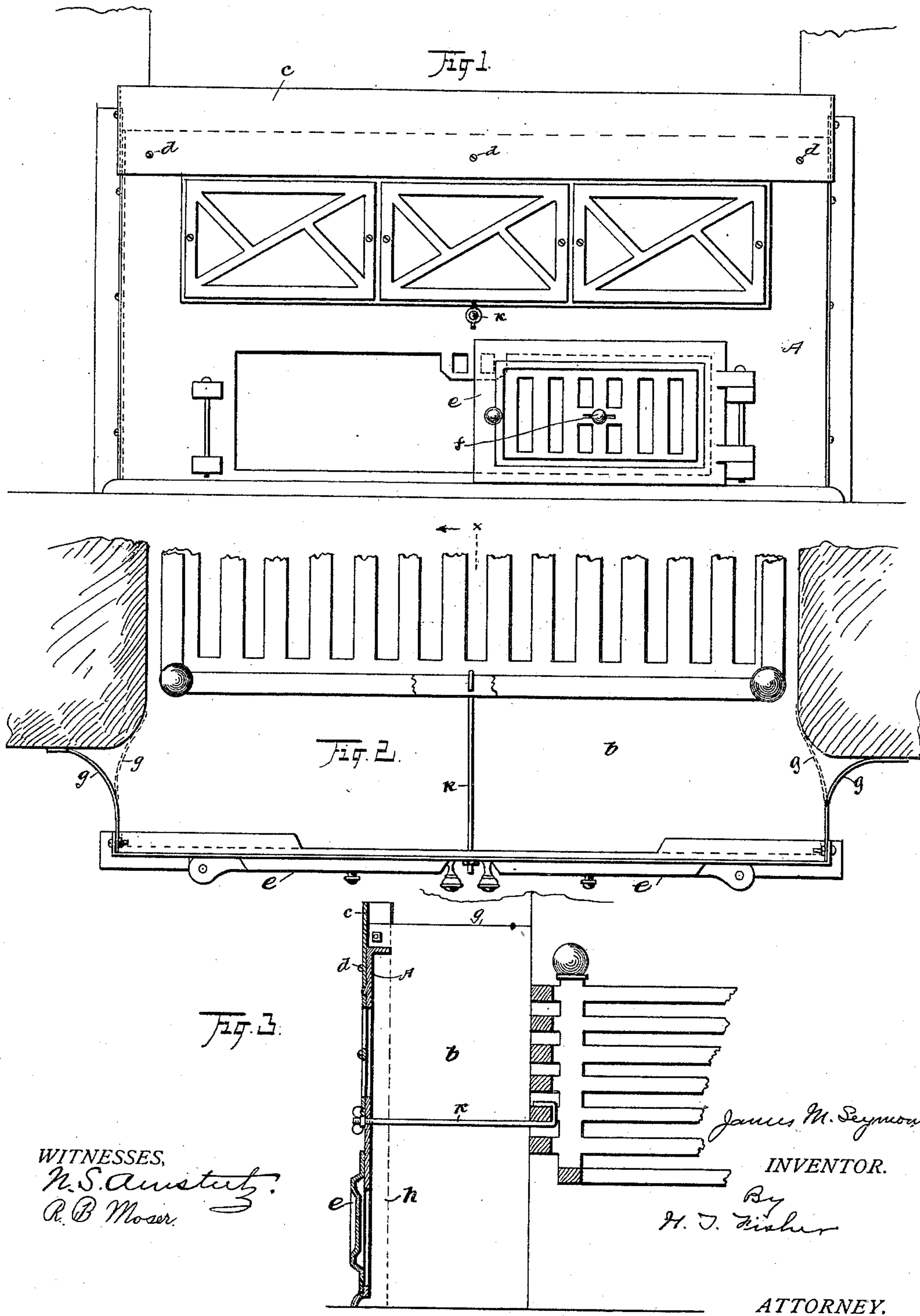


(No Model.)

J. M. SEYMOUR.
FRONT FOR GRATES OR FIRE PLACES.

No. 411,262.

Patented Sept. 17, 1889.



WITNESSES,
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FRONT FOR GRATES OR FIRE-PLACES.

SPECIFICATION forming part of Letters Patent No. 411,262, dated September 17, 1889.

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To all whom it may concern:

Be it known that I, JAMES M. SEYMOUR, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Fronts for Grates and Fire-Places; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to fronts for grates and fire-places, and is an improvement on my patents, Nos. 317,863 and 317,864, issued May 12, 1885. In both said patents a front is shown with other attachments, whereby a heating-stove or a cooking stove or range is made according to the parts employed.

My present invention has reference to the front alone as an article of manufacture and sale, I having discovered that such a front can be advantageously employed with open fire-places having grates for burning coal, coke, and other fuel without other attachments, except as hereinafter explained.

To this end the invention consists in a front for fire-places and grates adapted to occupy and close the space from side to side of the fire-place in front of the grate, and at the same elevation as the grate, or thereabout, with the wings or flanges at the ends of the front bearing against the sides of the fire-place and the front itself resting on the hearth, whereby the space occupied by the front is closed against draft, except as draft is provided through the openings in the front, and a heat-chamber is formed between the front and the grate, all as hereinafter more fully described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a front elevation of the grate shown in position in connection with a fire-place, which is broken away at the top. Fig. 2 is a view looking down on the parts as they are arranged in Fig. 1. Fig. 3 is a transverse section on line $x x$, Fig. 2.

A represents one form of front made by me, and serving to illustrate the nature and scope of this part of the invention. This

particular front is straight from side to side and adapted to a straight or substantially straight grate. Other forms and sizes are made, according to the various styles of grates, the object in any case being to fit the front to grates as they are found in use. This involves height, length, and shape. In the matter of shape the front is made straight or more or less curved between its ends, according to the formation of the grate.

In carrying out my invention I find it important to have the front come about four inches from the grate. This forms a hot-air chamber between said parts, from which the heat is radiated through the front as it would be through and from a stove. This distance also enables me to place mica windows in the front and protect them from smoke or soot, which would not be practicable if the front were near the grate. But the principal object and advantage is the hot-air space between grate and front, as is hereinafter more fully explained.

In respect to height the front is varied to correspond to the elevation of the grate—that is, the front plate proper is given a certain fixed depth, and then to get the desired elevation a supplemental plate c is detachably fixed by screws d or their equivalent to the top of the main plate. These supplemental plates c are kept in stock in different widths, and one of greater or less width is chosen according to the needs of each particular case. As grates are ordinarily set, they vary considerably in height, and the main plate alone may come about on a level with the top of the grate or some distance below it; but as it is desirable to have the front somewhat higher than the grate, so that the air which flows over the front will enter at a point above the fire, and as it is not practicable to keep a stock of fronts to suit the many varying elevations, the supplemental plate c , which forms an ornamental border for the main plate, is kept for this purpose. The front thus constructed furthermore obscures the grate but reveals the fire to one sitting reasonably near, and as it is made attractive in appearance and has mica windows to brighten it up it lends to the usual cheerfulness of a grate fire, while

it contributes to its utility and economy. Nothing but what is pleasing to the eye is thus brought within view, and the ashes beneath the grate are confined and concealed.

5 Each grate is further provided with doors *e* and draft-dampers *f*, either or both, through which a poker can be inserted to stir the fire.

Having now provided a suitable front for the purpose described, the adaptation thereof
10 to the sides of the fire-place is the next feature of the invention. This part of the invention requires a wide range of adaptation, for the reason that there are considerable differences in the widths of fire-places as they are found
15 from house to house, or even sometimes in the same houses, and an infinite variety of fashions in the jambs or facings, even where the widths are the same. Hence, to avoid the necessity of making a special pattern
20 of front for each particular width and to enable me to fit the front to any width of jamb, I have provided a flexible wing *g*, attached to each end of the front and extending back therefrom a distance of four inches,
25 more or less. These wings may be secured to the front along the slight flanges *h* thereon, as shown, or in any other suitable way, and are designed to come close up to the jamb of the fire-place, into whatsoever position
30 they may be bent, and close the space between the front and the jamb. If the fire-place proper is wider than the front, the wings may be bent outward to a considerable distance at either side to make the connection and if the front be wider than the fire-
35 place the wings may be bent inward for the same purpose. Indeed the flexibility of the wings affords easy and convenient adaptation whatever the construction of the jamb.
40 For example, in the form of jamb shown in the drawings it will be seen that two positions of the wings are practicable and that either may be used and at the same time preserve the desired hot-air chamber in front
45 of the grate. The full lines show the wings bent outward and lying flat against the outer face of the jamb, and the dotted lines show the wings as bent inward and resting against the inner face of the jamb. Obviously curvature of the wings to one side or the other is
50 necessary, as otherwise the heat-chamber *b* would be made too deep to be of any service and the object of the invention would be destroyed. The front is held in position by a
55 hook *k*, which is threaded to fasten by nuts on the front *A*, and has a hook to engage a bar on the grate. This hook may be varied in design, but should have such length as to support the front in relation to the grate about
60 as hereinbefore described, whereby the desired distance between the grate and front is preserved.

The attachment is placed in front of a grate, its top being on a level or a few inches above
65 the top bar of the grate-basket. By shut-

ting off all drafts under and in front of the fire we have left the draft which goes over the "attachment" and fire. This over-draft serves two purposes: first, being cold and heavier than hot air, its draft drives the fire
70 down and keeps an intense heat in the grate-basket, and as there is no under-draft to carry this heat to the chimney when the dampers are closed it heats the attachment, which in turn radiates the heat throughout the room, making, in fact, a perfect base-heater; second, it
75 is a perfect check in the wasting of fuel, and makes it next to impossible for any ashes to get out through this draft and fly through the room.

The attachment is so constructed in width that one size will fit any grate-opening sixteen and two-thirds to twenty-six inches; but on
80 account of the many different heights of grate-baskets two different heights are made.

Hard or soft coal, coke, or natural gas for fuel have been thoroughly tested. With the latter it equalizes the dry, disagreeable heat, which is so conducive to sickness and ruins
85 furniture, into a mild, pleasant heat which penetrates the entire room.

When stirring the fire there is no escape of ashes through the room.

It entirely conceals the unsightly view of all ashes, while it keeps entirely in view the
90 cheerful effects of the fire.

The fire is so confined that sparks cannot be forced or coal fall into the room to ruin rugs and carpets.

Its absolute safety in preventing children
100 from falling into the grate or having their clothes catch fire makes it invaluable.

It takes away no ventilation from the room.

By the dampers you can regulate the draft to the size of the "chimney-flue" and prevent
105 smoke and soot from entering the room.

It will be observed that the wings *g* are so constructed that they may be bent against the outside of the jamb or to lie against the
110 inside thereof, and that in either case the front plate will be the same distance from the grate and preserve the size of the chamber *b*. For this reason a certain length of hook-rod *k* serves all purposes whatever the
115 varying forms of fire-places with which the front is employed, the same depth of chamber *b* being common to all.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—
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1. As a new article of manufacture, a front for fire-places and grates, provided at each end with a wing of flexible material constructed to be bent into different positions in
125 relation to the front, according to the different widths and forms of fire-places with which it is used, substantially as set forth.

2. A front for a fire-place or grate, made of rigid material, and flexible wings on said front to bear against the jamb, in combination with
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a grate and a catch to hold the front in position, substantially as set forth.

3. A front for a fire-place or grate, in combination with flexible wings attached to the
5 ends of said front, substantially as set forth.

4. A front for fire-places or grates, consisting of a metal plate having wings at its ends

and a detachable plate on said front along its top, substantially as set forth.

JAMES M. SEYMOUR.

Witnesses:

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