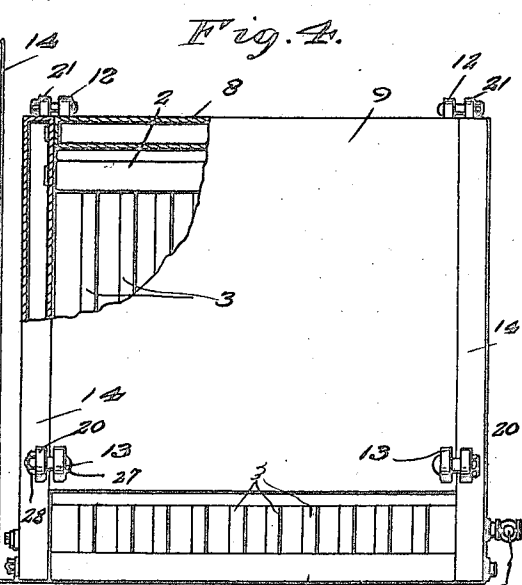
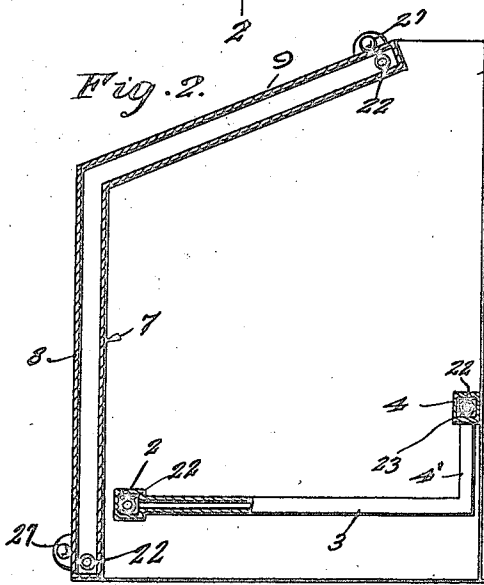
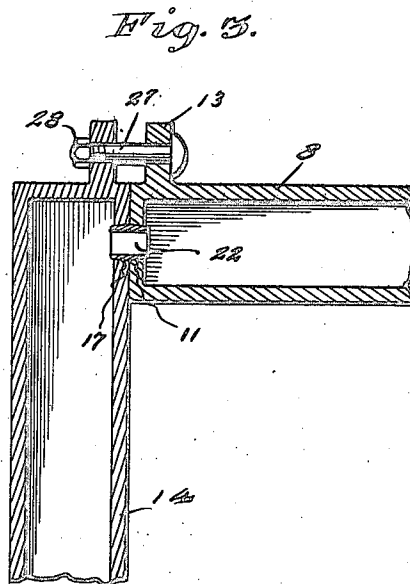
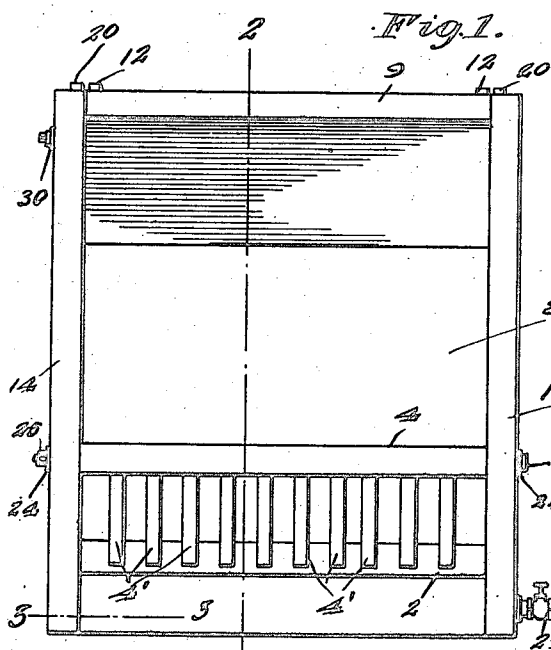


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1,432,538.

Patented Oct. 17, 1922.

2 SHEETS—SHEET 1.



R. Q. Thomas

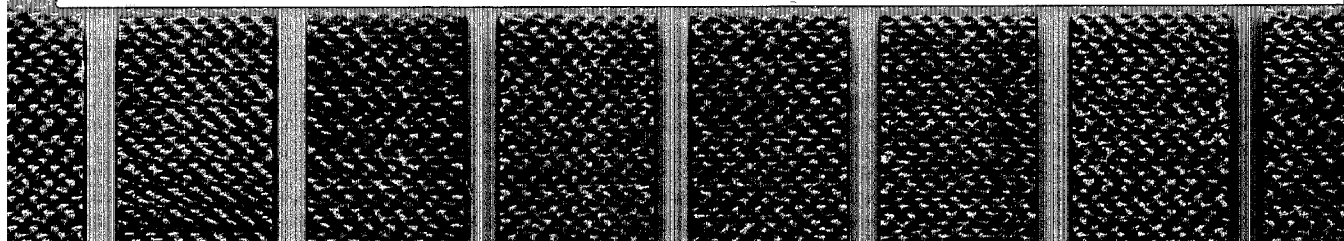
W. E. De Armond

INVENTOR

BY *Victor J. Evans*

ATTORNEY

WITNESSES



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2 SHEETS—SHEET 2.

Fig. 5.

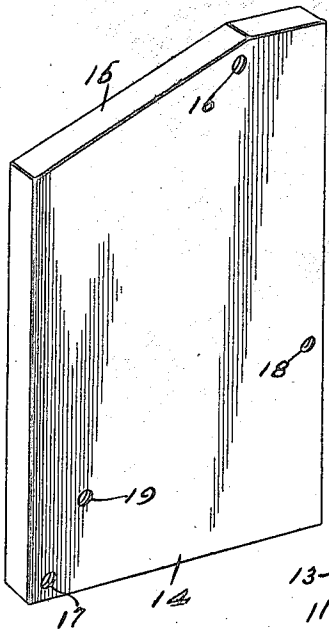


Fig. 6.

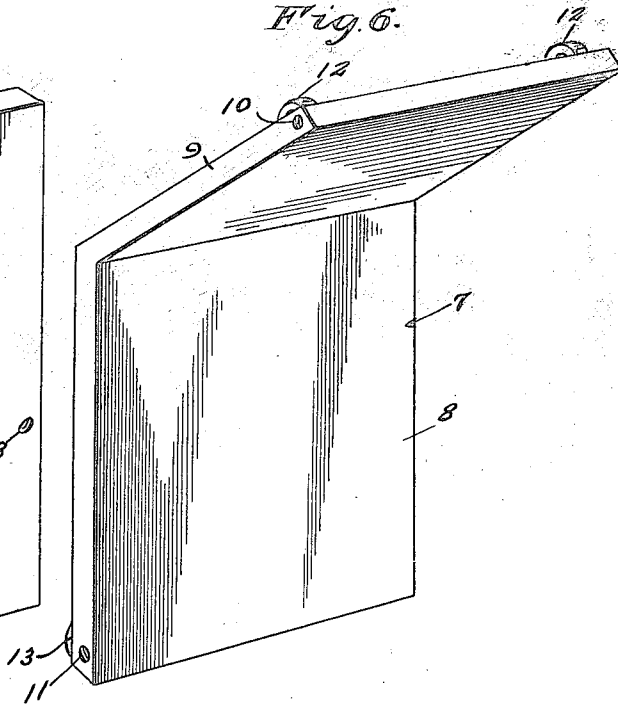
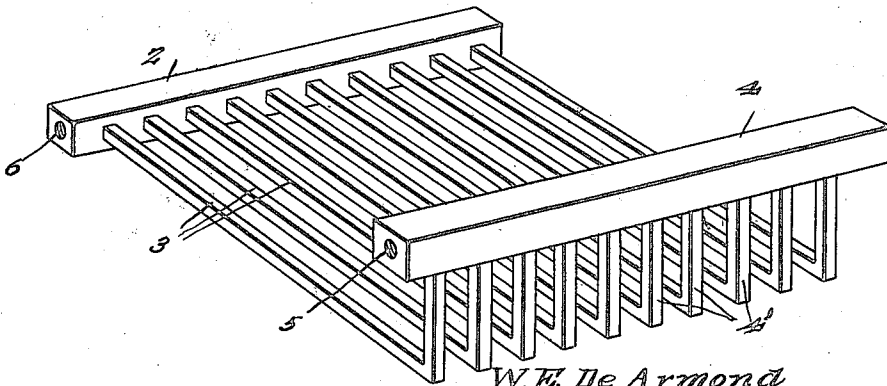


Fig. 7.



R. G. Thomas

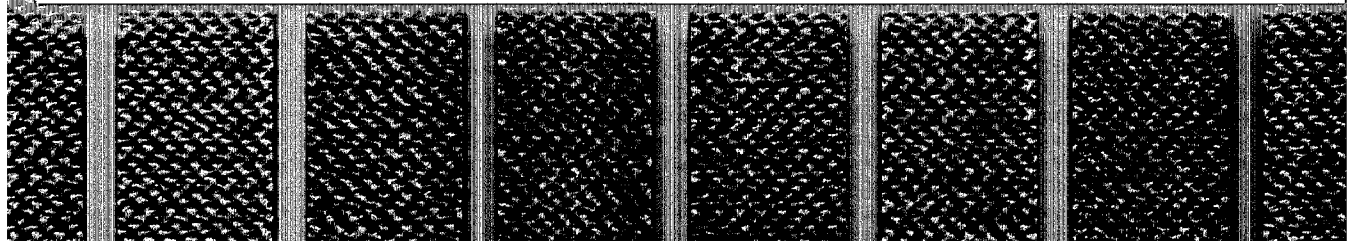
WITNESSES

W. E. De Armond

INVENTOR

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ATTORNEY



# UNITED STATES PATENT OFFICE.

WALTER EVARD DE ARMOND, OF KNOXVILLE, TENNESSEE, ASSIGNOR OF ONE-HALF  
TO ROGERS ARTHUR BOZEMAN, OF BLOUNT COUNTY, TENNESSEE.

## FIREPLACE GRATE AND WATER BACK.

Application filed March 22, 1921, Serial No. 454,584. Renewed September 9, 1922. Serial No. 587,229.

*To all whom it may concern:*

Be it known that I, WALTER EVARD DE ARMOND, a citizen of the United States of America, residing at Knoxville, in the county of Knox and State of Tennessee, have invented new and useful Improvements in Fireplace Grates and Water Backs, of which the following is a specification.

My present invention relates to heating apparatus, and particularly to a fireplace, comprising a hollow fireback and sides and a grate formed with tubular bars connected to a front and rear header or hollow cross bar, the parts being connected so as to afford a circulation of water.

Among the objects of the invention is to produce a fire-place which is of an ornamental appearance, which may be used in the usual manner for heating purposes, but which is of a hollow construction whereby the heated water from a boiler or the like, piped thereto, will be circulated through the device and have its heat radiated therefrom, as well as to produce a device of this character in which the parts are separated but easily assembled and connected to the water conducting pipes from a boiler or the like.

The foregoing, and other objects which will appear as the nature of the invention is better understood, may be accomplished by a construction, combination and operative arrangement of parts, such as is disclosed by the drawings which accompany and which form part of this application.

In the drawings:—

Figure 1 is a general view of the improvement.

Figure 2 is a sectional view on the line 2—2 of Figure 1.

Figure 3 is a sectional view on the line 3—3 of Figure 1.

Figure 4 is a top plan view, parts being in section.

Figure 5 is a perspective view of one of the side members of the improvement.

Figure 6 is a similar view of the fireback.

Figure 7 is a similar view of the grate.

The grate comprises a preferably cross sectionally square hollow rear header 2. To the inner face of the hollow rear header 2 there are secured a plurality of spaced tubular horizontal bars 3 of the grate. The bars 3, of course, communicate with suitable openings in the member 2. The horizontal bars 3 have their ends provided with ver-

tical extensions 4 which are coupled or otherwise connected to the under face of a hollow front header 4' of the grate. The front header 4 is preferably rectangular in cross section, and the headers, 4 and 2, of the grate, have their ends closed but the said ends are provided with reduced round threaded openings 5 and 6 respectively.

The fireback of the fireplace is indicated by the numeral 7, and has its main or body portion of substantially rectangular formation and of a width equalling that of the headers 2 and 4 of the grate. The body 8 of the fireback 7 is hollow, and is integrally formed at its top with an upwardly inclined extension 9, which is also hollow. The sides of the portions 8 and 9 of the fireback, adjacent to the top and bottom thereof have threaded openings 10 and 11 therethrough, and to the rear of the said openings these portions of the fireback are formed with outwardly extending ears 12 and 13 respectively. Each of the ears has an opening therethrough.

The side members of the fireplace are indicated by the numeral 14 respectively. Each of these side members is of a similar construction, being of a width corresponding to that of the grate. Each of the side members 14 is of a hollow rectangular formation throughout the major portion thereof, but the upper edge of each of the members is formed with an inclination, indicated by the numeral 15, corresponding to the pitch of the extension 9 of the fireback 7. The side members 14 of the fireplace have openings, 16 therethrough. The openings, 16 are designed to register with the openings 10 in the fireback 7, when the sides are arranged against the fireback, and the openings 17, register with the openings 11 in the said fireback. The openings, indicated by the numeral 18 register with the openings 5 in the front header of the grate, and the openings, indicated by the numeral 19, register with the openings 6 in the rear header 2 of the grate.

On the outer edge of the side members 14 of the fireplace there are ears 20 and 21 respectively designed, when the fireplace sections are assembled and the grate is arranged therein to align with the ears 12 and 13 of the fireback 7.

The openings 16, 17 and 19 are threaded and are arranged only in the inner or con-

fronting faces of the side members, but the opening 18 extends through both the inner and outer walls of the side plates of the end sections. Before the fireplace sections are brought together, slip nipples are placed in all of the openings. These nipples are generally indicated by the numeral 22. Suitable washers are disposed between the sections of the fireplace and the grate, and the said nipples, to insure a water tight joint therebetween. When the sections of the fireplace, and the grate are thus assembled a rod 23 is passed through the openings 18 in the side members and through the front header 4 of the grate. Suitable washers 24 are arranged between the head of the bolt and the nut 25 which engages the outer end of the said bolt, whereby a water tight joint will be provided between the bolt and the openings through which it passes. Through the openings in the ears there are passed short bolts 27 that are engaged by nuts 28. In this manner, the fireplace sections and the grate are readily held together, and a water tight joint is provided therebetween.

Communicating with the interior of one of the side members 14 is a valved supply pipe 29, leading from the boiler or the like, and the opposite side member 14 has its outer plate provided with an opening that is closed by a plug 30 to which the outlet pipe for the water (not shown) is connected.

It is believed that the foregoing descrip-

tion, when taken in connection with the drawings will fully set forth the construction and advantages of the improvement without further detailed description. It is deemed necessary to state, however, that the invention is susceptible to such changes or modifications as fall within the scope of what is claimed.

Having described the invention, I claim:—

A device of the class described comprising a hollow fireback provided with openings adjacent to the lower end thereof and having a hollow inclined extension provided with openings adjacent to the upper ends thereof, a pair of parallel hollow side members provided with a plurality of openings registering with the openings in said fireback and extension, means for removably securing the fireback and extension to said side members, a plurality of substantially L-shaped tubular bars disposed between said side members, hollow headers secured to opposite ends of said bars and provided with openings registering with the openings in said side members, nipples engaging all of the openings aforesaid, means for removably securing one of said headers to said side members, one of said side members having an outlet opening therein means for supplying a liquid to the other said side members and means for closing the opening in the first mentioned side member.

In testimony whereof I affix my signature.

WALTER EVARD DE ARMOND.