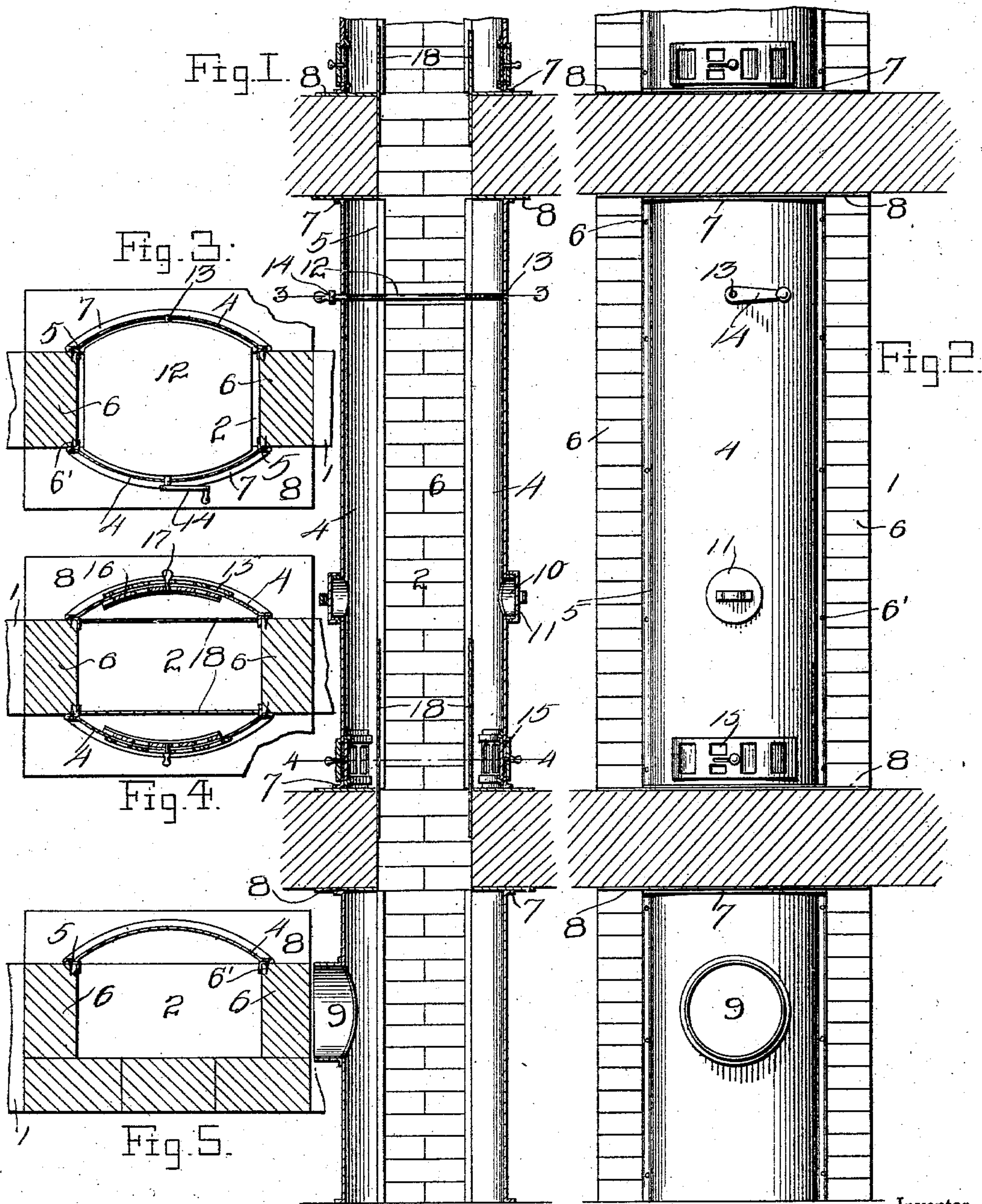


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PATENTED OCT. 6, 1903.

C. FAUST.
SMOKE AND AIR FLUE.
APPLICATION FILED JUNE 22, 1903.

NO MODEL.



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SMOKE AND AIR FLUE.

SPECIFICATION forming part of Letters Patent No. 740,835, dated October 6, 1903.

Application filed June 22, 1903. Serial No. 162,678. (No model.)

To all whom it may concern:

Be it known that I, CASPER FAUST, a citizen of the United States, residing at Rhineland, in the county of Oneida and State of Wisconsin, have invented certain new and useful Improvements in Smoke and Air Flues; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to new and useful improvements in smoke and air flues; and it consists in a chimney-flue set in a partition or wall between the rooms of a building and provided with exposed heat-radiating sides.

The object of the invention is to improve and simplify the construction of flues of this character and to provide a flue which will effect a great saving in the heat from a furnace or stove.

With this and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be more fully described, and particularly pointed out in the appended claims.

In the drawings, Figure 1 is an elevation of chimney constructed in accordance with my invention. Fig. 2 is a vertical transverse sectional view through the same. Fig. 3 is a horizontal sectional view taken on the line 3 3 of Fig. 1. Fig. 4 is a similar sectional view taken on the line 4 4 of Fig. 1. Fig. 5 is a horizontal sectional view through a modified form of the invention, showing but one side of the flue, provided with a metallic heat-radiating cover or wall.

Referring to the drawings by numerals, 1 denotes a partition or wall of a building or other structure in which a vertical passage or opening 2 is formed. Said passage, which extends from the basement to the top of the building and forms the smoke-flue or chimney, has both of its open sides closed by the metallic heat-radiating plates 4. Said plates are curved or bowed transversely and extend from the floor to the ceiling of each room. A single plate or a plurality of small plates suitably secured together may be used, as desired. The side edges of each of the plates are bent to form a right-angular flange 5, which engages the corners of the brick-

work 6, which lines the ends of the passage or flue 2. The plates are fastened along their sides to this brickwork by spikes, nails, or other fastening means 6', and they are also fastened at their top and bottom by providing an angular flange 7, which is secured by bolts or rivets to horizontally-disposed metallic frames 8, fastened to the floors and ceiling of each room.

An opening 9 is formed in the brick portion of the lower end of the chimney in the basement, said opening being adapted to receive the smoke-pipe of the furnace, which heats the house or building, and suitable stove-pipe-openings 10 are formed in the metal plates 4 in each room upon each floor. When stoves are not used, said openings 10 are closed by suitable covers 11. A swinging damper 12 is pivoted in the passage or flue 2 by securing the same to a horizontal shaft 13, projecting through and journaled in the plates 4. Said damper is adapted to be operated by a lever or handle 14, secured to the shaft 13. The damper may be located at any desired point in the flue, and if desired chains may be connected to the lever 14 to permit the same to be operated from any distant place.

In order to carry off the foul and cold air from the rooms of the building, I provide in the plates 4, in each room adjacent to the floor, the openings 15, which are adapted to be opened or closed by a sliding apertured door 16, operated by means of the knob or handpiece 17. A guard or deflector-plate 18 is provided within the flues adjacent to each of these cold-air outlets for the purpose of deflecting the smoke and products of combustion passing up the passage past the said openings.

In the modification of the invention illustrated in Fig. 5 of the drawings the passage or flue 2 is closed upon one side, and hence the plates 4 are used only upon the open side. This form of the invention is used when the flue is constructed in the outer wall of a building.

It will be seen that as the smoke and gases from the furnace or stoves pass up the chimney-flue the plates 4 will be thoroughly heated and being of metal will radiate their heat throughout the rooms. A great saving in the

heat which is ordinarily wasted is thus effected. If desired, the plates 4 may be corrugated or ornamented, and thus serve to beautify the room.

5 From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

10 Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

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

1. The combination with a wall or partition of a building or the like, having a vertical passage or opening provided with open sides, of frames about said passage at the ceilings and floors of the building, and heat-radiating covers for said open sides of the passage provided with side and end flanges, said side flanges being secured to the wall or partition and the end flanges to said frames, substantially as described.

2. The combination with a wall or partition of a building or the like, having a vertical passage or opening provided with open sides, of frames about said passage at the ceilings and floors of the building, metallic plates covering the open sides of said passage and

provided with flanges adapted to be secured to said wall or partition and said frames, a damper in said passage, smoke-pipe openings in the sides of said passage, and cold-air openings in said plates adjacent to the floors, substantially as described. 35

3. The combination with a wall or partition of a building having a vertical passage or opening provided with an open side, of frames about said passage at the ceilings and floors of the building, and a heat-radiating cover for said open side provided with side and end flanges, said side flanges being secured to the wall or partition and the end flanges to said frames, substantially as described. 40

4. The combination with a wall or partition of a building having a vertical passage or opening provided with an open side, of a heat-radiating cover for said open side provided with flanges, said cover having a foul-air inlet, a controller therefor, and means for deflecting the products of combustion past said inlet, and means for securing said flanges to the wall or partition, substantially as described. 45

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses. 50

CASPER FAUST.

Witnesses:

F. D. CARSON,
W. F. MOORE.