

(No Model.)

H. H. HIBBERD.
NATURAL GAS BURNER.

No. 459,783.

Patented Sept. 22, 1891.

Fig. 1.

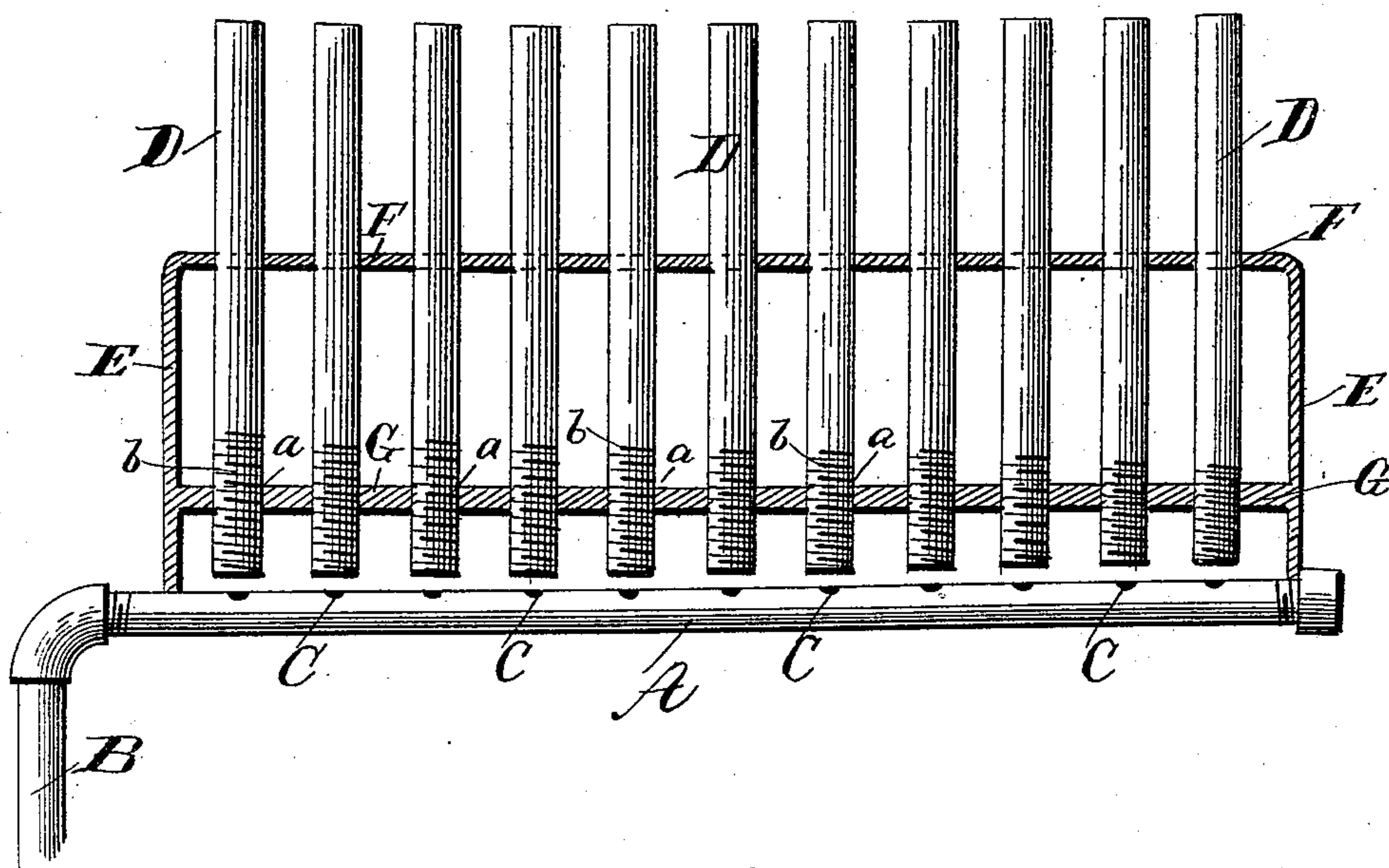
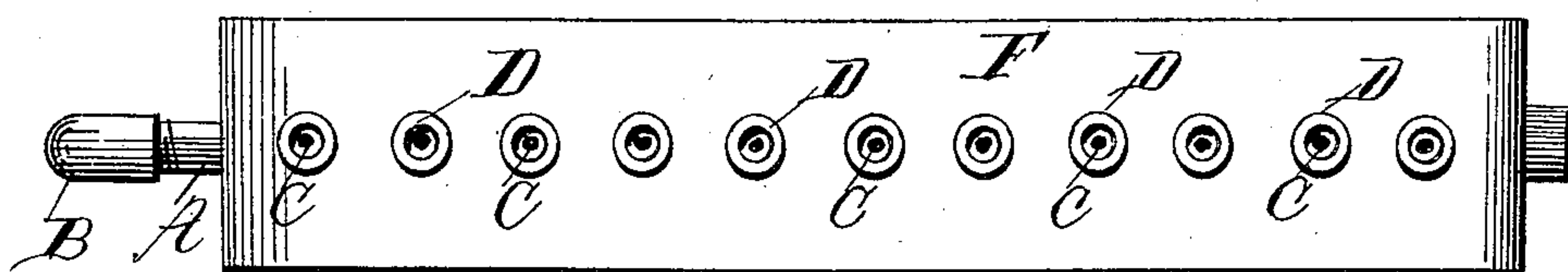


Fig. 2.



WITNESSES
H. L. Curand.
Geo. H. Bales

INVENTOR
H. H. Hibberd
by *Howard Bros. & Co.*
Attorneys.

UNITED STATES PATENT OFFICE.

HARRY H. HIBBERD, OF WHEELING, WEST VIRGINIA.

NATURAL-GAS BURNER.

SPECIFICATION forming part of Letters Patent No. 459,783, dated September 22, 1891.

Application filed January 24, 1891. Serial No. 378,906. (No model.)

To all whom it may concern:

Be it known that I, HARRY H. HIBBERD, a resident of Wheeling, in the county of Ohio and State of West Virginia, have invented certain new and useful Improvements in Natural-Gas Burners; 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, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in gas-burners, and is particularly designed as a heating-burner especially adapted for use with natural gas.

The object of the invention is to provide a burner in which the gas, before it reaches the point of combustion, will become mixed with air, thereby producing increased combustion of the gaseous fuel and more intense heat, and also to provide for regulating the quantity of air admitted to the gas, as occasion may require, to produce the best results in the use of a gas whose flow is liable to great fluctuations.

The invention consists in arranging a series of tubes directly above or in front of openings formed in a gas-delivery pipe or chamber, and made adjustable in a suitable rack or frame to or from the said openings, whereby the space for permitting the air to mingle with the gas as it enters the burner-tubes may be increased or diminished, according to the pressure of the gas at any time.

The invention consists, further, in certain novel features in the arrangement and construction of parts, all as hereinafter set forth, and pointed out in the claim.

In the drawings accompanying this specification, Figure 1 is a view of the burner in elevation, the rack portion of which, in which the burner-tubes are adjustably mounted, being shown in section. Fig. 2 is a top or plan view of the burner.

Referring to the illustrations, the letter A indicates a pipe or chamber preferably closed at one end, while to the other is connected the gas-pipe B. The chamber A may be of any desired form and construction, and is pro-

vided with a series of apertures C, formed therein and arranged longitudinally of said chamber. The said chamber, serving to deliver or distribute the gas into the adjustable burner-tubes D, arranged in front of the apertures C, is properly termed a "delivery or distributing chamber." To the ends of this distributing-chamber A, or at any other suitable points thereon, are secured suitable supports E, which form the sides of the frame or rack in which the burner-tubes are secured. The rack portion proper consists, preferably, of two strips or cross-pieces F and G, respectively, both of which are provided with openings corresponding in location with those in the distributing-chamber A, and through which the burner-tubes extend, the openings being of about the same diameter as the tubes. The openings *a* in the cross-piece G are screw-threaded, in order to engage the screw-threaded portion *b* on the exterior of the tubes and to securely hold the tubes in the frame, but more especially designed to adapt the tubes to be adjusted to or from the openings C in the distributing-chamber, thereby regulating the quantity of air to be admitted to the gas being delivered into the burner-tubes, it being understood that the nearer the ends of the tubes D are to the openings C the quantity of air drawn in by the rush or force of the escaping gas will be smaller, and in adjusting the several tubes to or from the chamber A regard, of course, will be had to the pressure or flow of the gas, in order to get the greatest possible heat.

The device is preferably constructed of metal; but the material of which it is composed, as well as the construction of its several parts, may be varied—as, for instance, the pipe B may connect with the chamber A at a point midway between the two ends and the tubes D provided with means for turning the same in the screw-threaded openings.

I am aware that the principle on which my burner operates is not new, and such I do not claim, my invention consisting merely in the construction of burner shown and described.

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

In a gas-burner of the character described,

the chamber provided with openings therein,
in combination with the frame or rack, the
cross-pieces of which are provided with per-
forations to correspond in location to the
5 openings in the chamber, and into which are
adjustably secured the burner-tubes ex-
tending above the same, a portion of the ex-
terior of which is screw-threaded to engage
the screw-threaded openings in one of the

cross-pieces, substantially as described, and 10
for the purpose set forth.

In testimony that I do claim the foregoing
as my own I hereby affix my signature in pres-
ence of two witnesses.

HARRY H. HIBBERD.

Witnesses:

A. H. PATTERSON,
W. H. RINEHART.