

FIREPLACE STOVE STRUCTURE.
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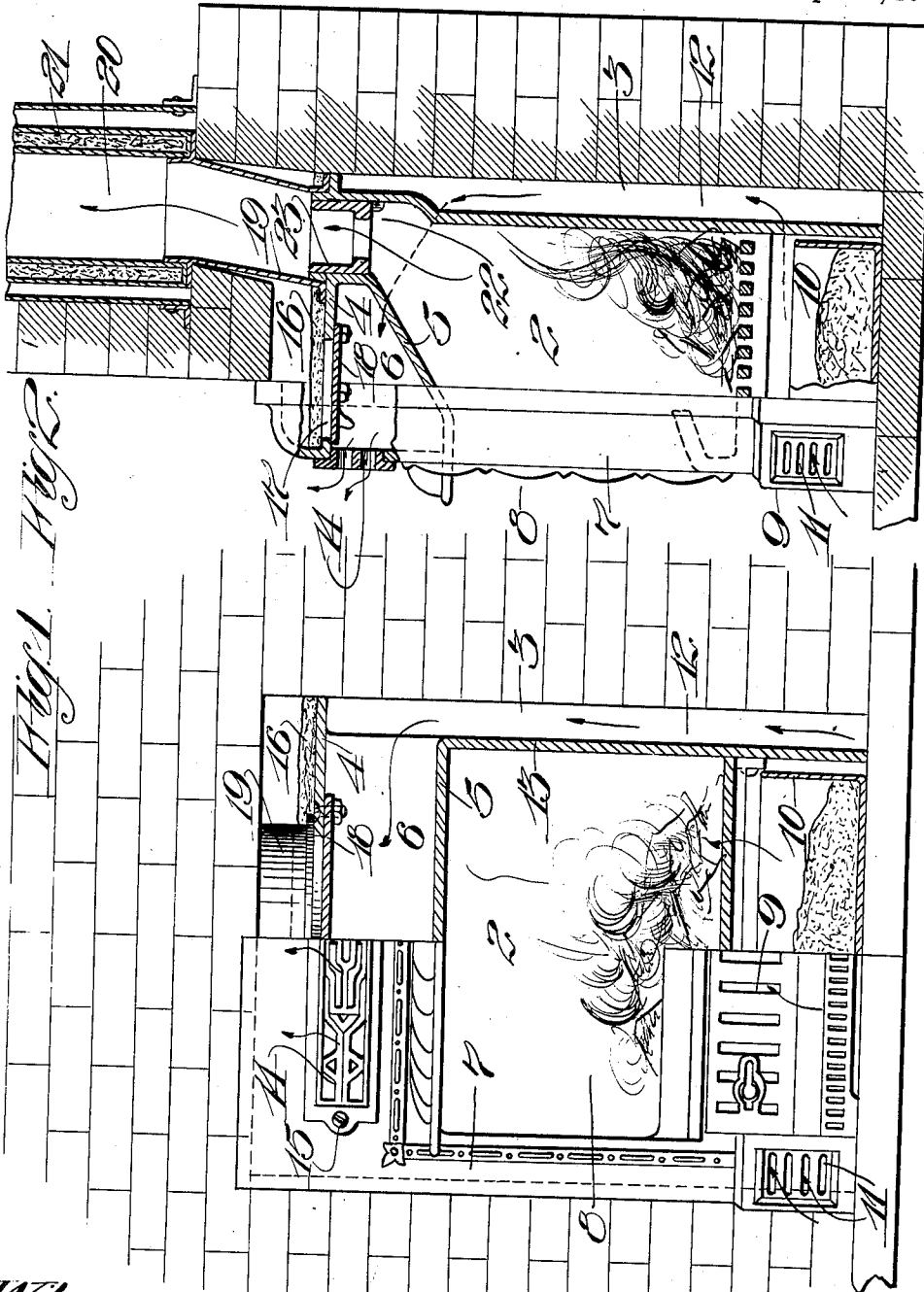


Fig. 1. H.P.C.

Witnesses:
Thos. L. Sherry
J. E. Maynard.

Inventor:
Lorenz E. Chawson
G. H. Sherry
by: H. H. H.

UNITED STATES PATENT OFFICE.

LEONARD E. CLAWSON, OF SAN FRANCISCO, CALIFORNIA.

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1,059,034.

Specification of Letters Patent.

Patented Apr. 15, 1913.

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To all whom it may concern:

Be it known that I, LEONARD E. CLAWSON, a citizen of the United States, residing in the city and county of San Francisco and State of California, have invented new and useful Improvements in Fireplace Stove Structures, of which the following is a specification.

This invention relates to a heating apparatus, and particularly to an improved fire place stove structure.

The object of the present invention is to design and provide a fire place stove structure from which the greatest amount of heat may be derived and transmitted to the room, and which stove is so constructed as to produce a proper combustion of fuel; the structure of the stove being such as to correct in itself any deficiencies in the fireplace in which the apparatus may be constructed.

It is a further object of the invention to provide a stove grate capable of being inserted into any ordinary fireplace with facility without requiring any material alteration of the fireplace structure; the stove being provided with means for forming a substantially tight joint within the fireplace so as to prevent the escape of heated air from around the stove, the only heat lost by the stove being that immediately in the fumes and smoke arising from a fire in the stove.

The invention consists of the parts and the construction and combination of parts as hereinafter more fully described and claimed, having reference to the accompanying drawings, in which—

Figure 1 is a front elevation in partial section. Fig. 2 is a side elevation in partial section.

The present fire place stove structure is designed to obtain a maximum heating efficiency from the fuel consumed within the apparatus and at the same time to permit ample and free draft for proper combustion of fuel in the stove. The stove is particularly designed to be inserted in ordinary open fireplaces and the flue or vent of the stove is arranged so as to produce the best draft through the apparatus irrespective of the general structure of the fireplace.

The device is shown as consisting of a fire box 2, of such width, depth and height that it may be easily arranged within a fireplace 3. Between the top 4 of the fire-box or basket 2 and the combustion chamber is ar-

anged a transverse, downwardly and forwardly projecting shelf 5, between which and the top 4 is a chamber 6. The fire-box 2 projects forwardly forming an ornate front 7 having the usual opening 8 for the purpose of permitting the insertion of fuel. In the lower part of the front 7 is provided a door 9 which may be opened to permit the removal of an ash tray 10 adjustable below the fire-box 2.

Preferably the front 7 of the stove is of sufficient area and of such design as to substantially entirely cover the front opening of the fireplace 3. At the lower side portions of the front frame 7 are provided air ingresses 11 which permit fresh air to pass into the fireplace in the spaces 12 formed between the walls of the fireplace and the side walls 13 of the fire-box 2. The vertical side chambers or spaces 12 communicate with the transverse chamber 6 across the shelf 5 above the fire-grate. Air may pass outwardly from below the fire-box top 4 through a suitable grille frame 14 removably connected to the front 7 by screws, bolts, or other appropriate devices 15.

When the stove is assembled in a fireplace, the front 7 is adjusted closely over the opening of the fireplace and the top 4 is designed to have a snug fit with the walls of the fireplace, the slight crevices or spaces due to irregularities of the fireplace structure being sealed by a cementitious material, fire-brick, clay or other substance, as indicated at 16, which may be plastered or laid over the top 4 where its edges come adjacent to the surface of the fireplace 3.

A hand-hole 17 is provided in the front portion of the top 4; the hand-hole being covered ordinarily by a slidable plate 18 to which access may be had by the removal of the grille structure 14 on the front 7.

There is, if desired, arranged upon the upper part of the top plate 4 a section of flue or piping, as 19, which is adapted to conduct the fumes of combustion upwardly from the fire-box 2 into the flue 20 of the chimney 21, which may be of any appropriate design or construction. When combustion is occurring in the stove the fumes and smoke rise from the fire-box and pass upwardly through throat 22 at the rear uppermost portion of the fire-box 2; air for combustion of the fuel being drawn inwardly below the grate of the fire-box through the door 9.

When a fire is burning, the entire fire-box structure becomes thoroughly heated and this creates a natural draft or circulation of air through the spaces 12; air being drawn in through the apertures 11 of the front 7 and heated during its passage through the side chambers 12, eventually collecting in the upper chamber 6 and passing outwardly into the room to be heated through the grille structure 14. Thus it will be seen that a great saving of heat is accomplished by the present structure of stove grate and that the only percentage of heat which is lost is that which is conducted by the deleterious fumes of combustion, the escape for which is provided by the throat 22.

An important feature of the present invention is the provision of an escape, such as a passageway which is shown as formed by the tube, 19, and the throat, 22.

In order to adapt this fire place stove structure for the use of different grades of fuel and different classes of fuel, there may be utilized a short tube, 23, removably fixed in the throat, 22, and designed to reduce the diameter thereof so that the proper draft area may be obtained in special instances.

During the combustion of fuel in the fire-box 2, the sides 13 and the back and all of the top structure of the same become much heated and all of the air in the spaces 12 and 6 is greatly increased in temperature so that this air is automatically discharged into

the room through the grille structure 14 at the top of the grate. The cementitious or fireproof seal 16 insures the prevention of loss of heated air through any crevices at the jointure of the top plate 4 and the surface of the fireplace 3.

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

The combination with a fire-place and the superposed chimney thereof, of a fire place stove structure of smaller size forming a heating chamber between itself and the walls of the fire-place, said stove structure having an integral extension front and an inclined shelf at the top, said front having air inlet openings at the bottom and discharge openings at the top, a tube between the top of the fire-place and the chimney, and a short tube removably mounted between the bottom of the first-named tube and the stove structure, said stove structure having a throat in its upper rear portion in which the short tube is located, and said short tube having a passageway of less diameter than that of the said throat.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

LEONARD E. CLAWSON.

Witnesses:

F. E. MAYNARD,
CHARLES EDELMAN.