

(No Model.)

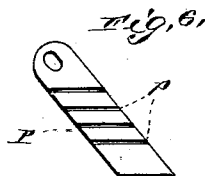
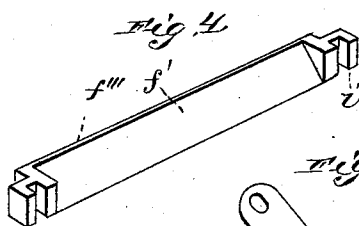
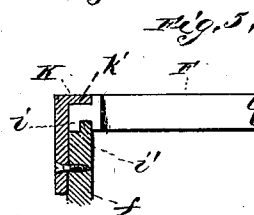
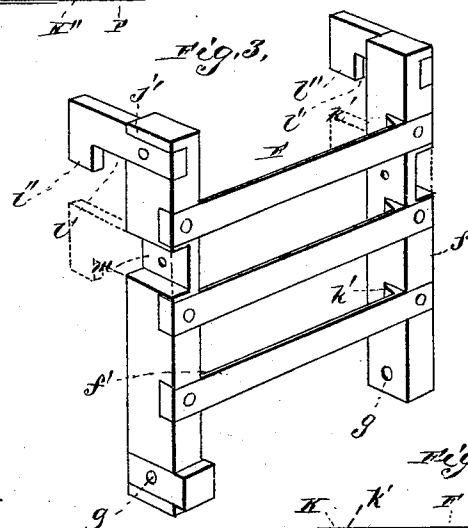
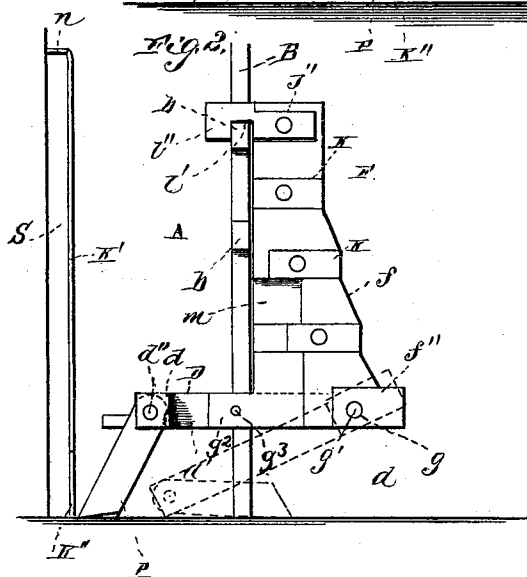
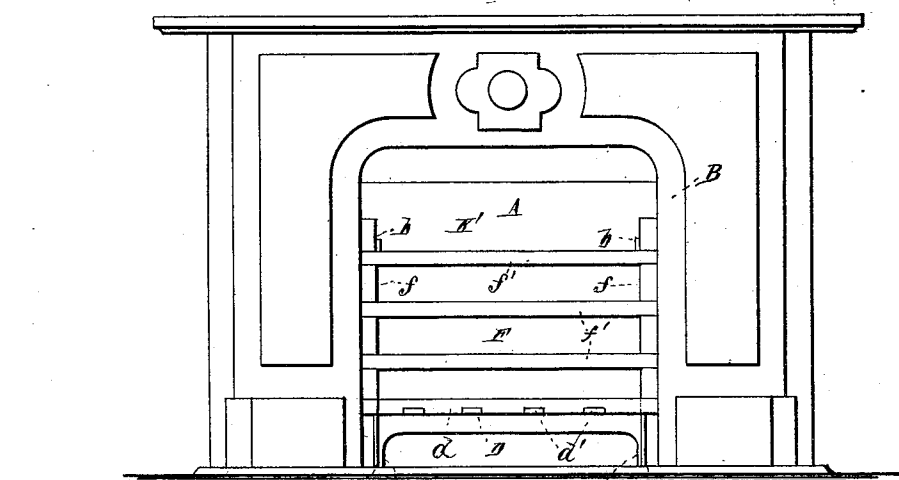
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R. GILCHRIEST.
FIRE GRATE.

No. 479,089.

Patented July 19, 1892.

Fig. 1.



WITNESSES:
Chas. L. Taylor,
Phil. C. Massi.

INVENTOR
Robert Gilchrist
BY *E. W. Anderson*
his ATTORNEY.

(No Model.)

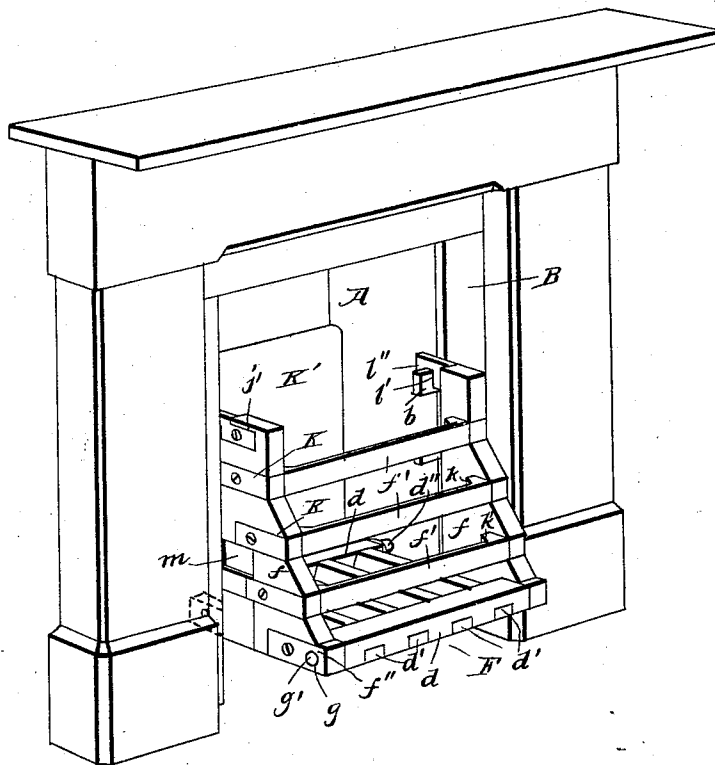
2 Sheets—Sheet 2.

R. GILCHRIEST.
FIRE GRATE.

No. 479,089.

Patented July 19, 1892.

Fig. 7.



WITNESSES

Samuel Kier
Philip Mass.

INVENTOR

Robert Gilchrist
by E. W. Anderson
his Attorney

UNITED STATES PATENT OFFICE.

ROBERT GILCHRIEST, OF LOUISVILLE, KENTUCKY.

FIRE-GRATE.

SPECIFICATION forming part of Letters Patent No. 479,069, dated July 19, 1892.

Application filed April 22, 1891. Serial No. 389,940. (No model.)

To all whom it may concern:

Be it known that I, ROBERT GILCHRIEST, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Fire-Grates; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a front view. Fig. 2 is a side view showing the grate set out, with the fireplace and mantel removed; and Fig. 3 is a perspective view of a modified form of grate. Fig. 4 is a detail of one of the front grate-bars. Fig. 5 is a detail, partly in section, showing the manner in which the grate-bars are held in place; and Fig. 6 is a detail of one of the supports for the rear portion of the bottom grate-section. Fig. 7 is a perspective view showing the grate in place.

This invention has relation to certain new and useful improvements in grates, the object being to provide a grate especially adapted for use in open fireplaces; and the invention consists in the novel construction and combination of parts, as hereinafter specified.

In the accompanying drawings, the letter A designates a fireplace, in the opening of which is secured the grate-supporting casting B. On the vertical side portions of this casting are formed two or more lugs *b*, which project laterally inward toward each other.

D designates the lower grate-section, comprising the transverse end bars *d d*, in which are held the ends of longitudinal grate-bars *d'*.

F is the front grate-section, comprising the parallel end castings *f f*, in which are removably secured the respective ends of the transverse grate-bars *f'*. In the lower forward portion of each end casting *f* is a bearing *g*, which receives the journaled ends *g'* of the forward transverse bar *d* of the lower grate-section. These bearings are usually formed in separate lugs *f''*, which are removably secured to the end castings. The end castings *f* and the grate-bars *f'* might, if desired, be cast integral with each other; but I prefer to

cast each bar separately, in order that it may readily be replaced if broken, for, if made in one piece, upon the breakage of one bar the whole grate would be rendered useless. For the purpose therefore of permitting the bars to be readily removed their ends are cast with the recessed lugs *i*, which fit corresponding recesses and shoulders in the end castings, and are held in place by shouldered caps or castings K, removably secured to the end piece, and provided each with a shoulder *k'*, which engages the upper end portion of its respective bar. Each of said grate-bars is beveled obliquely on its inner or rear face, presenting a sharp edge *f'''* upwardly, in order to offer less resistance to the fuel and ashes. Said bars are also disposed in different vertical planes, each succeeding bar from the top being set slightly in advance of the preceding bar. The bars when so disposed offer less obstruction to the falling of the fuel and also present a larger surface area, through which air is received.

In the upper portion of each end casting *f* is removably secured a rearwardly-projecting lug *l''*, having a hooked or shouldered rear end, designed to engage the upper pair of lugs *b* of the supporting-casting and support the grate in the manner best shown in Figs. 2 and 7. Similar recesses *m* are also formed lower down on the end castings, in which the lugs *l''* may be secured, instead of in the recesses *j'*, if it is desired to support the grate at a less height, or the lugs *l''* may engage the lower lugs *b* for this purpose.

K' designates a fire-back, which may consist of a solid sheet of metal supported loosely at the back of the fireplace. On the lower edge of this back are lugs K'', upon which said back rests, and its upper edge is held a short distance away from the rear wall of the fireplace by the rearwardly-projecting lugs *n*, forming an air chamber or flue S at the rear, as shown.

P P are supports for the rear portion of the lower grate-section, and which are provided each at their upper portions with a perforation engaging the journaled end of the rear bar *d* of said lower section. The lower ends of these supports are cut obliquely to rest upon the hearth, as the supports are in ob-

lique position. The supports are usually formed with a series of oblique grooves *pp* therein, at any one of which the supports may be broken to give it the proper length for supporting the grate at the desired height. By pulling these supports forwardly by any suitable means the lower grate-section may be dumped. Owing to the pivotal connection between the two grate-sections, it is apparent that the lower section may be supported at any suitable angle with regard to the front section.

For the purpose of securing the grates rigidly to their adjustment the lower rear portion *g*² of each end casting is provided with a perforation *g*³, through which may be driven a small pin or nail into the brick-work. During the summer months, when the grate is not in use, the front and lower sections may be folded together and placed inside the fireplace behind the lugs *b*.

In Fig. 3 I have shown a slightly-modified form of the front section, in which the grate-bars are all located in the same vertical plane.

The various parts are so arranged as to permit a free draft from underneath up through the fuel, so that not only the smoke, but also the ashes to a large extent, may be carried up into the chimney.

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

1. The herein-described fireplace-grate, comprising a front grate-section having an adjustable support, a bottom section having its forward end bar removably journaled in the lower forward portion of the front section, and adjustable oblique supports for the rear portion of said lower section, substantially as specified.

2. The grate-section comprising the end casting having shouldered recesses therein to receive the grate-bar ends, the grate-bars having shouldered recessed ends engaging said recesses and shoulders of the end castings and held therein by removable lugs or castings, and adjustable supporting-lugs secured to the upper portion of said end castings, substantially as specified.

3. The grate-section comprising the end castings having shouldered recesses therein to receive the grate-bar ends and the grate-bars having recessed shouldered ends secured therein by removable lugs or castings, said bars having the oblique rear faces and arranged in different vertical planes, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

ROBERT GILCHRIEST.

Witnesses:

E. H. CONN,
O. S. KLINE.