

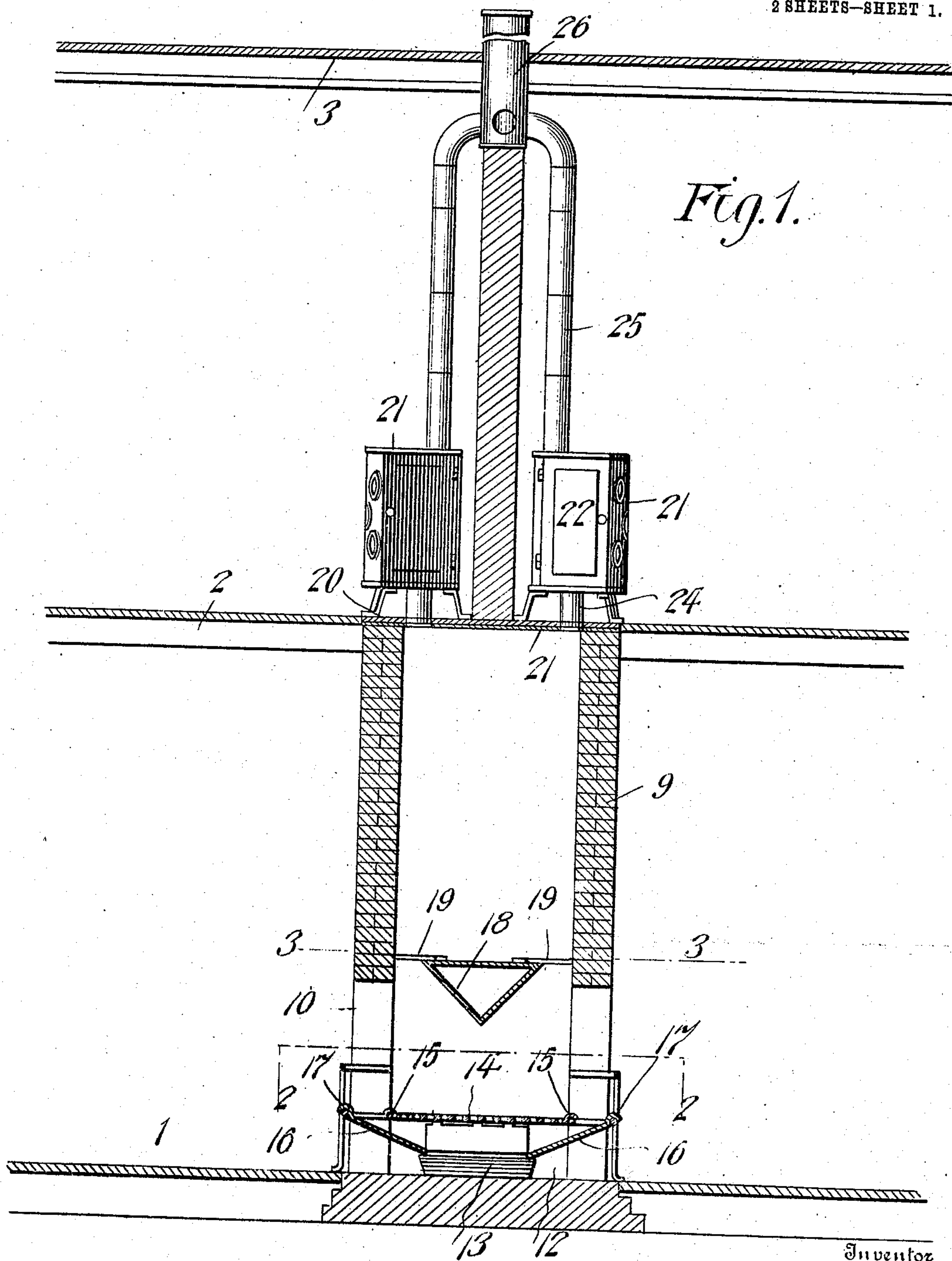
No. 859,879.

PATENTED JULY 9, 1907.

E. GORDON.
HEATING SYSTEM.

APPLICATION FILED JULY 21, 1906.

2 SHEETS—SHEET 1.



Witnesses
Geo. Ackman Jr.
C. C. Hines.

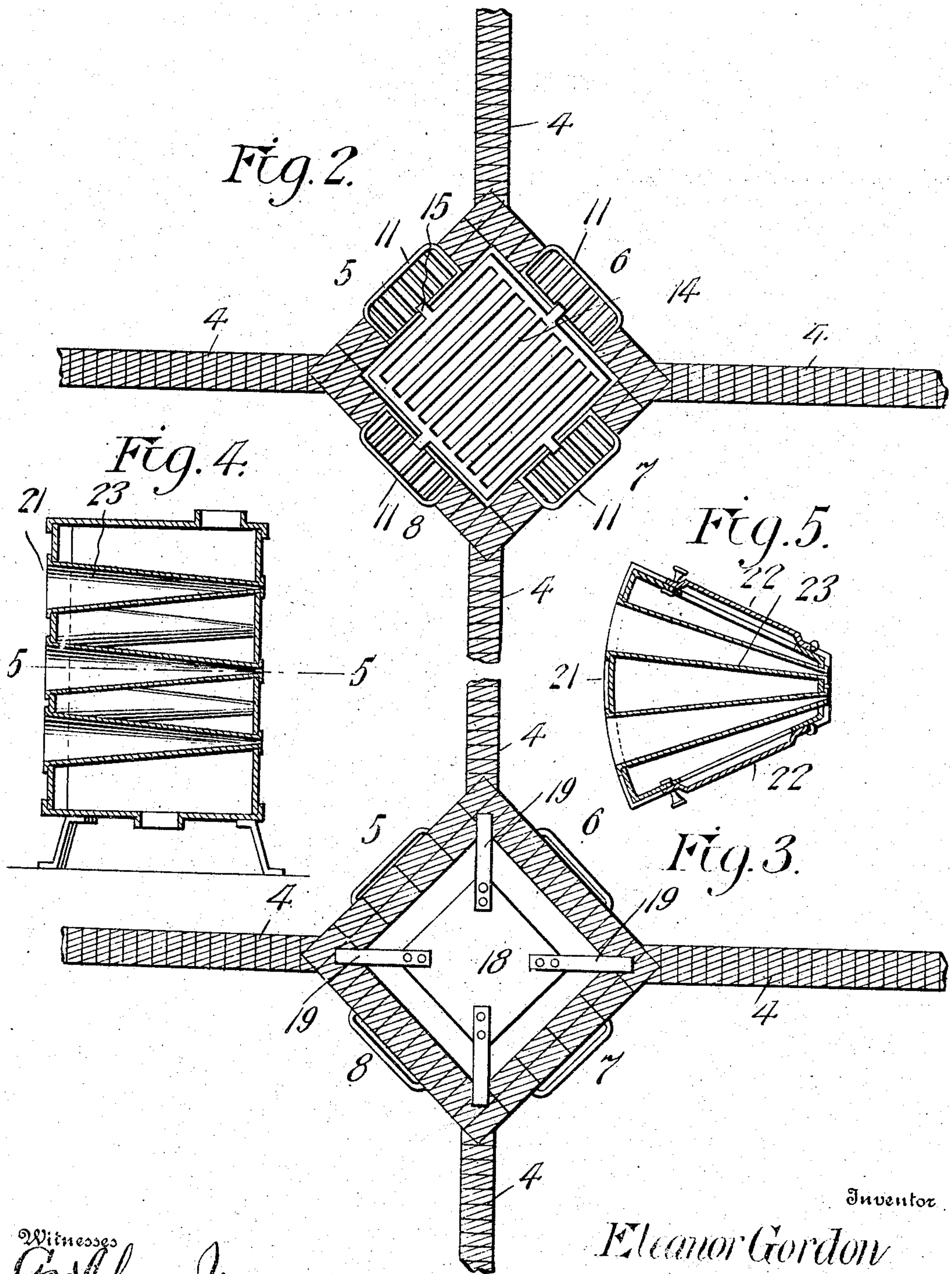
Inventor
Eleanor Gordon
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Attorney

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Geo. Hickman
C. C. Hines

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UNITED STATES PATENT OFFICE.

ELEANOR GORDON, OF GEORGETOWN, OHIO.

HEATING SYSTEM.

No. 859,879.

Specification of Letters Patent.

Patented July 9, 1907.

Application filed July 21, 1906. Serial No. 327,182.

To all whom it may concern:

Be it known that I, ELEANOR GORDON, a citizen of the United States, residing at Georgetown, in the county of Brown and State of Ohio, have invented new and useful Improvements in Heating Systems, of which the following is a specification.

This invention relates to an improved heating system, and is designed primarily to provide a heating apparatus constructed so as to heat and ventilate a plurality of rooms of a building through and by the use of a single fire, thereby securing economy of fuel and convenience, as well as economy, in the labor of attendance.

The invention as shown is constructed and arranged to heat the four lower and four upper rooms of an ordinary eight-room house or apartment, but it will, of course, be understood that the construction and arrangement may be varied for heating buildings or apartments containing a greater or lesser number of rooms.

In the accompanying drawings,—Figure 1 is a vertical section, taken centrally through the floors of a building and the improved heating apparatus. Figs. 2 and 3 are respectively sectional plan views on the lines 2—2 and 3—3 of Fig. 1. Fig. 4 is a vertical front to rear section through one of the drums or radiators employed in the system. Fig. 5 is a horizontal transverse section of the same on the line 5—5 of Fig. 4.

Referring to the drawings, the numerals 1, 2 and 3 designate the first and second floors and the roof of a two-story building, each floor of which is divided by the partition walls 4 to form the four rooms or apartments 5, 6, 7 and 8, respectively. A chimney or flue 9 is built between the first and second floors at the corner or point of intersection of the walls 4 and communicates at its base with an open fire place 10 in which are arranged a series of individual grates 11, one for each of the lower rooms or apartments. The ash pit 12 of the fire place contains a preferred form of ash pan or receptacle 13, above which is arranged a main grate 14 adapted to support a main bed of fuel, said grate 14 being provided with hooks or engaging members 15 to support it from the rear cross bars of the individual grates 11. Inclined conductors or chute plates 16, equal in number to the individual grates, lead therefrom below the main grate to catch and conduct the ashes from all the grates to the ash pan 13. These chute plates are preferably detachably hung from the individual grates by providing them at their front edges with hooks 17 to rest upon the lower front cross bars of said grates, and the rear edges of said plates rest upon and are supported by the ash pan, as clearly shown in Fig. 1. Arranged in the flue or chimney 9 at the top of the fire place is a conical heat radiator and deflector 18 supported from the flue by arms 19. This deflector is so formed as to provide deflecting sides or surfaces

equal in number to the individual grates, and serves to properly guide the heated currents of air and products of combustion therefrom, to equalize the draft and to store up heat which is radiated therefrom when the fire is banked or becomes low to maintain and diffuse a proper degree of warmth throughout the several rooms or apartments.

The flue or chimney 9, which is preferably constructed of brick, or some other suitable non-conducting material, extends upward through the floor 2 and is closed at its upper end by a metallic plate 20 which forms the base for a series of drums or radiators 21 arranged in the rooms or apartments of the second floor of the building, a sheet of asbestos or other suitable material 21 being arranged beneath said plate to prevent it from becoming unduly heated from the products of combustion and to secure safety as an element of fire prevention. Each drum or radiator 21 is composed of a body or casing, preferably of sheet metal, provided at its sides with doors 22 to admit access thereto, the general form of each radiator being similar to that of a heating stove in order to simulate the use of such a stove in each of the upper rooms or apartments. Extending from front to rear through the body or casing of each radiator are conical flues or passages 23, preferably arranged in rows or series with the flues of one row or series arranged on a line between the flues of the other row or rows. The air in the compartment circulates through these flues and is thereby heated through the heat taken up from the hot air and products of combustion passing through the drum or radiator. The bottom of the drum is provided with a central inlet connected by a pipe 24 with the flue or chimney 9, while the top of the drum is provided with an outlet connecting with a flue or pipe 25 leading to a final exhaust flue 26 extending through the roof 3 and adapted to discharge the waste products of combustion to the atmosphere. The outlet of the drum with which the pipe 25 connects is arranged near the back of the drum to retard to a sufficient extent the exhaust of the heated air and products from the drum, as well as to leave the front portion of the top plate of the drum clear so that cooking or heating utensils may be placed thereon for boiling water and preparing beverages and light food stuffs.

It will be seen that by reason of the peculiar construction and arrangement of the parts of the heating apparatus an open fire place common to all of the rooms or apartments of the lower floor of the building will be provided to heat such rooms, and that the heat rising therefrom will be utilized through the medium of the radiators to heat all of the rooms of the second floor, thus enabling all of the rooms in the building to be heated from a single fire. An apparatus of this type will be found entirely adequate for the proper heating of small buildings and comparatively large buildings in temperate climes, and its advantages in securing

economy in the use of fuel and in the labor of attendance will be appreciated.

Having thus described the invention, what is claimed as new, is:—

5 1. In combination with upper and lower floors of a building, a fire place arranged at the point of junction of the walls of the adjoining rooms of the lower floor, individual grates in the fireplace, one for each room, a main grate between the individual grates to support therewith a common bed of fuel; a flue leading upwardly from said fire place to the upper floor and provided at its upper end with a closure, a final outlet flue leading to the exterior, and radiators in the rooms of the upper floor provided with inlet pipes extending through said closure into the flue and with outlet pipes leading therefrom to the said final outlet flue.

20 2. A heating system embodying a flue built at the point of juncture of the walls of a plurality of rooms, a fire place arranged at the lower end of the flue and having openings communicating with the respective rooms, individual grates arranged within the said openings, a main grate common to all the rooms arranged within the fire place and forming in conjunction with the individual grates a support for a common bed of fuel, and radiators correspondingly arranged in the rooms of an upper floor and communicating with the upper end of the flue.

25 3. A heating system comprising a fire place arranged at the juncture of the rooms on one floor of the building, individual grates in the fireplace, one for each room, a main grate cooperating with said individual grates to

support a bed of fuel common to all of the rooms, a flue leading upward from said fire place and in open communication with all the grates, and radiators in upper compartments communicating with said flue and adapted to utilize the waste heat therefrom.

35 4. A heating system embodying a flue of rectangular form having its corners arranged in line with partition walls forming a plurality of rooms and its sides arranged obliquely across the adjacent corners of the rooms, a fire place at the base of the flue having openings in the sides thereof, individual grates arranged in the said openings, and a main grate arranged in the flue between said individual grates and operating in conjunction therewith to support a bed of fuel, thereby forming an open fire place common to all the rooms.

40 5. A heating system comprising a flue or chimney built at the corner angle of a plurality of rooms, an open fireplace at the base thereof, individual grates at the respective sides of the fireplace and in open communication therewith, one for each room, a main grate between said individual grates and common to all the rooms, a deflector in the flue above the main grate presenting surfaces equal in number to the individual grates, and a series of radiators communicating with the upper end of said flue.

45 In testimony whereof, I affix my signature in presence of two witnesses.

ELEANOR GORDON.

Witnesses:

J. WALTER BAGBY,
ELI B. PARKER.