

No. 641,918.

Patented Jan. 23, 1900.

L. C. ANDRE.

FIREPLACE.

(Application filed May 29, 1899.)

(No Model.)

Fig. 1.

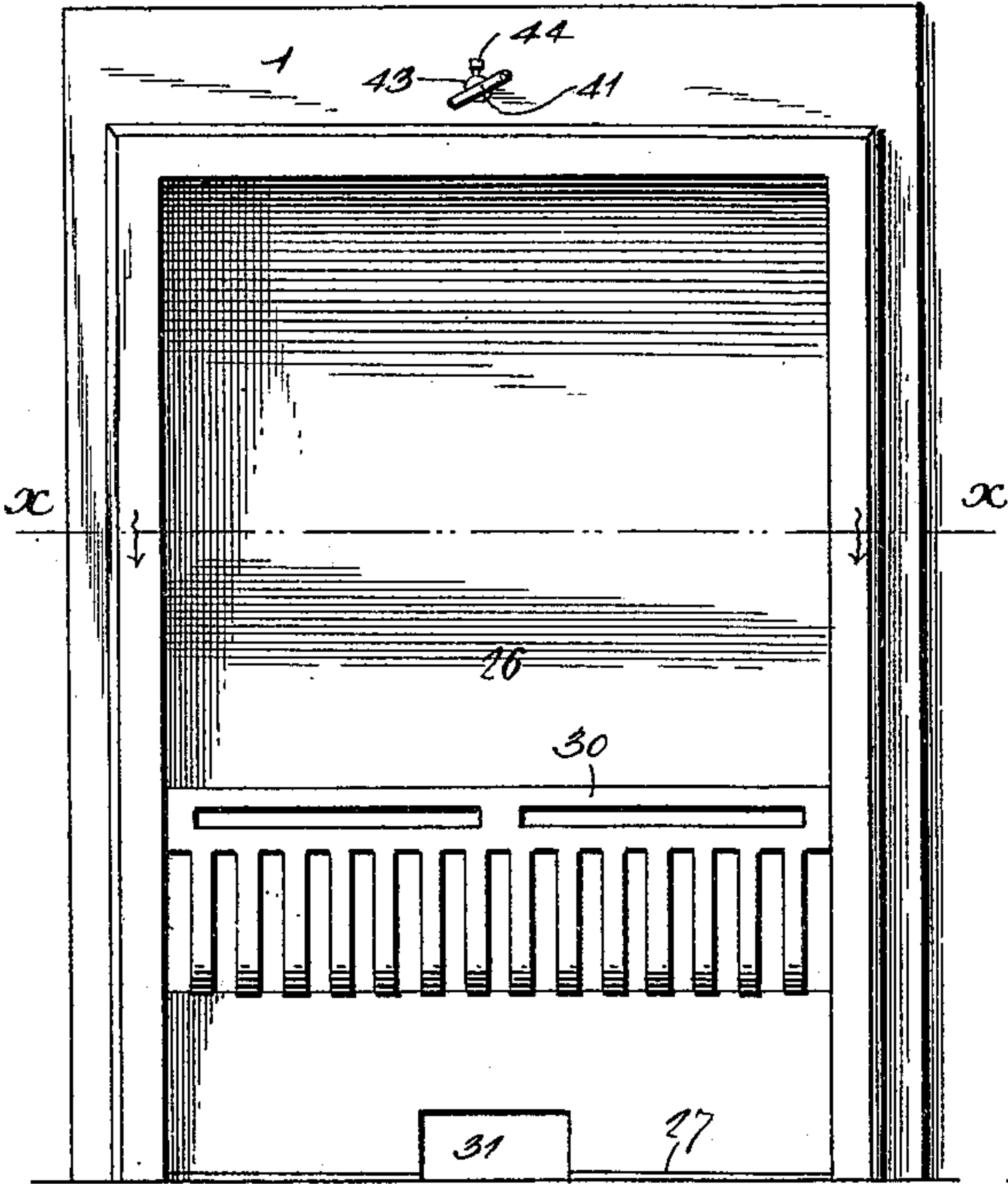


Fig. 2.

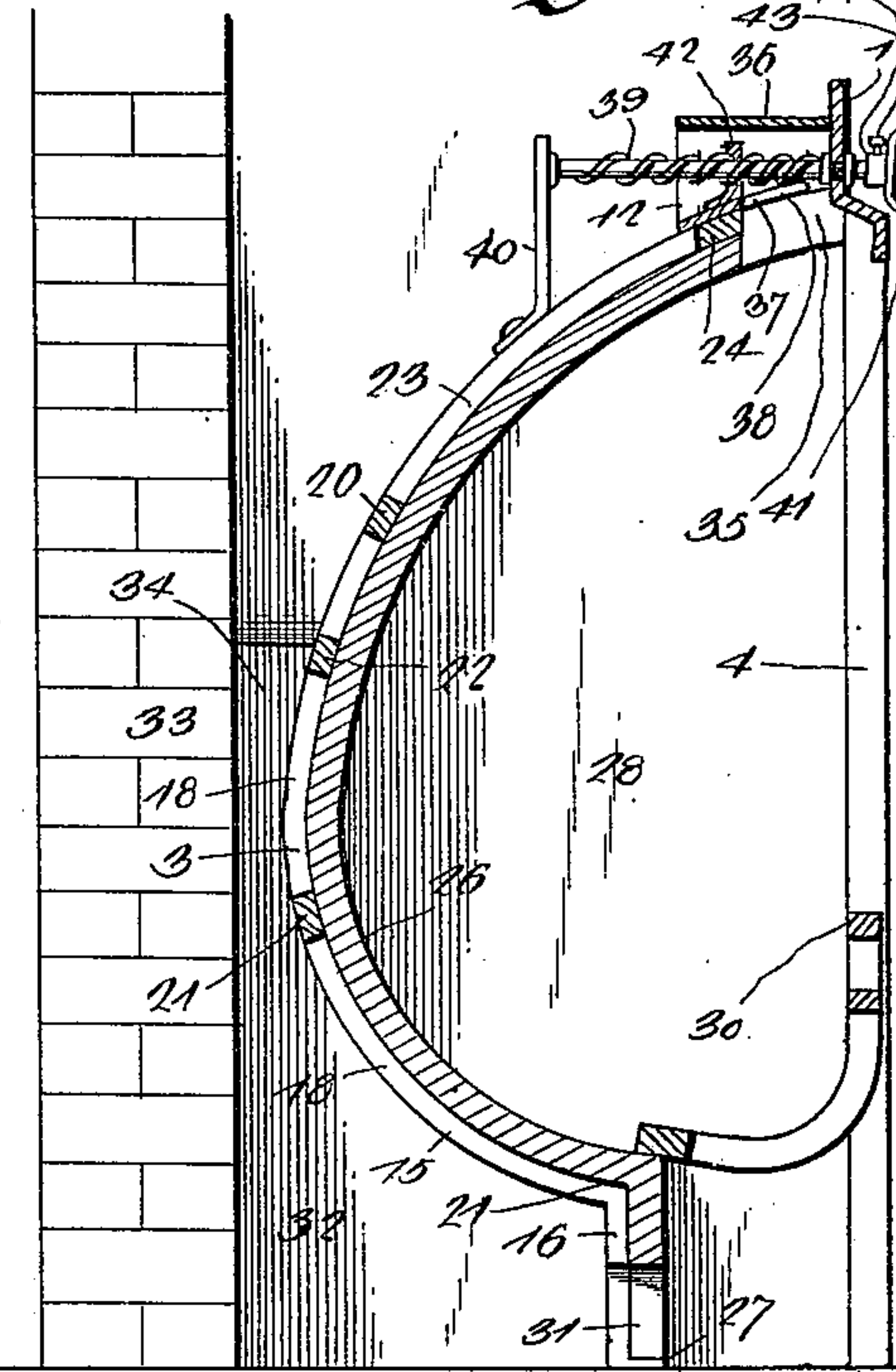
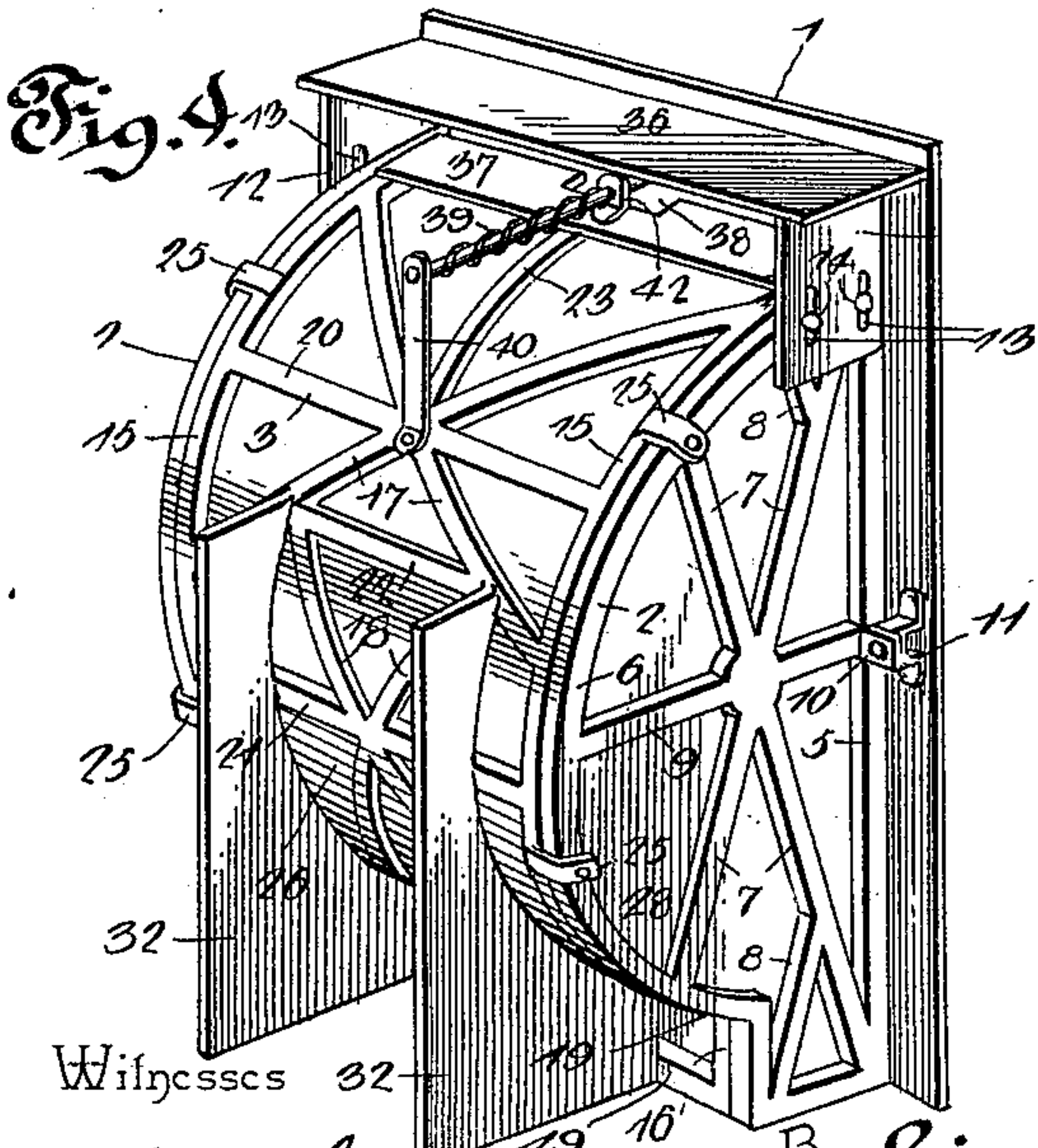
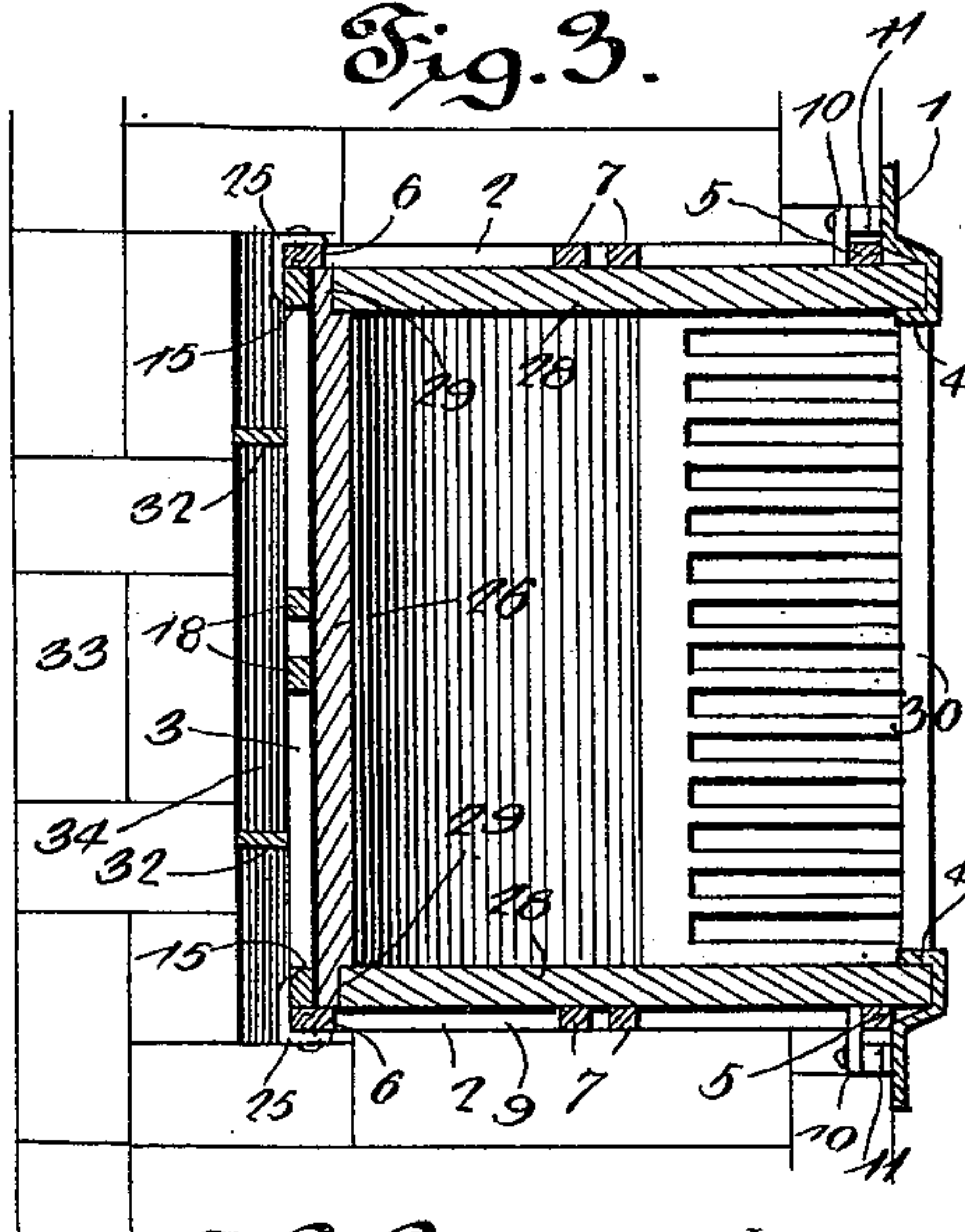


Fig. 3.



Witnesses 32

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# UNITED STATES PATENT OFFICE.

LEWIS C. ANDRE, OF MARS, PENNSYLVANIA.

## FIREPLACE.

SPECIFICATION forming part of Letters Patent No. 641,918, dated January 23, 1900.

Application filed May 29, 1899. Serial No. 718,724. (No model.)

*To all whom it may concern:*

Be it known that I, LEWIS C. ANDRE, a citizen of the United States, residing at Mars, in the county of Butler and State of Pennsylvania, have invented a new and useful Fireplace, of which the following is a specification.

This invention relates to open fireplaces, and has for one object to provide a portable structure which may be readily assembled and fitted in the chimney-opening. The fireplace is especially designed for burning soft coal and is provided with a draft arrangement whereby the smoke and gases are effectually directed upward through the chimney and a back draft into the room is prevented.

A further object is to prevent the loss of the heat upward through the chimney by radiating or throwing off the heat into the room.

With these objects in view the present invention consists in the combination and arrangement of parts, which will be hereinafter more fully described, shown in the drawings, and particularly pointed out in the appended claim, it being understood that the improvement is susceptible of various changes in the form, proportion, size, and the minor details of construction without departing from the spirit or sacrificing any of the advantages of this invention.

In the drawings, Figure 1 is a front elevation of the improved fireplace fitted into a chimney. Fig. 2 is a vertical longitudinal sectional view thereof. Fig. 3 is a horizontal sectional view on the line  $xx$ , Fig. 1. Fig. 4 is a rear perspective view of the device removed from the chimney.

The same numerals of reference are used to designate like and corresponding parts in each of the several figures of the drawings.

The framework of the present device is formed of cast metal and comprises, essentially, a front 1, opposite skeleton sides 2, and a bowed skeleton back 3. The front is in a single flat piece having a large opening of suitable shape forming an entrance into the fireplace and may have any preferred design or ornamentation. The inner vertical edges of the front at opposite sides of the opening therein are bent inward for the entire length of the opening, so as to provide

vertical flanges 4, for a purpose which will appear hereinafter.

Each side comprises an upright oblong skeleton frame 5, having a bowed or arcuate extension 6 projecting rearwardly from the rear side of the oblong frame, and diagonal braces 7 extending from the respective upper and lower outer corners of the frame to the bowed extension and intersecting centrally within the sides of the frame. Other braces 8 extend from the respective diagonal braces to the adjacent upper and lower inner corners of the frame, and a transverse brace 9 extends from side to side of the frame through the point of intersection of the diagonal braces. The straight front edges of the sides 2 are fitted flush against the rear side of the front 1 and spaced a suitable distance outwardly from the respective flanges 4. Each side is connected to the front by means of integral ears or lugs 10, projecting laterally outward from the front of the side and riveted or bolted to arched or substantially U-shaped clips or brackets 11, cast upon the inner face of the front. It is preferable to connect the sides to the front in the manner described, so as to avoid bolt-openings or otherwise marring the appearance of the outer exposed face of the front. The upper end of each side section is made vertically extensible, so as to fit fireplace-openings of different heights, by means of a movable rectangular plate 12, provided with opposite vertical slots 13, formed in the sides thereof and adjustably connected to the upper end of the side section 2 by means of suitable bolts 14, carried by the section and extending through the respective slots 13.

The skeleton back comprises the opposite bowed or arcuate sides 15, fitting snugly against the bowed rear sides of the opposite side sections 2, the lower end 16 of the back being straightened vertically, so as to fit against the lower straight rear edges of the side sections, and the upper end of the back extends inward between the upper ends of the side sections nearly to the front 1, so as to provide a flue-opening 35, communicating from the interior of the fireplace to the chimney. Crossed braces 17 extend downwardly from the upper corners of the back to the opposite sides, intermediate of the ends thereof, and



other crossed braces 18 extend from points intermediate of the lower portions of the upper crossed braces to the lower transverse end 19 of the back. Suitable transverse braces 20 and 21, respectively, extend from opposite sides of the back through the points of intersection of the respective upper and lower crossed braces, and a shorter transverse brace 22 connects the upper ends of the lower crossed braces at their point of juncture with the upper crossed braces. A short longitudinal brace 23 extends from the point of intersection of the upper crossed braces to the upper end 24 of the back. Each side of the back is provided with a plurality of ears 25, which are adapted to be bolted or riveted to the rear edges of the respective side sections, so as to connect the parts of the fireplace structure in a convenient and substantial manner.

A firebrick lining 26 is fitted to the inner face of the back section 2, extends the entire length and width thereof, and is supported at its lower end upon a transverse flange 27, extending inwardly from the lower end of the skeleton back. Similar linings 28 are provided for each of the side sections 2, the front edges of each lining being held in place by the respective flanges 4 of the front 1, and the rear edges being seated in suitable rabbets 29, provided in the inner face of the back lining.

A suitable basket-grate 30 is provided within the structure, at the lower end of the bowed portion of the back, and may be mounted in place in any desired manner. Below the grate an opening 31 is provided through the back, and located at opposite sides of the opening and extending rearwardly from the back is a pair of vertical plates or wings 32. By reference to Figs. 2 and 3 of the drawings it will be seen that when the present device is fitted in place the plates 32 fit flush against the rear wall 33 of the chimney, whereby a draft-passage 34 is provided, communicating from the opening 31 upward into the chimney. The smoke passing upward through the flue-opening 35 between the upper end of the back and the front section and into the chimney creates an updraft through the draft-passage 34 and draws the light ashes, dust, &c., which may accumulate beneath the grate upward into the chimney, and thereby prevents choking of the fireplace beneath the grate.

Extending transversely across the upper ends of the opposite side sections 2 is a baffle-plate 36, located directly over and extending a suitable distance in rear of the flue-opening 35, provided between the upper end of the bowed back and the front 1. The purpose of this baffle-plate is to provide a smoke and hot-air chamber and to prevent a direct ascent and escape of the heated air through the flue-opening, and thereby confine the air as much as possible within the fireplace structure.

By this arrangement the upper portions of the fire-clay linings 26 and 28 are continually kept in a heated condition and radiate their

heat into the room through the opening provided in the front of the fireplace. It will thus be appreciated that the fire-clay linings form radiating means, as well as protecting the metallic structure from the heat of the fire contained in the grate.

It will be noted that the opposite adjustable plates 12 normally extend above the entrance-opening in the front section and have their front edges fitting snugly the rear or inner side of the said front section, and the substantially horizontal baffle-plate 36 is supported solely upon the upper ends of the adjustable plates, is movable therewith, and has its front longitudinal edge snugly fitting the rear or inner side of the front section and above the upper edge of the entrance-opening therein. By this arrangement a smoke and hot-air chamber is formed which is closed at its upper end, its opposite sides, and its front side, and has a bottom entrance-opening and a rear outlet-opening. Furthermore, as the baffle-plate is movable with the adjustable plates 12 this smoke and hot-air chamber may be adjusted in size so as to accommodate the fireplace to the peculiar conditions existing in the chimney to which the device may be applied.

The draft may be regulated by means of a damper 37, located between the top of the bowed back and the baffle-plate 36. This damper is in the form of a plate extending the entire distance between the sides of the fireplace and bowed laterally to conform to the shape of the back 3, over which it is adapted to slide, and is provided intermediate its ends at its front side with a comparatively small opening 38. It will be understood that the damper is adapted to slide back and forth so as to close the flue-opening, and thereby cut off the draft. It is not desirable to entirely cut off the draft at any time, and for this reason the small opening 38 has been provided to permit of a slight draft when the damper has been closed.

To operate the damper, I have provided a worm-screw 39, journaled at its rear end in an upstanding bearing-lug 40, provided upon the back 3 and having its forward end extending through the front piece 1 and provided with a suitable operating-handle 41 in front of the fireplace. The damper is provided with an ear or lug 42, having an opening adapted to receive the worm-screw, and by operation of the latter it will be understood that the damper-plate may be moved toward and away from the front piece 1 to open and close the flue-opening. This operating means is preferably located midway between the ends of the damper, and the latter are adapted to slidably engage the inner faces of the opposite side sections 2, whereby the damper is conveniently guided in its movement.

As indicated in Fig. 2, the handle 41 is provided with a socket 43, adapted to receive the outer end of the shank of the worm-screw 39,



and a suitable screw 44 is carried by the handle and adapted to bind against the shank of the worm-screw, so as to removably connect the handle thereto.

5 To increase the depth of the fireplace, the front 1 is bulged outward, as at 45, all around the entrance-opening formed through said front, whereby the opposite fire-brick linings 28 are adapted to project beyond the plane  
10 of the front of the fireplace and also permitting the grate 30 to extend in advance of said front, as best shown in Fig. 3. Thus it will be seen that the depth of the fireplace is increased without materially increasing the size  
15 of said fireplace. The purpose of increasing the depth of the grate is to obtain the maximum space for the fuel, and thereby increase the heating capacity of the fireplace. Also it will be noted that the bulged portion 46,  
20 extending across the top of the entrance-opening, provides an overhanging hood which is adapted to increase the draft upward through the flue-opening 35.

What I claim is—

25 In a fireplace, the combination of a front section having an entrance-opening, opposite side sections, a back section, having its upper end extending inwardly between the side

sections, terminating at or above the upper edge of the entrance-opening, and having a 30 vertical flue-opening located adjacent to the upper edge of the entrance-opening in the front section, vertically-adjustable plates provided upon the upper ends of the side sections, normally extending above the upper 35 edge of the entrance-opening, and having their front edges fitting snugly the rear or inner side of the front section, and a baffle-plate supported solely upon the adjustable plates, normally located above the upper edge 40 of the entrance-opening, having its front longitudinal edge fitting snugly against the inner or rear side of the front section, also movable with the adjustable plates, and forming an adjustable smoke and hot-air chamber, 45 closed at its upper end, opposite sides and front, and having a bottom inlet-opening, and a rear outlet-opening.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in 50 the presence of two witnesses.

LEWIS C. ANDRE.

Witnesses:

J. M. McCANNA,  
WILL R. COOK.