the shaker (*c d*), tend to separate the mass both ways from the point *b*, while it is being raised up, and at the same time partially turns over the mass, thus ridding it of the ashes without violently shaking the coal which packs it in the grate.

*e*, is a flue for carrying up the ash dust.

In Fig. 3, I have represented the kind of blower which I use with my grate when it is to be shaken. The blower completely incases the grate, it being provided with a slot F, for the end of the rock shaft to extend through, and a draft hole G, at the bottom, and an escape H at top to allow the ash dust to be carried off. Both these openings should have slides or doors to cover them, so as to be used for the several purposes of increasing or checking the draft, and for preventing the ash dust from escaping into the room when the grate is shaken or raked. This construction of grate effectually prevents the escape into the room of ash dust which alone makes it a very desirable article.

Having thus fully described the nature of my invention what I claim therein as new, and desire to secure by Letters Patent is—

The hinging of the shakers in front of the grate, so as to give the ends thereof next the back the greatest extent of motion; and this in combination with the stop, which prevents the shakers from rising above the bottom of the grate, substantially as described.

G. W. GRISWOLD.

Witnesses:

A. B. STOUGHTON,

THOMAS H. UPPERMAN.