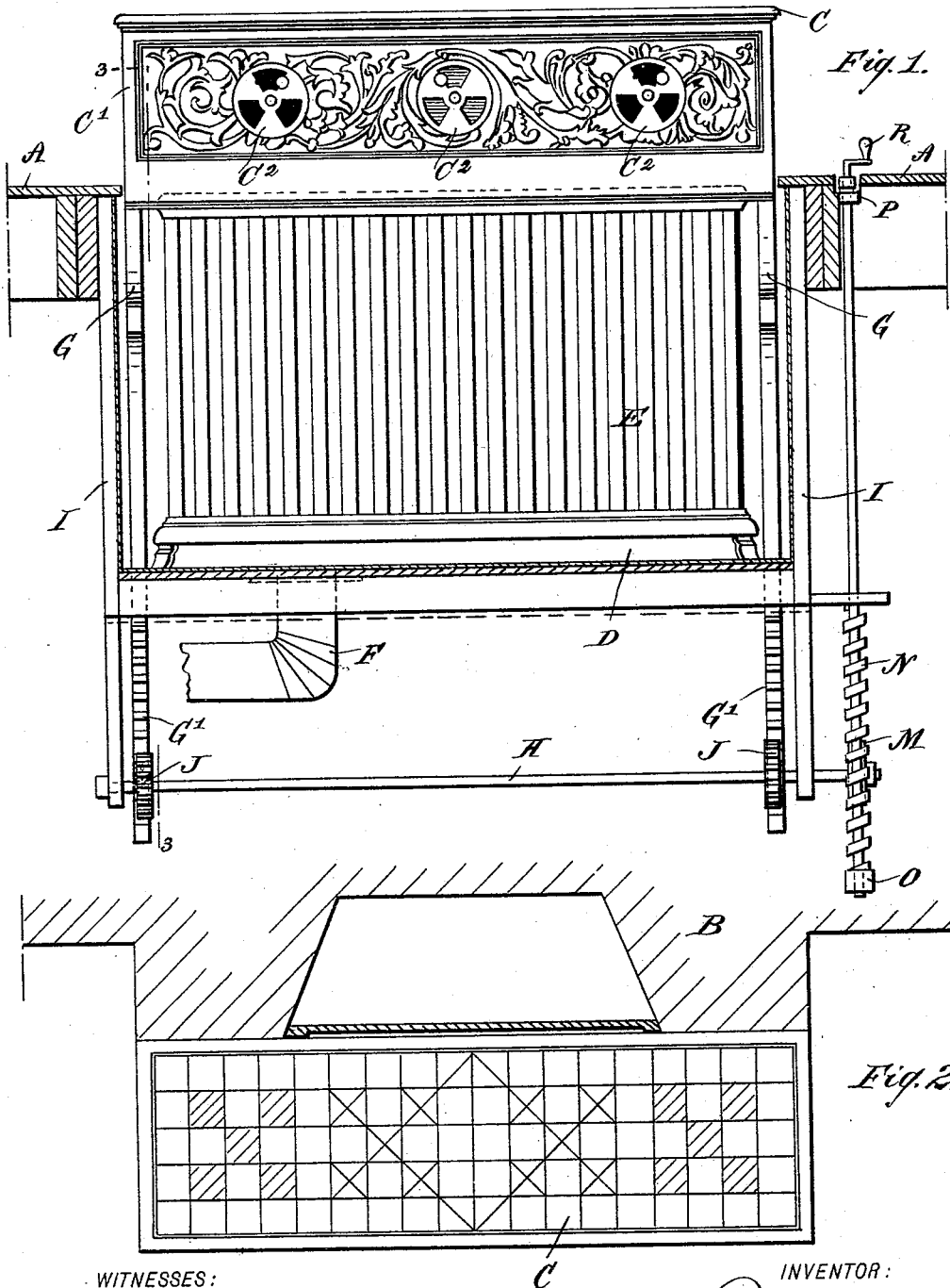


J. H. BENNETT.  
ADJUSTABLE HEARTH.

No. 454,703.

Patented June 23, 1891.



WITNESSES:

*Donn Twitchell*  
*L. Sedgewick*

INVENTOR:

*J. H. Bennett*  
BY *Munn & Co.*

ATTORNEYS

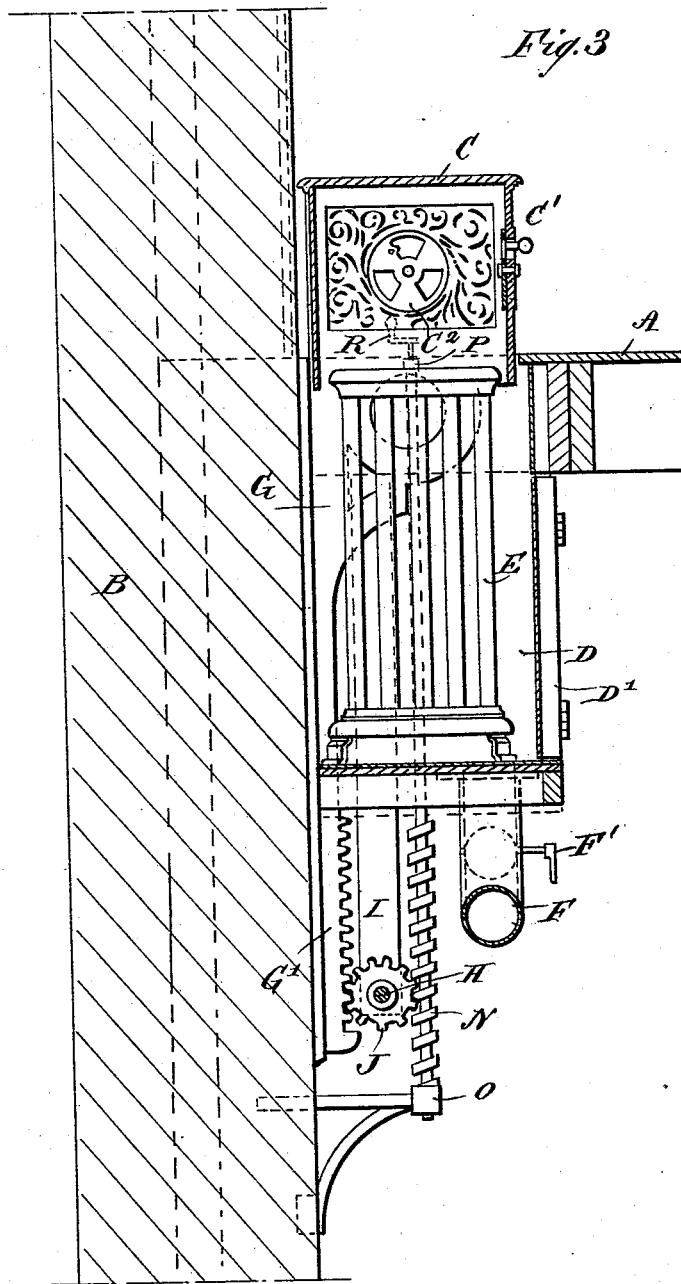
(No Model.)

2 Sheets—Sheet 2.

J. H. BENNETT.  
ADJUSTABLE HEARTH.

No. 454,703.

Patented June 23, 1891.



WITNESSES:

*Donn Twitchell*  
*W. Sedgwick*

INVENTOR:

*J. H. Bennett*  
BY *Munn & Co.*  
ATTORNEYS

# UNITED STATES PATENT OFFICE.

JOSEPH H. BENNETT, OF ST. JOSEPH, MISSOURI.

## ADJUSTABLE HEARTH.

SPECIFICATION forming part of Letters Patent No. 454,703, dated June 23, 1891.

Application filed January 28, 1891. Serial No. 379,385. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH H. BENNETT, of St. Joseph, in the county of Buchanan and State of Missouri, have invented a new and useful Convertible Hearth, of which the following is a full, clear, and exact description.

This invention relates to an improved device for the distribution of heat by indirect radiation, and has for its objects to provide a simple, practical, and efficient apparatus for the introduction of heat into apartments from below the floor-line, which will afford an ornamental heat-distributor in the winter season, and a substantial and neat hearth for a fire-place in the summer.

To these ends my invention consists in the construction and combination of parts, as is hereinafter described and claimed.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of the device in position, shown partly in section. Fig. 2 is a plan view of the hearth in place before a chimney, shown broken; and Fig. 3 is a side elevation, partly in section, of the heat-distributing apparatus on the line 3 3 in Fig. 1.

A represents the floor of an apartment in which the device is to be located, the preferred use being to distribute heat in rooms directly above a cellar or basement.

As before indicated, the heat-distributor is designed to subserve the dual purpose of a heat-effluent in the season when such a use is necessary, and also provide a chimney-hearth or basis therefor when the heating device is not in service.

To effect the indicated purposes, the floor A is cut away to afford a rectangular aperture in front of the chimney B, of proper size to receive a chimney-hearth C, which will neatly cover the aperture when imposed thereon, said hearth being the top portion of a heat-effluent box C', which will be further mentioned.

Directly below the aperture in the floor A a hot-air chamber D is hung in a stable manner from the floor-timbers, or said chamber may be supported from the cellar-floor below by any suitable means, if preferred. The hot-

air chamber D may be constructed of boards covered with sheet metal, or be formed of any other substantial fire-proof material, and is of such a relative capacity that the heat-radiator E will be contained therein, the dimensions of the latter named being proportioned to the area that is to be heated. Steam, hot water, or hot air may be conveyed to the radiator E through pipes (not shown) and serve as means for supplying caloric to said device, which will warm surrounding air in the chamber D.

The pipe F may be extended to a source of fresh air that may be the exterior of the building, and if said pipe is employed the inducted air will be heated by contact with the surface of the radiator and pass from the chamber D upwardly, to be discharged from the effluent-box C'. The door D' may also be used to admit air or afford access to adjust the valves of the radiator, which, being of ordinary form, are not shown.

Upon the chimney B, below the floor A, two similar brackets G are loosely secured in a manner which will permit them to slide vertically, said brackets being held parallel and sufficiently separated to locate them one on each side of the radiator E and adjacent thereto.

The rectangular heat-effluent box C', previously mentioned, is mounted upon the brackets G, and is made of such a relative size to the floor-opening as will allow it to reciprocate in the same, its front side and end walls being properly apertured to receive the adjustable registers C<sup>2</sup>, which may be formed as shown in Fig. 1, or be given a rectangular shape. Preferably there are three registers used on the front side of the effluent-box C' and one at each end, but this number and the comparative dimensions of the registers may be changed, if desired. The brackets G are downwardly extended below the chamber D a proper length and have a toothed rack G' formed on the outer face of each limb near their lower ends, the racks being located below the chamber D, the parts of the limbs above the racks being adapted to slide neatly in the frame of the chamber and be guided thereby, or by any other preferred means.

At a point near the lower ends of the racks

G' a transverse shaft H is revolubly supported at a proper distance therefrom by the depending hangers I, whereon the shaft is journaled. Upon the shaft H the two similar toothed  
 5 pinions J are mounted and secured at points opposite the racks G', which they engage.

One end of the shaft H projects beyond the hanger at that end, and has a worm-wheel M secured on said projecting portion, which  
 10 wheel is engaged by the screw N, that is supported at its lower end by the bracket O and projects vertically, having its upper end revolubly sustained at P, and also furnished with a crank-handle R above said support, where-  
 15 by the screw may be revolved and the connected gearing actuated.

In use the heat-effluent box C' is elevated through the floor-aperture a proper height to permit heat to escape from the registers C<sup>2</sup>,  
 20 which are adjusted to graduate its outflow as may be required, the provision of the registers affording means to control the heat and also prevent an escape of cold air inducted into the chamber D through the pipe F, the  
 25 effluent-box being closed until the air is properly warmed. Afterward the valve F' and registers are adjusted to graduate the air-current properly.

While it is preferred to make the hearth C  
 30 of tiles or similar removable slabs of material, it is also contemplated to enamel the top surface of the box C', or use marble or slab for a hearth and impose the single slab upon said surface. By the provision of the movable  
 35 hearth C and heat-effluent box C' the radiator is removed from the room and the space it occupies is available for other purposes in the summer months, and at the same time all the known advantages pertaining to the system of indirect heat-radiation are secured.  
 40

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

1. A hearth provided with registers, which is vertically movable and adapted to discharge  
 45 heat received from below, substantially as set forth.

2. A vertically-movable heat-effluent box having a hearth on top and registers on its sides, substantially as described.  
 50

3. A heat-effluent box which is adapted to discharge heat when elevated through a floor and provides a hearth when its top is aligned with or is near the floor, substantially as set forth.  
 55

4. The combination, with an inclosed radiator below the floor of an apartment, of a vertically-adjustable hearth, substantially as set forth.  
 60

5. The combination, with a hot-air chamber, an air-supply pipe, and a radiator within the chamber, of a vertically-adjustable heat-effluent box, substantially as set forth.  
 65

6. The combination, with a hot-air chamber, a radiator within, and a fresh-air pipe,  
 65 all suspended below an aperture in an apartment-floor, of a heat-effluent box having its upper surface adapted to serve as a hearth, and mechanism for the vertical adjustment of the effluent-box, substantially as set forth.  
 70

7. The combination, with a hot-air chamber located below and aligning with an aperture in an apartment floor near a vertical wall or chimney, a radiator within, and a fresh-air-supply pipe, of a heat-effluent box within the  
 75 floor-aperture, brackets therefor which are provided with racks on their lower limbs, a transverse shaft revolubly supported, pinions on the shaft which are in gear with the racks, a worm-wheel on the shaft, and a revoluble  
 80 screw engaging the worm-wheel, substantially as set forth.

JOSEPH H. BENNETT.

Witnesses:

WILLIAM J. HUBBARD,  
 H. E. CLEATON.