

C. KLEINSCHMIDT.  
 HEATING AND VENTILATING SYSTEM.  
 APPLICATION FILED JAN. 30, 1911.

1,002,407.

Patented Sept. 5, 1911.

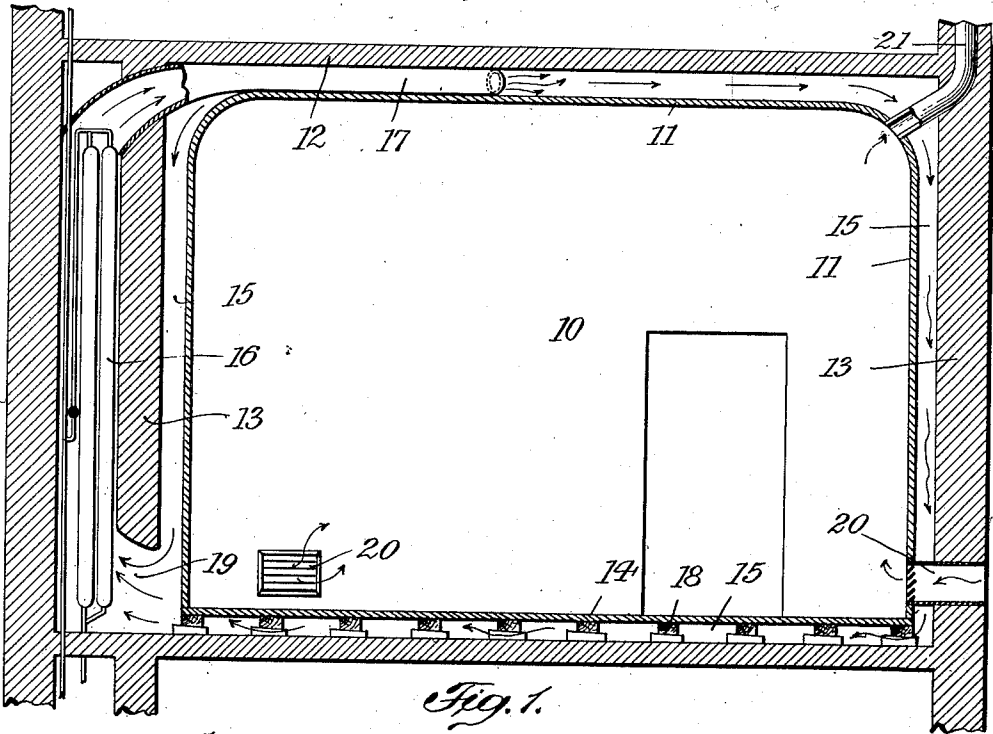


Fig. 1.

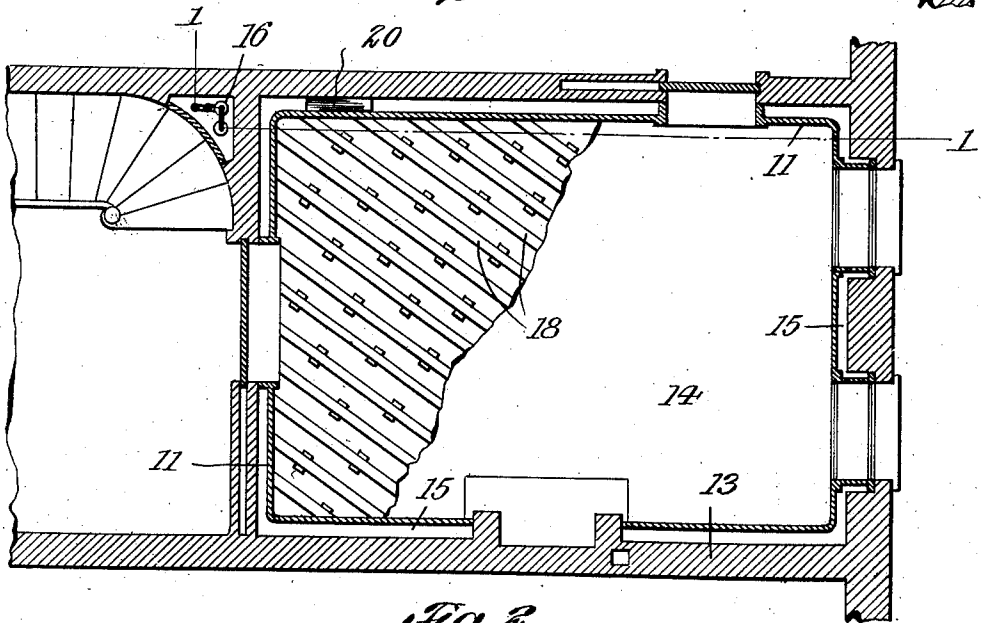


Fig. 2.

Witnesses:  
*Julius [Signature]*  
*Daniel [Signature]*

Inventor  
 Carl Kleinschmidt  
 By his Attorneys  
*Bieren & Gumpel, per [Signature]*

# UNITED STATES PATENT OFFICE.

CARL KLEINSCHMIDT, OF BRUSSELS, BELGIUM.

## HEATING AND VENTILATING SYSTEM.

1,002,407.

Specification of Letters Patent. Patented Sept. 5, 1911.

Application filed January 30, 1911. Serial No. 605,393.

To all whom it may concern:

Be it known that I, CARL KLEINSCHMIDT, a citizen of Belgium, residing at Brussels, Belgium, have invented a new and Improved Heating and Ventilating System, of which the following is a specification.

This invention relates to novel and efficient means for heating dwelling apartments by a surrounding air jacket and for maintaining a fresh supply of pure breathing air which is entirely separated from the heating air.

In the accompanying drawing:

Figure 1 is a vertical section through a dwelling room embodying my invention, taken on line 1—1, Fig. 2, and Fig. 2 a horizontal section with the floor partly broken away.

The general principle underlying my invention is to entirely separate the heating air of a room from the breathing air. Each apartment to which the invention is applied, is completely encompassed at its walls as well as at its ceiling and floor by a narrow air space and into the top of this space is conveyed the heating air supplied from a suitable source. This hot air will spread uniformly along the ceiling and will descend within the hollow walls to give up its heat to the room and to thus become gradually cooled from top to bottom. In this way the maximum heat is given off at the ceiling, while within the walls the temperature of the heating air gradually and uniformly decreases from the ceiling toward the floor. The breathing air within the room, jacketed in the manner described, will thus become uniformly heated to ascend toward the ceiling where it will encounter the maximum temperature. In this way the foul air will gather at the ceiling where it is retained owing to the high temperature here provided, so that it is prevented from re-descending toward the floor. Means are provided for discharging this foul air from the room at a point in proximity to the ceiling and for admitting fresh air at a point near the floor so that the purity of the air is permanently maintained. The heating air descending along the walls, flows underneath the floor, is reheated and is again sent up to the ceiling, so that a cycle is established which furnishes the desired graded heating medium.

Referring to the drawing, the room 10 is

provided with a lining 11 extending along the ceiling 12, and walls 13 while the floor 14 is hollow so as to obtain a continuous air jacket 15 encompassing the room. A heater 16 located at a suitable place and at an elevation below that of the ceiling communicates at its top with a flue 17, that opens into jacket 15 below ceiling 12 and preferably below the center thereof. The floor beams 18 are preferably so placed as to direct the returning heating air toward heater 16, the drawing showing them arranged in an oblique direction to cooperate with a heat generator located outside one of the corners of the room. Jacket 15 communicates with heater 16 by an opening 19 in wall 13 formed near the floor so that in this way the cooled heating air becomes reheated and is returned to the ceiling to establish the cycle desired.

The breathing air enters the room through one or more registers 20 arranged near the floor and is discharged through one or more flues 21 located near the ceiling. These air ingress and egress means pass through jacket 15 as shown, so that a complete separation of heating air and breathing air is obtained.

I claim:

1. A heating and ventilating system for dwelling apartments with separate heating air and breathing air, comprising a room having a surrounding air space which is out of communication with the room, air-heating means located exteriorly of said room, means for connecting the air spaces along the ceiling and floor of the room with said heating means to produce a circulation of the heating air whereby said air is caused to descend in the air spaces along the room walls, means for introducing breathing air near the room floor, and means for discharging the heated and ascending foul breathing air at the room ceiling, thereby preventing a re-descending of said foul air and an intermixing thereof with fresh breathing air.

2. A heating and ventilating system for dwelling apartments with separate heating air and breathing air, comprising a room having a surrounding air space which is out of communication with the room, air-heating means located exteriorly of said room, an open-ended pipe extending from the top of said heating means into the air space along the ceiling of the room, means for connecting the air space along the room floor

with the bottom of the heating means to  
produce a circulation of the heating air,  
whereby said air is caused to descend in the  
air spaces along the room walls, means for  
5 introducing breathing air near the room  
floor, and means for discharging the heated  
and ascending foul air at the room ceiling,

the heated room walls preventing a rede-  
scending of said foul air and an intermix-  
ture thereof with fresh breathing air.

CARL KLEINSCHMIDT.

Witnesses:

M. GERBEAULT,

G. ROOSEVELT PHELAN.