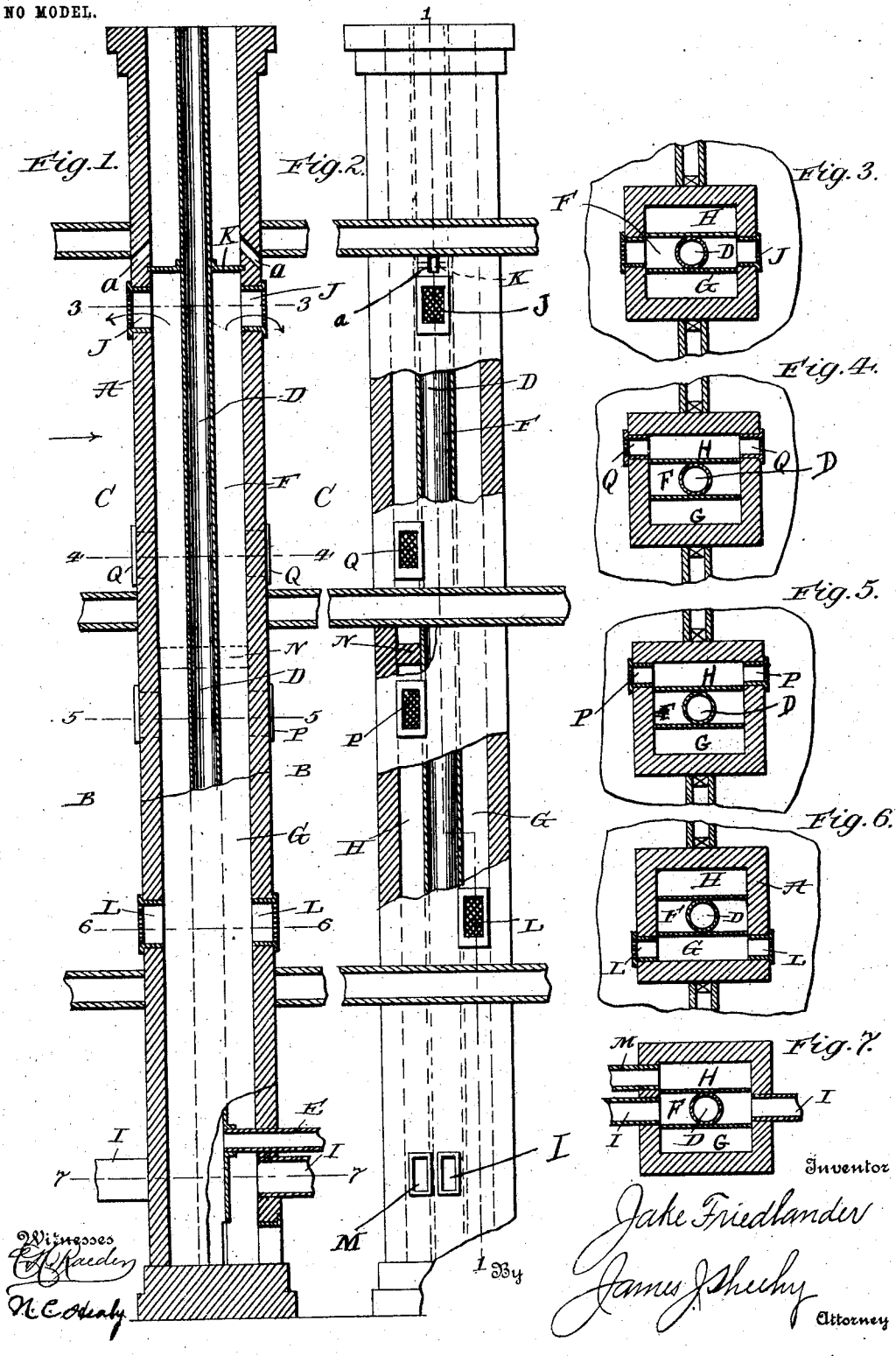
No. 761,953. PATENTED JUNE 7, 1904.

J. FRIEDLANDER.

MEANS FOR HEATING AND VENTILATING BUILDINGS.

APPLICATION FILED NOV. 20, 1903.

NO MODEL.



THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 761,953. Patented June 7, 1904.

UNITED STATES PATENT OFFICE.

JAKE FRIEDLANDER, OF GRAND FORKS, NORTH DAKOTA.

MEANS FOR HEATING AND VENTILATING BUILDINGS.

SPECIFICATION forming part of Letters Patent No. 761,953, dated June 7, 1904.

Application filed November 20, 1903. Serial No. 182,003. (No model.)

To all whom it may concern:

Be it known that I, JAKE FRIEDLANDER, a citizen of the United States, residing at Grand Forks, in the county of Grand Forks and State of North Dakota, have invented new and useful Improvements in Means for Heating and Ventilating Buildings, of which the following is a specification.

My invention pertains to the heating and ventilation of buildings; and it consists in the peculiar and advantageous construction hereinafter described and particularly pointed out in the claims appended.

In the accompanying drawings, forming part of this specification, Figure 1 is a section taken on the line 1 1 of Fig. 2 and showing parts of the inner wall of the flue G broken away and the duct E and one duct I in vertical section; Fig. 2, a view, partly in elevation and partly in vertical section, taken at right angles to Fig. 1; and Figs. 3, 4, 5, 6, and 7, transverse sections taken in the planes indicated by the lines 3 3, 4 4, 5 5, 6 6, and 7 7, respectively, of Fig. 1.

Similar letters designate corresponding parts in all of the several views of the drawings, referring to which—

A is a chimney, preferably of brick, which extends throughout the height of the building to be heated and ventilated.

B B and C C are apartments of the building.

D is a smoke-pipe, of steel or other suitable material, occupying the center and extending throughout the height of the chimney A and having adjacent to its lower end a branch E, designed to be connected to a furnace or other suitable source of heat-supply, and F, G, and H are flues also contained in the chimney. The flue F, in which the smoke-pipe D is arranged, is connected at its lower end to cold-air ducts I and is provided adjacent to the ceilings of the upper apartments C with registers J for supplying the same with fresh heated air. At a slight distance above the said registers flue F is closed by a wall K, as shown in Fig. 1. The upper portion of the said flue F is open to the atmosphere and when desired may be connected with the upper portions of the apartments C through the medium of ducts *a*. The ducts *a* are designed to carry off light vitiated air from the portions of the apartments C adjacent to the ceilings thereof. Said ducts *a* are much smaller than the registers J, and hence they will serve the purpose stated without exhausting the apartments of material quantities of fresh heated air. As best shown in Figs. 1, 2, and 6, the flue G extends throughout the height of the chimney and is connected with the lower apartments B by registers L, located slightly above the floor of the apartments. Said flue G has for its sole purpose to carry off foul air from the lower apartments B. The flue H is connected adjacent to its lower end to a cold-air duct M, Figs. 2 and 7, is closed at a point slightly below the ceilings of the lower apartments by a wall N, Fig. 2, and is provided below the wall with registers P, which serve to connect it to the upper portions of the lower apartments B. From this it follows that the flue H is adapted to supply the lower apartments with fresh heated air. The portion of said flue H above the wall N is open to the atmosphere and is connected by registers Q with the lower portions of the upper apartments C, so as to conduct foul air from the same.

In the practical use of my novel heater and ventilator it will be observed that the heat radiated from the smoke-pipe D will heat the air supplied to the apartments B and C by the flues F and H incident to the passage of the air to said apartments, and it will also be observed that the three flues F, G, and H will serve to exhaust the apartments of vitiated air, with the result that a pure warm atmosphere will be maintained therein. It will further be observed that when the furnace or other source of heat-supply is not in operation the flues F, G, and H will serve to ventilate the apartments B and C and render the same cool and comfortable.

Notwithstanding the advantages of my novel heating and ventilating means, as pointed out in the foregoing, it will be noticed that the means occupies no more space in a building than an ordinary chimney and is but little more expensive than a chimney, which is an important desideratum.

I have entered into a detailed description of the construction and relative arrangement of the parts embraced in the present and preferred embodiment of my invention in order to impart a full, clear, and exact understanding of the same. I do not desire, however, to be understood as confining myself to such specific construction and relative arrangement of parts, as such changes or modifications may be made in practice as fairly fall within the scope of my invention as claimed.

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

1. The combination of lower and upper apartments, a chimney, a central flue arranged in the chimney and extending throughout the width thereof and open at its upper end; said central flue having a cold-air inlet in its lower portion, a horizontal wall at an intermediate point of its height dividing it into lower and upper portions, a duct disposed above said wall and connecting it with the top of the upper apartment, and a larger duct disposed below said wall and connected with the top of the upper apartment for conducting heated air to the same, a flue G arranged in the chimney at one side of the central flue, extending throughout the width of the chimney, and open at its upper end; said flue G having a duct corresponding in size to the second-mentioned duct and connected with the bottom of the lower apartment, a flue H arranged in and extending throughout the width of the chimney, at the opposite side of the central flue with reference to the flue G, and open at its upper end; said flue H having a horizontal wall which divides it into lower and upper portions, a cold-air duct connected to its lower portion, a duct corresponding in size to the second-mentioned duct and connecting its lower portion and the top of the lower apartment, and a similar duct connecting its upper portion and the bottom of the upper apartment, and a pipe arranged in the central flue, and adapted to be connected with a source of heat-supply.

2. The combination of an apartment, a chimney, a flue arranged in the chimney and open at its upper end; said flue having a cold-air inlet in its lower portion, a horizontal wall at an intermediate point of its height dividing it into lower and upper portions, a duct disposed above said wall and connected with the top of the apartment, and a larger duct disposed below said wall and connected with the top of the apartment, and a second flue arranged in the chimney and open at its upper end and having a duct corresponding in size to the second-mentioned flue and connected with the bottom of the apartment.

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

JAKE FRIEDLANDER.

Witnesses:
W. H. SHULZE,
F. S. SARGENT.