

March 1, 1960

P. H. FORD
FIREPLACE GRATE

2,926,657

Filed March 24, 1958

2 Sheets-Sheet 1

Fig. 1.

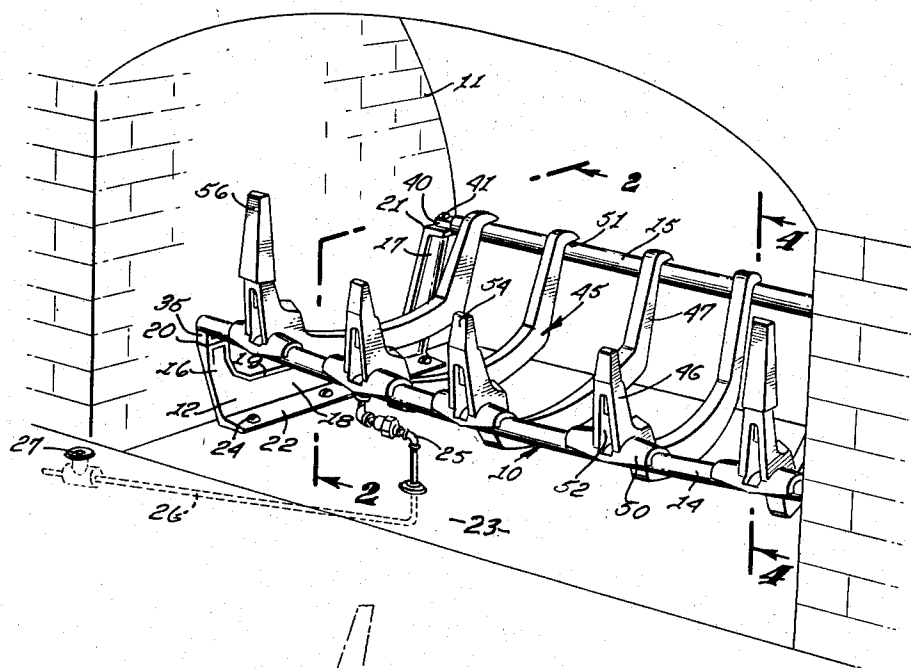
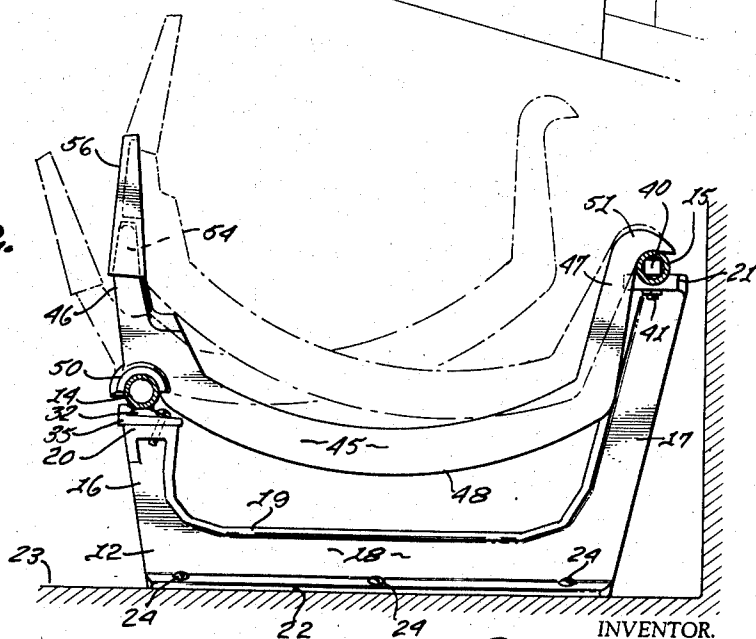


Fig. 2.



INVENTOR.
PAUL H. FORD
BY *Herman B. Hoar*
AGENT

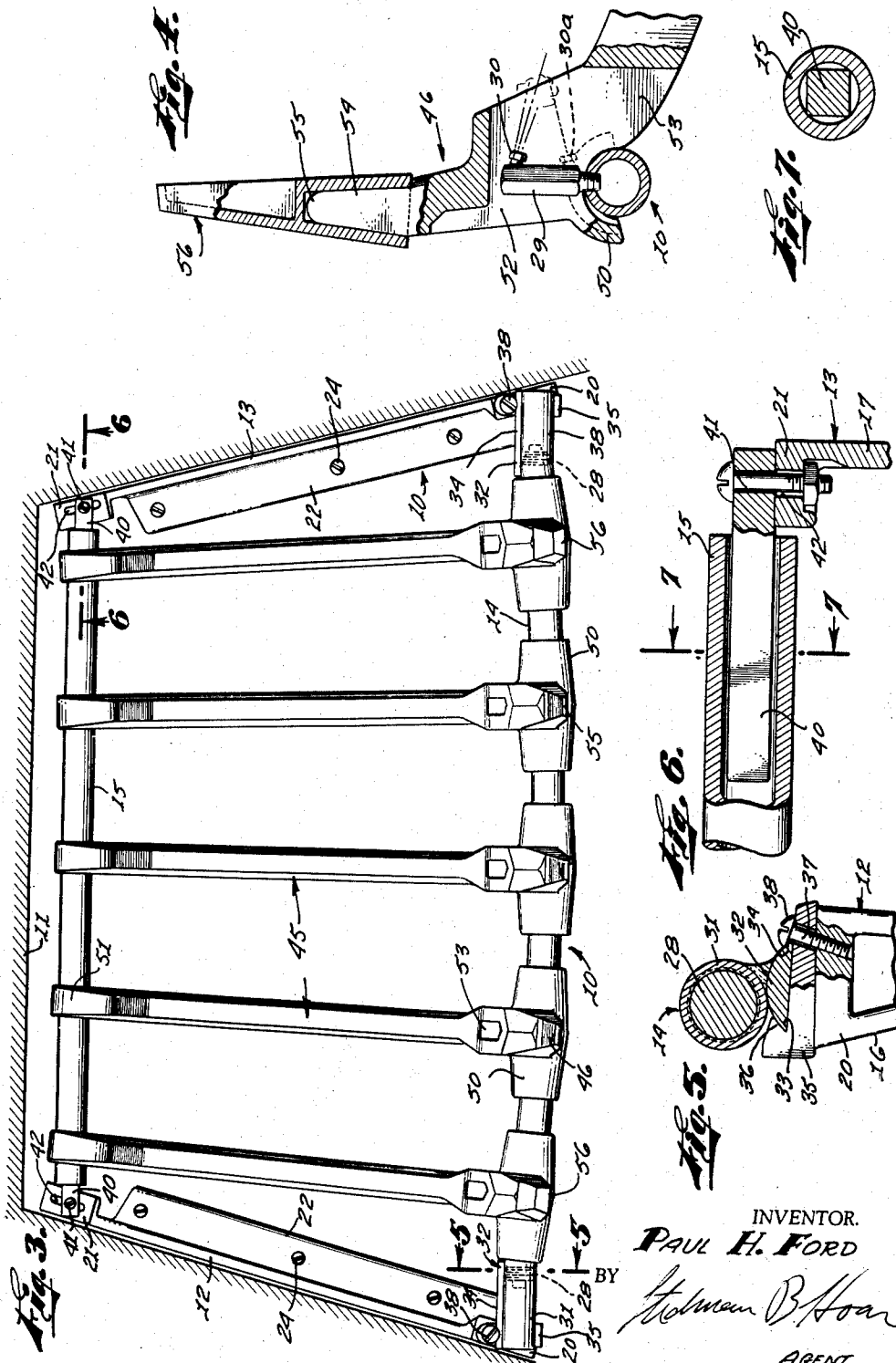
March 1, 1960

P. H. FORD
FIREPLACE GRATE

2,926,657

Filed March 24, 1958

2 Sheets-Sheet 2



INVENTOR.
PAUL H. FORD

BY *Holman B. Hoar*
AGENT

1

2,926,657

FIREPLACE GRATE

Paul H. Ford, Orange, Calif.

Application March 24, 1958, Serial No. 723,165

4 Claims. (Cl. 126—165)

My invention relates to grates for open fireplaces and more particularly relates to removable grates combined with a gas manifold for ignition purposes.

It is an object of my invention to provide a grate having a cradle frame which may be adjusted to the size of the fireplace in which it is to be used.

Another object of my invention is to provide, as one of the elements of said frame, a gas manifold for conducting gas to said grate and for distributing the gas in an effective manner.

Still another object of my invention is to provide grate bars extending from said gas manifold to an opposite support member, said bars being removable and being rockable on either said manifold or said support member for clearing ashes or clinkers from said grate bars.

A further object of my invention is to provide for ornamentation of selected grate bars so that they have the appearance of andirons.

Yet another object of my invention is to provide a grate which, while strong and durable, yet may be moved piecemeal for cleaning, and thereby falls within the lifting capabilities of the average housewife.

In the accompanying drawing illustrative of a presently preferred embodiment of my invention, Fig. 1 is a perspective view of my new grate as set within a fireplace;

Fig. 2 is a vertical sectional view on the line 2—2 of Fig. 1 and on an enlarged scale, showing one of the grate bars at rest upon the manifold and support members, and in dotted line, showing how the grate bar may be rocked upon either of the members;

Fig. 3 is a plan view on the scale of Fig. 2;

Fig. 4 is a further enlarged vertical sectional view on the line 4—4 of Fig. 1, illustrating a preferred manner of ornamentation of a grate-bar simulating an andiron, and also showing a preferred method of directing the gas jets;

Fig. 5 is a vertical sectional view on a still further enlarged scale, on the line 5—5 of Fig. 3, showing the connection of the forward manifold member to one of the side frames of the cradle;

Fig. 6 is a vertical sectional view on the line 6—6 of Fig. 3 showing similarly the connection of the rearward support member to one of the side frames of the cradle; and

Fig. 7 is a vertical sectional view on the line 7—7 of Fig. 6.

Having reference now to the details of the drawings, I have shown in Figs. 1 and 3 a cradle frame 10 installed in a fireplace 11 and having side frames 12 and 13 to which are secured a transverse manifold member 14 and a transverse support member 15. The side frames 12 and 13 each have short forward upright arms 16 and taller rearward upright arms 17 connected by a hearth bar 18. The arms 16 and 17 and the hearth bars 18 are provided with continuous upper flanges 19 which form platforms 20 and 21 at the top of the arms 16 and 17, and the hearth bars 18 also have lower flanges 22 by

2

which they may be secured to the hearth 23 by lag-screws 24.

Preferably forming the forward part of the cradle frame 10, the manifold member 14 extends between the platforms 20 of the arms 16. At any convenient position the manifold 14 is connected by a conduit 25 to a valved conduit 26. The conduit 26 will normally pass under the hearth 23 and the valve 27 will emerge from the floor at one side of the fireplace 11. The ends of the manifold 14 are closed by plugs 28, set within the tube, to prevent the escape of gas. At intervals along the manifold 14, there are outlet nipples 29, hexagonal so as to receive a wrench, and for the purpose of better distribution and ignition I prefer to have the jets 30 of some of these nipples 29 directed downwardly and rearwardly (Fig. 4) and some of jets, as shown at 30a in dotted line, directed upwardly and rearwardly.

The ends of the manifold 14 are supported on the platforms 20 in collars 31 which have secured to them, as by welding, flange members 32 having forward edges 33 and rearward edges 34 (see Fig. 5). Plates 35, having undercut shoulders 36, are secured to the platforms 20 by screws 37. The heads 38 of the screws 37 engage the rearward flange edges 34, and the undercut shoulders 36 engage the forward flange edges 33, thus holding the collars 31 firmly upon the platforms 20. This construction allows a considerable variation in the angle between the manifold 14 and the side frames 12 and 13 as is necessary with variation in fireplace width and angles.

The rear support member 15 is preferably supported at its ends on the platforms 21 at the top of the rearward arms 17. The connection (illustrated in Figs. 6 and 7) is accomplished by fingers 40 extending into the ends of the support member 15 and pivoted at their outer ends on bolts 41 set in slots 42 in the platforms 21. The support member 15 may of course be cut to any length required to fit the fireplace; the slot and finger connection permits great leeway in adjustment and in angle.

The manifold 14 and support member 15 support between them a plurality of grate bars 45, arranged to rock on either the manifold or the support as a fulcrum or to be removable entirely. Each grate bar 45 has two upstanding end arms 46 and 47 joined by a downwardly curved bar 48. At the exterior of the junction between each end arm 46 and curved bar 48 is an outwardly and downwardly opening half-hub 50 adapted to rest removably and pivotally on the manifold 14. At the upper end of each end arm 47 is a hook 51, adapted to rest removably and pivotally against the top and side of the support 15. The curved bars 48 are bifurcated where they join the half-hubs 50 and above the half-hubs where the bars form the beginnings of the arms 46, as shown at forks 52; and the half-hubs 50 have radial slots 53 admitting into the bifurcation, to permit the half-hubs to be placed over the gas outlet nipples 29 and centered thereon and to be swung pivotally around the manifold 14, the nipples 29 then extending through the slots 53 and between the forks 52.

As both the manifold 14 and the support member 15 are round in cross-section and therefore may be classed as bearing members on which the grate bars 45 are rocked, it will be obvious that in fireplaces having the gas connections at the back of the hearth, for example, fireplaces built out from a wall into a room, the wall containing the conduit 26, it will be advantageous to exchange the positions of the manifold 14 and the support member 15, placing the manifold at the rear of the hearth and the support member 15 at the front of the hearth. As such a change falls well within the art and capabilities of any gas-fitter or plumber, and requires little more than exchanging the end connections, and placing the nipples 29 between the hooks 51 and directing the jets 30 down-

ward from the now-elevated manifold, it is not deemed necessary to illustrate it.

Above the forks 52, the arms 46 are each consolidated in an upstanding wedge 54. Ornamental members 56, in simulation of andiron heads, are provided with wedge-shaped interiors 55 permitting them to be placed on selected grate bars and also to be readily removed therefrom. It will be apparent that the ornamental members 56 provide leverage to rock the grate-bars 45 either upon the half-hubs 50 and the manifold 14, or upon the hooks 51 and the support 15, and that by shifting the ornamental members 56 from one grate bar to another, any grate bar may be rocked from either end, for dislodgement of ash and clinkers caught thereon. When not in use for shaking grate bars closer to the center of the grate, the ornamental members 56 will ordinarily be left upon the outside grate-bars, to simulate andirons.

The support 15 is above the level of the manifold 14 in order to facilitate shaking the grate bars. If the support 15 and manifold 14 were at the same level, pivoting the grate bars upon the support 15 would necessitate moving the hand closer to the grate, which might be inconvenient if a fire were then burning.

I claim:

1. A grate for a fireplace comprising: a pair of side frames adapted to be secured at the sides of a fireplace hearth; a first transverse member secured to the forward ends of said side frames; a second transverse member secured to the rearward ends of said side frames; one of said transverse members being a gas manifold and having outlet means at spaced intervals for the emission of gas, and the other of said transverse members being a support member; a plurality of grate bars extending between said transverse members and individually movable in vertical planes; means on said grate bars pivotally engaging said transverse members for supporting said grate bars in a

longitudinally rockable manner in which either end of a grate bar may selectively be rocked upward from the transverse member respective to that end; the forward ends of said grate bars extending beyond said means to provide leverage for rocking said grate bars.

2. A grate for a fireplace as set forth in claim 1, inclusive of levers detachably secured to said forward ends of said grate bars.

3. A grate for a fireplace as set forth in claim 1, in which said first transverse member is said gas manifold.

4. A grate for a fireplace, comprising: a pair of side frames adapted to be secured at the sides of a fireplace hearth and to extend rearwardly into said fireplace; said frames having platforms at their forward and rearward ends, said rearward platforms being elevated above said forward platforms; a gas manifold extending transversely between said forward platforms and having pivotal connections to said forward platforms permitting the angle between said manifold and said side frames to be altered; a support member extending transversely between said rearward platforms and having pivotal connections to said rearward platforms permitting the angle between said support member and said side frames to be altered; and grate bars extending between and removably and rockably supported by said manifold and said support member, either end of said grate bars being liftable when the other end is used as a fulcrum.

References Cited in the file of this patent

UNITED STATES PATENTS

1,143,235 Shuping June 15, 1915

FOREIGN PATENTS

382,748 Great Britain Nov. 3, 1932
529,955 Great Britain Dec. 2, 1940