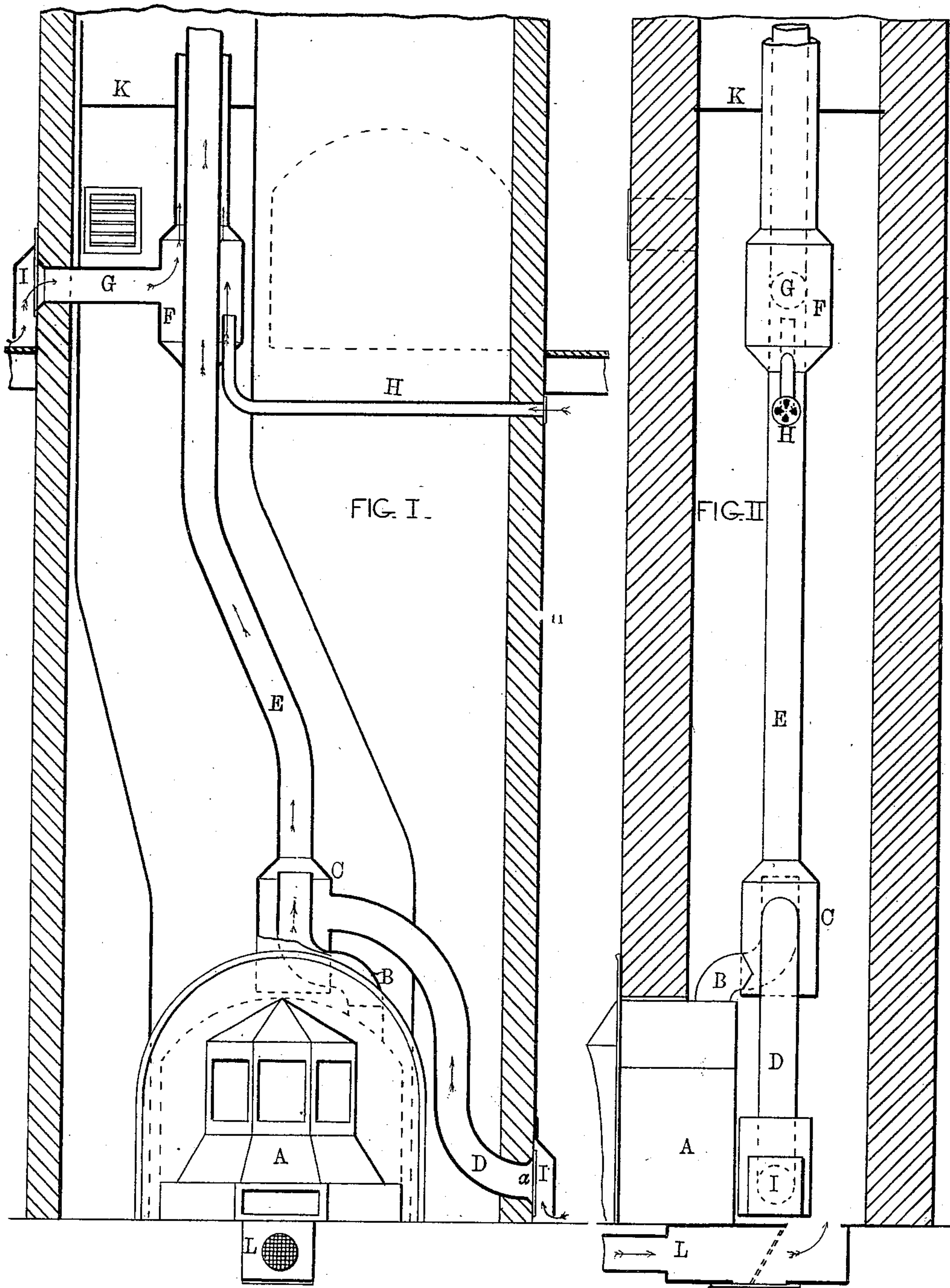


J. W. GEDDES.  
Heating and Ventilating Apparatus.  
No. 228,188.                      Patented June 1, 1880.



—WITNESSES:—

*Alex. Scott*  
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—INVENTOR:—

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# UNITED STATES PATENT OFFICE.

JAMES W. GEDDES, OF BALTIMORE, MARYLAND.

## HEATING AND VENTILATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 228,188, dated June 1, 1880.

Application filed September 5, 1879.

*To all whom it may concern :*

Be it known that I, JAMES W. GEDDES, of the city of Baltimore and State of Maryland, have invented certain Improvements in Heating and Ventilating Apparatus, of which the following is a specification; and I do hereby declare that in the same is contained a full, clear, and exact description of my said invention, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The object of this invention is to furnish a cheap method of ventilating and heating several apartments of a building with a single stove or other heater, the various currents of air being effected by heat which is usually lost.

The said invention consists in forming in the chimney-flue a hot-air chamber, which is supplied with pure air from the exterior of the building, and locating in the said hot-air chamber a series of drums and pipes, which serve to carry off the products of combustion from the stove or heater, and in connecting the said pipes and drums with the apartments to be ventilated by means of suitable ducts located near the floor and the ceiling of the same, as will hereinafter fully appear.

In the further description of the said invention which follows, reference is made to the accompanying drawings, forming a part hereof, and in which—

Figure 1 is a vertical section of the apparatus. Fig. 2 is a vertical section from another point of view.

Similar letters of reference indicate similar parts in both views.

In the said drawings, A is a fire-place stove or heater, and B a smoke-pipe which carries the products of combustion from the said stove to a drum, C, thereby forming an annular space, into which a pipe, D, designed to carry off impure air from near the floor of the lower apartment, enters. The said pipe D is necessarily provided with a register, *a*, to regulate the volume of air taken from the apartment.

E is a pipe extending from the upper part of the drum C to a second drum, F, situated in the second story of the building, and through the said drum to the remaining stories, which are likewise provided with drums of a similar character.

G is a ventilating-pipe, corresponding to the one, D, which conducts air from near the floor of the apartment in the second story of the building. Impure air and surplus heat from near the ceiling of the apartments is conducted to the interior of the smoke-pipe, which is represented by B and E, or to the space around the smoke-pipe, by means of ducts, one of which is shown and designated by H.

In order to practically lower the ventilating-pipes D to a point unattainable where the ends of the said pipe are exposed, I cover the said pipes with shields I, which have ingress-apertures only at the lower side thereof, as shown in the drawings.

The stove and upright pipes and the drums are inclosed by a casing to form a hot-air chamber, from which heated air is admitted to the apartments through registers, and the said chamber is divided into compartments by means of flue-boards K, to prevent the escape of the heated air.

The air supplied to the stove, to be heated and transferred to the upper apartments, is taken from without the building through a pipe, L, and to prevent dust from passing with the heated air to the said apartments I place within said pipe a strainer of some woven fabric or perforated metal, or both.

From the foregoing description it will be understood that only filtered air from the exterior of the building is heated and delivered to the upper apartments, which air, after becoming charged with impure gases, is conducted from near the floor and ceiling to the smoke-pipes, thus retaining the atmosphere of the rooms in a pure condition.

I am aware that in house-ventilation a circuitous circulation of the air of an apartment from the floor of the same through a heated-air chamber has been effected by admitting the air at the bottom of said chamber and passing it through in a continuous current without contact with a falling or counter current back into said apartment. In such a construction the object has been to obtain ventilation at a low point of altitude, close to the floor, by the uniform temperature acquired in consequence of the complete circulation; but the apparatus employed differs from my invention, not only in construction, but also in

purpose and effect, and is not employed in connection with a hot-air chamber formed in the chimney-flue.

I am further aware that it is not new, broadly,  
5 to produce a more perfect ventilation of apartments in buildings by means of induced currents drawn from such apartments through openings into ventilating-flues by ascending currents of warm air in such flues, and also  
10 that ventilating-pipes have been provided with trunks extending to near the floor, the said trunks having been supplied with valves intended to facilitate the removal of carbonic-acid gas, and such I do not, therefore, broadly  
15 claim; but

I claim as my invention—

1. A hot-air chamber supplied with pure air from the exterior of the building, and located within the chimney-flue, combined with a se-

ries of drums and pipes in said air-chamber, 20 serving to carry off the products of combustion from the stove or heater, and suitable ducts leading from near the floors and ceilings of the apartments to be ventilated and connecting with the said pipes and drums, sub- 25 stantially as specified.

2. A hot-air chamber located within the chimney-flue and containing a series of drums and pipes connected with the stove or heater, and serving to convey products of combustion 30 therefrom, combined with floor-pipes leading to said drums and having their ends near the floors guarded by shields, substantially as and for the purposes set forth.

JAMES W. GEDDES.

Witnesses:

WM. T. HOWARD,  
CHARLES A. VAILE.