Feb. 2, 1926. 1,571,741

G. F. SMITH

FIREPLACE

Filed April 20, 1925 2 Sheets-Sheet 1

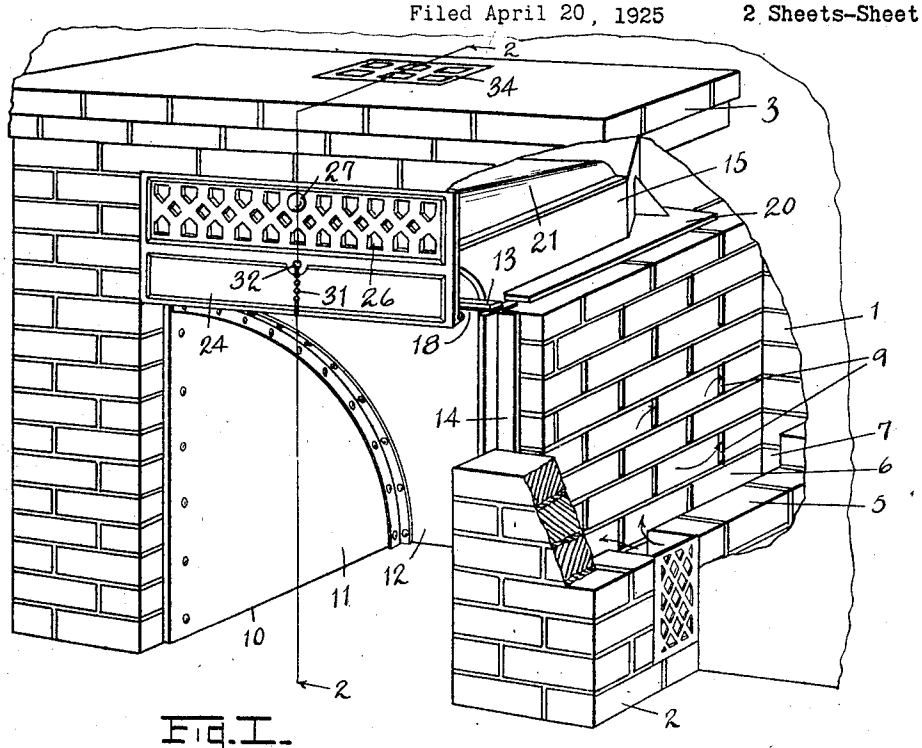


Fig. I.

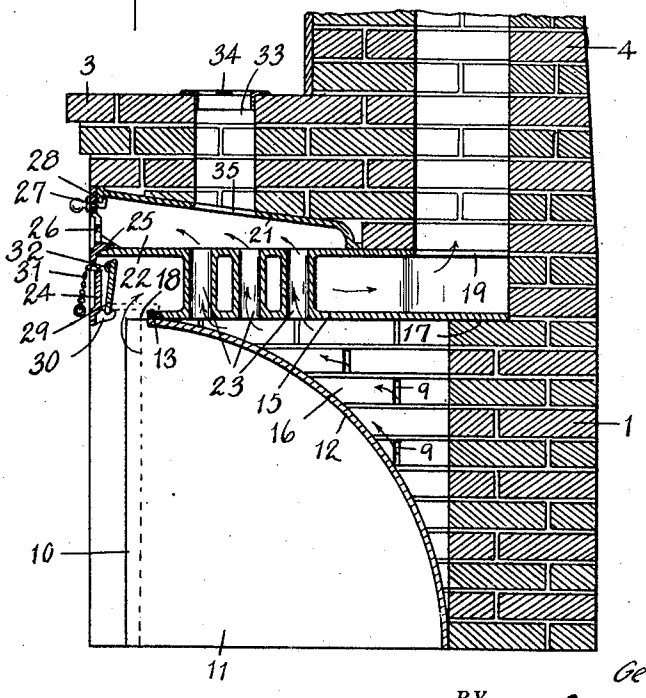


Fig. II.

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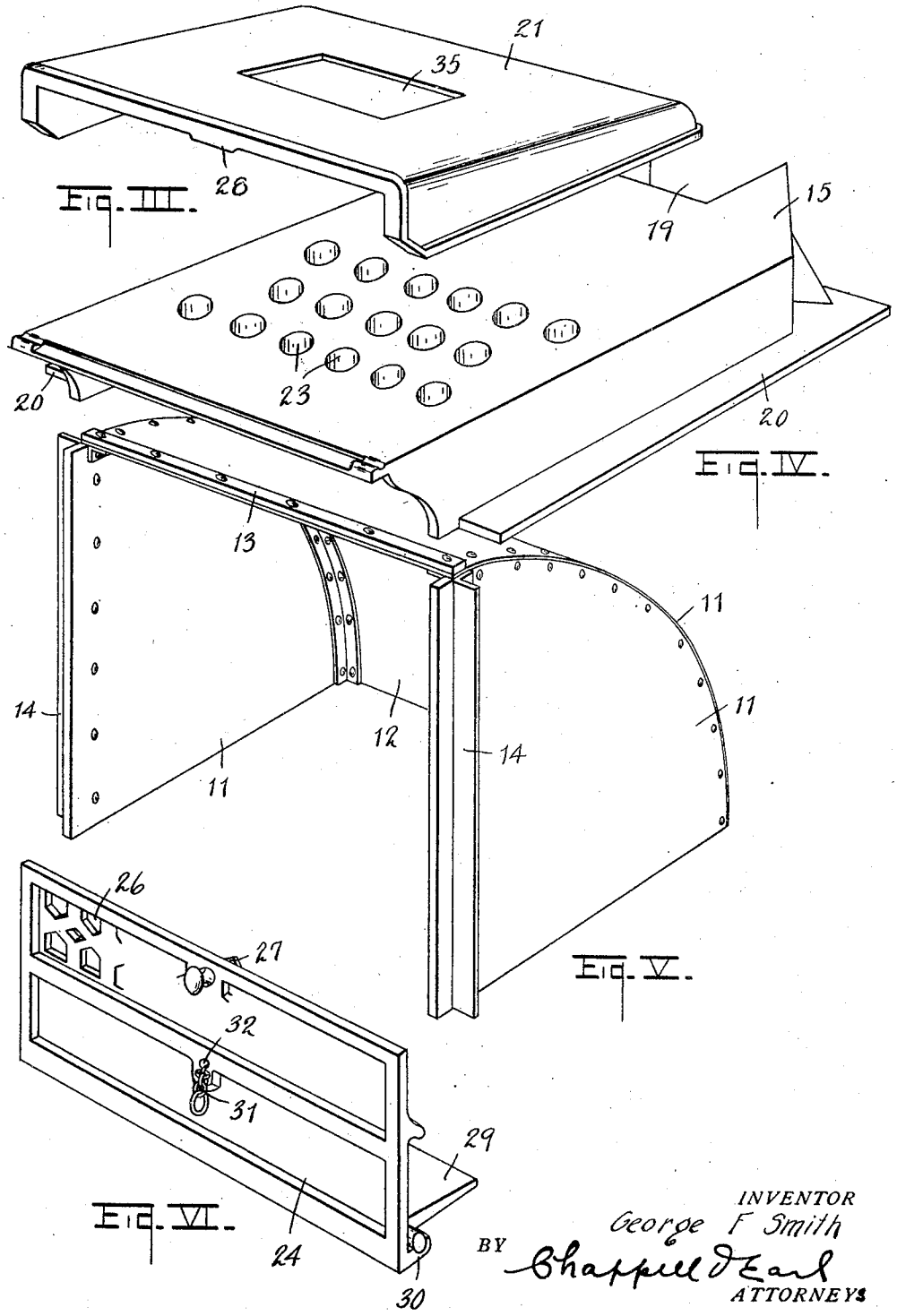


Fig. III.

Fig. IV.

Fig. V.

Fig. VI.

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Patented Feb. 2, 1926. 1,571,741

UNITED STATES PATENT OFFICE.

GEORGE F. SMITH, OF STURGIS, MICHIGAN.

FIREPLACE.

Application filed April 20, 1925. Serial No. 24,471.

To all whom it may concern:

Be it known that I, GEORGE F. SMITH, a citizen of the United States, residing at Sturgis, county of St. Joseph, State of Michigan, have invented certain new and useful Improvements in Fireplaces, of which the following is a specification.

This invention relates to improvements in fireplaces.

The main object of this invention is to provide an improved fireplace which is very efficient and also one which is economical in structure.

Objects pertaining to details and economies of construction and operation of my invention will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification. The invention is clearly defined and pointed out in the claims.

A structure embodying the features of my invention is clearly illustrated in the accompanying drawing forming a part of this application, in which:

Fig. I is a front perspective view of a fireplace embodying the features of my invention, parts being broken away to show structural details.

Fig. II is a vertical central section on a line corresponding to line 2—2 of Fig. I.

Fig. III is a perspective view of the air delivery flue member.

Fig. IV is a perspective view of the smoke flue member.

Fig. V is a perspective view of the combustion chamber wall member.

Fig. VI is a perspective view of the face plate with the damper mounted thereon, the damper being shown in lowered position.

In the drawings similar reference numerals indicate similar parts in all of the views.

Referring to the drawings, the fireplace comprises a rear wall 1 of masonry, side walls 2 and a top wall 3, the chimney or flue walls 4 being extended above. The sides comprise the outer walls 5 and inner partition walls 6 providing a cold air chamber 7. The partition wall is constructed with air distributing openings 9 therein.

The combustion chamber member 10 comprises the side walls 11 and the forwardly curved wall 12, there being a cross bar 13 at the front edge of this rear wall and the rear wall in effect constituting a top for the combustion chamber.

The combustion chamber member has angle iron uprights secured to its side walls adjacent the front edges thereof providing flanges 14 into which the side walls are laid as shown in Fig. I.

The partition walls 6 are spaced from the side walls of the combustion chamber providing a hot air chamber, the air being directed by the partition wall so that it is circulated across the sides and top of the combustion chamber.

The flat smoke flue member 15 is mounted above the combustion chamber member and constitutes a top for the hot air chamber 16. The rear end of this smoke flue is supported on the shoulder 17 on the rear wall 1, the front end of the bottom wall of this member 15 resting behind the cross bar 13 and providing a smoke flue inlet at 18. The top wall of the smoke flue member has an opening 19 registering with the chimney flue.

The smoke flue member 15 has laterally projecting flanges 20 which rest on the top of the partitions 6. Above the smoke flue is a hot air flue member 21 coacting with the smoke flue to form a hot air delivery flue 22, the smoke flue having a plurality of air flues 23 therethrough connecting the flue 22 to the hot air chamber 16.

The face plate 24 has inwardly projecting lugs 25 resting upon the front end of the smoke flue member and has a grid 26 for the hot air discharge flue. The face plate is retained in position by the hook 27 which engages behind the flange 28 on the hot air flue member 21. The damper 29 for the inlet 18 is carried by the ears 30 on the lower end of the face plate. An adjusting chain 31 is disposed through an opening 32 in the face plate.

The top 3 has a discharge flue or opening 33 therein with a grid 34 at the top. The flue member 21 has an opening 35 registering with this flue 33.

When the damper 29 is completely closed it rests upon the bar 13.

With this structure and arrangement of parts the fireplace is quite economical in structure and is highly efficient.

I have illustrated and described my improvements in a simple and practical embodiment. I have not attempted to illustrate or describe various adaptations which

might result in practice as I believe the disclosure made will enable those skilled in the art to embody or adapt my improvements as may be desired.

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

1. The combination in a fireplace comprising sides and a top, the sides having inner and outer walls spaced to provide air inlet chambers at each side of the fireplace, the outer side walls having air inlets opening to said chambers, the inner side walls having air distributing openings therethrough, the top having a hot air delivery opening therein, a combustion chamber member comprising side walls and a forwardly inclined back wall, a smoke flue member disposed above the combustion chamber and having an inlet opening at the front of said combustion chamber back wall, said smoke flue, combustion chamber and inner wall coacting to provide a hot air chamber at the sides and top of said combustion chamber, said smoke flue member having a plurality of air flues therethrough opening to said hot air chamber, and a hot air flue member disposed horizontally above said smoke flue member and coacting therewith to provide a hot air delivery flue delivering at its front end, there being an opening in said air flue member registering with said delivery opening in said top.

2. The combination in a fireplace comprising sides and a top, the sides having inner and outer walls spaced to provide air inlet chambers at each side of the fireplace, the outer side walls having air inlets opening to said chambers, the inner side walls having air distributing openings therethrough, a combustion chamber member comprising side walls and a forwardly inclined back wall, a smoke flue member disposed above the combustion chamber and having an inlet opening at the front of said combustion chamber back wall, said smoke flue, combustion chamber and inner wall coacting to provide a hot air chamber at the sides and top of said combustion chamber, said smoke flue member having a plurality of air flues therethrough opening to said hot air chamber, and a hot air flue member disposed horizontally above said smoke flue member and coacting therewith to provide a hot air delivery flue delivering at its front end.

3. The combination in a fireplace comprising sides and a top, the sides having inner and outer walls arranged to provide air inlet chambers at each side of the fireplace, the top having a hot air delivery opening therein, a combustion chamber wall member, an inlet smoke flue member disposed above the combustion chamber and having an inlet opening at the front of said combustion chamber back wall, said smoke flue, combustion chamber and inner wall coacting to provide a hot air chamber at the sides and top of said combustion chamber, and a hot air flue member disposed horizontally above said smoke flue member and coacting therewith to provide a hot air delivery flue delivering at its front end, there being an opening in said air flue member registering with said delivery opening in said top.

4. The combination in a fireplace comprising sides and a top, the sides having inner and outer walls arranged to provide air inlet chambers at each side of the fireplace, a combustion chamber wall member, an inlet smoke flue member disposed above the combustion chamber and having an inlet opening at the front of said combustion chamber back wall, said smoke flue, combustion chamber and inner wall coacting to provide a hot air chamber at the sides and top of said combustion chamber, and a hot air flue member disposed horizontally above said smoke flue member and coacting therewith to provide a hot air delivery flue delivering at its front end.

5. The combination in a fireplace comprising chambered sides and a top, the sides having cold air inlet openings therein and the top cold air discharge openings, of a combustion chamber member comprising side walls and a forwardly inclined back wall, the side walls of said combustion chamber member having vertical flanges in spaced relation to their front edges engaging the fireplace walls, partition walls arranged in said side wall chambers in spaced relation to said combustion chamber side walls, said partition walls having air distributing openings therein, a smoke flue member having side flanges resting upon said partition walls, said smoke flue member having an inlet at the front edge of said combustion chamber member back wall, said smoke flue member having a plurality of air flues therethrough, a hot air flue member disposed upon said smoke flue member to embrace said air flues thereof providing a hot air discharge flue and having an opening communicating with said discharge opening in said fireplace top, a face plate provided with a grid for said hot air discharge flue, said face plate having an inwardly projecting flange resting on the smoke flue and having a retaining member engaging said hot air discharge flue member, and a damper for said smoke flue inlet opening mounted on the inner side of said face plate.

6. The combination in a fireplace comprising chambered sides and a top, the sides having cold air inlet openings therein and the top cold air discharge openings, of a combustion chamber member comprising side walls and a forwardly inclined back wall, the side walls of said combustion chamber member having vertical flanges in

spaced relation to their front edges engaging the fireplace walls, partition walls arranged in said side wall chambers in spaced relation to said combustion chamber side walls, a smoke flue member having side flanges resting upon said partition walls, said smoke flue member having an inlet at the front edge of said combustion chamber back wall, said smoke flue member having a plurality of air flues therethrough, a hot air flue member disposed upon said smoke flue member to embrace said air flues thereof providing a hot air discharge flue, a face plate provided with a grid for said hot air discharge flue, said face plate having an inwardly projecting flange resting on the smoke flue and having a retaining member engaging said air discharge flue member, and a damper for said smoke flue inlet opening mounted on the inner side of said face plate.

In witness whereof I have hereunto set my hand.

GEORGE F. SMITH.