

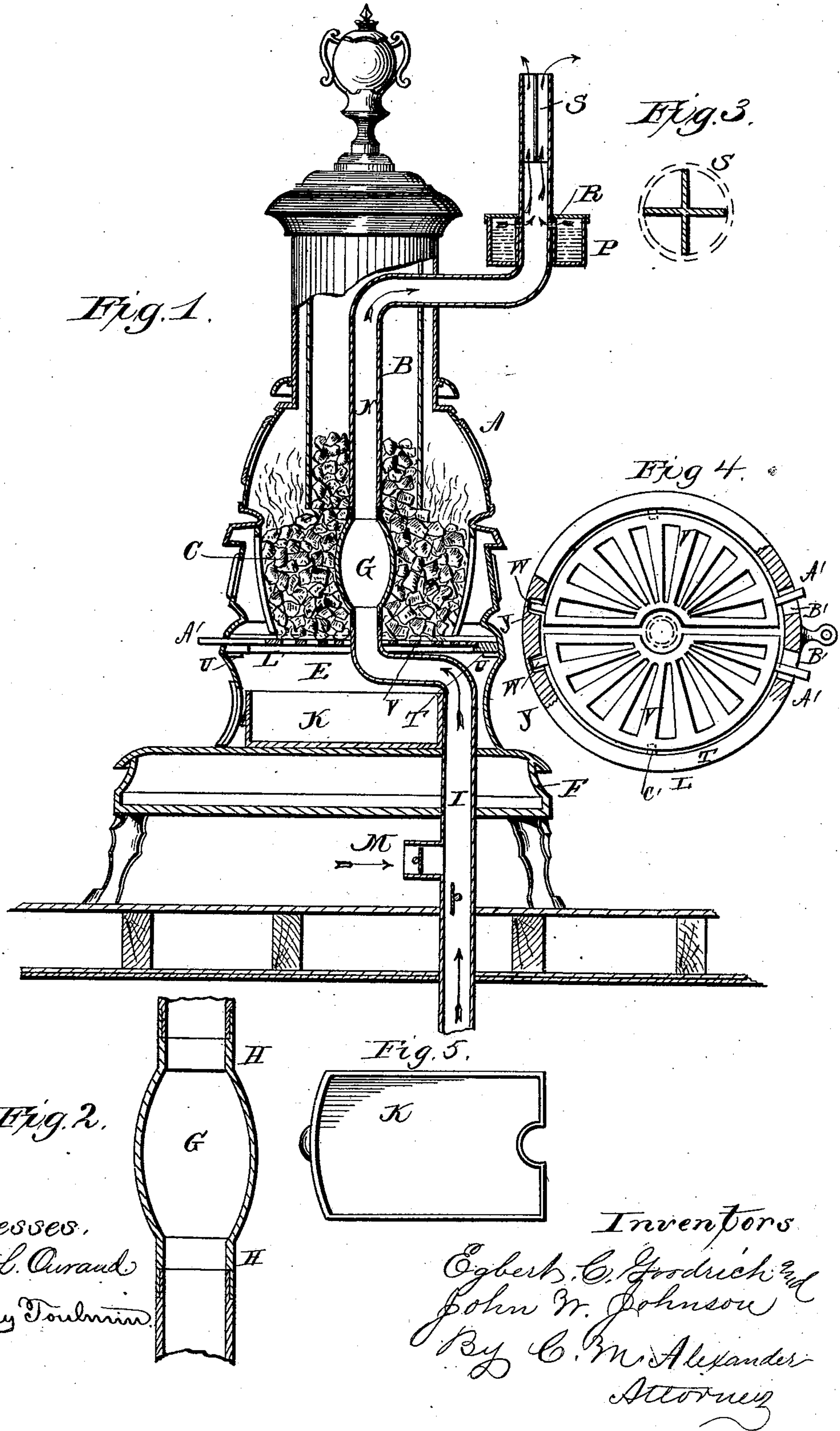
(No Model.)

E. C. GOODRICH & J. W. JOHNSON.

Hot Air Stove.

No. 243,548.

Patented June 28, 1881.



Witnesses,
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UNITED STATES PATENT OFFICE.

EGBERT C. GOODRICH, OF PONTIAC, MICHIGAN, AND JOHN W. JOHNSON,
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HOT-AIR STOVE.

SPECIFICATION forming part of Letters Patent No. 243,548, dated June 28, 1881.

Application filed April 22, 1881. (No model.)

To all whom it may concern:

Be it known that we, EGBERT C. GOODRICH, of Pontiac, Oakland county, Michigan, and JOHN W. JOHNSON, of Moravia, in the county of Cayuga, and in the State of New York, have invented certain new and useful Improvements in Hot-Air Stoves; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making part of this specification.

This invention relates to certain improvements in that class of stoves or furnaces which are intended to supply heated air to a room or apartments above the room in which said stove or furnace is located.

The invention may also be applied with advantage in manufacturing establishments, where it is necessary to employ large steam-generators, to economize waste heat from the same for heating the various parts of the building.

The invention has for its objects to provide an improved means whereby a continuous current of thoroughly heated and moistened air may be supplied to the room or rooms above which the stove is located, and to provide for conveniently and expeditiously renewing the parts of the air conveying and heating devices when injured by the intense heat of the fire, as more fully hereinafter specified. These objects are attained by the apparatus and devices illustrated in the accompanying drawings, in which—

Figure 1 represents a view, partly in section and partly in elevation, of my improvement. Fig. 2 represents a detached view of a portion of the same. Fig. 3 represents a detached view of the distributing-pipe, showing the means of discharging the heated air in different directions; and Fig. 4, a view of the grate detached.

The letter A indicates the stove or heater, which is preferably of the class known as "magazine-stoves." This may be of any suitable size and design.

B indicates the magazine, C the fire-pot, E the ash-pit, and F the base, of the stove, all of which may be of the ordinary construction.

The letter G indicates a heating-chamber,

consisting of a shell of cast-iron or other suitable material, which is elliptical or approximating thereto in vertical section, and which is provided with cylindrical extensions H at opposite ends.

I indicates a pipe extending upward through the back part of the stove into the ash-pit, where it is bent forward to the center of the stove, above the removable ash-box K, and then vertically upward, extending through the center of the grate L, which has an opening for the purpose. The said pipe terminates just above the grate, and to it is detachably secured the heating-chamber G, in such position that it will be directly in the center and hottest part of the fire-pot, where it will be always surrounded by incandescent fuel. The lower end of the pipe I extends through the floor, or is otherwise carried outside of the room, and communicates with the external air. The said pipe may be provided with a branch, M, leading into the room, the branch being provided with a suitable damper, by means of which air may be taken from the room directly, instead of from the outside.

The letter N indicates a pipe detachably secured to the upper end of the chamber G, and extending vertically up into the magazine to near the top, where it is bent horizontally and passed through the walls of the stove, and then upwardly and extended to the room or rooms above.

The letter P indicates an annular water-chamber surrounding the pipe N above its second bend, and communicating with the interior of said pipe by means of suitable apertures, R, to supply steam to the heated air, in order to moisten it.

The letter S indicates a series of radial partitions located in the upper part of the pipe N, for distributing the heated air in different directions, as indicated by the arrows.

The grate consists of an annulus, T, supported upon lugs U in the stove, and provided with sections V, having radiating grate-bars. These sections are provided with lugs W, which set in recesses Y in one side of the annulus, and with projecting lugs A', which set through the elongated recesses B' on the opposite side of the annulus.

The letter C' indicates lugs which support

the grate-sections when up. The grate is
dumped by shifting the lugs A' so as to re-
lease the sections from the lugs C', the parts
of the grate dropping at each side of the hori-
5 zontal portion of the pipe I, the said horizon-
tal portion being on a line with the parting of
the grate for the purpose.

Having thus fully described our invention,
what we claim, and desire to secure by Let-
10 ters Patent, is—

1. In combination, the pipe I, chamber G,
hot-air tube N, and grate D, divided as de-
scribed, and adapted to drop at each side of
the horizontal portion of the pipe I, substan-
15 tially as specified.

2. In combination, the pipe I, bent horizon-
tally as described, and the divided grate, con-
structed in two parts, adapted to drop at each
side of the horizontal part of the pipe I, which
is arranged in line with the parting of the 20
grate, substantially as specified.

In testimony whereof we affix our signatures,
in presence of two witnesses, this 22d day of
April, 1881.

EGBERT C. GOODRICH.
JOHN W. JOHNSON.

Witnesses:

H. AUBREY TOULMIN,
BURT H. BOWEN.