(No Model.) 2 Sheets—Sheet 1.

C. L. PAGE.

FIRE PLACE.

No. 428,287. Patented May 20, 1890.

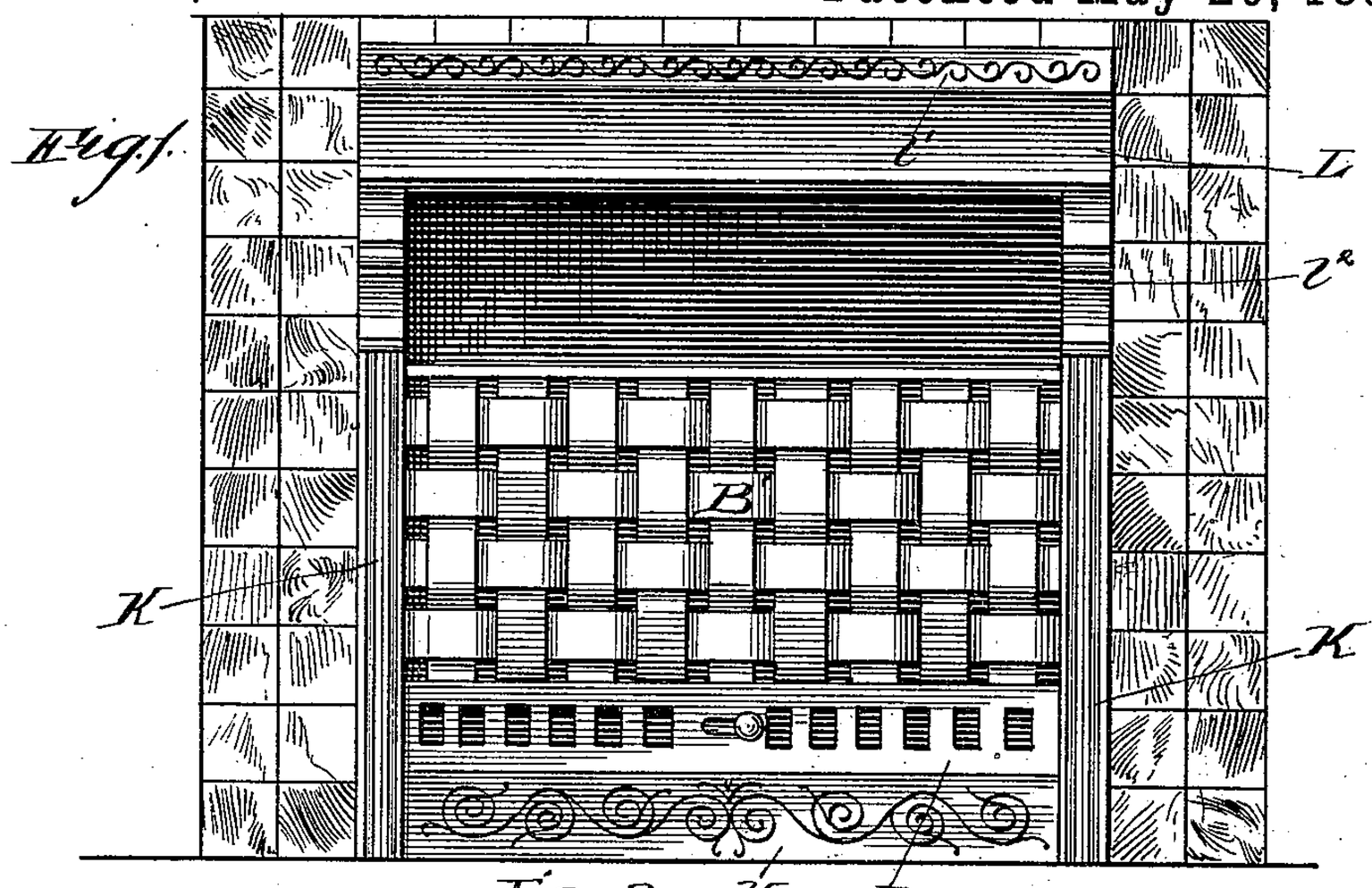
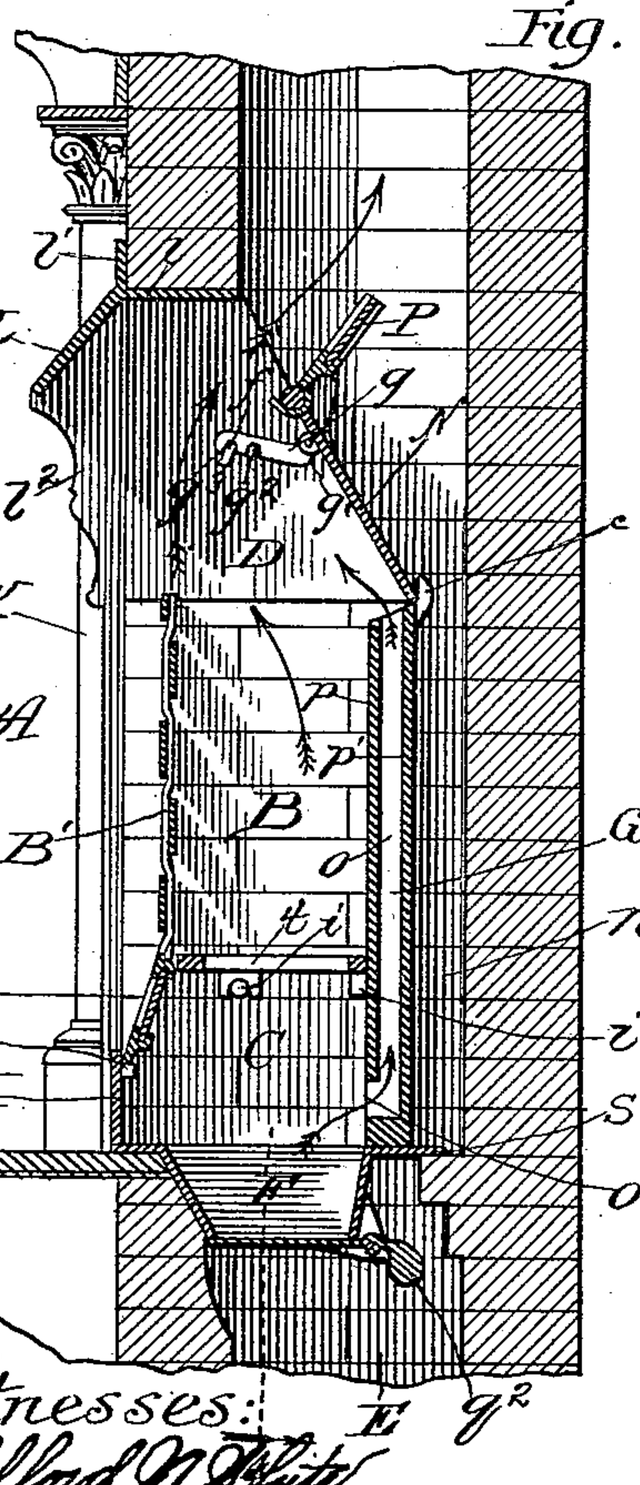
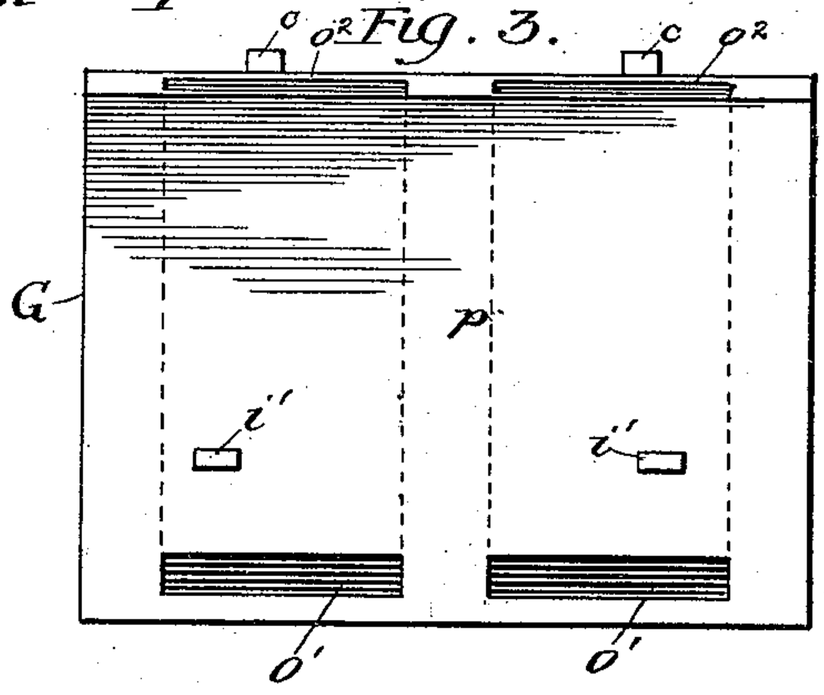
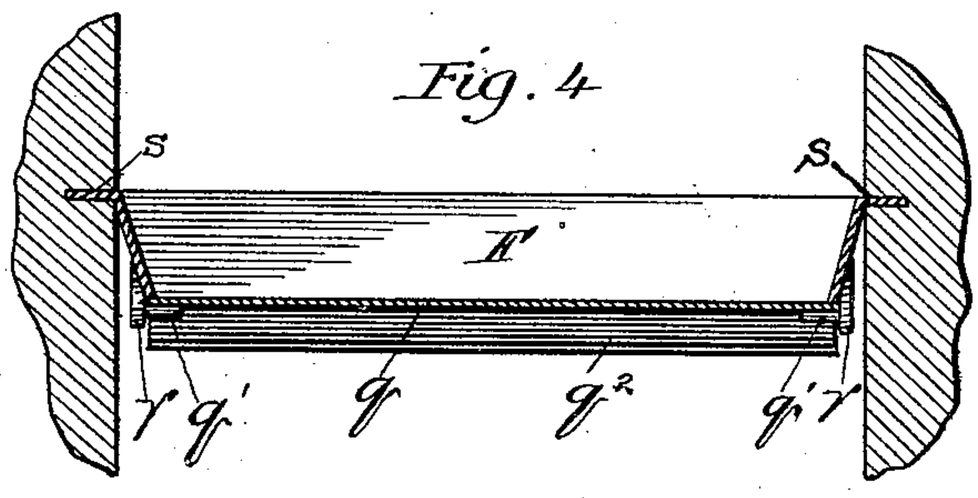


Fig. 2.







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(No Model.) 2 Sheets—Sheet 2.

C. L. PAGE.

FIRE PLACE.

No. 428,287. Patented May 20, 1890.

Fig. 5.

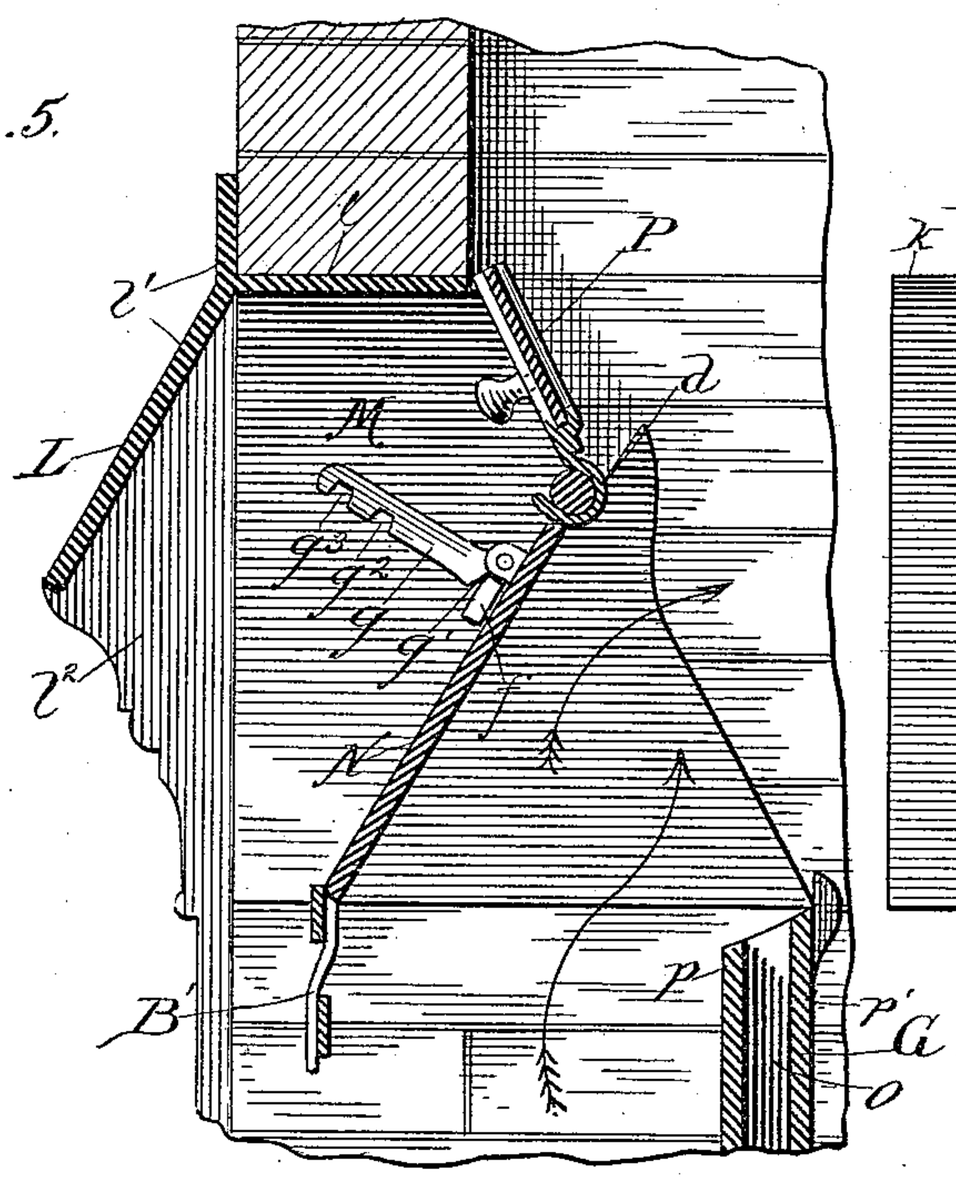


Fig. 6.

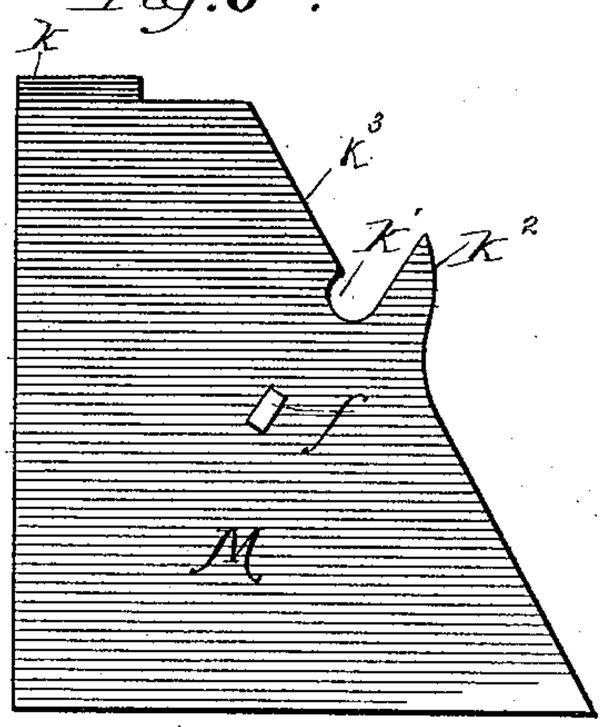
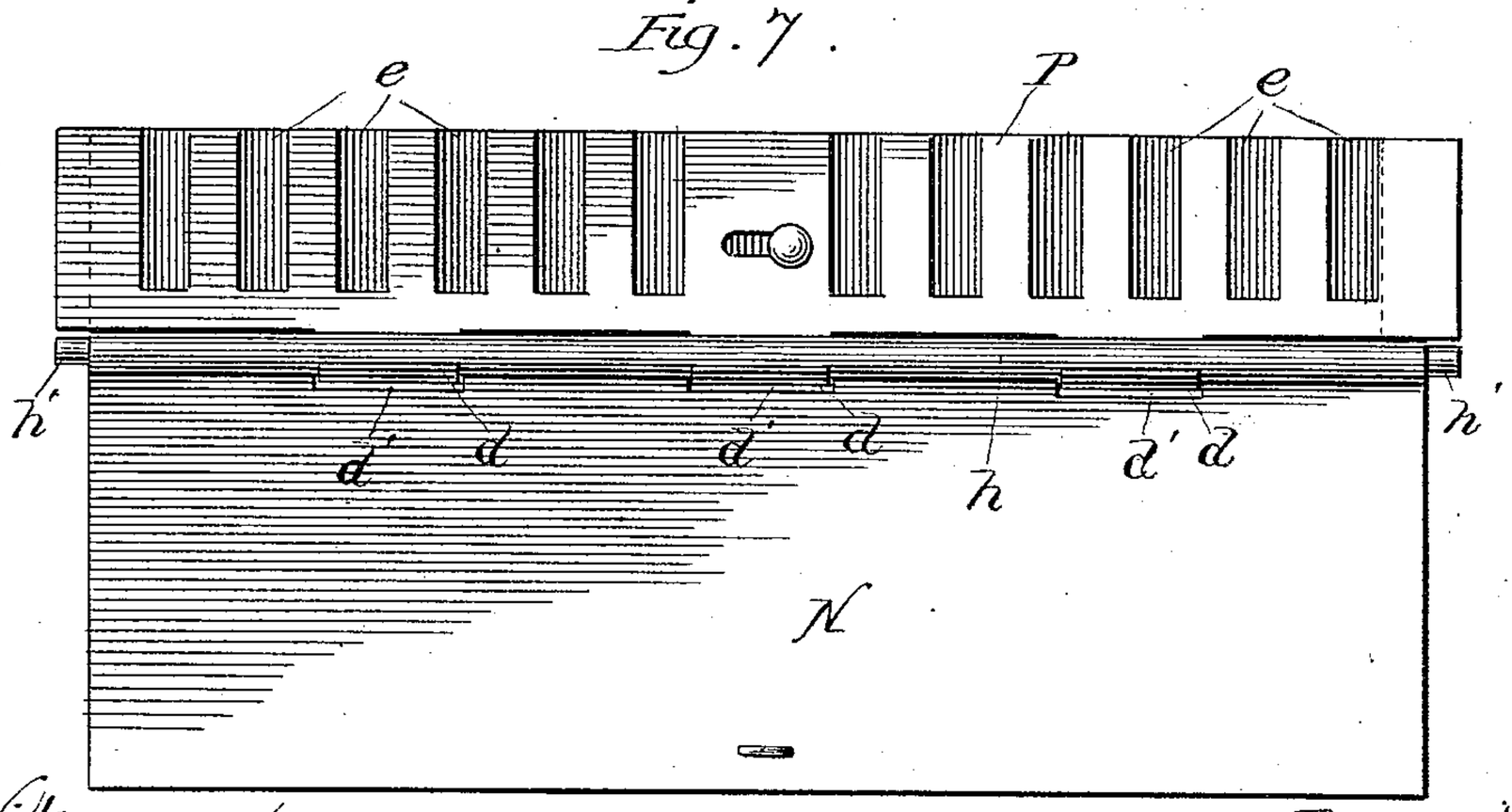


Fig. 7.



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UNITED STATES PATENT OFFICE.

CHARLES L. PAGE, OF CHICAGO, ILLINOIS, ASSIGNOR TO CARRIE C. CRONISE, OF SAME PLACE.

FIRE-PLACE.

SPECIFICATION forming part of Letters Patent No. 428,287, dated May 20, 1890.

Application filed November 14, 1889. Serial No. 330,342. (No model.)

To all whom it may concern:

Be it known that I, CHARLES L. PAGE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Fire-Places, of which the following is a specification.

The object of my invention is to provide a fire-place of an improved construction, which will render it, first, peculiarly effective in producing nearly perfect combustion of coal when that is the fuel employed; second, cleanly and comfortable in use, as compared with fire-places as hitherto constructed, by obviating all danger of the escape into the room of smoke, ashes, or gas; third, capable of being set up in shallow chimneys, and, fourth, particularly free from danger in use to inflammable building material, which, especially in faultily-constructed houses, is apt to be placed in close proximity to the chimney, and may therefore be in danger of ignition from fire-places as hitherto constructed.

To the above ends my invention consists in the general construction of my improved fire-place; and it further consists in details of construction and combinations of parts, all as hereinafter described and claimed.

In the drawings, Figure 1 is a view in elevation of a fire-place embodying my improvements; Fig. 2, a broken view illustrating a vertical section taken centrally through the fire-place and showing it provided with a mantel; Fig. 3, a detail view in front elevation of the back of the fire-place; Fig. 4, a broken sectional view taken on the line 4 of Fig. 2 and viewed in the direction of the arrow; Fig. 5, an enlarged broken sectional view of the upper part of the fire-place; Fig. 6, a detail view in elevation of one of the side plates or jambs, and Fig. 7 a detail view in front elevation of the blower and upper damper.

A is the fire-place, of which B is the fire-pot, *t* the grate, C the ash-pit or space below the grate, and D the space above the fire-pot.

When the chimney in which the fire-place is set up is constructed with an ash-chute E, an ash-pan F, like that shown, is provided. It consists, preferably, of a basin flaring toward the top, where it is provided with a flange *s*, by means of which it is supported in the brick-work, as shown. Projecting downward from opposite ends toward the rear side of the ash-pan are brackets *r r*, and the bottom *q* of the ash-pan which is separate from the latter, is provided with lugs or pivots *q'*, which project from toward the rear edge of the bottom, and rest in bearings in the brackets, as shown. The bottom or door *q* is provided with a counterweight q^2, which extends back of the pivots and serves to maintain the bottom *q* normally closed.

G is the back of the fire-place, and comprises two walls *p p'*, with one or more spaces *o* between them. The back may be of iron, fire-clay, soapstone, or other material which will withstand the action of heat, and is cast, preferably, in one piece, with openings *o'*, toward the lower end, extending through the wall *p* to the spaces *o*, and openings o^2, leading out of the spaces at the top, the spaces with the openings affording flues for purposes hereinafter described. The back G rests upon the rear upper flange of the ash-pan and extends parallel with the back of the chimney to a height above the horizontal median plane of the fire-place and a short distance from the back of the chimney to afford the air-space *n* between them.

Extending across the front of the fire-place is a plate H, having a shoulder or lugs *m* formed on its rear side toward the top.

I is a draft-regulating plate or register, of ordinary construction, which rests upon the lugs or shoulder *m* and extends obliquely upward and backward, (in practice about one and one-half inch back,) as shown. The grated front B' of the fire-pot is preferably of iron, and may comprise parallel bars either horizontally or vertically disposed, or it may be of or in imitation of woven strips, as indicated, the object being to afford openings, through which the fire may be exposed. The front B' extends from the grate to a point above the median horizontal plane of the fire-place and in horizontal line with the top of the back G. A frame K extends up the sides and across the top of the fire-place, and is formed at its upper side with a sill *l* for the overlying brick to rest upon, a face-plate *l'*, and a hood L. The hood extends obliquely

forward and downward in practice, preferably about four inches, and is closed at opposite ends by brackets l^2. Side plates or jambs M extend upward from the tops of the front B′ and back G to the sill l. They are shaped, preferably, as shown in Fig. 6, with the extensions k to go between the ends of the sill and the adjacent brick-work to aid in holding the jambs in place, and with bearings k' and stops k^2 and edges k^3, which also operate as stops, for purposes which will appear later on. The grate t is mounted on pivots i, to permit it to be upset in a common manner, and rests with its rear edge upon lugs i', formed upon the face p of the back G.

N is the blower, comprising a metal plate formed at one edge with a bead h, from opposite ends of which extend lugs or pivots h', which rest in the bearings k' of the jambs M. The blower swings on its pivots across the top of the fire-pot B, and the tops of the front B′ and of the walls p p' of the back are just below the arc of the circle described by the lower edge of the blower in its swing.

Toward one or both edges of the blower is suspended a pivotal catch g, having the shoulder g' and notches g^2 g^3, and upon the jamb M is a lug F, which projects into the path of the catch to engage the shoulder g' or notch g^2 or g^3, to fasten the blower, respectively, with its lower edge coincident with the top of the front B, as shown in Fig. 5, wall p or wall p', as shown in Fig. 2.

P is a damper, made, preferably, in the form of a register, with its openings e extending to the upper edge. On the lower edge of the damper are provided curved flat hooks d, formed to fit around the bead h of the blower and to project through openings d' in the latter adjacent to the bead. The damper P, thus hinged to the blower, extends beyond the opposite ends of the latter to rest, when swung to close it, against the edges k^3 of the jambs, and when swung to open it against the stops k^2.

Usually, except where especial provisions have been made for the accommodation of fire-places in houses, the chimneys are shallow and require deepening to receive the fire-places hitherto applied. Owing to its shape my improved fire-place may be put into any ordinary chimney without necessitating deepening of the latter, and the air-spaces o and n, which intervene between the fire-pot and chimney-back, afford increased security over the constructions hitherto employed, while they obviate the necessity under any circumstances of lining the chimney-back with fire-brick. Thus, also, in the construction of houses where fire-places are primarily contemplated, space may be saved by the use of my improved fire-place over that necessary in the employment of those of the old style. The fire-pot being high and shallow, instead of the opposite, as hitherto, a greater comparative area of heating-surface, particularly when the fire is well under way, is exposed to the room. The desirability of this feature is especially noticeable where, when coal is employed as the fuel, it is added to the fire, and being spread over the top cools the upper surface, and in fire-places otherwise constructed, consequently, the greater part of the heating-surface. The front B′ being placed in practice, as stated, about an inch and a half back of the front of the fire-place, prevents the rays of heat from striking the wood mantel, if one be employed, and thus obviates blistering or charring of the latter. Owing to the presence of the plate H, which, if desired, may be cast integral with the frame K, the fire-pot is raised above the floor-line a distance considerably greater than has been customary in fire-places hitherto and without detracting from the general appearance of the device. This construction is particularly valuable as a precautionary measure where, owing to faulty construction of the building, the wood flooring or joists extend, as is frequently the case, into contact with or close to the base of the fire-place, and thus rendering danger of ignition imminent where the fire-pot stands as low as has been the practice hitherto.

In starting a fire in my improved fire-place, the fuel being placed in readiness for lighting, the blower N and damper P (the register of the latter being closed) are swung forward, the former being fastened by the catch or catches g, all as shown in Fig. 5. This causes the products of combustion to flow directly to the chimney and prevents the escape of any into the room. The fuel having become thoroughly ignited and the volume of escaping products of combustion sufficiently reduced, the damper and blower are swung back to the positions shown in Fig. 2, the latter being held by the catch or catches against stops c, extending upward from the back of the wall p'. When the damper and blower are thus arranged, the fire-place is open and the fire exposed. The flues o, besides affording air-spaces to aid in keeping down the temperature of the chimney-back, cause a constant supply of air to flow from the air-space C over the top of the burning fuel to aid combustion. The effectiveness of the air thus supplied is materially enhanced by the heating to which it is subjected in its passage through the space C and flues.

As ashes from the grate fall to the ash-pan F they upset the bottom q of the latter and drop into the ash-flue E, and as the bottom closes immediately when relieved of the weight of the ashes the rise of any dust which is freed from the latter in its descent is checked. Dust set free in the space C is carried by the air-currents through the flues o over the flame to the chimney, and thus prevented from reaching the room. In shaking down the ashes, especially when the fire is low or there is no fire, the blower may be swung down coincident with the top of the wall p, which will cause the dust rising in the space C to ascend through the flues o to the chimney direct.

The hood L, where a wood mantel is em-

ployed, shields the mantel-shelf from the rays of heat and aids in preventing the escape of the products of combustion to the room.

To reduce the draft—as, for instance, to keep the fire over night—the damper P may be closed and its register opened a desired distance to permit the products of combustion to escape, and the blower left in the position shown in Fig. 2; or, to still further reduce the draft, the blower may be secured in the position coincident with the wall *p*. As the openings *e* of the register in the damper extend to the top when the register is opened and the damper closed, no gas can accumulate under the sill *l*.

Constructed as shown in the drawings the fire-place is especially adapted for coal or coke. With slight modification, however, it may be adapted to burn wood, hay, or any other desirable fuel.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a fire-place, the combination, with the ash-pit C and fire-pot B, having a front B′, of the back G, for the ash-pit and fire-pot, extending to a height corresponding approximately with the height of the front B′ and comprising walls *p p′*, forming the intervening space *o*, affording a flue communicating near its base with the ash-pit and extending therefrom to the top of the walls, and directing means, as the blower N, adjustably supported above the flue, and serving to direct at will air-currents from the flue over the fire-pot or directly to the chimney, substantially as and for the purpose set forth.

2. In a fire-place, a blower N, mounted above the fire-pot to swing with its lower edge across the top of the latter, and fastening means for maintaining the lower edge of the blower coincident with the front or back of the fire-pot, substantially as described.

3. In a fire-place, the combination, with the front B′ and back G, having walls *p p′*, with one or more flues between them, of a blower N, mounted above the fire-pot to swing with its lower edge across the top of the latter, and fastening means for maintaining the lower edge of the blower coincident with the front B′, wall *p*, or wall *p′* at will, substantially as described.

4. In a fire-place, the combination, with the jambs M, front B′, and back G, having walls *p p′*, with one or more flues between them, of a blower N, pivoted above the fire-pot to swing with its lower edge across the top of the latter, and a pivotal latch *g*, provided with catches *g′*, g^2, and g^3, to engage in turn a lug *f* on the adjacent jamb and secure the blower with its lower edge coincident with the front B′, wall *p*, and wall *p′*, respectively, substantially as described.

5. In a fire-place, the combination, with the blower N, pivoted at its upper edge to swing with its lower edge across the fire-pot, of a damper P, hinged to the upper edge of the blower, substantially as described.

6. In a fire-place, the combination, with the blower N, pivoted at its upper edge to swing with its lower edge across the fire-pot, of a damper P, hinged to the upper edge of the blower and provided with openings *e* and a register, substantially as described.

7. In a fire-place, the blower N, having a bead *h* along its upper edge, openings *d′* through it adjacent to the bead, and pivots *h′*, whereby it is mounted above the fire-pot to swing with its lower edge across the latter, and a damper P above the blower, provided on its lower edge with hooks *d*, extending part way around the bead *h* and through the openings *d′*, substantially as and for the purpose set forth.

8. In a fire-place, the combination, with the fire-pot, of the jambs M, extending above the fire-pot and provided with bearings *k′* and stops k^2 k^3, the blower N, pivotally mounted at its upper edge in the bearings *k′* to swing between the jambs, and the damper P, hinged to the upper edge of the blower to swing against the stops k^2 k^3 alternately, substantially as and for the purpose set forth.

CHARLES L. PAGE.

In presence of—
J. W. DYRENFORTH,
M. J. FROST.