I. P. TICE.

Heating-Drums.

No. 143,795. Patented Oct. 21, 1873.

Fig. 1.

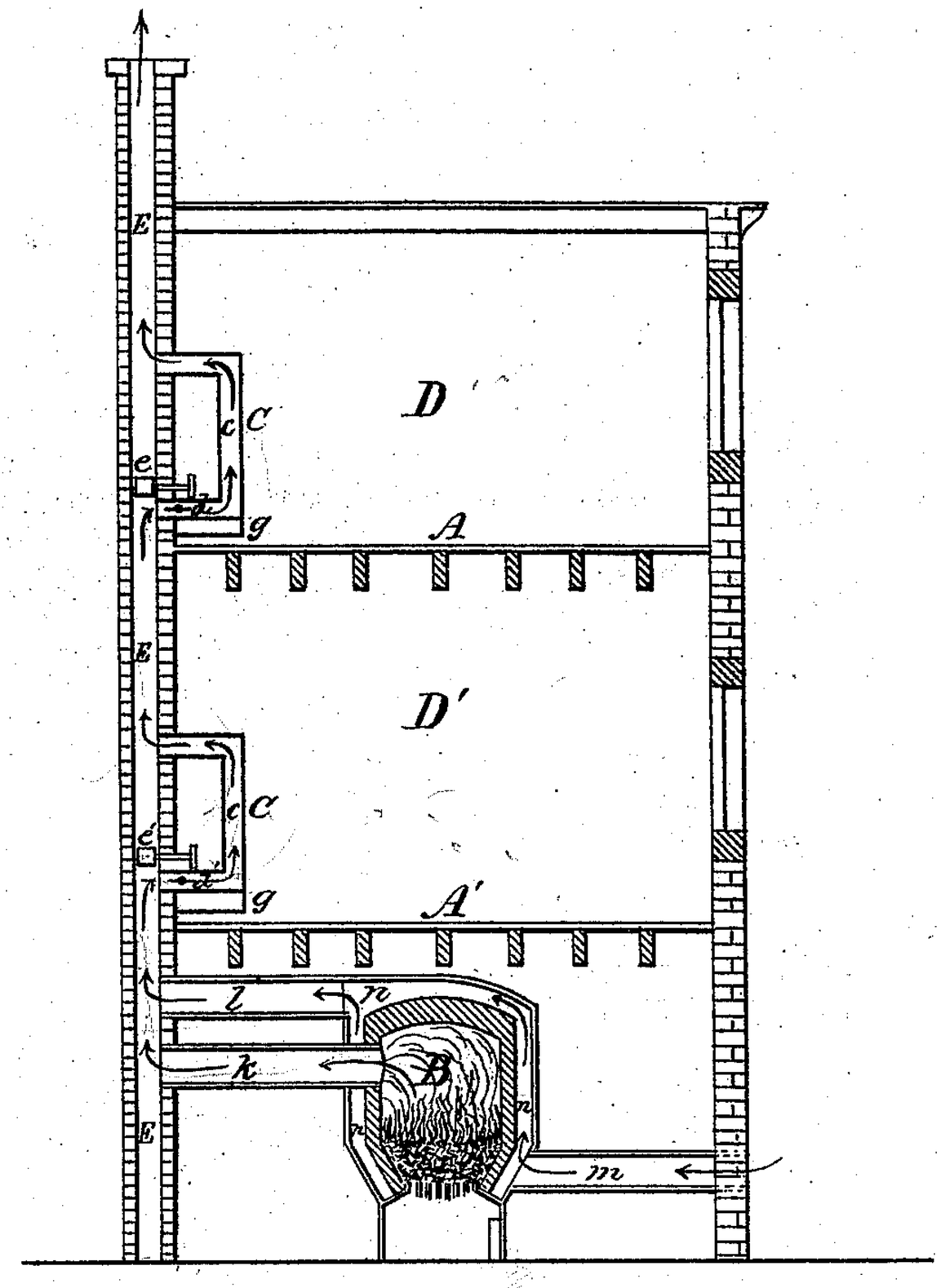
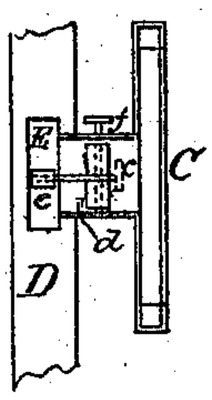


Fig 2.



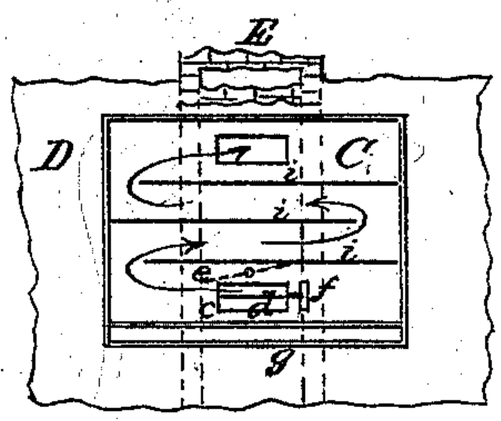


Fig. 3.

Witnesses:

J. J. Bradman

J. B. Badeau

Inventor.

Isaac P. Tice

UNITED STATES PATENT OFFICE.

ISAAC P. TICE, OF NEW YORK, N. Y.

IMPROVEMENT IN HEATING-DRUMS.

Specification forming part of Letters Patent No. **143,795**, dated October 21, 1873; application filed March 1, 1873.

To all whom it may concern:

Be it known that I, ISAAC P. TICE, of New York, N. Y., have invented an Improved Heating Apparatus, of which the following is a specification:

The object of this invention is to utilize a larger proportion of heat than has heretofore been accomplished. To effect this the flue or chimney is provided with dampers, by which the heated air and products of combustion are conducted into drums or radiators, placed at convenient localities in the various apartments through which the flue is made to pass.

To more fully illustrate the manner by which this is accomplished, reference is made to the accompanying drawings.

Figure 1 is a vertical section through E E E, rooms D D′, floors A A′, furnace B, and radiators C C′. *m* is the cold-air pipe; *n n n*, the air-space around the furnace B; *l*, the air-pipe leading to the flue; *k*, the pipe conducting the products of combustion from the furnace B to the flues E E. *e d* and *e′ d′* are the dampers in the flue to direct the heated currents passing from the furnace. C C′ are radiators through which the currents pass. *g g′* are the ash-pits below the radiators. Fig. 2 is a horizontal section through the flue and radiators C C′. D represents the wall of the building; E, the flue; C, the radiators; and *e d* the dampers in the flue E. Fig. 3 is a front view of the wall D, flue E, and radiator C. *e* is the damper in the flue E, and shown in dotted lines; *c c′*, the passage from the flue to the radiator; *d*, the damper in the radiator; *i i i*, the deflection-plates to retard the heat in passing through the radiators; and *g g′* the ash-pits.

When it is necessary to heat the rooms D D′, the dampers *e e′* in the flue are closed, and *d d′* in the radiators are opened. The heated gases then pass through the section of the flue cut off by the dampers *e e′*, and pass through the radiators C C′ and return to the flue E. By this arrangement the heated gases that usually pass unobstructed up the flue are deflected, and, by means of the radiators, the heat is utilized. The heat radiated from the furnace B is carried to the flue E E E, from the chambers *m n* through the pipe *e*.

I claim—

The furnace B, having the draft-pipe *k*, and the radiating-chamber *n n*, having the outlet and inlet pipes *l* and *m*, in combination with the flue E and radiators C, to produce the effect described.

ISAAC P. TICE.

Witnesses:

J. J. BORDMAN,

J. B. BADEAU.