

E. HARRINGTON.

Stove Grate.

No. 36,952.

Patented Nov. 18, 1862.

Fig. 3.

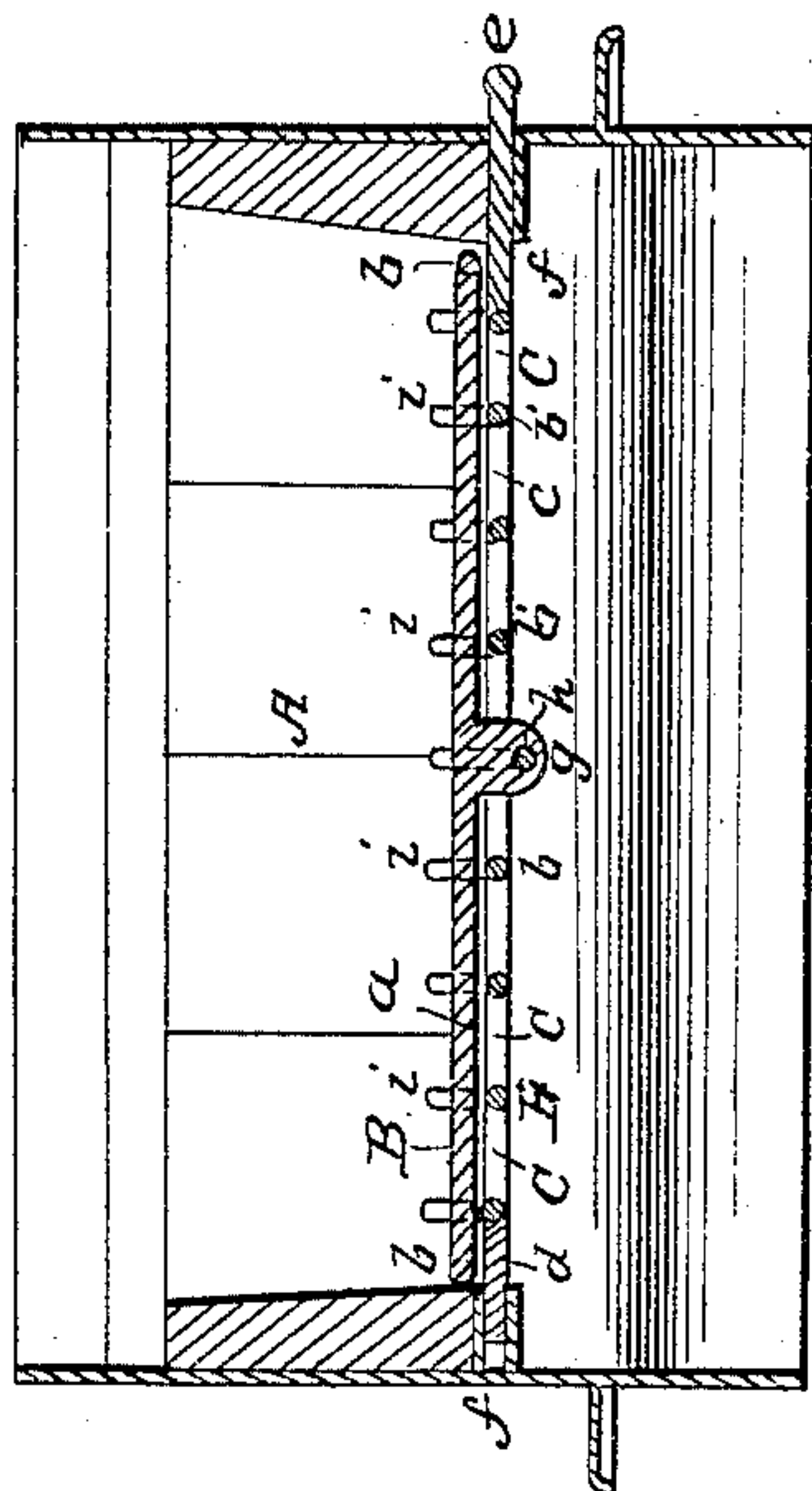


Fig. 2.

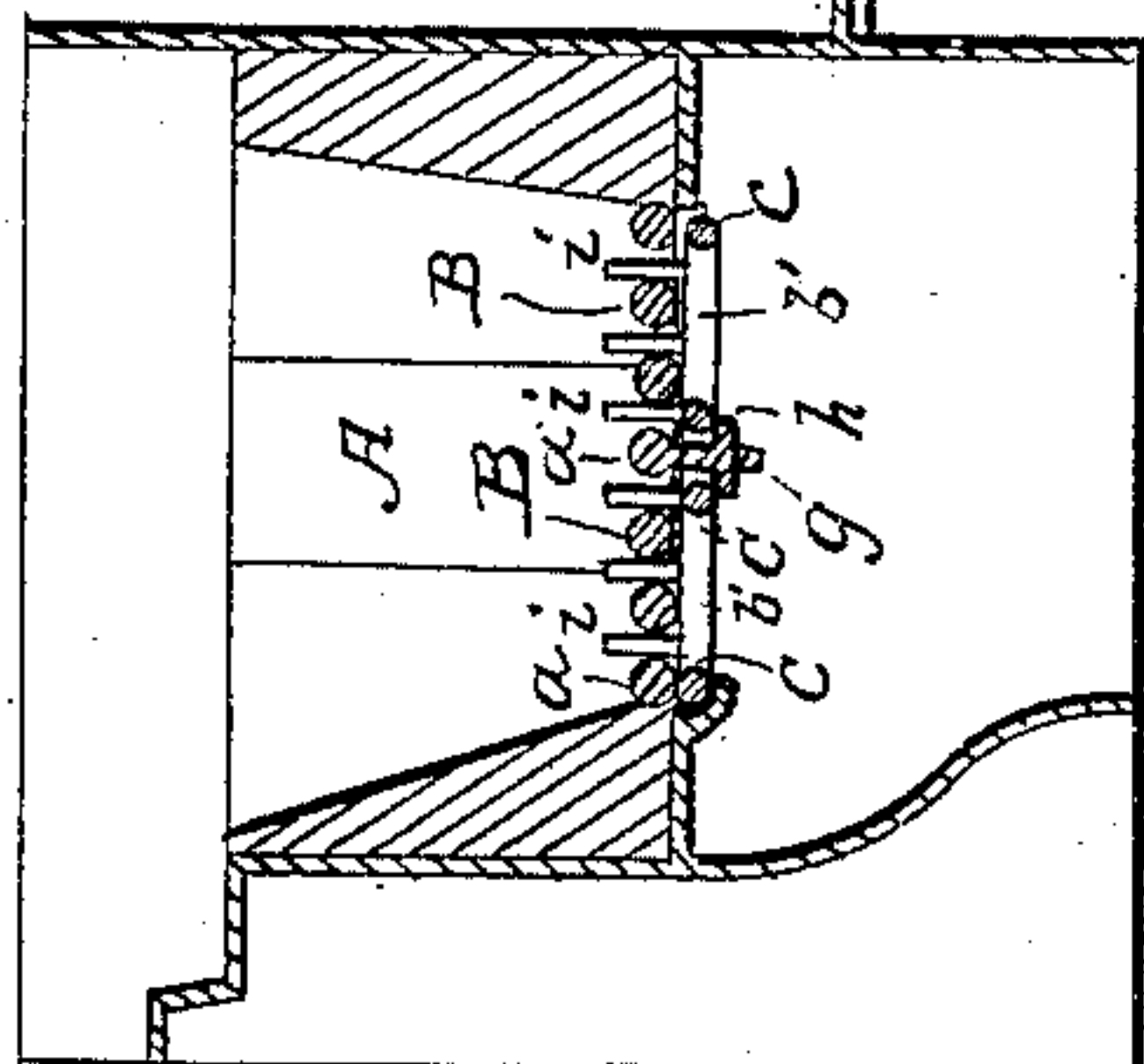


Fig. 1.

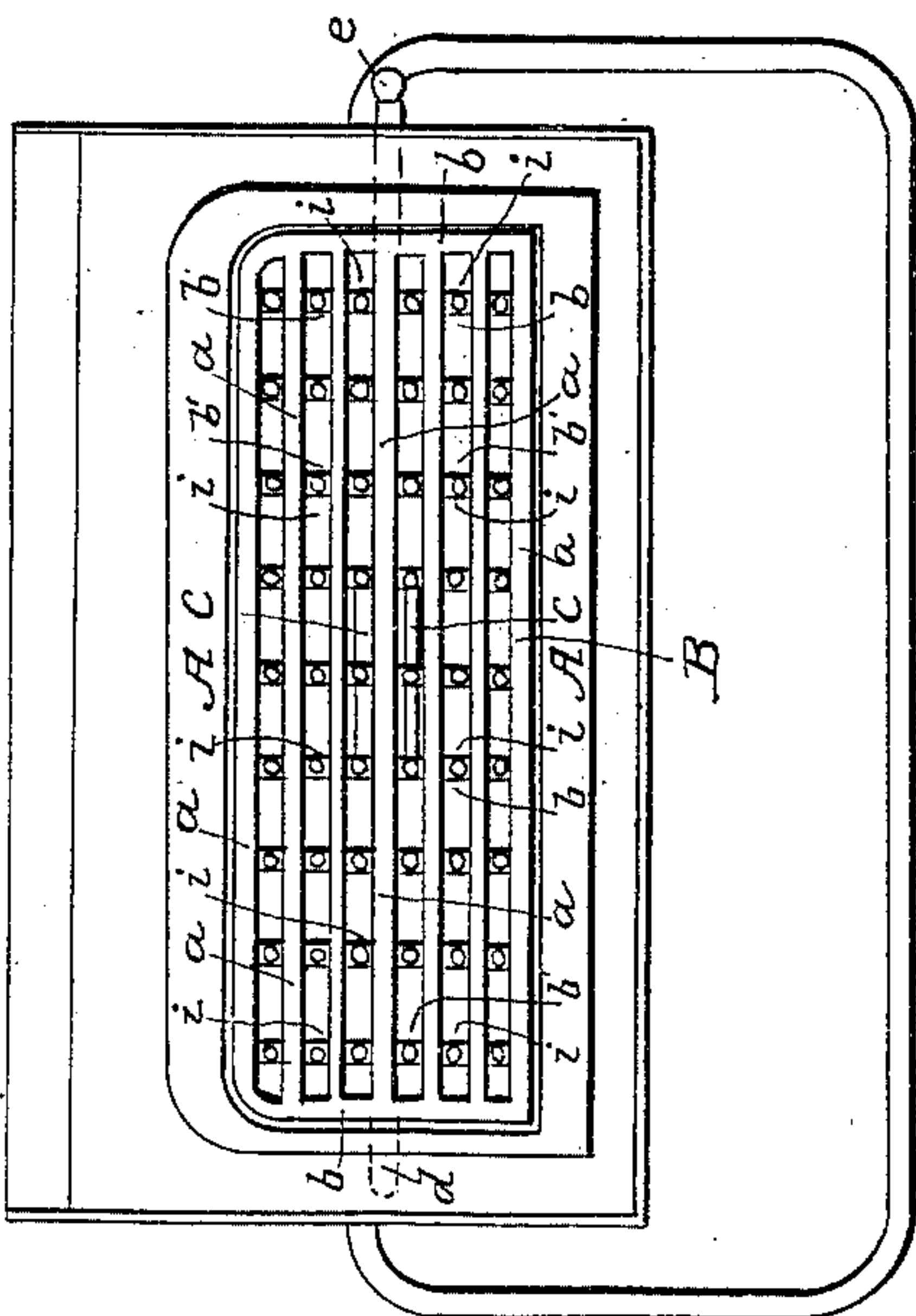


Fig. 5.

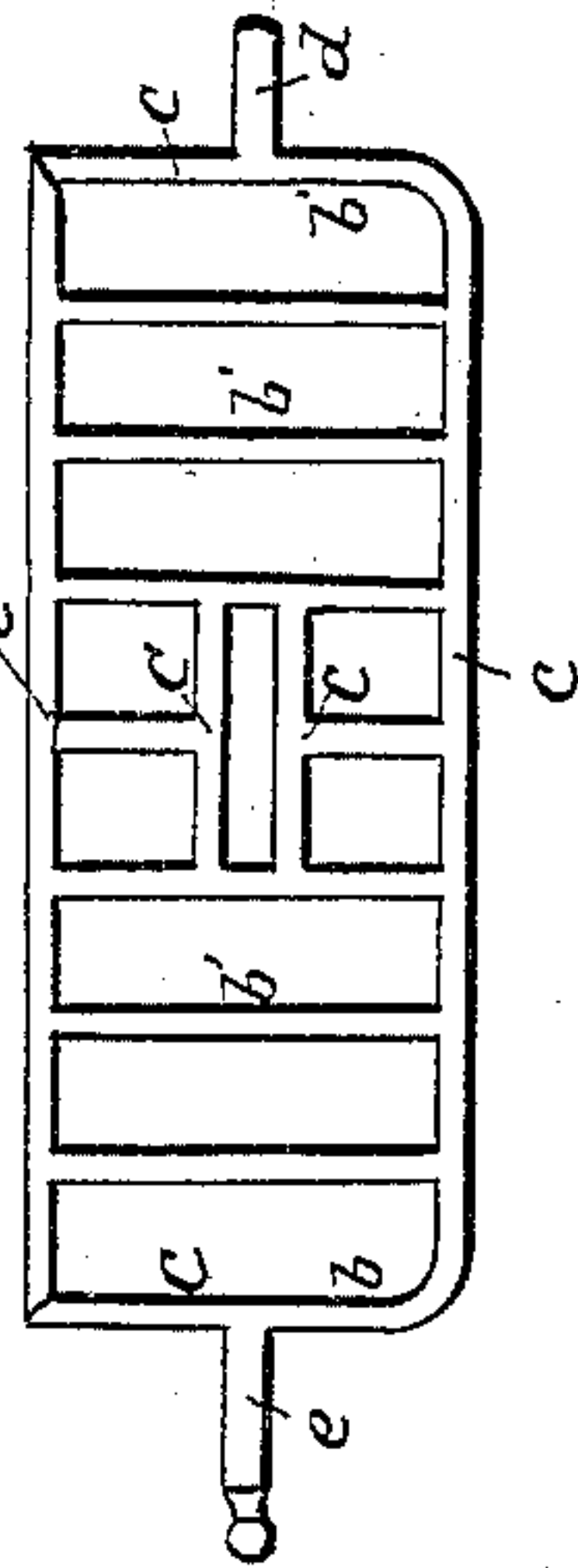
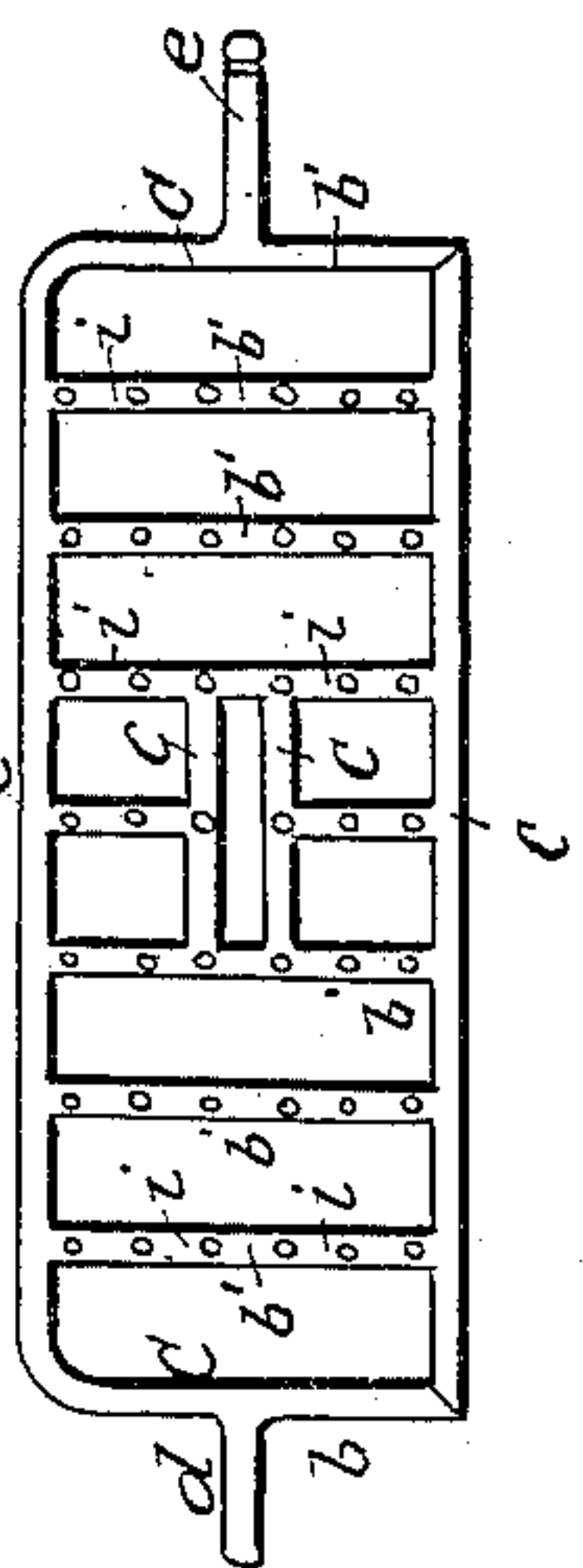


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

EBENEZER HARRINGTON, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN STOVE-GRATES.

Specification forming part of Letters Patent No. 36,952, dated November 18, 1862.

To all whom it may concern:

Be it known that I, EBENEZER HARRINGTON, a subject of the Queen of Great Britain, but now residing in Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Stoves or Furnaces; and I do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 denotes a top view of a stove fire-place provided with my invention; Fig. 2 a transverse section, and Fig. 3 a longitudinal section, of such. Fig. 4 is a top view, and Fig. 5 an under side view, of the sliding frame which is applied to the grate, as will be hereinafter explained.

The purpose of my invention is to enable a grate to be readily cleared of ashes, as well as to have an entire mass of coal discharged from it, as circumstances may require; and my invention consists in an arrangement and application of a sliding frame or slider and a series of pins or projections extending therefrom (each of such pins being either solid or tubular) with the grate and fire-place, so that they may operate together in manner as hereinafter set forth.

In the drawings, A denotes a fire-place of an ordinary cooking-stove as provided with a grate, B, which consists of a series of parallel bars, *a*, united together at their ends by cross-bars *b b*. This grate is arranged within the lower part of the fire-place and upon a rectangular frame, C, provided with a series of transverse and parallel bars, *b' b'*, &c., and two longitudinal bars, *c c*, arranged together, as shown in Figs. 4 and 5. The frame C has trunnions or journals *d e* projected from the middle parts of its two ends, as shown in the said Figs. 4 and 5, and also in Fig. 3. These trunnions go through holes or bearings *f f*, made through the end walls or plates of the fire-place or those of the ash-pit, the journals being cylindrical, so as to enable both the grate and its supporting-frame to be simultaneously revolved transversely. A stud or projection, *g*, extends from the middle of the grate downward between and below the two bars *c c* of the frame C, and has a pin, *h*, passed through it just below such bars, the same being as shown in Figs. 2 and 3. The frame C is shorter than the grate, in order that

such frame may be moved longitudinally back and forth under the grate while the latter is horizontal and held stationary by the ends of the fire-place. From the bars of the said frame or slider C there extends upward between and above the bars of the grate a series of projections or pins, *i i*, &c., each of which may be either solid or tubular. If tubular, the pin should open through its supporting-bar, in order that a current of air may pass upward into and through the pin, while there may be fuel in a state of ignition on the grates. By so making each projection or pin (viz., with an air-passage) it will be preserved more or less from becoming destroyed by the great heat to which it may be subjected. By rapid movements of the frame C longitudinally back and forth its pins or projections *i i*, &c., will be moved in and caused to agitate any fuel when on the grate, and by so doing will induce the discharge of ashes from such fuel. One of the trunnions of the grate should extend through the end of the fire-place or beyond its ash-pit, as shown in the drawings, in order that by laying hold of such trunnion a person may either move the frame C longitudinally or turn it transversely. When the said frame and its projections are so turned, the grate and its frame will be caused to turn with them, and thus by means of my invention I have the opportunity of either discharging ashes from the fuel while the grate may be horizontal, or I can turn both the grate and its projections completely over, so as not only to discharge coal or cinders from the fire-place, but from between the said projections, as well as from between the grate-bars.

I am aware of the devices explained and claimed in the United States patents numbered 14,200 and 29,298. I do not claim such, as they materially differ from my invention, in which the grate is so applied to its clearer as not only to remain at rest while being cleaned of ashes, but to tip or turn with and be turned by the clearer, while the latter may be in the act of being tipped or turned transversely; nor do I claim a grate-clearer or sifter and grate as constructed and combined together and with the fire-place, and so as to operate as described in the specification of the application made by Charles Mowry, and rejected in March, 1862, as in this latter the sifter, while in movement to discharge ashes from the coals on the grate,

plays vertically, and is incapable of having longitudinal reciprocating movements imparted to it; and, furthermore, the said sifter has straight bars, instead of several series of pokers or studs, and, besides, the grate is made with trunnions projecting from its ends; but with my invention the grate has no trunnions extended directly from it, as the trunnions which support the grate are extended from the sifter, and they perform the double office of supporting both the grate and the sifter and operating the latter, so as to impart to it its necessary longitudinal movements. They thus render unnecessary any levers or equivalent appliances disposed under the grate (as in Mowry's invention) for the purpose of operating the said grate, such levers, when so used, being

liable to gather ashes and coals upon them, and to become clogged or impeded in their action thereby.

I therefore claim—

My improved grate B and sifter or sliding frame C as not only having their series of pokers *i i i* arranged with respect to the guide bars as described, but as having the supporting trunnions *d e* extended from the frame C and applied to the fire place A in manner and so as to operate the said frame C and the grate relatively to each other, as well as with respect to the fire place, substantially as specified.

EBENEZER HARRINGTON.

Witnesses:

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