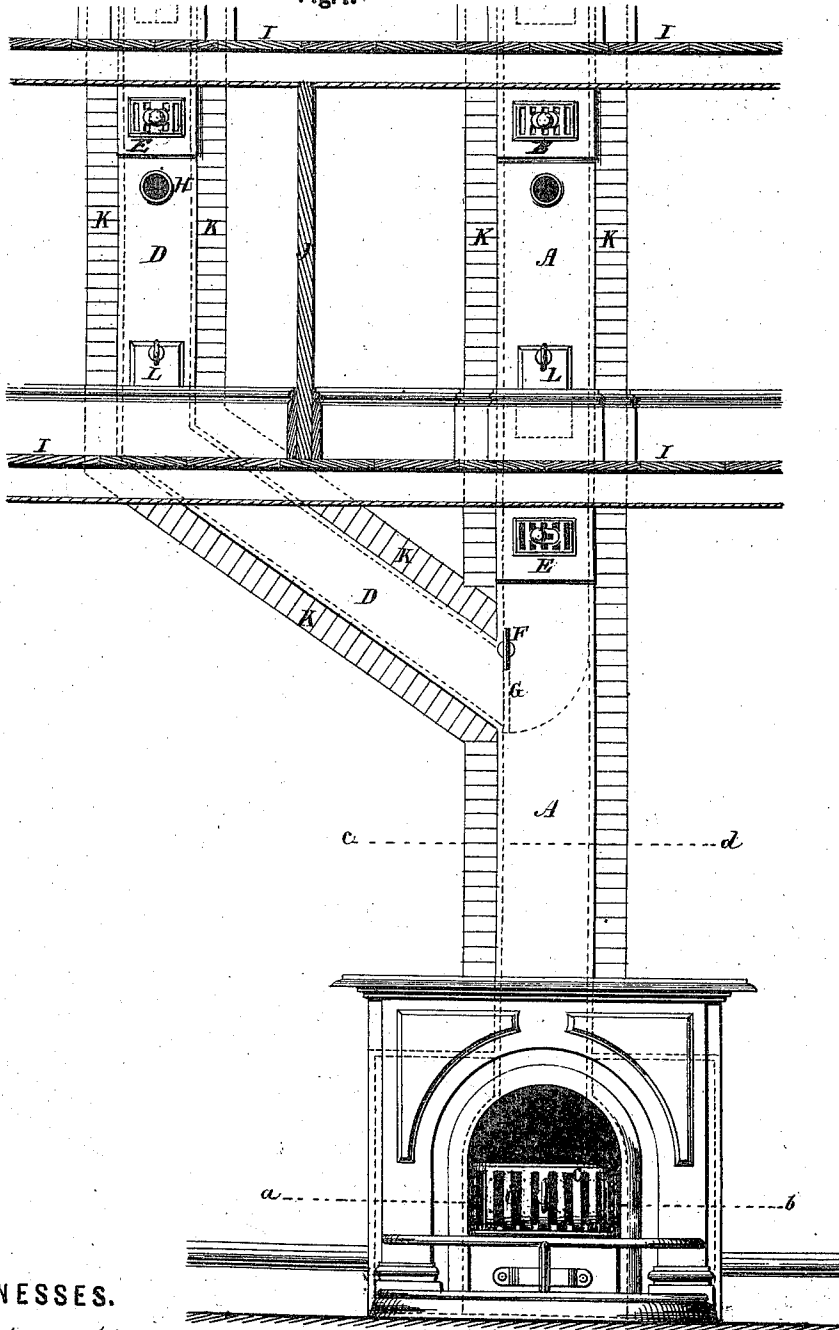


J. BRIGGS.
Chimneys and Fire-Places.

No. 128,847.

Patented July 9, 1872.

Fig. 1.



WITNESSES.

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J. Scheitlin

INVENTOR.

Johnson Briggs
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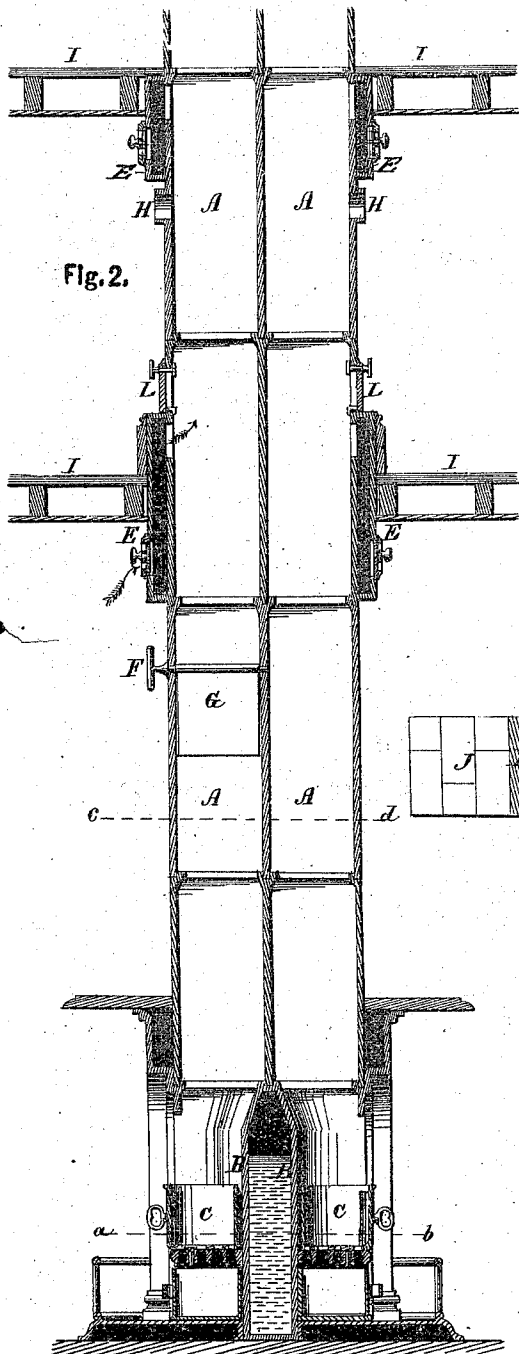


Fig. 2.

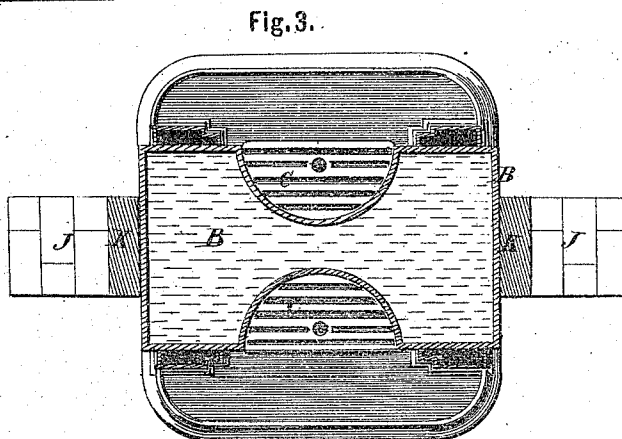


Fig. 3.

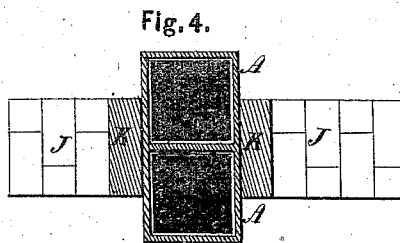


Fig. 4.

WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHNSON BRIGGS, OF TORONTO, CANADA.

IMPROVEMENT IN CHIMNEYS AND FIRE-PLACES.

Specification forming part of Letters Patent No. 128,847, dated July 9, 1872.

Specification of an Improved Fire-Place, Chimney, and Ventilator, invented by JOHNSON BRIGGS, of the city of Toronto, in the county of York, in the Province of Ontario and Dominion of Canada.

In the drawing, Figure 1 is a front elevation of a cast-iron chimney, fire-place, and ventilating-shaft combined, embodying my invention. Fig. 2 is a transverse vertical section through the main trunk-flue and fire-place. Fig. 3 is a horizontal section on the line *a b*; and Fig. 4 is a horizontal section on the line *c d*.

The invention relates to the combination of metal or cast-iron chimney fire-places and ventilating-shafts in such a manner that the structure can be adapted as a substitute for a brick chimney in buildings for heating and ventilating purposes, and for heating and ventilating railway cars, &c.

A is the main or trunk-shaft of metal or cast-iron, constructed in sections of any required length and height. The sections are joined together by lap or other constructed joint. It is supported on a hollow water-tight base, B, of metal or cast-iron, formed with semicircular recesses to receive a corresponding number of fire-baskets, *c*. This base B rests upon a hearth, of any suitable material, on a lower or upper floor of a building, or it may be rested on the ground. The base B forms a boiler or receptacle to be supplied with water for generating steam from the heat of the fire-baskets, a system of pipes to connect therewith and lead throughout the building for heating by either steam or hot water; or it may be adapted for a hot-air system, as may be desired. The fire-baskets *c* are constructed and fitted to or in their respective recesses, so that, by means of a lever, they may be partially revolved horizontally to shake the ashes accumulating thereon for cleaning the grate. D is a flue, likewise of cast-iron or metal, branching from the main trunk A to form the chimney for another apartment, and any number of these branches may be employed, and lead from the main trunk at any suitable point, in any required direction. To the main trunk and branch flues, when used, are connected ventilating-shafts E, by means of which foul air from an apartment is conveyed into the chimney-flue on entering the shaft by the reg-

isters. These ventilating-shafts pass upward through the floor before entering the chimney. The course of the foul air is shown in the drawings by flying arrows. F are dampers, inserted in the flues where required to cut off and deviate the heat and smoke from and to any desired flue. These dampers are constructed with a wing, G, secured to a shaft, so that, by giving the shaft a quarter revolution, the wing closes the flue, and is retained in that position by a square shoulder on the shaft engaging with a corresponding recess in its bearings when pushed slightly inwardly. When the square shoulder is withdrawn from its recess the wing drops to the side of the flue in a perpendicular position, and allows the heat and smoke to ascend. The main trunk and branch flues are provided at suitable positions with holes H, to which connection of a stove-pipe may be made when the additional heating-power of a stove is required in any of the apartments. When the main trunk or connecting branches pass through floors I or wooden partitions J a brick casing, K, is provided on each side, as shown; or a jacket of sheet-tin may be employed to shield the combustible material from the heat of the chimney. The main trunk and branch flues may be inserted flush with the face of the partition, or project therefrom to any suitable distance; the heat passing through the flues is, by my invention, utilized for heating the apartment or car by its being diffused through the metal chimney, a large amount of heating-surface being thus exposed in the apartment. The main trunk may be carried up at the intersection of two partitions, and thus four fire-places can be combined in the base B, so that one fire-basket *c* may be provided to each of the four apartments, the base B being arranged anglewise at the corner of each room. L are tight-fitting doors inserted in the trunk or branches, by which ready access may be gained thereto to admit of the flues being swept by means of a drop-rope, weight, and brush moved up and down therein. As shown in the drawing, the main trunk passes up through two floors, but it may be carried up, either with or without branches therefrom, through any number of succeeding floors in a like manner, and terminate above the roof of the building by a suitable ornamental cap. The drawing shows a

double trunk placed back to back, but it is obvious that a single trunk may only be necessary when a double one, from the nature of the circumstances is not required. The fire-places may be furnished with ordinary mantel-pieces in the usual manner.

Claims.

What I claim as my invention is—

1. The sectional metallic chimney A, one or more branches, D, and ventilating shafts E, arranged and operating as described, in combination with dampers F G of any suitable construction.

2. The ventilating-shaft E, forming a guard and air-space between the chimney and the

floor or ceiling, and arranged to take vitiated air from the room and deliver it into the chimney at a higher level, all substantially as and for the purposes herein set forth.

3. The combination of the basket-grates C with the water-back B having recesses concentric with said grates C C to adapt the latter to be shaken on a vertical axis, as explained.

4. The combination of a cast-iron or metal chimney A, base B, and ventilating-shaft E, substantially in the manner and for the purpose set forth.

JOHNSON BRIGGS.

Witnesses:

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