W. W. GUY.

FIREPLACE.

APPLICATION FILED APR. 11, 1907.

926,183. Patented June 29, 1909.

Fig. 1.

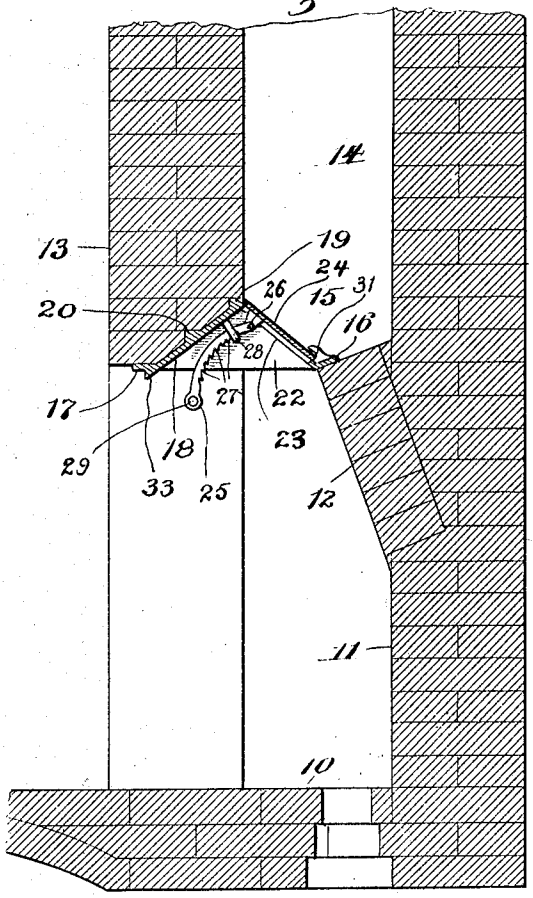


Fig. 4.

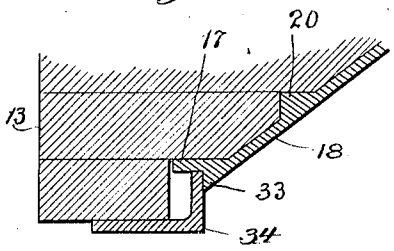


Fig. 3.

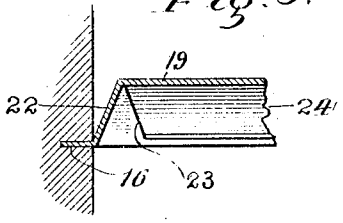
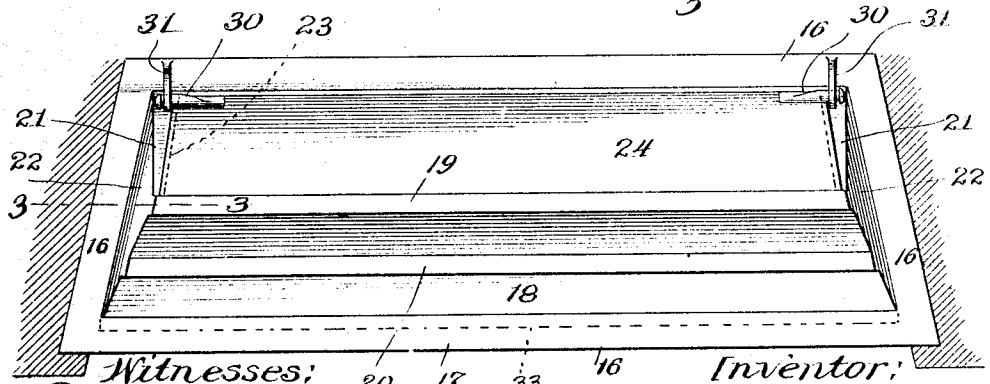


Fig. 2.



Witnesses:
C. O. Shervey.
L. A. Russell.

Inventor:
Walter W. Guy
by Fred Gerlach
his Atty.

UNITED STATES PATENT OFFICE.

WALTER W. GUY, OF CHICAGO, ILLINOIS, ASSIGNOR TO COLONIAL FIREPLACE COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

FIREPLACE.

No. 926,183. Specification of Letters Patent. Patented June 29, 1909.

Application filed April 11, 1907. Serial No. 367,680.

To all whom it may concern:

Be it known that I, WALTER W. GUY, a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Fireplaces, of which the following is a full, clear, and exact description.

The invention relates to fireplaces.

In the construction of fireplaces the chimney-flue is usually offset with respect to the fire-chamber and is usually smaller in area than said chamber and a damper is usually provided for controlling or regulating the draft, being usually set in a throat and interposed between the top of the fire-chamber and the flue. Usually the top wall of the throat connecting the fire-chamber and the flue is formed of brick, concrete or the like, and this is objectionable because it does not provide a smooth surface or lining along which the products of combustion will pass without accumulation, the wall thereof being usually roughly made. Sometimes a plaster lining is applied to the throat wall and this is objectionable in that it is disintegrated by the heat. Furthermore, in forming the arch of the fireplace some care must be exercised in laying the brick and in some instances a metallic cross-support is provided for the arch. Furthermore, in the construction of the chamber or throat between the flue and the fire-chamber it is desirable to provide means for cutting off communication with the flue to prevent back-draft from causing the soot to be blown into the fireplace and room.

The invention designs to provide an improved dome or throat-construction for the fireplace having a damper mounted therein which can be readily laid in its proper place by unskilled labor and which will cover practically the entire area of the throat to form a dome which provides a complete metallic top for the fire-chamber and which serves as a support for the arch over the fireplace, and thus insures a top or dome of proper formation. In other words, to provide an improved dome which serves as arch and damper-support and which forms a throat-plate completely lining the back of the arch and is properly shaped to produce the desired draft and which may be regulated as desired.

Another object is to provide a dome in which the damper is so arranged that it is inclined when open to direct all of the products of combustion to the top of the dome so that it will effectively regulate the draft without eliminating the deflective effect of the damper in conjunction with the lintel or fixed inclined walls of the dome.

The invention also designs to provide a construction and arrangement of the damper which will prevent the soot from the chimney from passing into the fireplace, being directed to a pocket in rear of the damper. By providing a dome-plate which forms substantially the entire top of the fireplace, corners or pockets in the combustion-chamber in which products of combustion will collect, are avoided.

Lastly, the invention designs to provide a fireplace of improved construction.

With these objects in view the invention consists in the several novel features of construction hereinafter set forth and more particularly defined by claim at the conclusion hereof.

In the drawings: Figure 1 is a vertical section of a fireplace embodying the invention. Fig. 2 is a plan view of the dome and damper. Fig. 3 is a vertical section on line 3—3 of Fig. 2. And Fig. 4 is a detail vertical section of a modified form of the invention.

The fireplace comprises a floor or bed 10, a back-wall 11 having its upper portion 12 inclined or pitched to deflect the heat forward through the front opening of the fireplace and an arch-wall 13 above the front opening. A chimney-flue 14 is usually arranged in the back part of the fireplace and offset with respect to the fire-chamber and communicates with the top of the fire-chamber to carry away the products of combustion through a throat or passage 15. A metallic dome is set into and supported by the back-wall and side-walls of the fireplace and has a base-flange 16 extending around the bottom thereof. The back rail of said flange is adapted to rest on the top of the projecting portion 12 of the back-wall and the side-rails of said flange are adapted to be embedded in or supported by the side-walls of the fireplace and the front rail 17 of the flange is adapted to support the arch-wall over the front opening of the fireplace. The sides of the fireplace are usually angled so that the fire-chamber is wider at its front than at its rear and the side rails of the base flange are correspond-

ingly angled. In constructing the fireplace the walls are laid to the top level of the fire-chamber and the dome-plate is then set thereon. The rear-rail and side-rails of the flange support the dome and the front rail of the flange serves as a support on which the arch may be readily and quickly laid. The dome has integrally formed therewith a lintel 18 which is inclined upwardly and rearwardly and forms a metallic lining for the throat as well as an extensive support for the arch-wall. The lintel 18 of the dome is provided with a rib 19 adjacent its upper end and a rib 20 which materially strengthen it to better the arch wall, the ribs being properly disposed so that the brick of the wall may rest thereon and so the ribs will serve as guides for laying the bricks in horizontal alinement. The first course of the arch is usually laid on the base flange 17, the next course on rib 20, and the next on rib 19 at peak of the dome. The lintel extends to a peak or apex of the dome and the dome extends downwardly and rearwardly from the peak as at 21, and has side-walls 22, which are tapered and integrally formed with the dome. An opening 23 is formed in the back of the dome for the escape of the products of combustion and a damper 24 is adapted to close the opening when the fireplace is not in use, or to vary the opening to correspondingly regulate the draft. A holder 25 is pivotally connected to the damper as at 26 and is provided with teeth 27 adapted to engage a lug 28 integrally formed with the lintel of the dome and whereby the damper may be held in different positions. The front end of the holder is usually provided with an eye 29 so a poker can be inserted thereinto to manipulate the damper. The damper is pivotally mounted at its lower and rear end, having laterally extending pintles 30 adapted to be held in seats formed in lugs 31 integrally formed with the base-flange 16. The damper extends forwardly and upwardly from its hinged end and to the peak of the dome, and thus the top of the fireplace is formed by the integral lintel and side walls of the dome and the damper; the opening for the escape of the products of combustion being located at the peak of the dome to provide a dome construction in which a draft is created which draws the products of combustion from all portions of the upper part of the fire-chamber. Some of the heat and products of combustion deflected forwardly by the pitched wall 12 are deflected against the lintel 18 which directs them to the exhaust opening at the peak of the dome and this construction avoids pockets in which unconsumed gases or products can accumulate, and the walls of the dome are all shaped to direct the products through the opening at the peak of the dome, tending to produce a draft which carries away the products from the fire-chamber. The feature of providing a dome-plate comprising a sloping lintel and a reversely sloping damper which swings about its lower end to provide an exhaust-opening at the peak of the dome, is an important one because it produces an even draft throughout the entire area of the upper portion of the fire-chamber, which can be regulated as desired. As will be seen from Fig. 2, the opening in the dome controlled by the damper is wider at the peak than at its lower end and the damper is correspondingly formed and this construction also aids in providing a better and uniform draft for the products of combustion, because all of the products are drawn to the peak or upper portion of the dome at the mouth of the opening between the upper end of the damper and the peak when the damper is open and because little or no direct draft is created near the back wall of the fireplace as would occur if the opening were narrower at the lower end than at the upper end, better combustion being attained when there is substantially no draft immediately adjacent the rear wall.

As a result of the construction in which the damper is pivoted at its lower end and in the dome, any soot which may fall on the top of the damper will be directed to the pocket formed between the back wall and the damper and not pass into the fireplace as frequently occurs when there is back-draft in the chimney-flue.

Beneath the front rail 17 of the base 16 is provided a longitudinally extending rib 33. In some instances it is desirable, particularly when the throat is to be arranged some distance in back of the front of the fireplace, to support an angle-iron 34 in the side walls of the fireplace. In some instances it is also desirable to position the dome some distance above the lower edge of the arch wall as shown in Fig. 4 of the drawings. Rib 33 is formed on the base of the dome and not only strengthens the dome but positions the dome on an angle-bar 34 to form a joint which prevents the products from permeating the walls above the dome. The damper may, by disconnecting the holder, be lifted out of the pintle-seats and withdrawn through the opening in the dome to provide ready access to the flue when it is desired for cleaning.

Obviously the invention provides a dome which, can be readily set in proper position in the fireplace during the course of construction, serves as a support for the arch-wall and in which the damper opening is disposed to produce a uniform draft throughout the upper area of the fire-chamber or dome and avoids rough walls or surfaces for the accumulation of soot and which overcomes in a large degree the effect of back draft.

The invention is not to be understood as restricted to the details shown and described but may be modified without departing from the spirit and scope of the invention.

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

1. In a fire-place, the combination of a dome having an inclined lintel extending upwardly from the base to the peak of the dome and formed to constitute a support for the arch-wall of the fire-place, a flange at the base of the lintel, a longitudinal rib above said flange for supporting said wall above the base-flange, said dome having an opening therein and a damper pivoted in the dome for closing said opening.

2. In a fire-place, the combination of a dome having an inclined lintel extending upwardly to the peak of the dome and formed to constitute a support for the arch-wall of the fire-place, a flange at the base of the lintel, a plurality of longitudinal ribs on the lintel and above the flange for supporting said wall above the base flange, one of said ribs being disposed at the peak of the dome, said dome having an opening therein and a damper pivoted in the dome for closing said opening.

3. In a fire-place, the combination of a dome having an upwardly sloping lintel extending longitudinally across one of the sides thereof, a flange at the base of the dome, a supporting bar on which the dome rests, a rib on the bottom of the dome and fitting against said bar to make a joint between the dome and the bar, said dome having an opening therein, and a damper for closing said opening.

WALTER W. GUY.

Witnesses:
FRED GERLACH,
LEONE S. RUSSELL.