

J. L. HANSON.

Heating Stove.

No. 66,707.

Patented July 16, 1867.

Fig: 1.

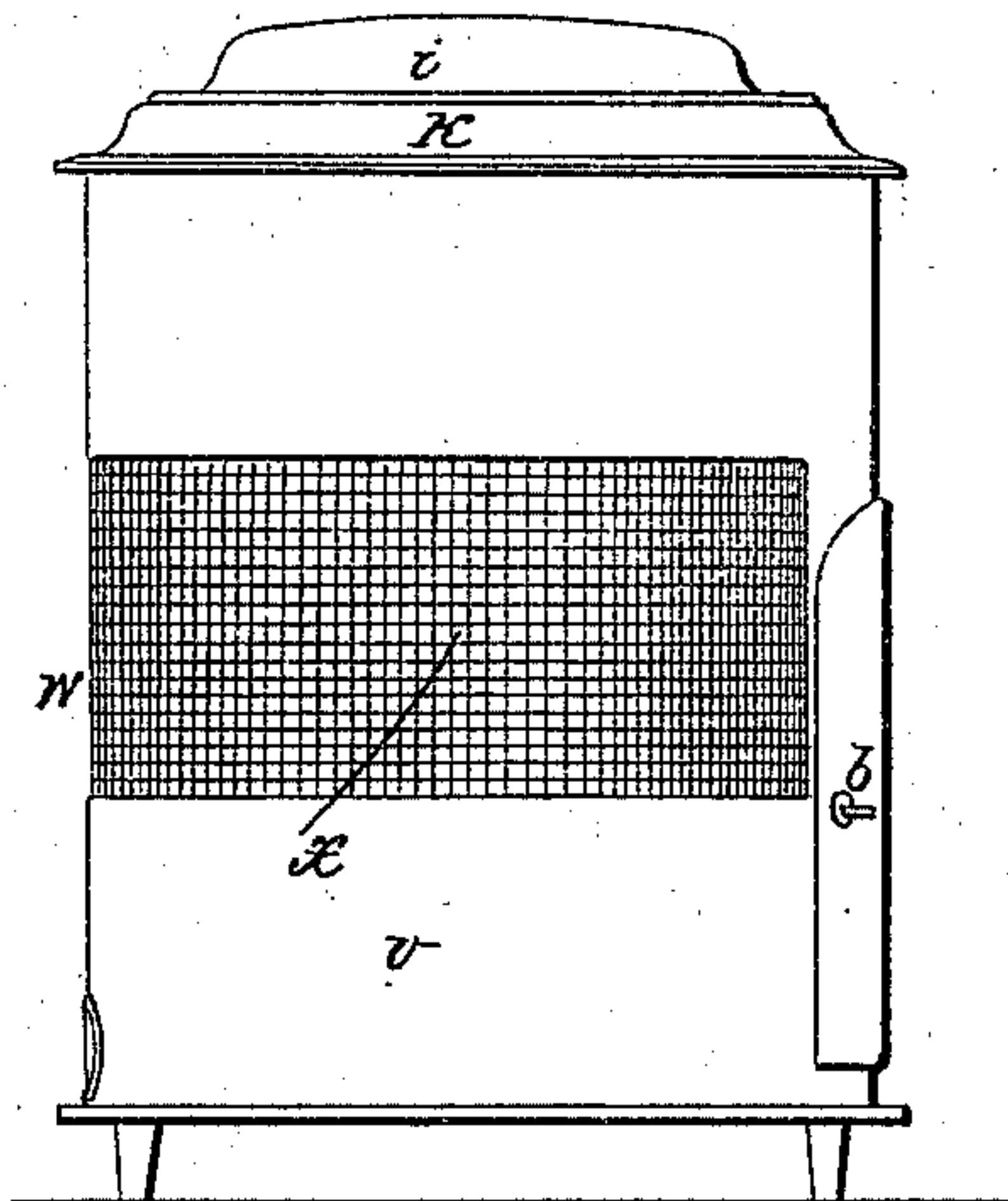


Fig: 2.

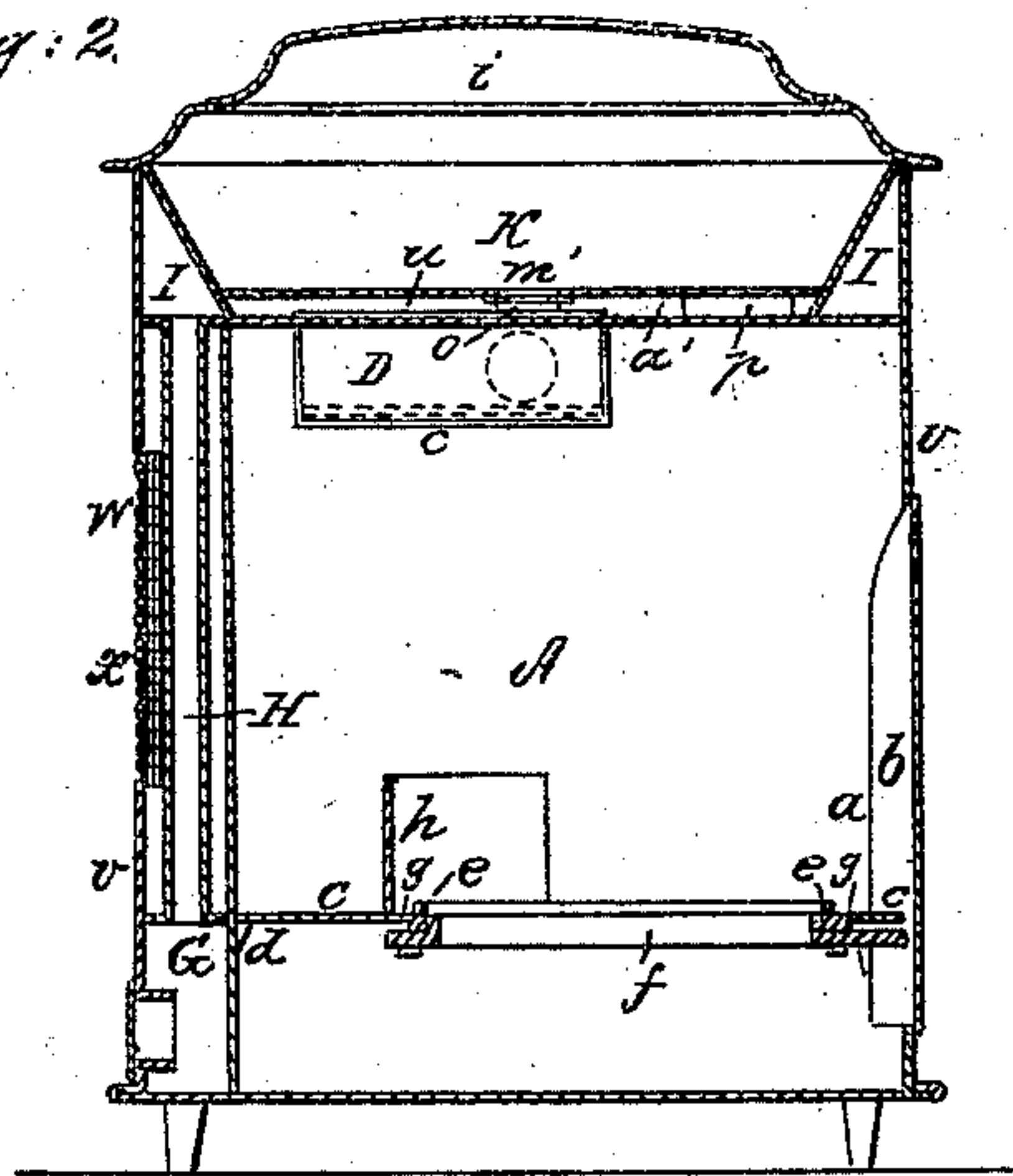


Fig: 3.

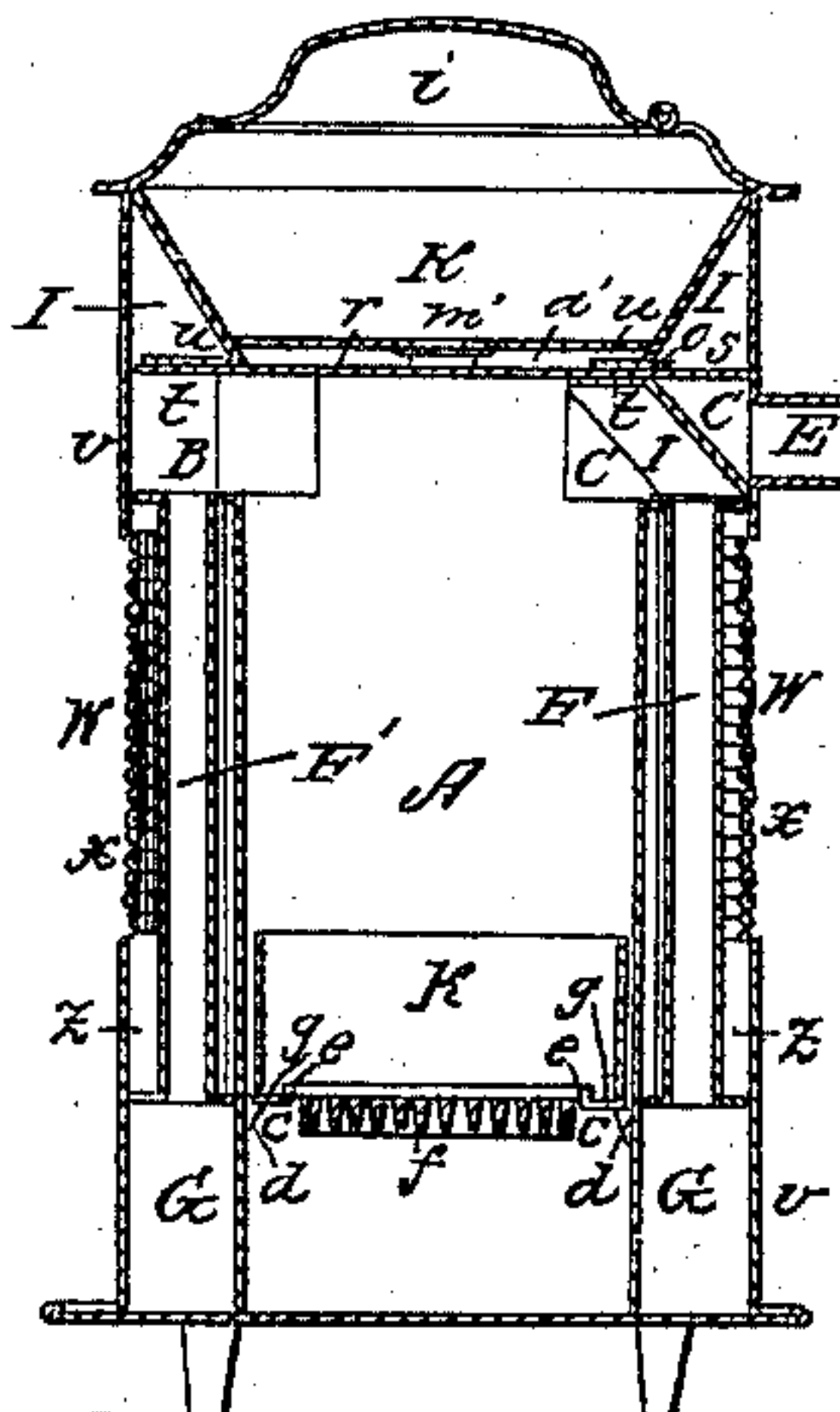


Fig: 4.

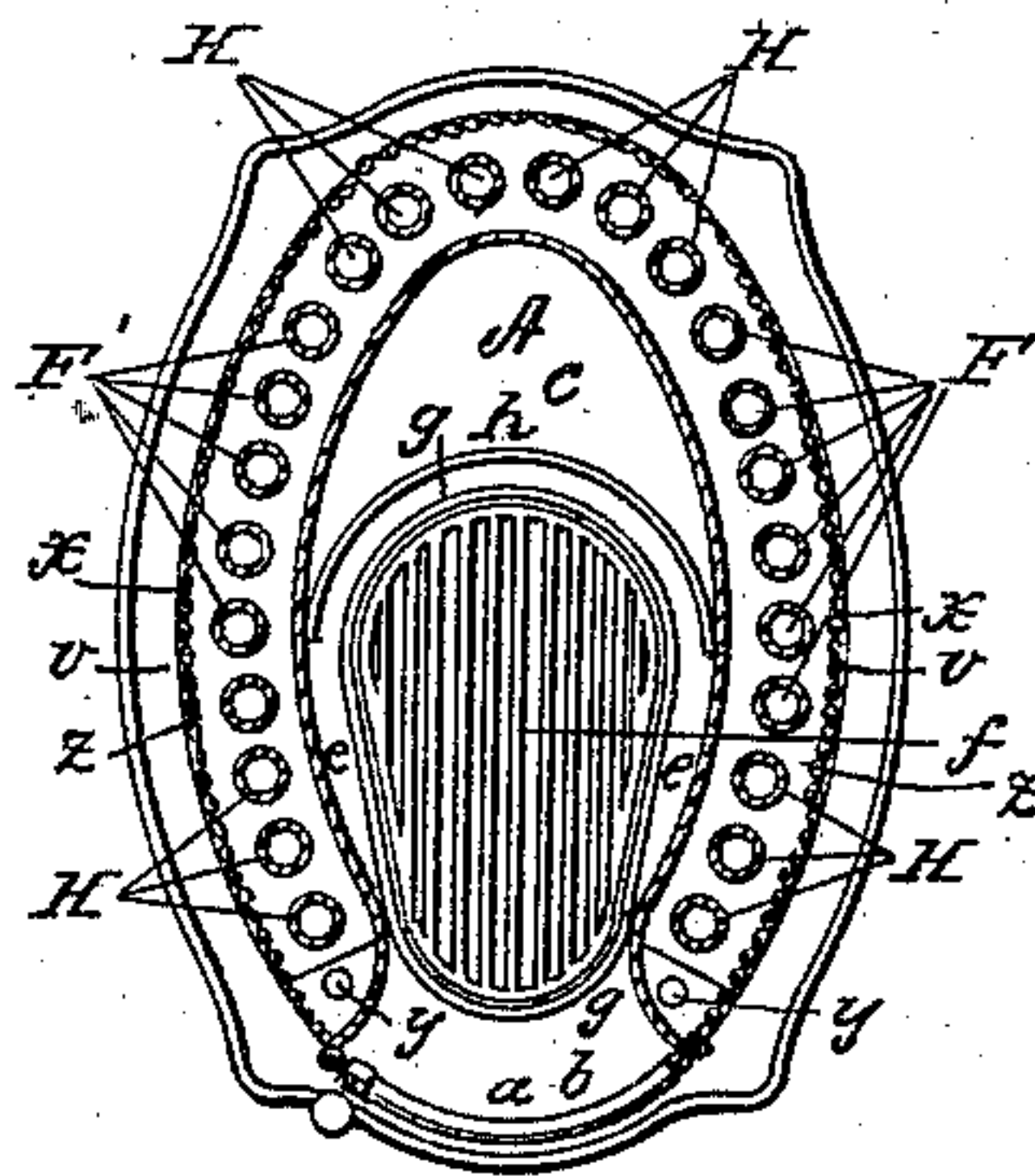


Fig: 5.

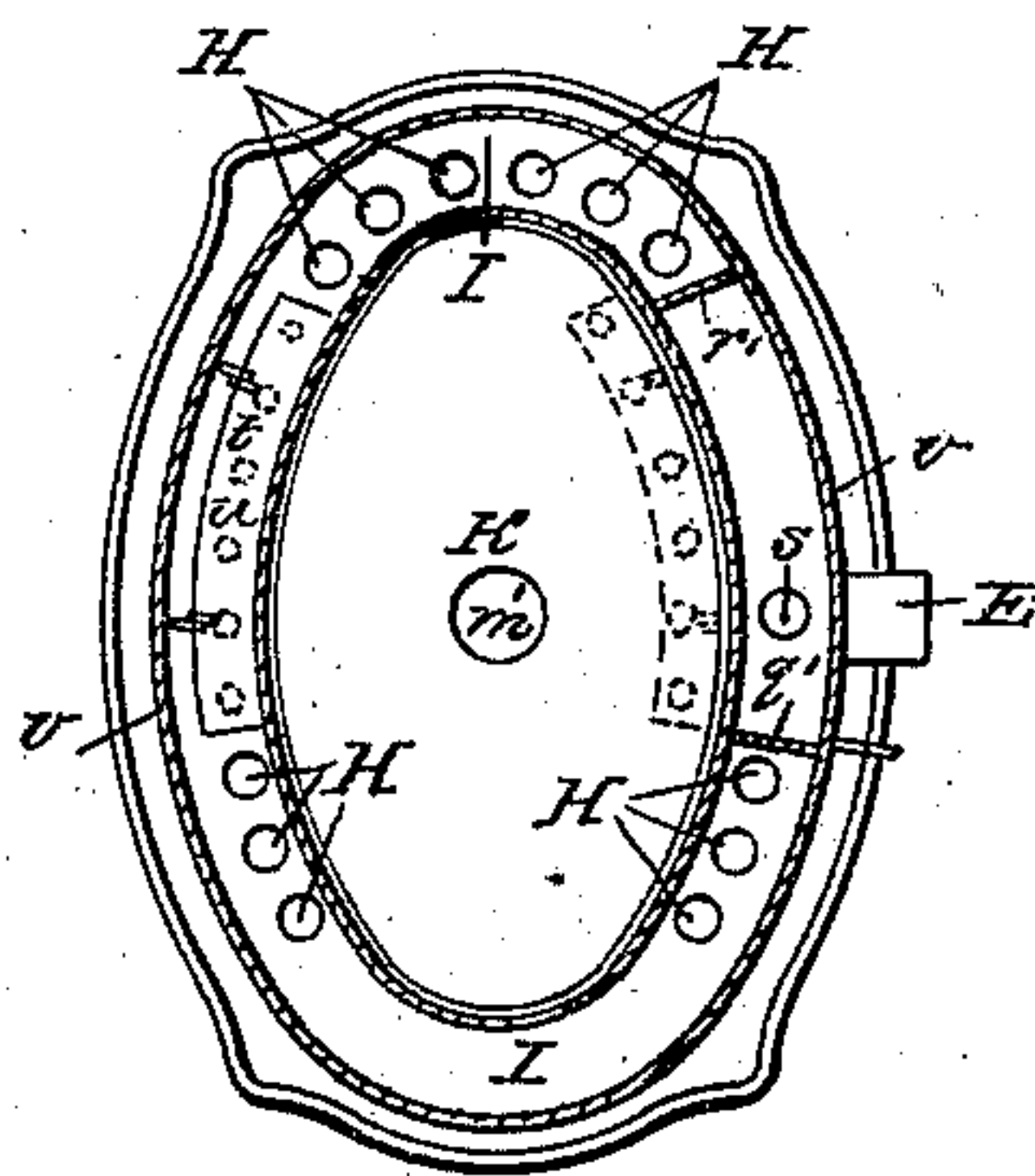


Fig: 6.

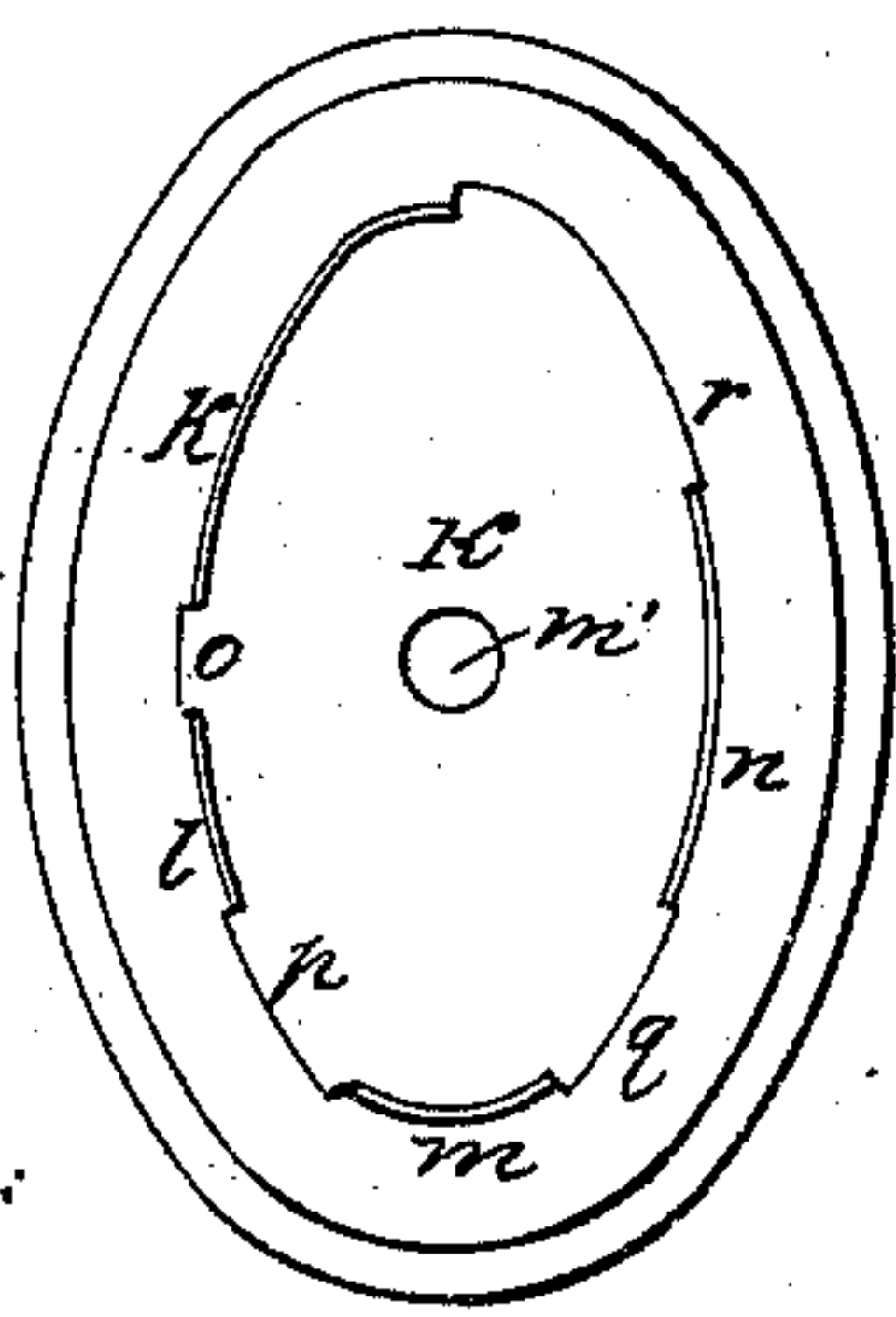
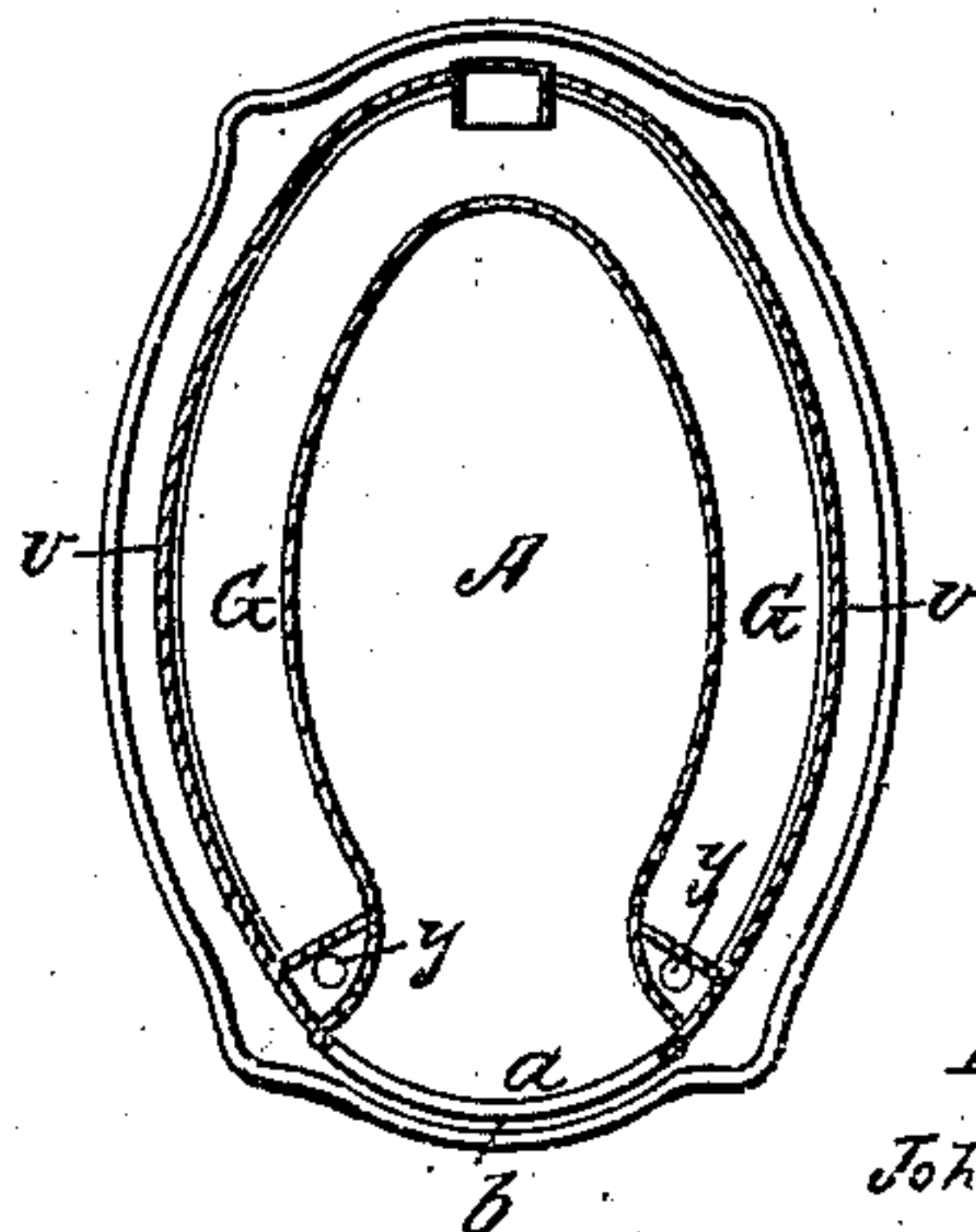


Fig: 7.



Witnesses:

Samuel C. Piper.  
Geo. H. Andrews.

Inventor:

John L. Hanson.  
by his Attorney  
R. H. Eddy.



# United States Patent Office.

JOHN L. HANSON: OF BOSTON, MASSACHUSETTS.

*Letters Patent No. 66,707, dated July 16, 1867.*

## COAL-STOVE.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL PERSONS TO WHOM THESE PRESENTS SHALL COME

Be it known that I, JOHN L. HANSON, of Boston, in the county of Suffolk, and State of Massachusetts, have invented a new and useful improvement in Stoves; and do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a side elevation.

Figure 2, a vertical and longitudinal section, and

Figure 3 a vertical and transverse section of it.

Figure 4 is a horizontal section, taken through the middle of it.

Figure 5 is a horizontal section of the flue-space for warming the oven.

Figure 6 is an under-side view of the oven.

The fuel-chamber A of this stove is a close chamber provided with a throat, *a*, and a door, *b*, thereto. Within the said chamber is a movable horizontal partition, *c*, supported on brackets *d d*, and made with an elongated hole, *e*, to receive a rotary grate, *f*. A flange, *g*, is raised on the partition *c* around the grate, and there is also a back or lining-guard or curved plate, *h*, raised on such partition in manner as represented in the drawings. The guard *h* is for supporting a fire-proof lining of fire-brick or fire-clay, when built up on the partition and around the grate. It is intended that the partition, with its grate and adjuncts, as described, may be removable from the fire-chamber, in case it may be desirable to have wood rather than coal therein. The partition and the grate are to enable coal to be burned in the fire-chamber, the space thereof under the partition serving as a receiver of ashes which may fall from the grate. At its upper part and opposite sides the fire-chamber A opens into two small and narrow chambers, B C. A damper, D, is arranged in the chamber C, or applied thereto so as to enable a person by moving the said damper either to open or close communication between the fire-chamber and an escape-flue, E, or between the said fire-place and a series of pipes, F F F, leading downward from and vertically out of the chamber C, and into a flue-space, G, which nearly encompasses the lower part of the fire-chamber A. This flue-space is shown more particularly in fig. 7, which is a horizontal section of the stove, such section being taken through the said flue-space. Another series of pipes, F' F' F', leads out of the chamber B, and down therefrom into the flue-space G. Furthermore, there is a series of pipes, H H, &c., leading upward from the space G and about the fire-chamber A, and opening into an oven flue-space or chamber, I, formed in the upper part of the stove. The oven shown at K is in the form of an elongated disk, provided with a cover, *i*. Flanges *k l m n* extend down from the perimeter of the bottom of the oven, so as to touch the bottom of the flue-space I, there being a narrow space, *a'*, between the bottom of such space I and that of the oven. These flanges, with the openings *o p q r* between them, and with the vertical partitions *q' r'*, cause the heat and smoke discharged from the pipes H H to circulate freely and fully around the sides and underneath the oven, and to escape down through a hole, *s*, leading from such space I into the chamber C. The said partitions *q' r'* are represented in fig. 5. They extend from the sides of the chamber I to the oven. The said oven may have a hole through its bottom, such hole being provided with a cover, *m'*. The said hole is to enable a person to insert the bottom of a tea-kettle into or expose it to the flame-space I, for the purpose of being heated by the smoke when coursing through such, or by the top plate of the fire-chamber. Through the top of each of the chambers B C is a series of holes, *t t*, there being one of them directly over each of the vertical pipes leading out of the said chambers. These holes open out of the flue-space I, and are there provided with covers *u u*. Their purpose is to enable either of the flues or pipes to be cleaned out by a rod run down into it and through the hole over it. The external case *v* of the stove has openings, *w w*, in front of each series of vertical pipes, such openings having woven wire guards, *x x*, inserted in them. Furthermore, there are passages, *y y*, leading up through the bottom plate of the stove and into the pipe-chamber *z* which encompasses the fire-chamber A. The said openings serve to supply the pipe-chamber with air. The heat radiated from the vertical pipes and the walls of the fire-chamber will be discharged through the wire guards.

In the operation of the stove, the smoke from the fire-chamber A will pass into the two chambers B C; the damper being raised into its highest position, the smoke will enter and flow through the pipes F F' leading down from the said two chambers, thence it will pass into the space G, thence up the several pipes H, and into and through the flue-space I and about the oven, thence through the hole *s* and into the discharge flue E. On

depressing the damper the smoke will pass from the fire-place directly into the flue E without first going through the pipes F F'.

In the said stove, I claim as my invention the following, viz :

I claim the combination as well as the arrangement of the fire-chamber A, the two chambers B C, the descending pipes F F', the flue-space G, the ascending pipes H H, their chamber z, and the oven flue-space or chamber I, and its escape-flue or passage.

I also claim the combination and arrangement of the flanges *k l m n* with the dished oven, or with the same, the flue-space I, the series of pipes H, the flue-space G, the pipes F F', the chambers B C, and the fire-chamber A.

I also claim the combination, as well as the arrangement, of the series of holes *t t* and their covers, as set forth, with the flue-space I, the pipes H F F', the flue-space G, and the chambers A B C.

I also claim the combination, as well as the arrangement, of the passages *y y*, the flue-space G, the chambers A B C, the pipes H F F', the flue-space I, and the chamber z, the whole being substantially as hereinbefore explained.

I also claim the combination, as well as the arrangement, of the flange *g* and the lining-guard *h* with the grate-holding partition *e*, made with a hole through it to receive a grate, as specified.

JOHN L. HANSON.

Witnesses:

R. H. EDDY,

F. P. HALE, Jr.