W. M. TOWERS & J. M. BOWIE.

FURNACES FOR EVAPORATORS.

No. 184,444. Patented Nov. 14, 1876.

Fig. 1.

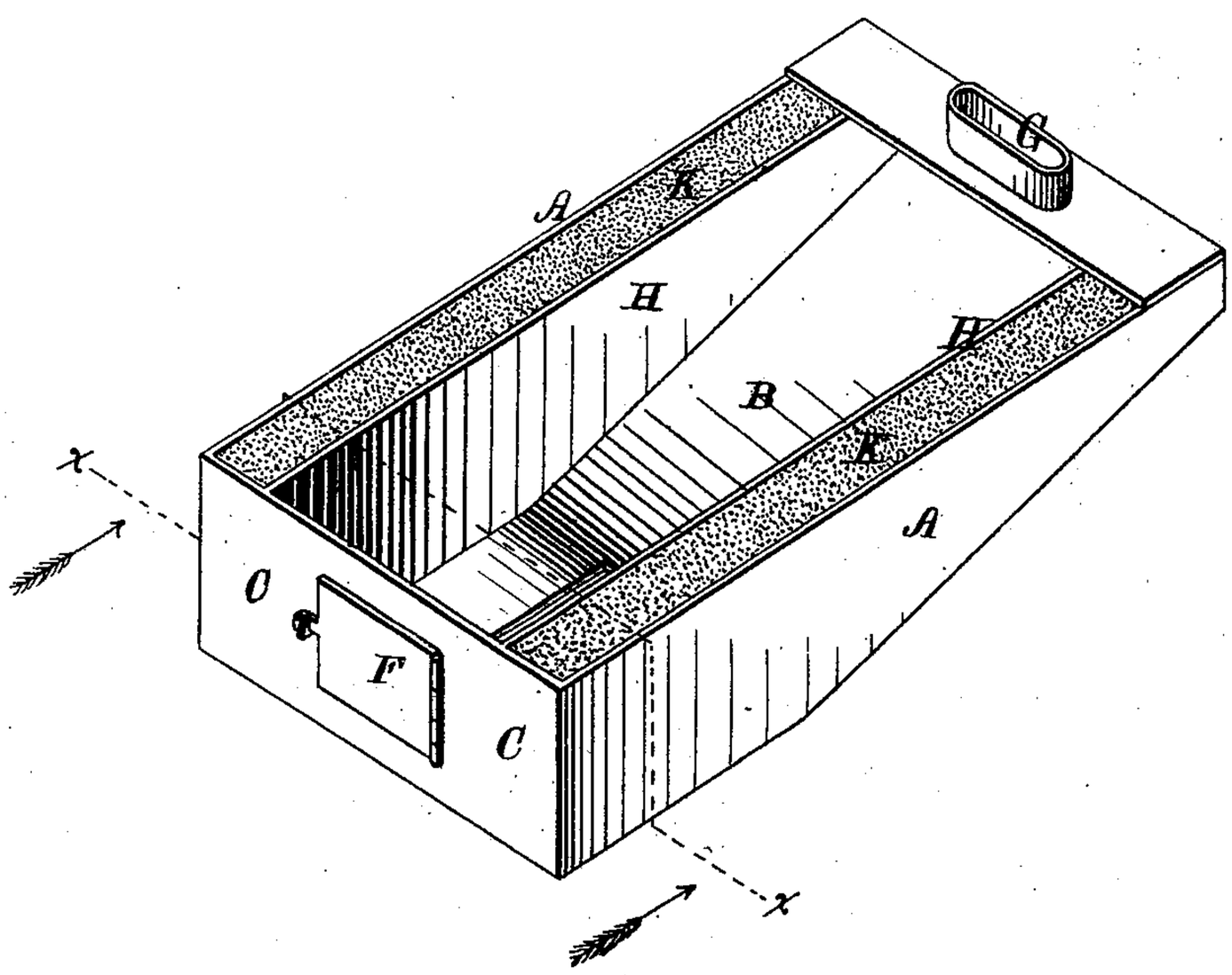
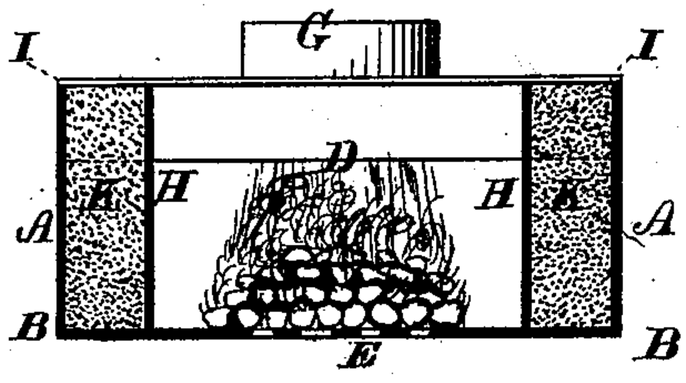


Fig. 2.



WITNESSES=

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INVENTORS.

Wm. M. Towers & Jno. M. Bowie,

by Pindle & Co their Attys

UNITED STATES PATENT OFFICE.

WILLIAM M. TOWERS AND JOHN M. BOWIE, OF ROME, GEORGIA.

IMPROVEMENT IN FURNACES FOR EVAPORATORS.

Specification forming part of Letters Patent No. **184,444**, dated November 14, 1876; application filed September 1, 1876.

To all whom it may concern:

Be it known that we, WM. M. TOWERS and JNO. M. BOWIE, of Rome, in the county of Floyd, and in the State of Georgia, have invented certain new and useful Improvements in Evaporating-Furnaces; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, making a part of this specification, in which—

Figure 1 is a perspective view of our improved furnace with the evaporating-pan removed, and Fig. 2 is a vertical section of the same upon line *x x* of Fig. 1.

Letters of like name and kind refer to like parts in each of the figures.

In the use of portable furnaces for evaporating-pans it is necessary that the furnace should be constructed from sheet metal, in order that its weight may be reduced to a minimum, and its ready transportation rendered practicable. When thus constructed from sheet metal, the sides of the furnace are liable to be destroyed by the action of the fire, and various expedients have been resorted to in order to protect said sides, among which is the use of fire-brick; but as such brick are heavy, easily broken, and difficult to transport, their use operates to defeat the purpose intended in the construction of said furnace from thin and comparatively light material. To obviate these difficulties is the design of our invention, which consists in providing upon each side of the furnace a compartment for the reception of sand, plaster, or other non-conductor of heat, substantially as and for the purpose hereinafter specified.

In the annexed drawing, A and A represent the sides, B the bottom, and C the front end of our furnace, which are constructed from sheet metal, and inclose a fire-box, D, that is provided with a grate, E, fuel-door F, and at the rear end and upper side of said furnace has an exit-flue, G, all in the usual manner. Upon each side of the fire-box D is placed a partition or inner wall, H, which extends between the upper and lower sides, and from end to end of the furnace, and, between the outer side of said partition and the contiguous side wall A, incloses a space, I, which has any desired lateral dimensions. The partitions H may be secured in place by any desired means, but should be capable of easy removal, for the purpose of replacement when burned out.

If, now, the spaces I and I are filled with sand, plaster, or other similar non-conductor of heat, K, the heat of the burning fuel will be prevented from passing laterally outward, so as not to injure the sides A and A, and, being concentrated within the fire-box, will operate with greater force upon the bottom of the evaporating-pan, and a material saving in fuel will be effected.

When necessary to transport the furnace, the filling of the compartments I and I may be emptied out, and the same easily replaced when said furnace is again set up.

Having thus fully set forth the nature and merits of our invention, what we claim as new is—

The hereinbefore-described portable furnace for evaporating-pans, provided with a fire-box, D, and having at each side of the latter a chamber, I, that is open at its upper side, substantially as and for the purpose specified.

In testimony that we claim the foregoing we have hereunto set our hands this 28th day of August, 1876.

W. M. TOWERS.
JNO. M. BOWIE.

Witnesses:
B. T. HAYNES,
E. J. STEVENS.