

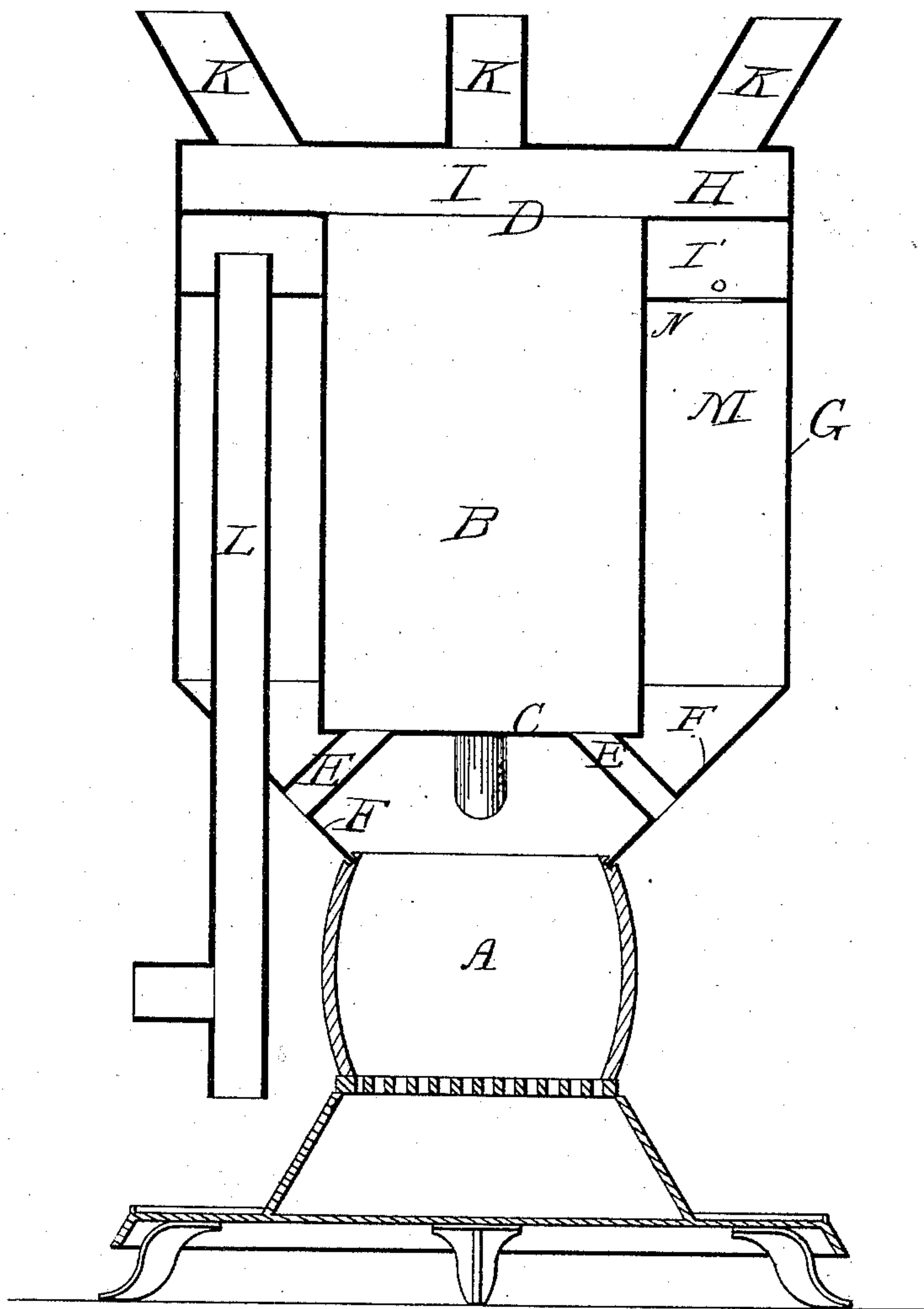
(No Model.)

C. J. McGONNELL.

HEATER.

No. 319,286.

Patented June 2, 1885.



Witnesses.
Will S. Powell.
Thos. Musser.

Inventor
Chas. J. McGonnell
By Connolly Bros.

UNITED STATES PATENT OFFICE.

CHARLES J. MCGONNELL, OF MOORESTOWN, NEW JERSEY.

HEATER.

SPECIFICATION forming part of Letters Patent No. 319,286, dated June 2, 1885.

Application filed September 13, 1884. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. MCGONNELL, a citizen of the United States, residing at Moorestown, in the county of Burlington and State of New Jersey, have invented certain new and useful Improvements in Heaters; and I do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawing, which form part of this specification, in which the figure is a vertical section of a heater embodying my invention.

My invention has for its object to utilize to better advantage than heretofore the heat generated in hot-air furnaces.

My improvements consist, essentially, in the combination, with a hot-air drum or cylinder located directly over the top of the fire-pot, so as to receive the full effect of heat thereof, said drum or cylinder having a closed bottom and open top, and pipes which supply it at or about its bottom with cold or fresh air from points outside the heater, of a shallow smoke-space surrounding the upper part of said drum, substantially as hereinafter set forth.

My improvements consist, still further, in the peculiar construction and combination of parts, substantially as hereinafter fully described and specifically claimed.

Referring to the accompanying drawing, A designates the fire-pot of a heater or hot-air furnace, directly above which is located a drum or cylinder, B, having a bottom, C, and open top D.

E E, &c., are pipes, of which any suitable number—say eight—may be employed. These pipes lead into the bottom C of the drum B, and terminate at their outer extremities at openings in an inclined flange, F, which rests, as shown, on the upper edge of the fire-pot A.

For convenience of construction, I propose to cast the bottom C, pipes E E, and flange F in one piece, though they may be made separate, if desired.

The casing or jacket G extends upwardly from the top edge of the flange F, though, if desired, it may drop below the latter and form a petticoat, in which latter case it should have

openings to permit free access of fresh air from the outside to the pipes E E. A horizontal diaphragm, H, on a level with or below the top of the drum or cylinder B, forms a chamber, I, in the upper section of the heater, into which the air heated in said drum is discharged, and from which it passes by way of a pipe or pipes, K. The products of combustion cannot enter the chamber I, but go into the smoke-chamber M, below it and above the flange F, and past thence into a chamber, I', surrounding the upper part of the drum, from which chamber they issue through or pass off by a pipe, L, located inside the jacket G, and therefore in the smoke-chamber M. The chamber I' is produced by arranging a diaphragm, N, a short distance below the diaphragm H, and has communication with the chamber M through an opening or aperture, o, as shown. By causing the products of combustion to issue by way of the chamber I' their heat is more effectually and thoroughly communicated to the drum. As the drum or cylinder B is located directly over the fire-pot, it receives the full force and effect of the fire, and secures a much larger percentage of heat than do pipes or drums arranged annularly around the space above the fire-pot.

I claim—

In a heater or hot-air furnace, the combination, with the fire-pot and the jacket or casing mounted thereon, of a drum or cylinder located directly over said fire-pot, fresh-air-inlet pipes communicating with said drum or cylinder, hot-air-distributing chamber above and communicating with said drum, annular smoke-chamber communicating with the smoke-space around the drum and smoke-outlet flue leading from said chamber downward and through the smoke-space, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 21st day of August, 1884.

CHAS. J. MCGONNELL.

Witnesses:

HARRY T. MAKIN,
GEORGE D. BURR.