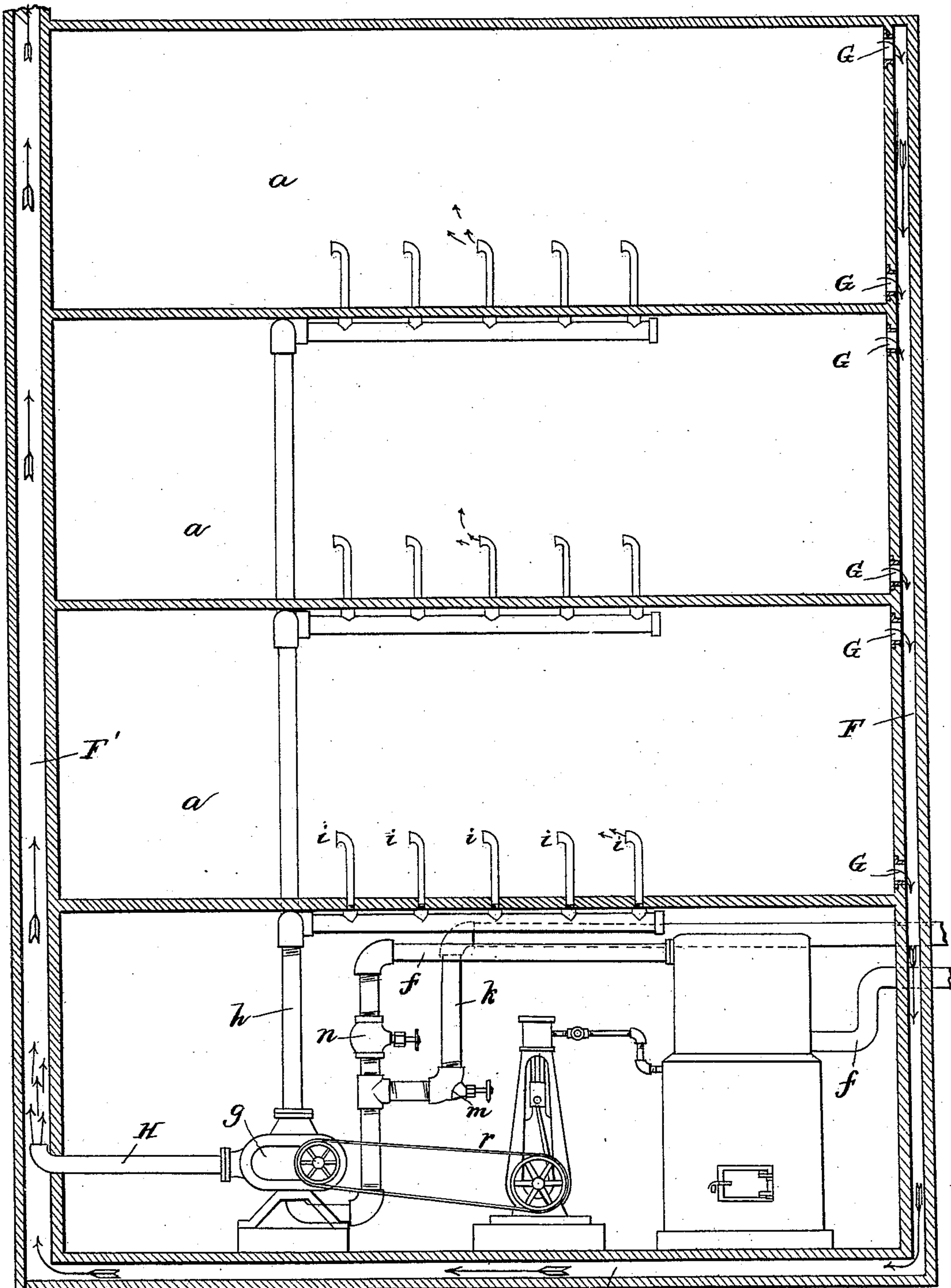


(No Model.)

C. A. KIMPTON.
APPARATUS FOR VENTILATING BUILDINGS.

No. 444,444.

Patented Jan. 13, 1891.



WITNESSES:

O. G. Bartlett
A. D. Harrison

F''

INVENTOR:

C. A. Kimpton
by Wright & Brown
Attys

UNITED STATES PATENT OFFICE.

CHARLES A. KIMPTON, OF MALDEN, ASSIGNOR OF THREE-FOURTHS TO
J. C. BENNETT AND F. R. WHITE, BOTH OF LYNN, MASSACHUSETTS.

APPARATUS FOR VENTILATING BUILDINGS.

SPECIFICATION forming part of Letters Patent No. 444,444, dated January 13, 1891.

Application filed May 5, 1890. Serial No. 350,617. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. KIMPTON, of Malden, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Apparatus for Ventilating Buildings, of which the following is a specification.

This invention has for its object to provide improved apparatus by which vitiated air can be easily and speedily withdrawn from one of or the whole of the apartments of a building and replaced by fresh air.

The invention consists in a blower or air-forcing apparatus located in the basement or other suitable part of a building, or in a separate building, an ascending flue into which air is led from the blower and forced upwardly to create an upward draft in said ascending flue, a descending flue connecting with the several apartments of a building, and a pipe or flue connecting the lower ends of said ascending and descending flues, all of which I will now proceed to describe.

In the accompanying drawing, forming a part of this specification, the figure represents a sectional view of a building having my improved ventilating apparatus and a system of ventilating pipes or flues constituting my invention.

In the drawing, *a a* represent apartments in a building. *g* represents a blower or air-forcing apparatus of any suitable form or construction. The blower is here shown as driven by a stationary engine *r*.

F represents a descending pipe or flue running down the walls of a building and connecting with the apartments thereof by the registers *G*, of which there are preferably two or more for each apartment, one near the floor and the other near the ceiling, so that air can pass from either the upper or the lower portion of each room or apartment into the flue *F* or from both portions. The top of the said pipe or flue *F* is preferably closed at its upper end, but it may be provided with a valve or other means for opening and closing at said end. The lower end of said flue *F* is connected by the horizontal flue or pipe *F''* with the lower end of the ascending flue or

pipe *F'*, the upper end of which opens into the air above the building.

H represents a pipe leading air from the blower *g* into the ascending flue *F'*. Said pipe *H* projects into the flue *F'*, and the end of said pipe *H* is bent upward inside of said flue, so as to deliver an ascending current of air to the flue *F'*. By inducing an upward current of air in the flue *F'* a descending current is produced in the flue *F* through the connecting-flue *F''*. By this means when the registers *G* are opened vitiated air is drawn from the apartments *a a*, and by allowing air to enter through the windows or other apertures of said apartments a constant draft may be obtained, and the same may be regulated by the opening and closing of the registers *G*.

The arrows in the drawing indicate the direction of the current of air.

It will be seen that by the use of the apparatus above described the air of one or of the whole of the apartments in a building may be readily and quickly changed, the vitiated air being removed by the induced draft in the flue *F*, thus giving way to fresh air which enters the apartment to fill its place.

The fresh air may be supplied by the blower *g* to the apartments *a* through a pipe *h* communicating with delivery pipes or funnels *i i* in the apartments.

I have shown means for supplying the blower with either cold or hot air, or with air tempered to any desired degree, said means being a pipe *f*, which passes from the outside air through a heater *c* to the blower, and a branch pipe *k*, which admits cold air to the pipe *f*. The branch pipe *k* is partly shown in dotted lines in its extension to the outside of the building. The pipe *f* has a valve *n*, and the pipe *k* has a valve *m*, so that either pipe may be wholly or partly closed to vary the quantity of air supplied. This apparatus is shown and described in another application for Letters Patent filed by me April 3, 1889, Serial No. 306,089.

I claim—

The herein-described improved apparatus for ventilating buildings, which consists of the

combination, with a building having a series
of apartments, flues, or conduits F F', located
at opposite sides of such apartments, said
flue F extending downwardly from the upper
5 portion of the building and communicating
with said apartments to draw air therefrom,
while the flue F' extends upwardly to the ex-
ternal air without communication with said
apartments, and the flue F'', connecting said
10 former flues at their lower ends, of an air-
forcing apparatus communicating with de-
livery pipes or funnels in said apartments,
and having also an outlet-pipe extending up-

wardly into said flue F', substantially as set
forth, whereby air is forced upward in said 15
flue F' and is supplied to the apartments, as
stated.

In testimony whereof I have signed my
name to this specification, in the presence of
two subscribing witnesses, this 25th day of 20
April, A. D. 1890.

CHARLES A. KIMPTON.

Witnesses:

C. F. BROWN,
A. D. HARRISON.