

(No Model.)

C. H. MILLER.
COMBINED GAS AND COAL GRATE.

No. 567,812.

Patented Sept. 15, 1896.

Fig. 1.

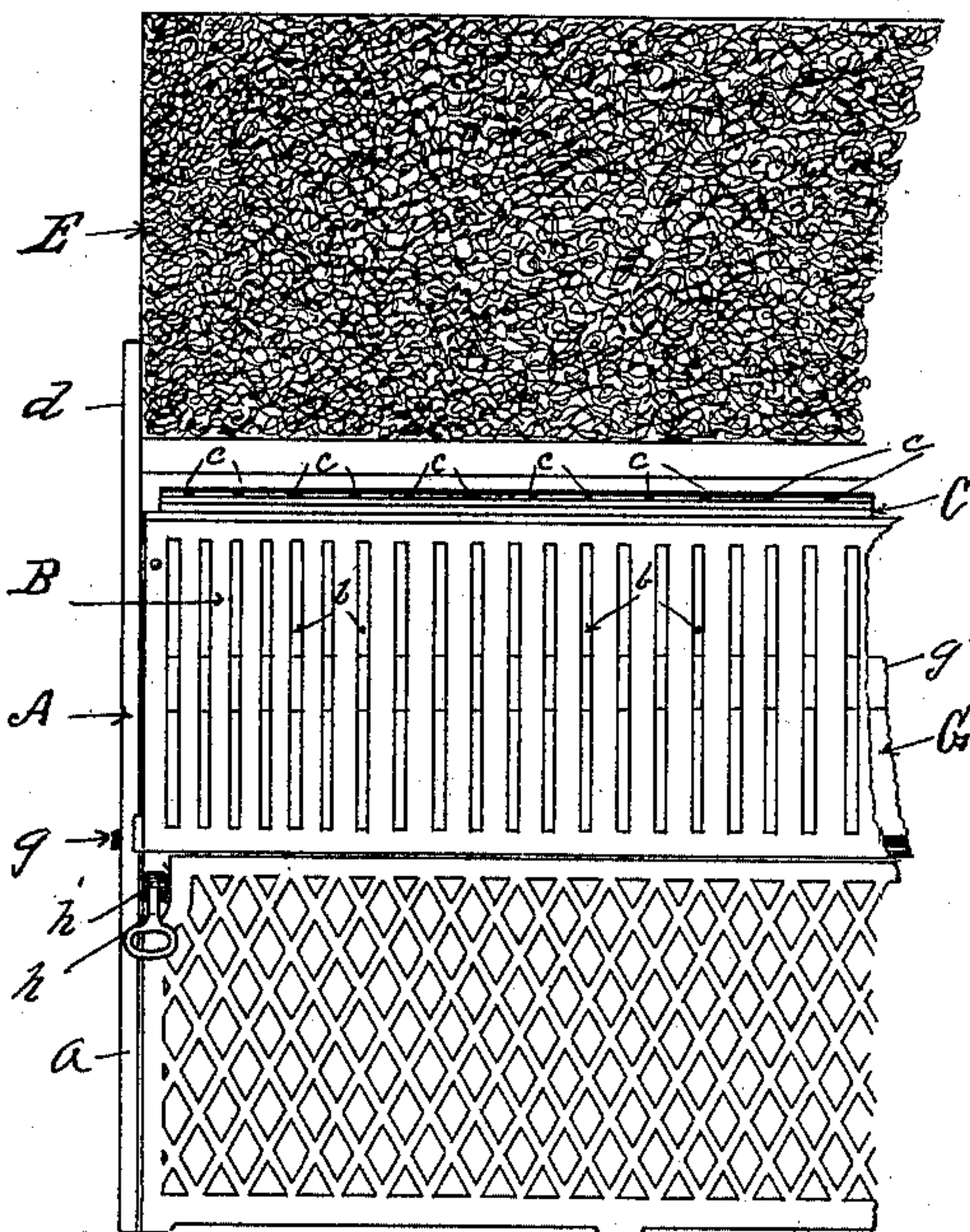


Fig. 2.

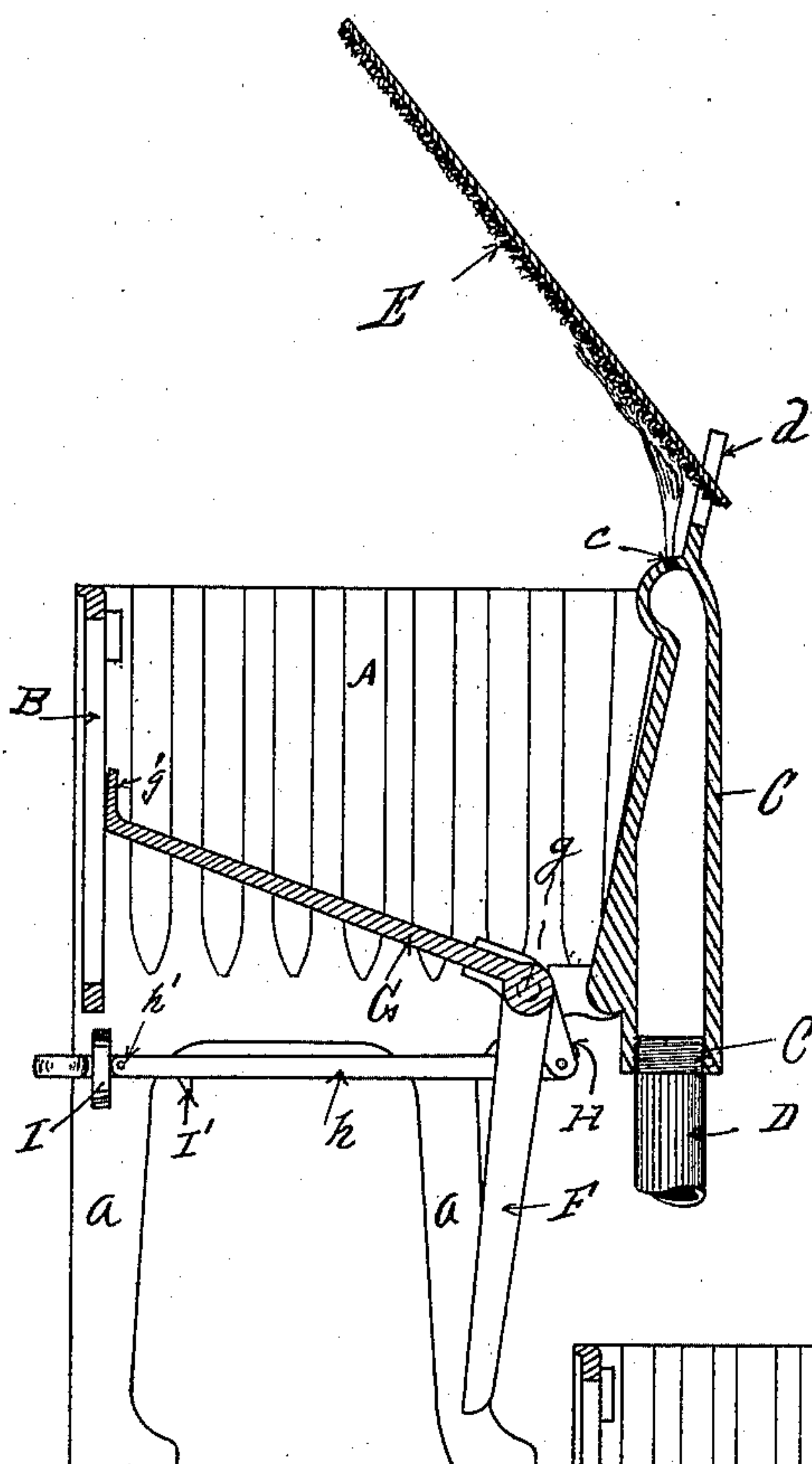


Fig. 3.

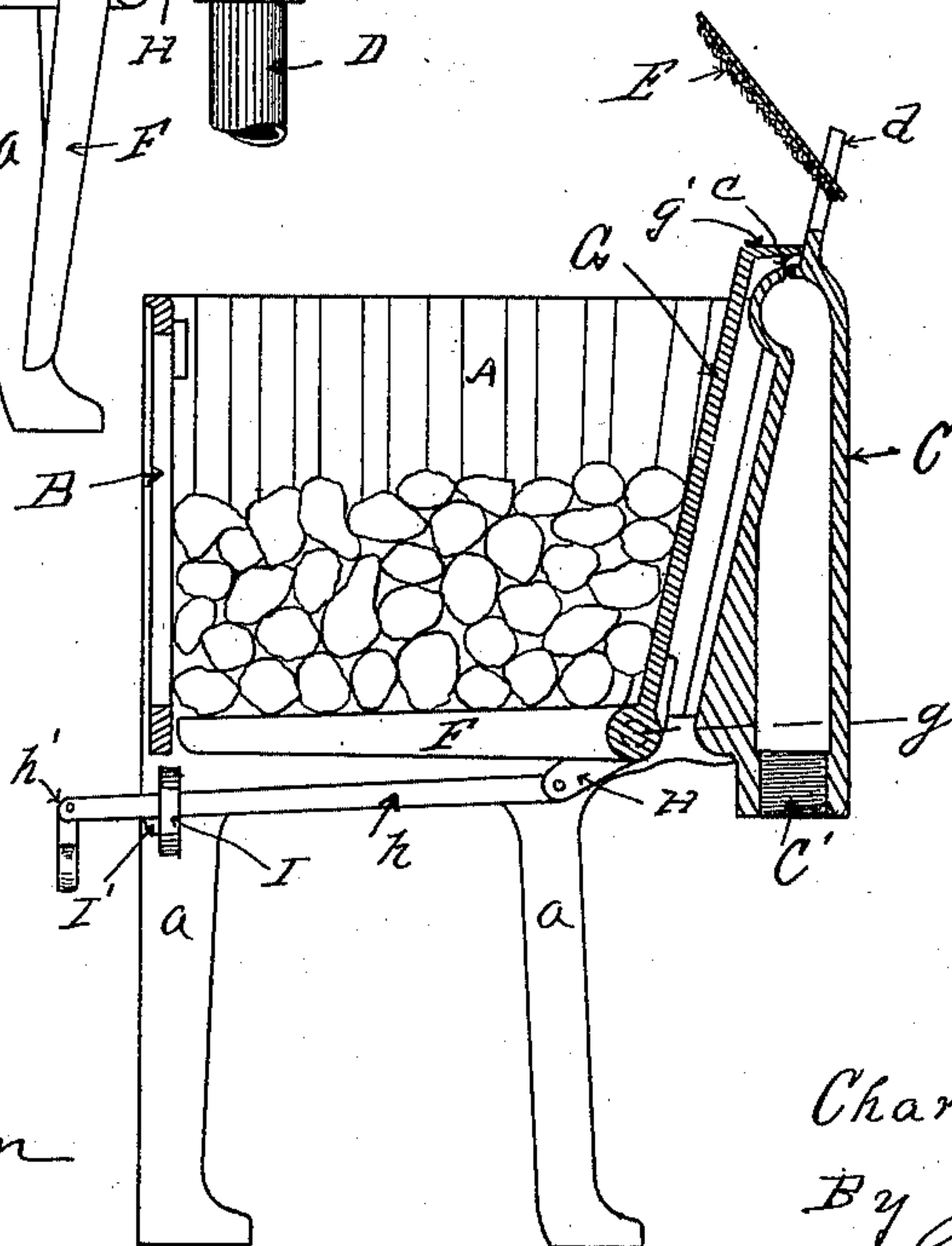
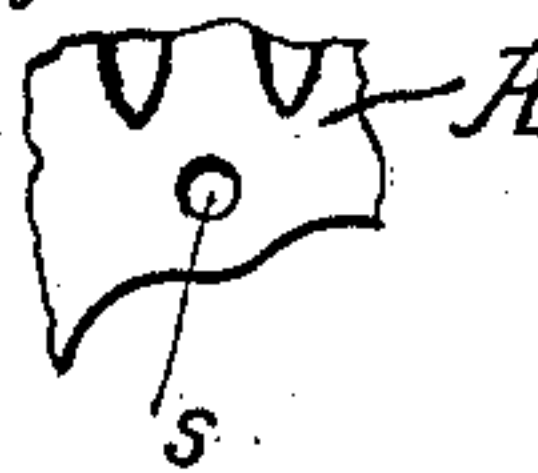


Fig. 4.



WITNESSES.

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COMBINED GAS AND COAL GRATE.

SPECIFICATION forming part of Letters Patent No. 567,812, dated September 15, 1896.

Application filed March 16, 1893. Serial No. 583,438. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. MILLER, a citizen of the United States, residing at the city of Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in a Combined Gas and Coal Grate; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as 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 the letters of reference marked thereon, forming part of this specification.

My invention relates to improvements in combined gas and coal grates hereinafter set forth and explained; and it consists in constructing a gas-chamber in the back wall of the grate, provided with gas-exit openings in the top thereof and an adjustable back for covering the same, as follows: The bottom of the grate is formed of bars, which are joined at their rear ends, at nearly right angles thereto, to a plate which is journaled in the ends of the grate-frame, so that this plate when thrown back completely covers the front of the gas-chamber and the gas-exit openings therein, and the bars forming the bottom of the grate are at the same time raised up into position to hold coal or wood, as may be desired. Thus it will be seen that in case of a shortage in the gas supply or for other reasons it is desirable to burn coal or wood instead of gas the grate can instantly be adjusted therefor, and, vice versa, in case it is again desired to burn gas.

In the accompanying drawings, illustrating my invention, Figure 1 is a front view in elevation of a section of my combined gas and coal grate. Fig. 2 is an enlarged transverse section of the same adjusted to burn gas. Fig. 3 is a like enlarged transverse section of the same adjusted to burn coal or wood. Fig. 4 is a detail view of one of the openings *s*.

In the construction of my invention *A* is one of the end frames, and *B* the front of the grate, constructed with vertical slots or openings *b*, the ends *A* being preferably provided with legs *a a* to support the grate. The stationary back of the grate is made in the form

of a hollow chamber *C*, in the top of which are gas-exit openings *c*. In the central part of the bottom of this chamber *C* there is an opening *C'*, adapted to receive a gas-supply pipe *D*, and between projections *d d* on the ends of the upper part of the chamber *C* is secured an asbestos-covered flame-deflecting plate *E* for deflecting the heat outwardly.

The bottom of the grate consists of parallel bars *F*, joined at their rear ends to the lower edge of a plate *G*, nearly at right angles to the plane of the upper surface of the bars *F*. At the ends of the lower corners of the plate *G* are journals *g*, which operate in openings *s* in the rear lower corners of the end frames *A A*. The upper edge of the plate *G* is also provided with a rearward projection *g'*, so that when the plate *G* is turned back against the chamber *C*, as illustrated in Fig. 3, the plate *G* and the projection *g'* thereon completely cover the front of the gas-chamber *C* and the gas-exit openings *c* therein, and forms a back for the coal-grate. The movement of the plate *G* back against the chamber *C* at the same time raises the bars *F* up to a horizontal position, ready for the reception of coal or wood thereon, as may be desired, as illustrated in Fig. 3. When, however, it is desired to burn gas instead of coal or wood, the plate *G* is moved forward against the front *B* of the grate, the bars *F* swinging downward, as illustrated in Figs. 1 and 2. This movement of the plate *G* and the grate-bars *F* is accomplished by means of an arm *H*, secured to the lower edge of the plate *G* at one end thereof, to which is pivoted a draw-bar *h*, which extends out through a slotted projection *I* on the inside of the front leg *a* of one of the end frames *A*, and on this bar *h* there is a projection or catch *I'*, which, when the plate *G* is moved back against the chamber *C* and the bars *F* raised to a horizontal position, engages with the bottom of the slot in the projection *I* and retains these parts in the position illustrated in Fig. 3. The bar *h* I preferably make in two sections, with a hinge-joint *h'* between them, so that the front end will hang down out of the way when the bar *h* is drawn out. It will thus be observed that my improved construction enables the same device to be

used either as a gas or coal grate, as may be desired, so that any time it can be adjusted instantly for one or the other, as necessity may require.

5 Having thus fully described my invention so as to enable others to construct and use the same, what I claim as new, and desire to secure by Letters Patent of the United States, is—

10 1. A combined gas and coal grate consisting substantially of ends, a front, a chambered back having gas-exit openings therein, bottom grate-bars secured to the lower edge of a plate adapted to be swung back so as to
15 simultaneously raise the bottom grate-bars up to a horizontal position, and at the same time cover the chambered back and the gas-exit openings therein, an arm on the lower edge of said swinging plate, and a draw-bar
20 and catch mechanism for swinging said plate

back and forth, as and for the purpose set forth.

2. In a combined gas and coal grate, end frames A A, a front frame B, a stationary chambered back frame C having a gas-inlet 25 and gas-exit openings therein, a plate G swinging on journals *g*, bottom grate-bars F secured to the lower edge of the plate G at an angle thereto, an arm H on the lower edge of the plate G, a draw-bar *h* pivoted to the arm H 30 and sliding through a slotted lug I on the end frame A, and a catch I' on the draw-bar *h* adapted to engage the slotted lug I, substantially as and for the purpose set forth.

In testimony whereof I affix my signature 35 in presence of two witnesses.

CHARLES H. MILLER.

Witnesses:

L. D. DAVIS,

FRED EINFELDT.