

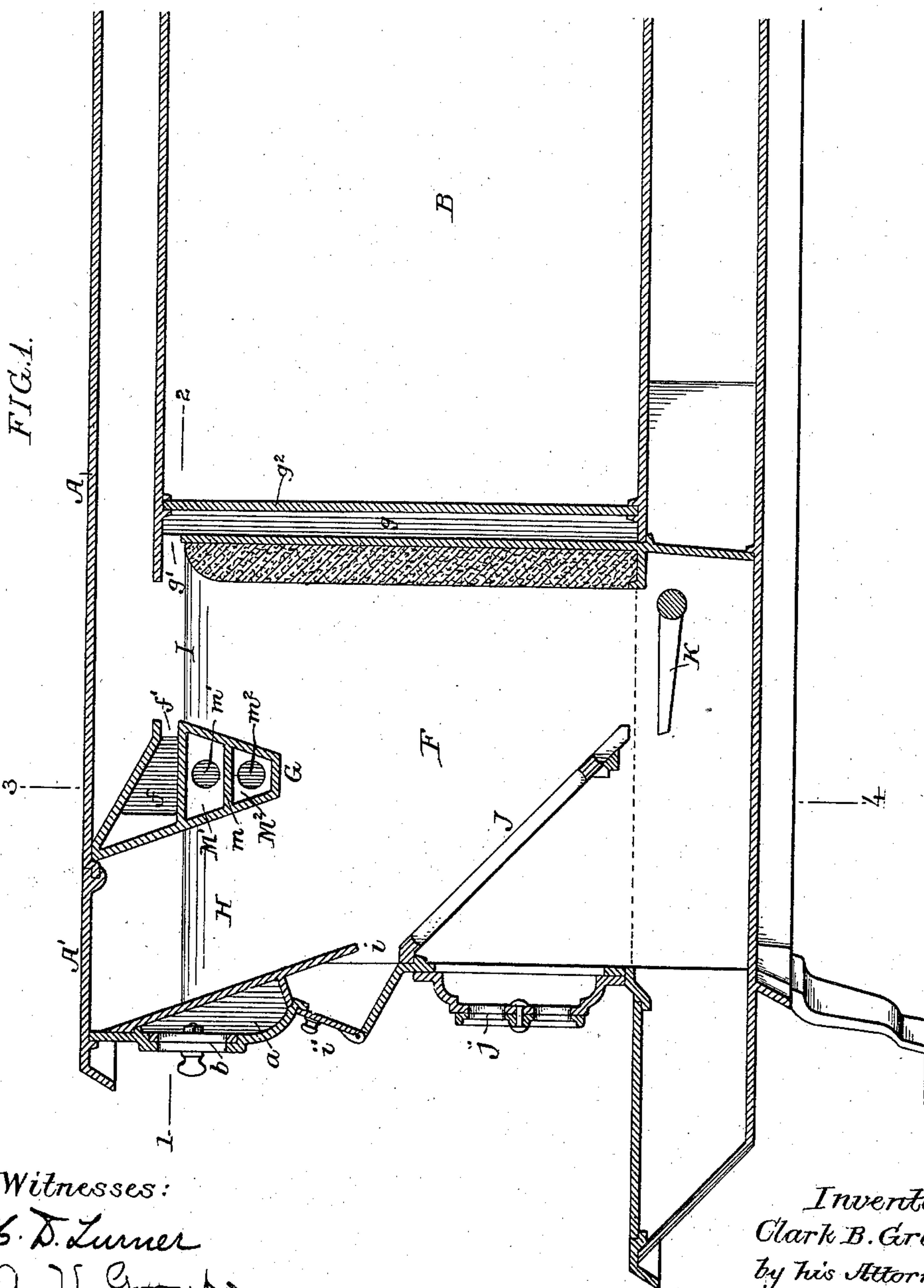
(No Model.)

3 Sheets—Sheet 1.

C. B. GREGORY.
STOVE OR RANGE.

No. 558,801.

Patented Apr. 21, 1896.



Witnesses:
H. D. Turner
A. V. Group

Inventor:
Clark B. Gregory
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(No Model.)

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FIG. 3

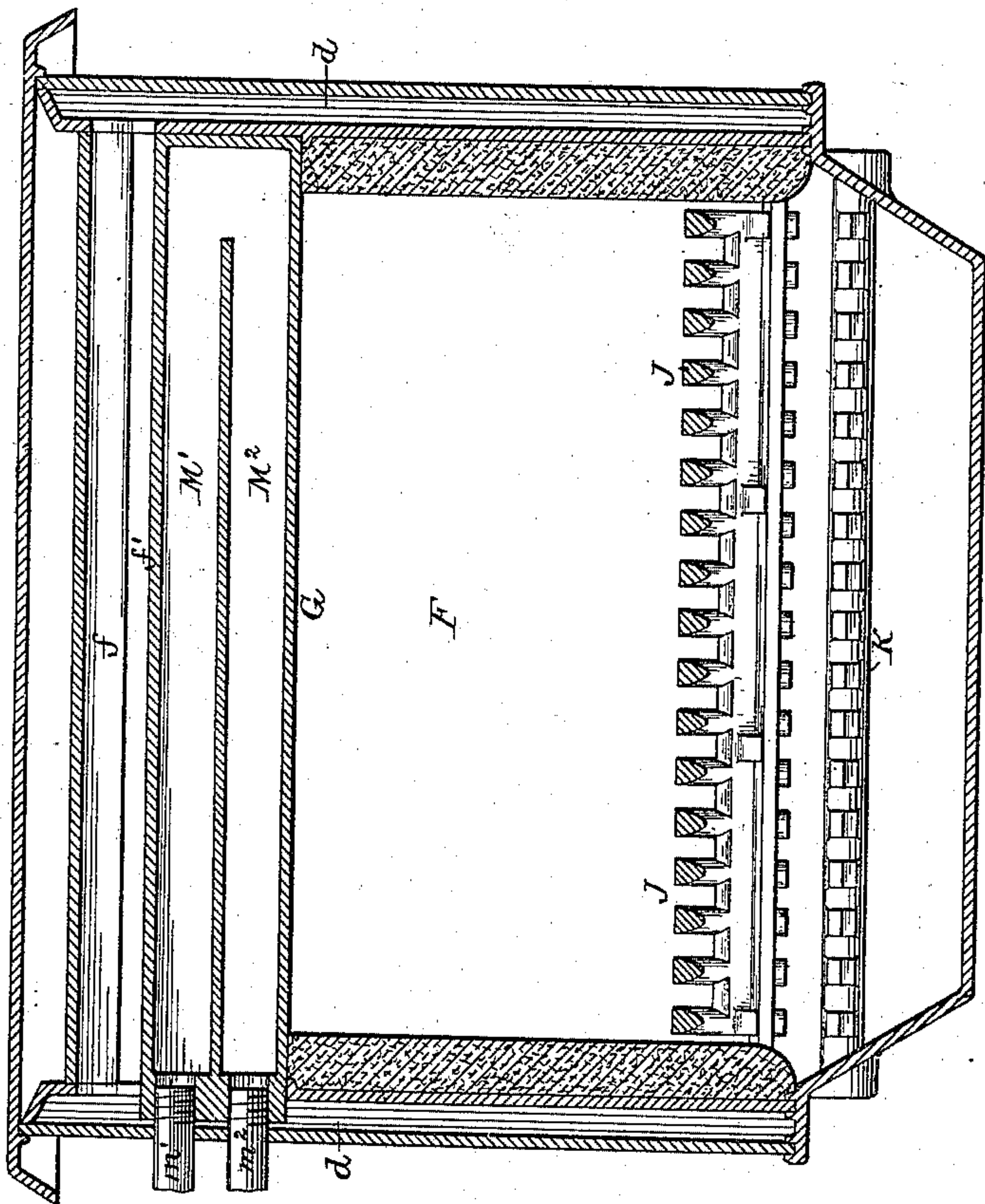
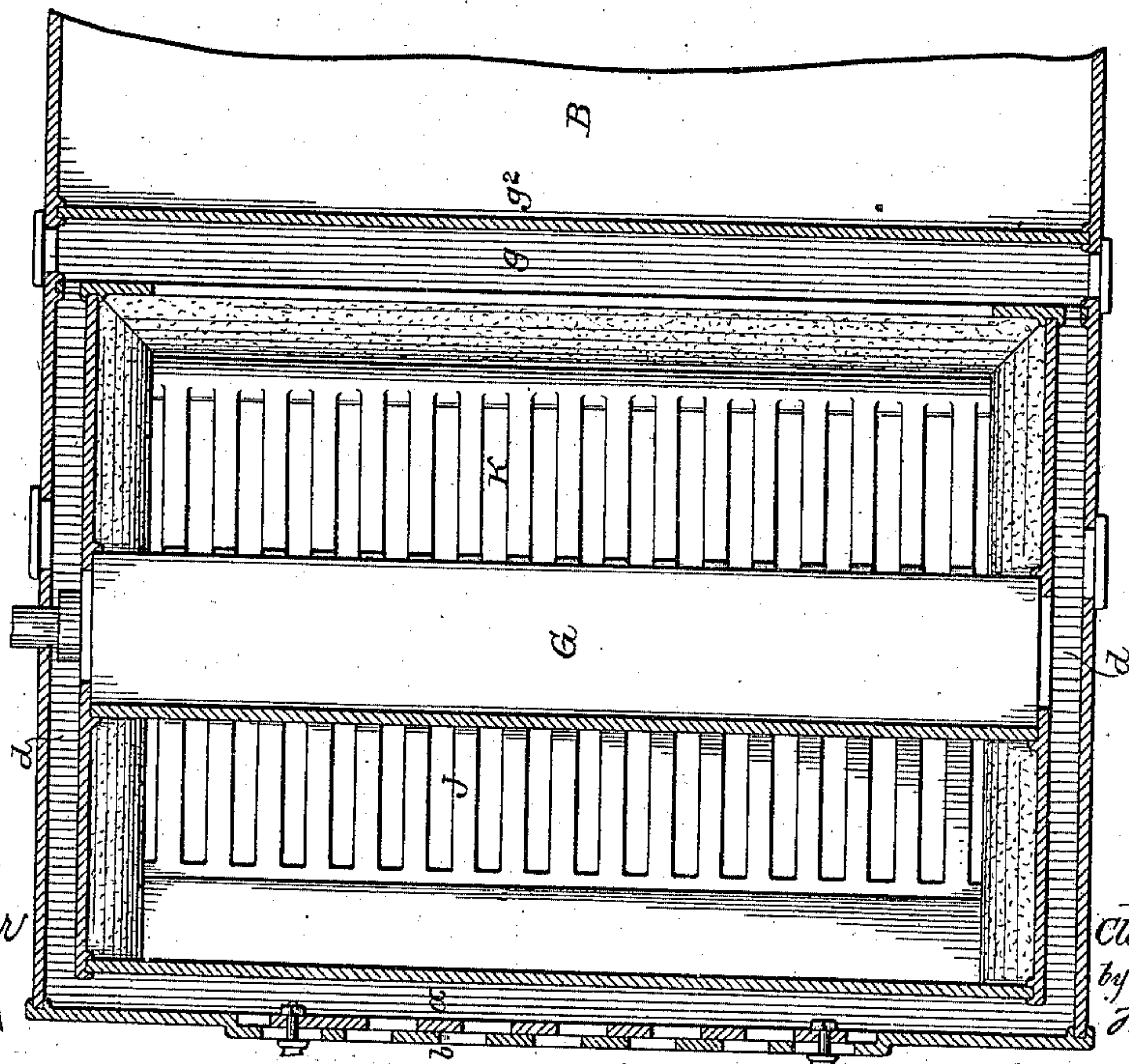


FIG. 2.



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Horn
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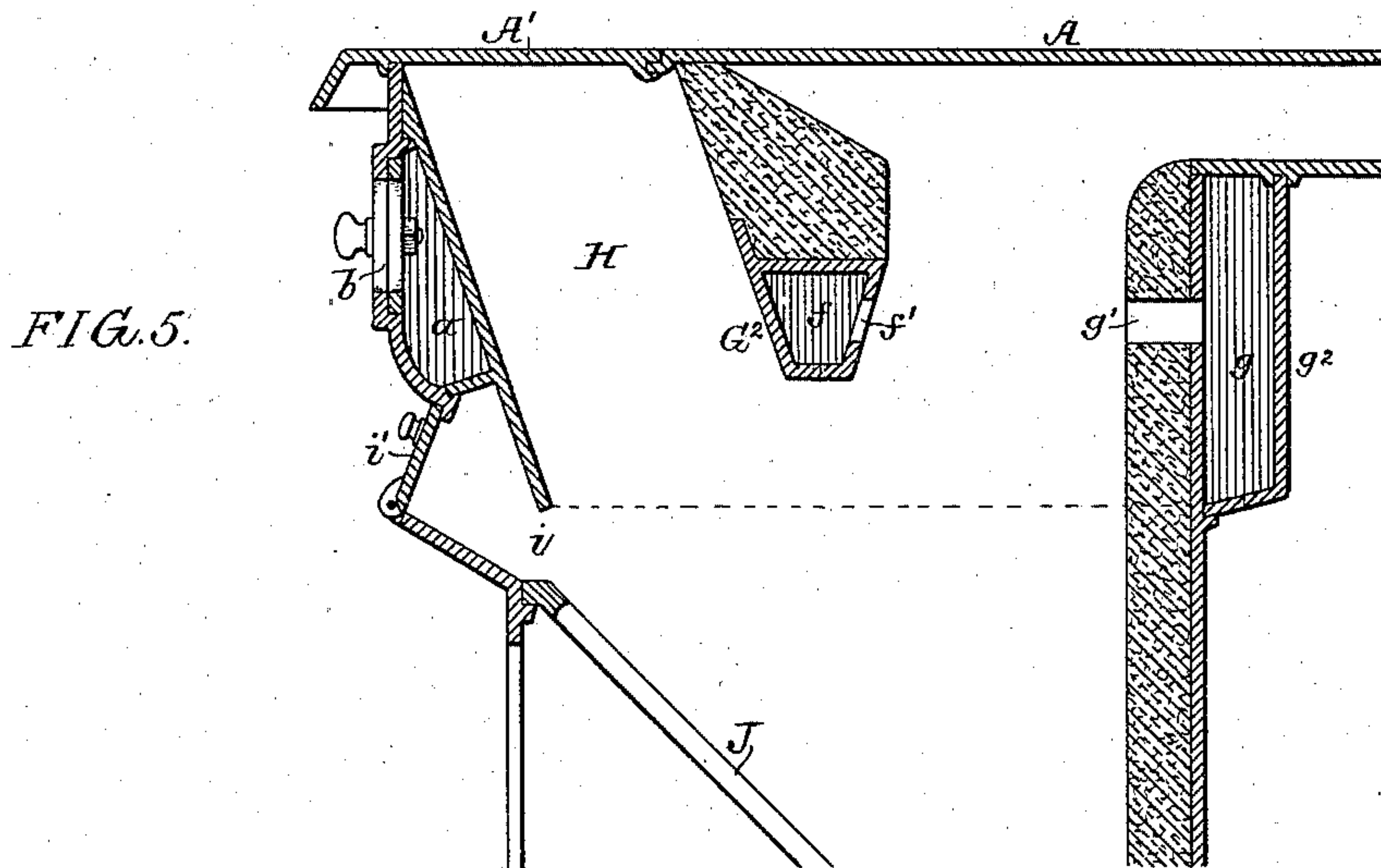
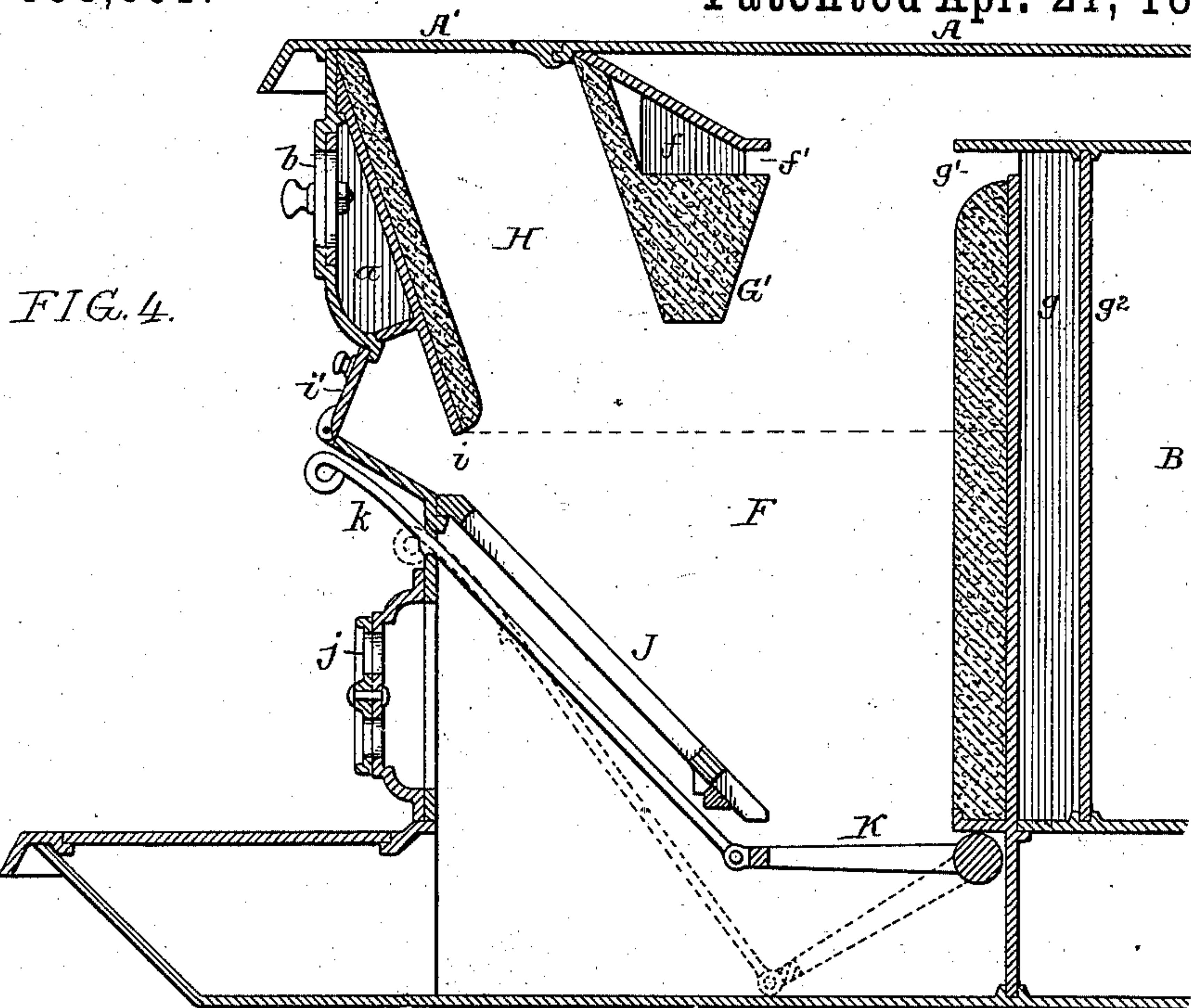
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UNITED STATES PATENT OFFICE.

CLARK B. GREGORY, OF EDGEWATER PARK, NEW JERSEY, ASSIGNOR TO
THE GREGORY FURNACE COMPANY, OF SAME PLACE.

STOVE OR RANGE.

SPECIFICATION forming part of Letters Patent No. 558,801, dated April 21, 1896.

Application filed December 15, 1892. Serial No. 455,228. (No model.)

To all whom it may concern:

Be it known that I, CLARK B. GREGORY, a citizen of the United States, and a resident of Edgewater Park, Burlington county, New Jersey, have invented certain Improvements in Stoves or Ranges, of which the following is a specification.

The object of my invention is to construct a cooking stove or range having a furnace in which are embodied the principles of construction and operation set forth in my patent of May 25, 1880, No. 228,061, the invention comprising certain features of detailed construction with the view of insuring a compact and effective disposal of the parts and providing for the thorough combustion of the smoke and gases.

In the accompanying drawings, Figure 1 is a longitudinal section of an ordinary stove or range with fire-box or furnace constructed in accordance with my invention. Fig. 2 is a sectional plan on the line 1 2, Fig. 1. Fig. 3 is a transverse section on the line 3 4, Fig. 1; and Figs. 4 and 5 are longitudinal sections illustrating slight modifications of detail in parts of the device.

In Fig. 1, A represents the top plate of the stove or range, and B the oven of the same, the flues and dampers of the stove being similar to any of those in common use.

F is the fire-pot of the stove or range, the upper portion of which is divided by a transverse partition G into a hopper H and a discharge throat or neck I, said fire-pot being suitably lined with fire-brick or other refractory material to protect the casing of the stove. In the lower portion of the fire-pot is an inclined grate J, and at the foot of the same is a rocking or tilting grate K, so that the fuel is supported in part upon said inclined grate and in part upon the grate K.

In front of the hopper H is a box *a*, which has in front a dampered opening *b*, providing for the inlet of air, and this box *a* communicates at the ends with chambers or passages *d*, formed in the sides of the stove, these chambers in turn communicating with transverse passages *f* and *g*, the passage *f* being formed in the upper portion of the hollow transverse partition G and the passage *g* being formed in a box *g*², formed upon or se-

cured to the front wall of the oven-casing. Air entering the box *a* is thus caused to traverse the passages *d*, *f*, and *g*, and is heated in such passage, the heated air finally escaping through contracted mouths *f'* *g'* from the chambers *f* and *g* and intermingling with the heated products of combustion rising through the throat I into the upper flue of the stove.

In practice the greater portion of the mass of fuel below the partition G is in a state of incandescence, and the gases evolved from the green fuel in the hopper H are caused to pass down through this incandescent mass of fuel before they reach the discharge-throat I and are thereby converted into a fuel-gas, which is mixed with the heated air from the chambers *f* and *g* and burns with intense heat, thorough combustion being effected, so that such combustion is practically smokeless.

Between the bottom of the front plate of the hopper H and the top of the grate J is an opening *i* and on the front of the stove, in line with said opening, is a pivoted door or flap *i'*, so that on opening said door or flap air can gain access to the body of fuel above the grate when it is desired to increase the mass of the burning fuel in the fire-pot, the opening *i*, also serving for the introduction of a slicing bar or poker, whereby adhering clinkers and ashes may be removed from the grate J.

It is preferable to so adjust the rocking or shaking grate K as to provide for the automatic discharge of the fine ashes as they accumulate at the bottom of fire-pot, and thus insure the automatic feeding of the fresh fuel downward from the hopper into the fire-pot, and said grate may be turned so as to dump the contents of the fire-pot into the ash-pit when such action is required.

That portion of the front of the stove which is in line with the grate J has a dampered opening *j*, by which the admission of air to the grate is regulated and the rapidity of combustion in the fire-pot consequently governed.

The lower portion of the hollow partition G, which divides the upper portion of the fire-pot, has a central partition *m*, which terminates some distance from one end of the said hollow partition, as shown in Fig. 3, thus

providing within the partition two chambers M' M^2 , which communicate with each other around the end of the partition, the chamber M' having a pipe m' and the chamber M^2 a pipe m^2 , so that water may be caused to circulate through the hollow partition for the purpose of heating said water and preventing the destruction of the partition by the intense heat to which it is subjected.

10 The top plate of the stove has a pivoted front section A' flush with the rest of the top plate, said section A' serving as a lid or cover for the hopper H and permitting ready access thereto for the purpose of introducing fresh fuel when desired.

In cases where the water-heater is not desired the lower portion of the transverse partition G may be in the form of a slab of fire-brick or like material, as shown, for instance, at G' in Fig. 4, or the lower portion of the hollow partition may serve as a hot-air chamber, as shown at G^2 in Fig. 5, the point at which the hot air is discharged into the throat I in this case being somewhat lower than in the construction shown in Figs. 1 and 4.

25 The swinging or tilting grate may be actuated by a rod k , provided, by preference, with a lug or stop for engagement with the front plate of the stove in order to support the swinging grate in its elevated position and yet permit it to be lowered, as shown, for instance, by dotted lines in Fig. 4, in order to

provide for the discharge of ashes from the fire-pot or to dump the contents of said fire-pot into the ash-pit.

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

1. The combination of the oven and flues of a cooking stove or range, with a fire-pot having a grate comprising an inclined and grated fuel-supporting portion and a tilting base-grate, and a transverse partition separating the upper portion of the fire-pot into a feed-hopper and discharge-throat, substantially as specified.

2. The combination of the oven and flues of a cooking stove or range, with a fire-pot having a hollow transverse partition dividing its upper portion into a feed-hopper and discharge-throat, said partition having a horizontal web extending almost from end to end of the same and forming upper and lower water-chambers and supply and discharge pipes for maintaining a circulation of water through said chamber, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CLARK B. GREGORY.

Witnesses:

FRANK E. BECHTOLD,
JOSEPH H. KLEIN.