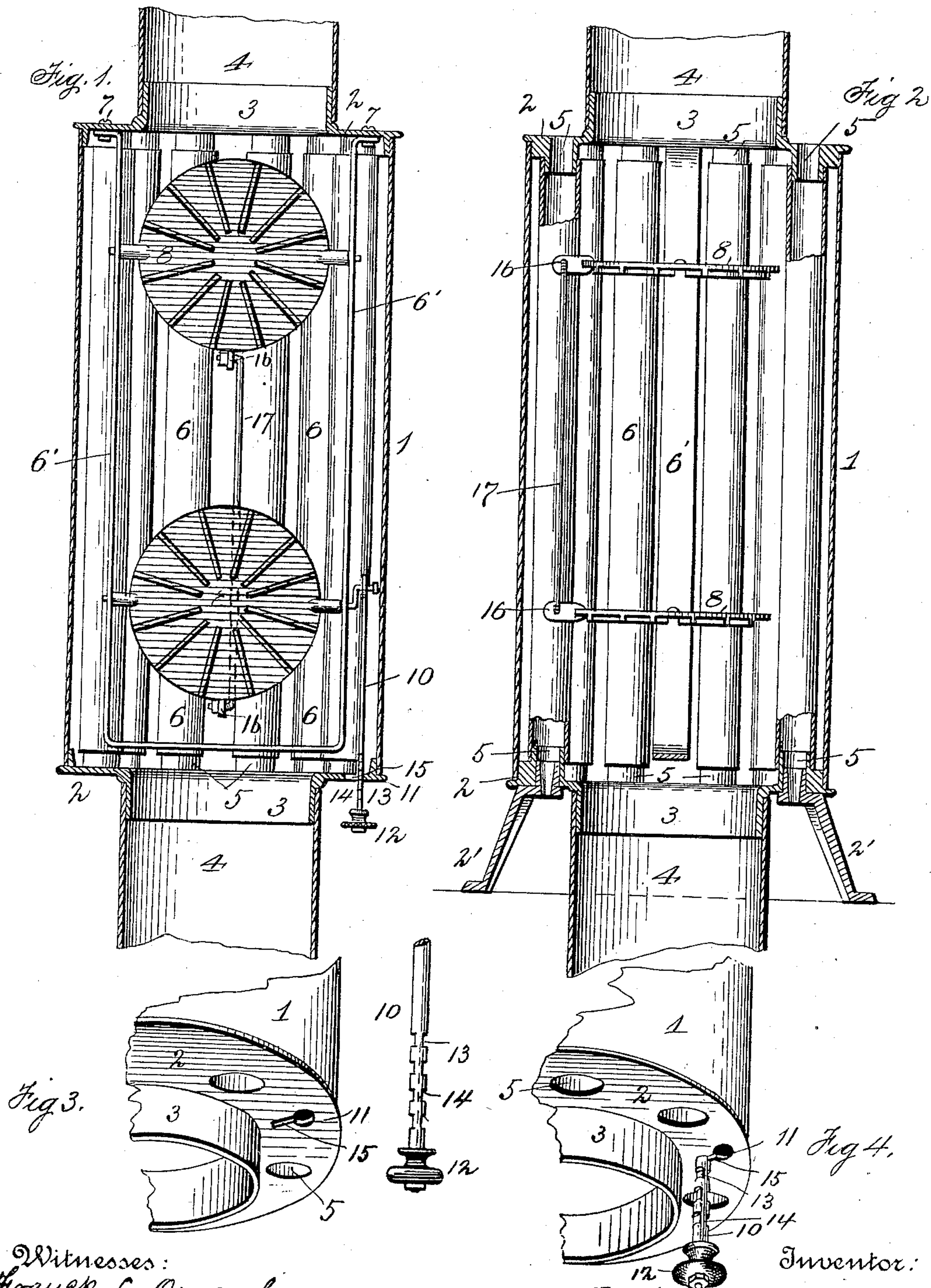


(No Model.)

J. E. BLACKBURN.
HEAT RADIATOR.

No. 584,262.

Patented June 8, 1897.



Witnesses:
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UNITED STATES PATENT OFFICE.

JACOB E. BLACKBURN, OF FREDERICKTOWN, OHIO.

HEAT-RADIATOR.

SPECIFICATION forming part of Letters Patent No. 584,262, dated June 8, 1897.

Application filed October 5, 1896. Serial No. 607,923. (No model.)

To all whom it may concern:

Be it known that I, JACOB E. BLACKBURN, a citizen of the United States, and a resident of Fredericktown, in the county of Knox and State of Ohio, have invented certain new and useful Improvements in Heat-Radiators; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to heat radiators or drums of that class or description which are adapted to be connected with the smokepipe or flue of a cooking or heating stove, whereby the waste heat, which would otherwise escape to the chimney, is utilized to heat the room in which the stove or heater is located or to heat one or more adjoining room or rooms at a distance from the stove or heater.

The object of the present invention is to provide an improved construction of drum or radiator which shall effectually utilize the waste heat and which is provided with means for controlling the flow of the hot air through the drum or radiator to regulate the temperature of the room, as hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a longitudinal sectional view of a radiator or drum constructed in accordance with my invention. Fig. 2 is a similar view taken at a right angle thereto. Figs. 3 and 4 are detail views showing the manner of locking the regulating-rod.

In the said drawings the reference-numeral 1 designates a cylindrical casing of sheet metal, connected at top and bottom with an annular ring 2, provided with outwardly-extending annular flanges 3, with which the stovepipe-sections 4 are connected. These rings are formed with a number of equidistant openings and inwardly-extending bosses 5, with which are connected tubes or pipes 6. These rings and the casing form a cylindrical drum or radiator having no communication with the outside air. The said pipes or tubes open into the room, so that a constant circulation of air will be maintained therein.

Located in the drum is a metal frame con-

sisting of the vertical arms 6' and the horizontal arm 7'. The ends of the arms 6' are turned or bent at right angles and are secured to one of the rings 2 by screws 7. Pivoted to these arms are two metal disks or circular plates 8, which serve as heat-spreaders, whereby the draft in the drum may be retarded or increased, as desired. The pivot or trunnion of one of these disks is provided with a crank 9, which is connected with a cylindrical regulating-rod 10. This rod passes through a circular opening 11 in one of the rings projecting beyond the same and provided with a knob 12. Near the outer end this rod is formed with a number of opposite recesses 13, forming angular reduced portions 14, which are adapted to engage with a rectangular slot 15, intersecting the opening 11, whereby the rod may be held in position. Each of said disks is provided at its edge with a lug 16, to which is pivoted a connecting-rod 17, so that said disks will move in unison.

The numeral 2' designates legs for supporting the drum or radiator. In light radiators which are located in the same room or an adjoining room with the radiator these legs are dispensed with, the radiator in this case being supported by the stove-sections alone.

The operation will be readily understood. The hot air and products of combustion from the stove or heater will circulate between the tubes in the radiator before passing out at the upper end thereof and will heat the casing, radiating the heat into the room. The air in the tubes will also be heated, escaping into the room at the upper ends of the tubes and entering at the lower ends, keeping up a constant circulation therein. By means of the spreaders the draft in the drum may be regulated so as to regulate the temperature in the room. These spreaders are adjusted by means of the regulating-rod, by operating which the disks may be turned to a more or less horizontal position, so as to retard the draft and cause the heat to be spread toward the tubes and casing. By turning the spreaders edgewise the draft is unobstructed, so as to allow the heated products of combustion to pass freely through the drum.

Having thus described my invention, what I claim is—

1. In a heating drum or radiator, the combination with the casing the annular rings at each end thereof adapted to be connected with a stovepipe, and the tubes connected
5 with said rings and communicating with said openings, of the frame located in said drum or radiator, the connected spreading-disks pivoted thereto, the crank secured to one of
10 said disks and the operating-rod connected therewith, substantially as described.

2. In a heating drum or radiator, the combination with the cylindrical casing, the annular rings secured thereto, one of which is formed with a cylindrical hole and an inter-
15 secting rectangular slot, the tube connected with said rings and communicating with open-

ings therein, and the frame located in said drum, of the connected spreading-disks pivoted to said frame, the crank connected with one of said disks, and the operating-rod con- 20 nected with said crank, projecting through the said hole in the ring and formed with opposite recesses forming angular portions adapted to engage with said rectangular slots, substantially as described. 25

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

JACOB E. BLACKBURN.

Witnesses:

JAS. M. BLAIR,

ERNEST V. ACKERMAN.