

(No Model.)

3 Sheets—Sheet 1.

D. H. WATTS.
PORTABLE GRATE.

No. 483,410.

Patented Sept. 27, 1892.

FIG. 1.

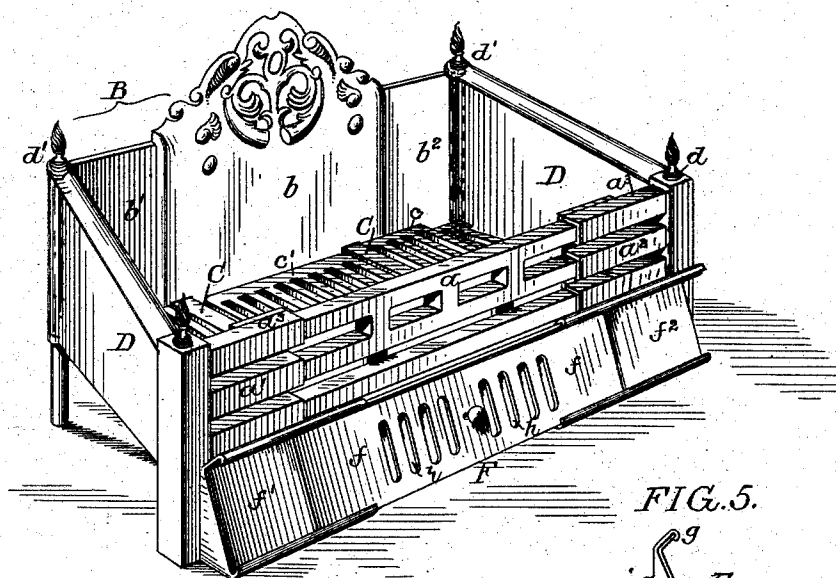


FIG. 5.

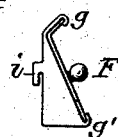
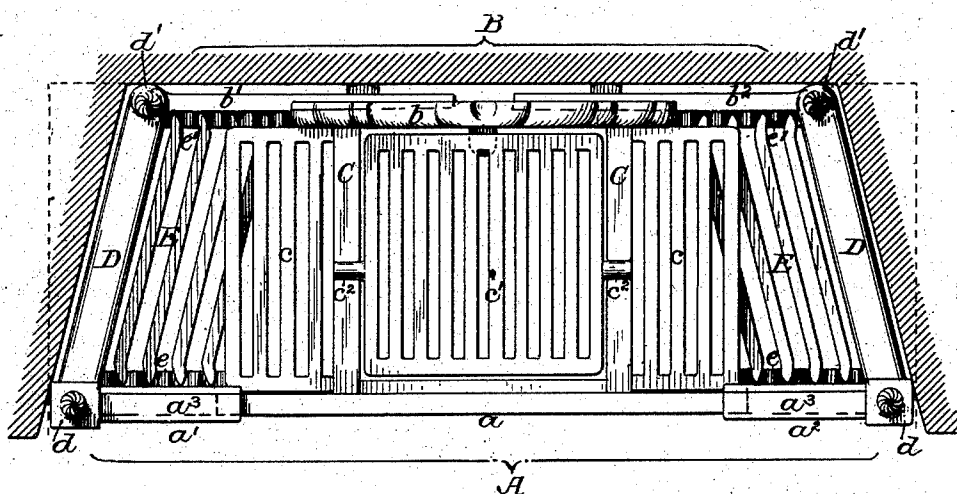


FIG. 2.



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FIG. 4.

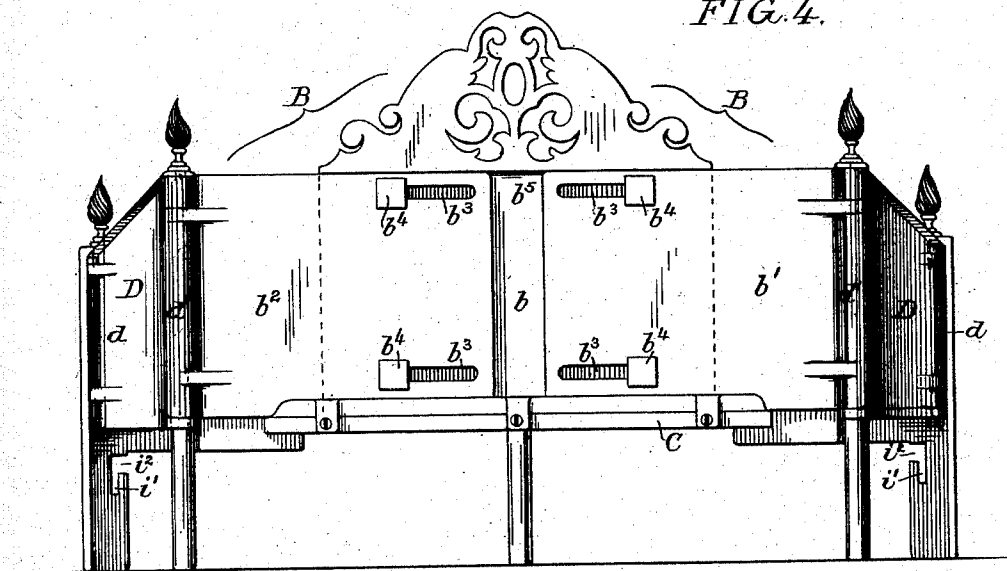
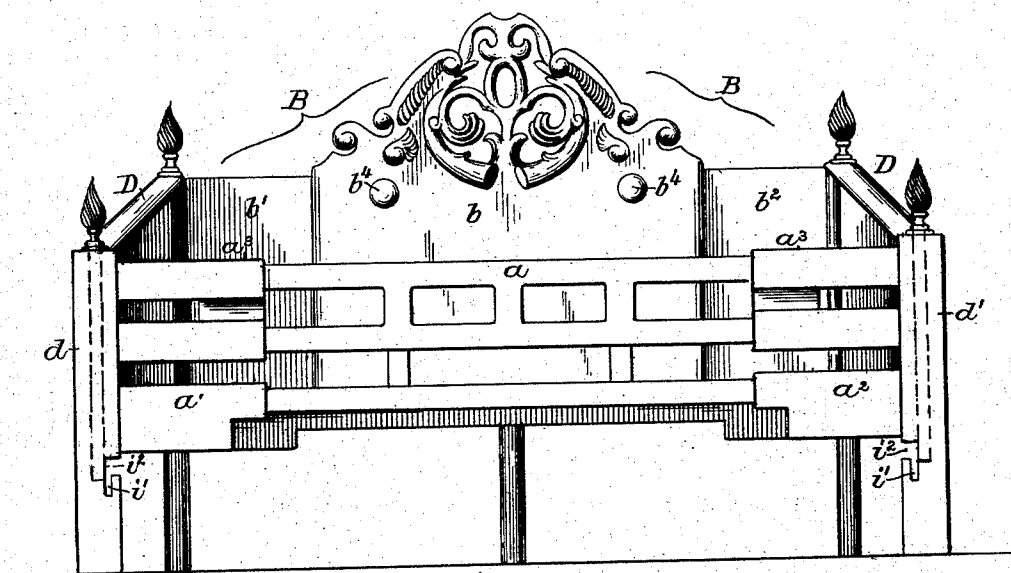


FIG. 3.



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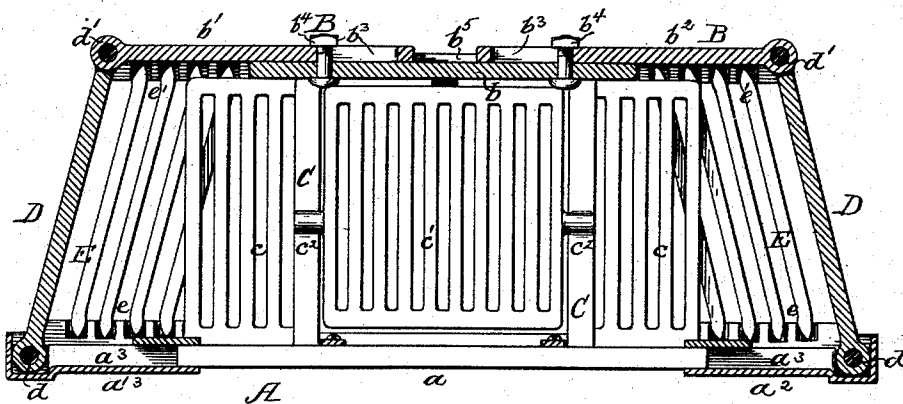
3 Sheets—Sheet 3.

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FIG. 6,



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UNITED STATES PATENT OFFICE.

DAVID H. WATTS, OF PHILADELPHIA, PENNSYLVANIA.

PORTABLE GRATE.

SPECIFICATION forming part of Letters Patent No. 483,410, dated September 27, 1892.

Application filed January 14, 1892. Serial No. 418,061. (No model.)

To all whom it may concern:

Be it known that I, DAVID H. WATTS, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Portable Grates, of which the following is a specification.

The object of my invention is to so construct a portable grate for open fireplaces that it can be readily adjusted to fit fireplace-openings of different dimensions. This object I attain in the following manner, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of my improved adjustable grate. Fig. 2 is a plan view showing the grate adjusted to an opening or niche. Fig. 3 is a face view of the grate. Fig. 4 is a rear view of the grate. Fig. 5 is a view of a detail of my invention, and Fig. 6 is a sectional plan view of the grate.

Portable open grates as usually made are of one size and are generally much smaller than the fireplace-opening. Consequently it is difficult to make the coal burn properly in the grate, as the air has a tendency to pass up at each side of the grate rather than through the body of the fuel, and where a grate is made to fit an opening it is generally built in and is not a portable grate.

By my improvement I am enabled to make a grate of one size, which can be either extended or contracted, so as to accurately fit any of the ordinary fireplace-openings.

A is the front of the grate, made of three sections $a a' a^2$. In the present instance the end sections $a' a^2$ have hollow bars a^3 , into which extend the ends of the bars forming the section a , so that when the front A is contracted these sections telescope, as will be clearly understood by referring to Fig. 2.

B is the back of the grate, formed of a central section b and side sections $b' b^2$. In each side section are slots b^3 , through which pass the bolts b^4 , as clearly shown in Fig. 4. These bolts in the present instance are tapped into the central section b . Secured to the central sections a and b of the front and back plates is the central fixed grate-frame C, having extensions c at each side, forming bars, and a central pivot-section c' , having trunnions c^2 , adapted to the sockets in the central frame C. This section is commonly called the

"dumping" section, and is common to all grates.

The sections $b' b^2$ of the back section B slide in the recessed portion b^5 of the central section b , (shown in Fig. 4,) so that the back section, although sufficiently loose to be contracted or expanded, will be perfectly rigid against any lateral or vertical motion.

D D are the side plates of the grate, connected to the front section A by hinges $d d$ and to the back section B by hinges d' , so that while they connect the front and back sections together they allow one section to be extended a greater distance than the other, so as to adapt the grate to the fireplace openings or niches of different shapes.

On the inner portion of the sections $a' a^2$ of the front plate are pockets e , in which rest the rounded ends of grate-bars E, and on the inner edge of the sections $b' b^2$ of the back plate are pockets e' for the reception of the opposite ends of the grate-bars E. These grate-bars are on a plane below the grate-bars c , so as to allow the grate to be contracted, the grate-bars E passing under the grate-bars c .

The grate-bars E are in the present instance loose, and simply rest in the pockets $e e'$. Thus the grate-bars do not interfere with the movement of either the back or front sections.

I attach in some instances to the front section a draft-regulator F, made up of three sections $f f' f^2$. The central section is adapted to grooves $g g'$, formed in the side sections $f' f^2$, and is provided with a damper h , by which the draft through the fire is regulated. On each end section is a hook i , adapted to openings i' in the leg portions of the front plate A. These hooks are inserted into openings i^2 and drop into the portion i' of the opening, thus locking the draft-regulator to the grate.

It will be understood that while I have shown the bars of the front plate square in cross-section they may be round or of other shapes, depending upon the style of ornamentation of the grate.

It will be seen that a grate constructed in accordance with my invention can be fitted to different-sized fireplace-openings and to fireplace-openings in which the jambs are tapered, as shown by full lines in Fig. 2, or

straight, as shown by dotted lines in said figure, the grate accommodating itself to the opening. Thus a neat fit is insured without the necessity of making a grate of a special size for a special opening.

It will be understood that the front or back section can be fixed as regards lateral motion. For instance, where the front portion of the fireplace-opening is of one size the sides may be beveled, as shown by full lines in Fig. 2, or may be straight, as shown by dotted lines in said figure, in which case the back plate and grate only need be adjustable, and in some cases the back of the opening may be of a regular size and the front of the opening may be of different widths. In this case the front plate only need be adjustable; but I prefer to make both plates adjustable in order to meet all demands.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. The combination, in a portable grate, of the longitudinal plates forming the front and back of the grate and grate-bars with side plates hinged to the longitudinal plates, one of said longitudinal plates being adjustable, substantially as set forth.

2. The combination of the adjustable front section, the adjustable back section, and adjustable grates with side plates hinged to the front and back sections, substantially as described.

3. The combination of the telescoping front section, the telescoping back section, side plates hinged to the front and back sections, a central fixed grate, pockets on the front and back sections, with grate-bars adapted to the said pockets, substantially as described.

4. The combination, in a portable grate, of the front plate made up of three sections, the back plate made up of three sections, a central grate-section secured to the central sections of the front and back plates, side plates hinged to the end sections of the front and back plates, and grate-bars supported by said end sections, said end sections being adapted to slide upon the central sections, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

DAVID H. WATTS.

Witnesses:

A. W. HELLER,
J. W. GRIFFIN.