

(No Model.)

2 Sheets—Sheet 1.

G. D. HOFFMAN.
FURNACE.

No. 597,284.

Patented Jan. 11, 1898.

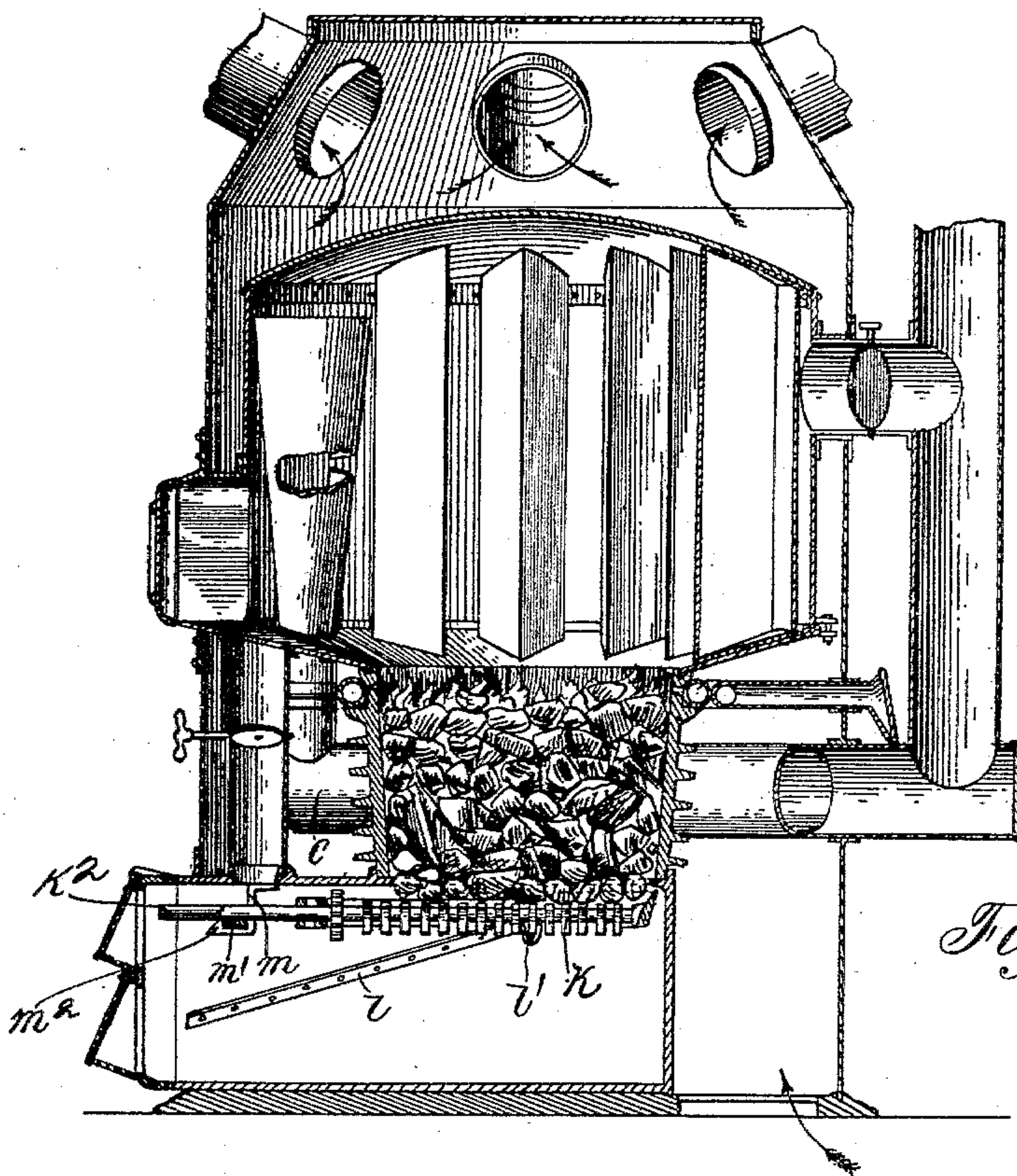


Fig. 1.

Witnesses:
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John H. Sinclair

Inventor:
George D. Hoffman.
By Bartlett Brown
Attorneys.

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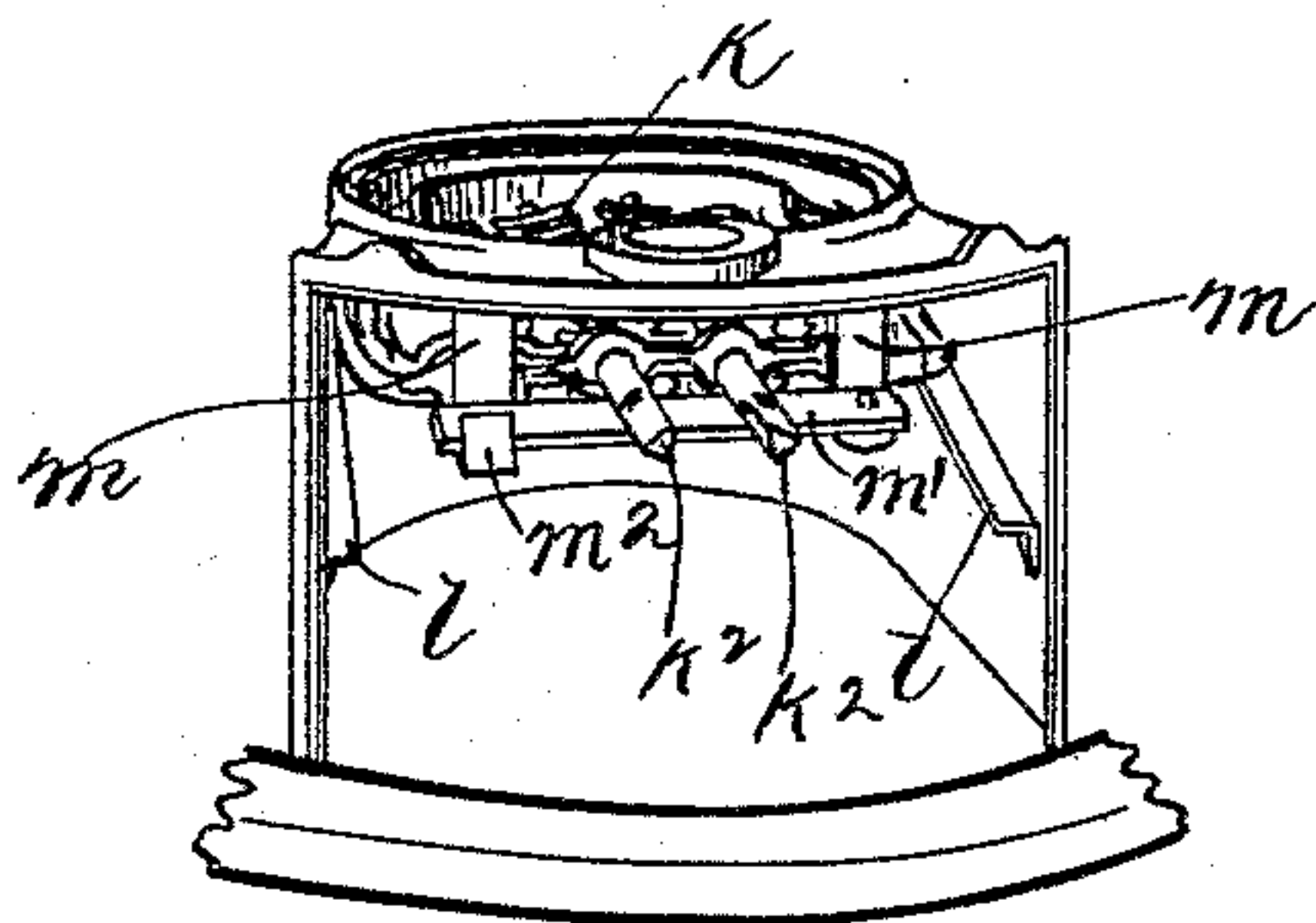


Fig. 2.

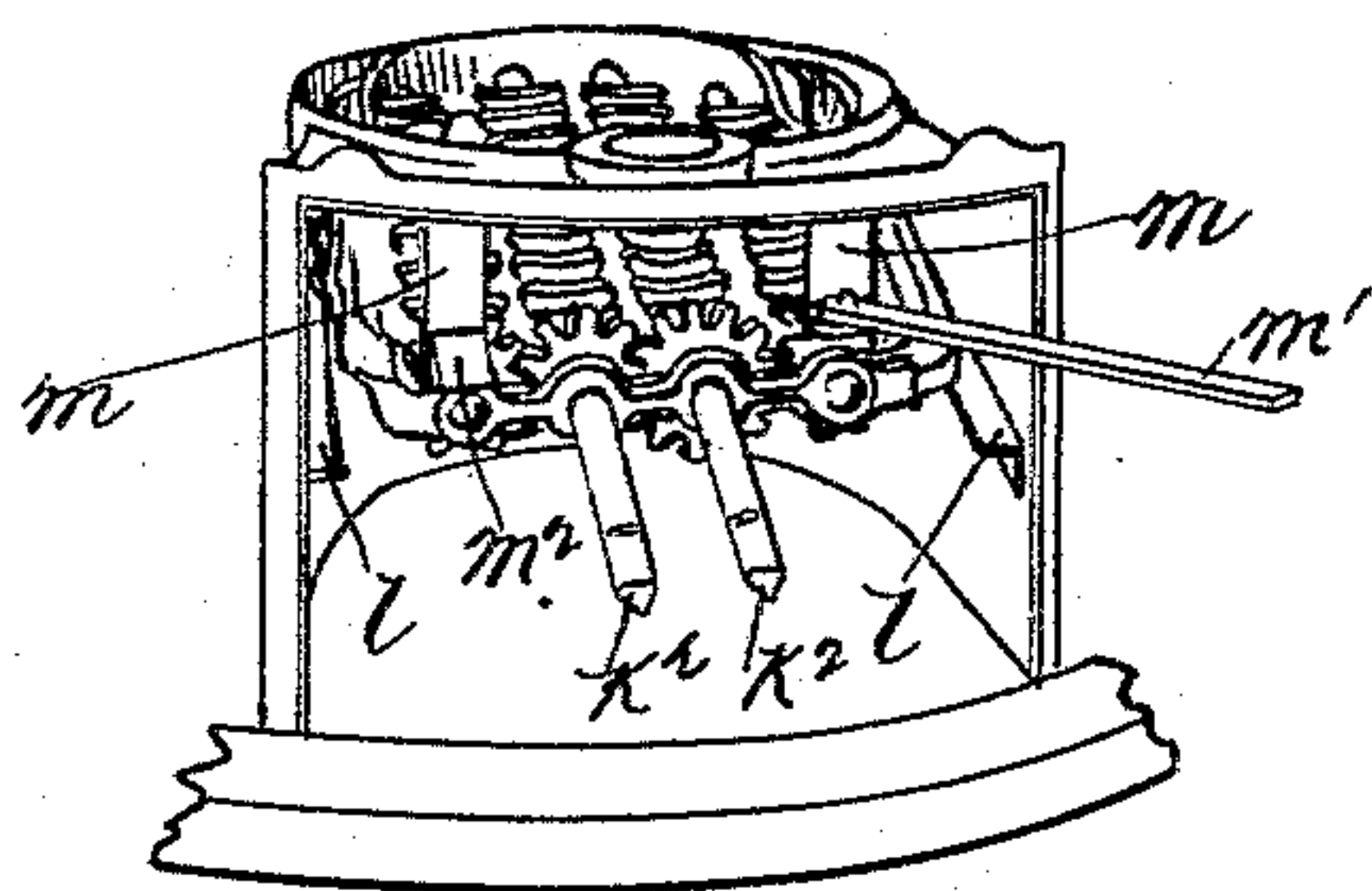


Fig. 3.

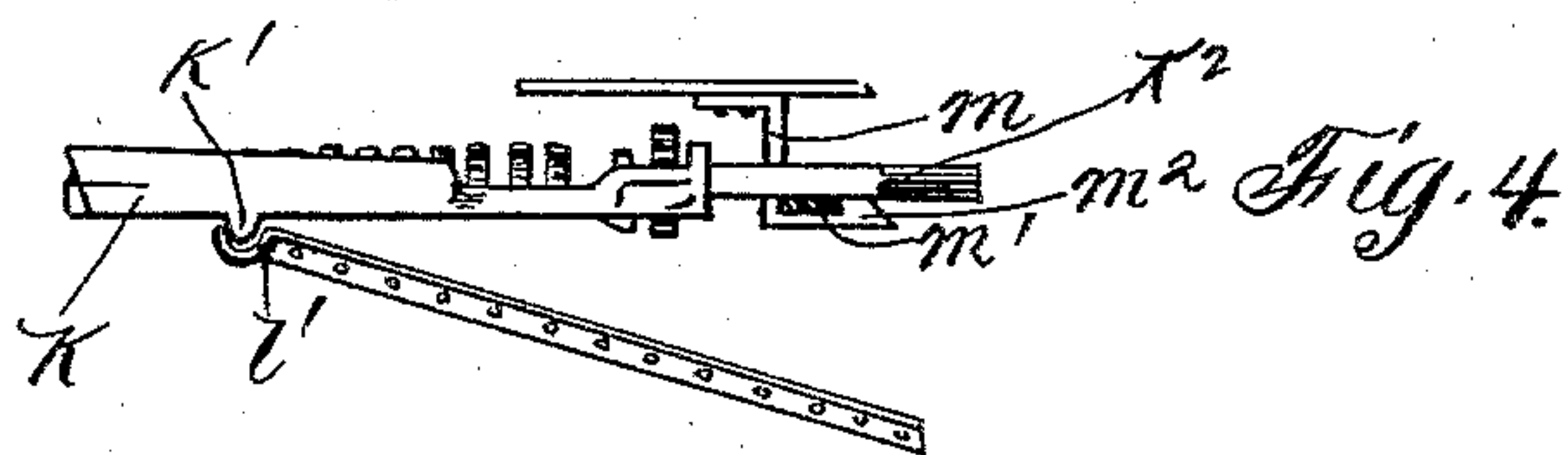


Fig. 4.

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UNITED STATES PATENT OFFICE.

GEORGE D. HOFFMAN, OF CHICAGO, ILLINOIS.

FURNACE.

SPECIFICATION forming part of Letters Patent No. 597,284, dated January 11, 1898.

Application filed February 11, 1896. Serial No. 578,846. (No model.)

To all whom it may concern:

Be it known that I, GEORGE D. HOFFMAN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Furnaces, (Case No. 2,) of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to furnaces; and it consists in so mounting the grates of furnaces that they may be readily lowered or inclined to permit of the removal of clinkers or other obstructions therefrom.

The preferred form of my invention may be generally described as consisting of a grate supported within sockets provided at the upper ends of inclined runways, a movable support being provided to secure the grate in a normally horizontal position. The sockets within the runways are preferably diametrically disposed upon opposite sides of the ash-pit with relation to the fire-pot, lugs upon the sides of the grate-frame engaging with the sockets. In lowering the grate the supporting-bar is removed from its engagement with the grate, whereupon the same may be lowered to an inclined position and the obstruction removed.

My invention will be more readily understood by reference to the accompanying drawings, in which—

Figure 1 is a vertical sectional view of a furnace constructed in accordance with my invention. Fig. 2 is a perspective view of a grate mounted in accordance with my invention, the grate being shown in a horizontal position. Fig. 3 is a similar view thereof with the grate in an inclined position. Fig. 4 is a detail view of the grate and the means for supporting the same.

Like letters refer to like parts throughout the several figures.

A grate k of suitable construction is provided with lugs k' , adapted to engage with sockets l' , provided within the upper ends of the inclined runways l . The runways l are secured to the walls of the ash-pit. To the top of the ash-pit the angle-irons or supports m are secured, upon one of which the sup-

porting-bar m' is pivoted to swing in a horizontal plane, while upon the other a detent m^2 is provided which is adapted to secure the supporting-bar m' . Normally extensions k^2 k^2 of the grate rest upon the bar m' , whereby the grate is secured in a horizontal position, as shown most clearly in Figs. 1 and 4.

When for any reason it is desired to lower the grate k , it is slightly elevated by grasping an extension k^2 thereof, when the bar m' may be swung clear of the detent m^2 and extensions k^2 k^2 , whereupon the grate may be lowered. When the bar m is moved to the position shown in Fig. 3, the grate rests upon the inclined runways, whereby access may be had to its upper surface.

I do not deem it necessary to describe the particular form of grate shown. Various forms of grates may be employed in accordance with my invention, the bar m' being so located with relation to the same as to engage a portion thereof to maintain the grate in a horizontal position.

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

1. In a furnace, the combination of a heat-generating portion, with a grate, inclined runways l l provided with suitable sockets l' l' adapted to receive corresponding lugs upon the grate, angle-irons m m , a bar m^2 pivoted upon one of said angle-irons m , and a suitable detent provided upon the other of said angle-irons to engage the bar, substantially as described.

2. In a furnace, the combination with a grate, of inclined runways l l secured to the furnace, the grate being journaled upon said runways, a swinging support adapted to engage said grate to secure the same in a horizontal position and to be disengaged therefrom to permit the grate to rest in a slanting position upon the inclined runways, the sides of the grate being adapted to engage the runways when the grate occupies this slanting position, substantially as described.

3. In a furnace, the combination with a grate, of inclined runways, supports for the grate upon which the grate is adapted to be rotated, means for securing said grate in a

horizontal position, said means being adapted to permit the grate to rest in a slanting position upon the inclined runways when desired, the sides of the grate being adapted to
5 engage the runways when the grate occupies this slanting position, substantially as described.

In witness whereof I hereunto subscribe my name this 6th day of February, A. D. 1896.

GEORGE D. HOFFMAN.

Witnesses:

W. CLYDE JONES,
D. W. C. TANNER.