(No Model.)

D. CHAMBERLAIN.

STOVE GRATE.

No. 474,367. Patented May 10, 1892.

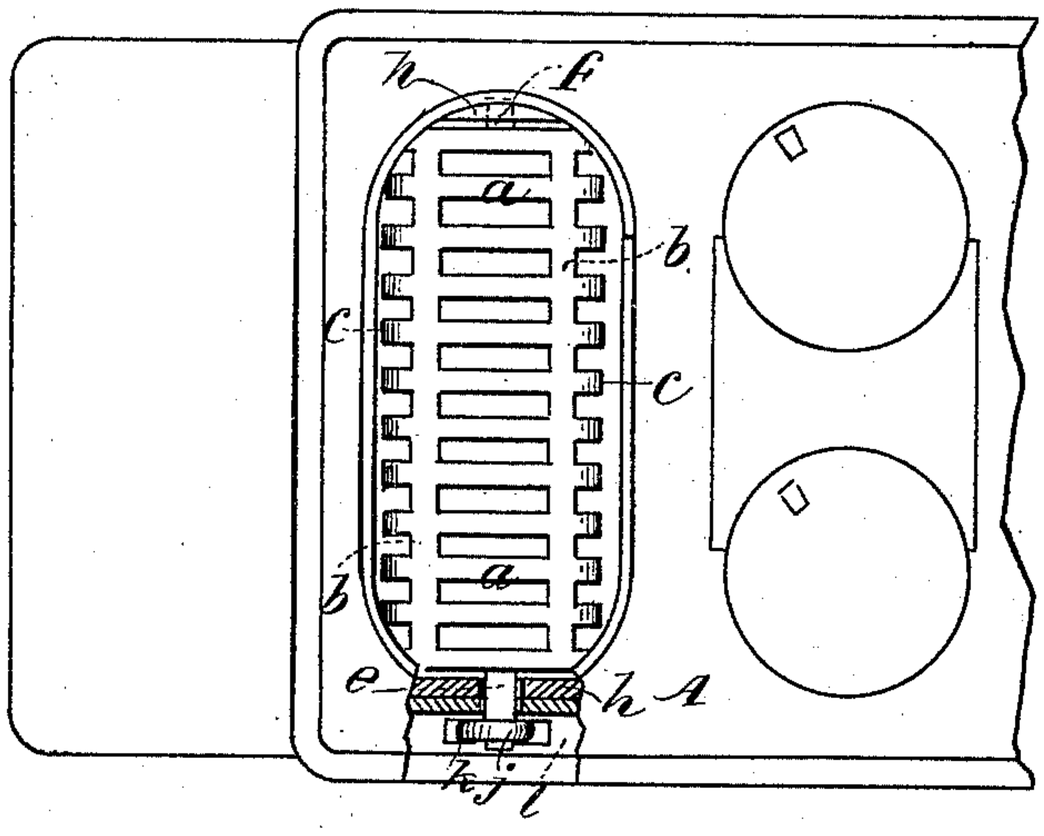

Fig. 1.

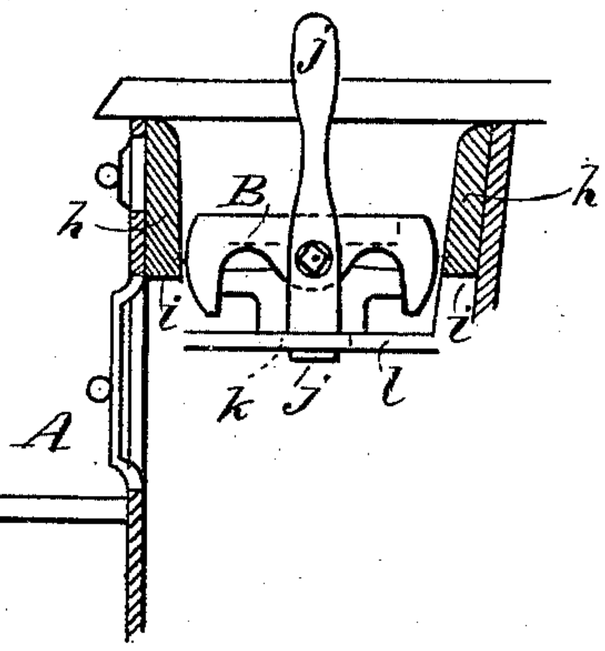

Fig. 3.

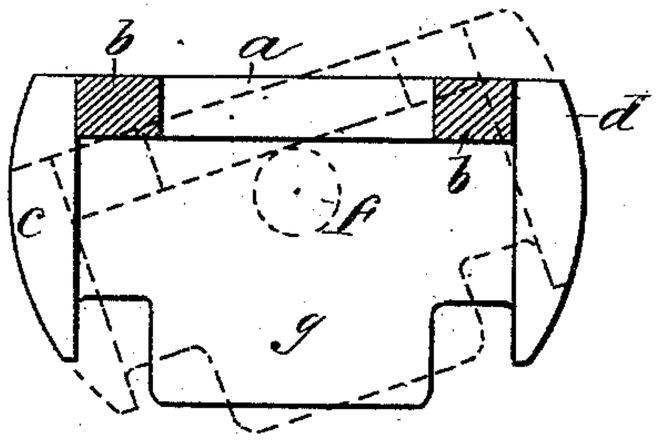

Fig. 4.

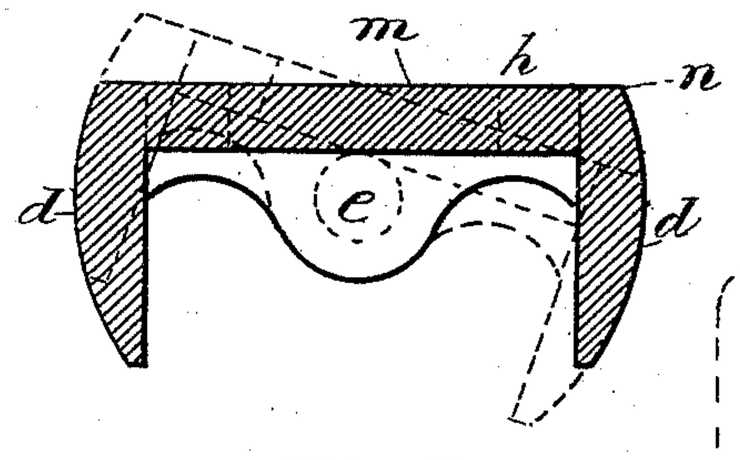

Fig. 5.

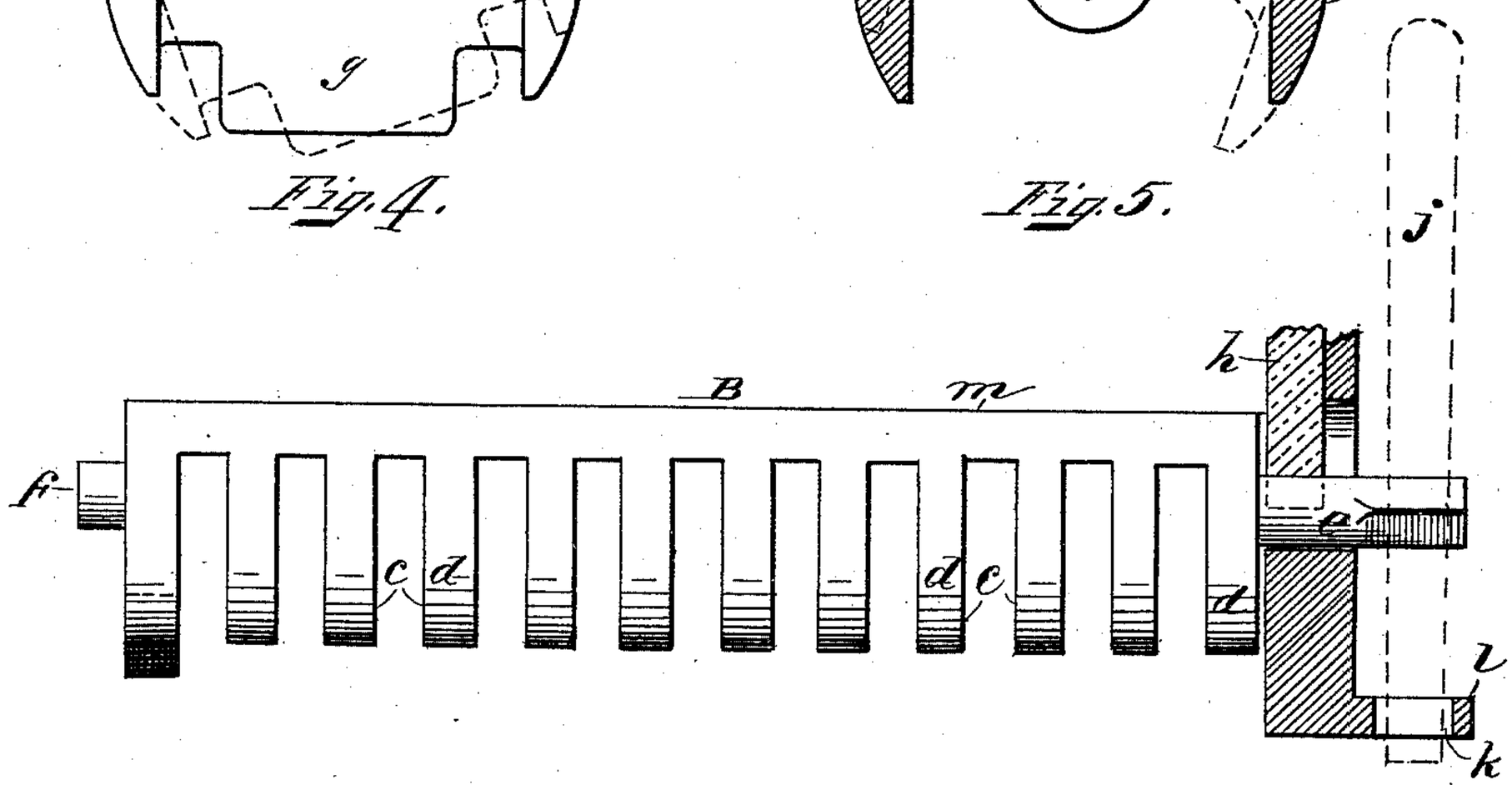

Fig. 2.

Witnesses.
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UNITED STATES PATENT OFFICE.

DANIEL CHAMBERLAIN, OF BOSTON, MASSACHUSETTS.

STOVE-GRATE.

SPECIFICATION forming part of Letters Patent No. 474,367, dated May 10, 1892.

Application filed April 15, 1891. Serial No. 389,109. (No model.)

To all whom it may concern:

Be it known that I, DANIEL CHAMBERLAIN, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Stove-Grates, which will, in connection with the accompanying drawings, be hereinafter fully described, and specifically defined in the appended claim.

In said drawings, Figure 1 is a top plan view showing my improved grate as in position in the stove. Fig. 2 is an edge elevation of the grate, viewed as from the left in Fig. 1, the "shaker" and a small portion of the stove being also shown. Fig. 3 is an end elevation viewed as from the right in Fig. 2 and showing the grate, the shaker, and portions of the stove. Figs. 4 and 5 are transverse sectional elevations of the grate to be explained.

The object of my invention is to provide a grate that may be duly shaken by vibrating it upon its longitudinal axis without increasing the width of the spaces between its edges and the adjacent walls of the fire-pot; and it consists in a grate formed with a flat top surface, with each transverse bar thereof having depending ends that are arcs of a circle whereof the pivots of the grate are the center, said pivots being arranged below the top of the grate and in a line passing through the apex of said arcs.

Referring again to said drawings, A represents a stove, which is shown for purpose of illustration only. The grate is shown at B and as formed with a series of transverse bars *a*, which are united by parts *b*, which constitute, in fact, sections of parallel longitudinal bars. Said transverse bars *a* have at each end the depending portion *c*, the outer faces *d* whereof are an arc of a circle the axis or center of which is the center of the studs *e f* of the grate, which, as shown, are arranged at some distance below the bars of the grate. The longer stud *f* is in its outer portion formed rectangular to correspond with the similarly-formed hole in shaker *j*, which latter extends below the stud, passing through passage *k* in ledge *l* of the stove, said passage being of such length as to allow the necessary vibration of the shaker to move the grate out of level when shaking it to dislodge the ashes and pass the same into the pit below, yet so limiting the movement of the shaker that the angle *n* at the intersection of surface *m* and arc *d* shall not pass below the lower edge of lining *h*, thus obviating the possibility of lumps of coal becoming wedged between the grate and lining, and thereby arresting the shaking movement.

By forming my grate with the flat surface *m*, the depending ends *c*, having arcs *d*, and with the studs *e f* below bars *c* and in line with the apex of said arcs when the grate is level, the grate may be vibrated (shaken) to the necessary extent without varying in any degree the distance between it and the adjacent walls of the fire-pot, and there is ample room above surface *m* for the requisite depth of coal to insure necessary combustion.

I form one end of the grate with a sufficient mass or amount of depending metal *g* to serve as a weight to hold the surface *m* uppermost when there is no coal in the fire-pot. By turning the grate upside down and raising the end at stud *f* it can be removed with the same facility as the usual thin flat grate.

My grate may be inverted (turned upside down) and used as a "basket-grate," in which case the arcs *d* prevent the coal from jamming between the grate and the walls of the fire-pot, as when the grate is used in the position shown in the drawings, for the edges of the grate (said arcs) neither recede from or advance toward the walls of the pot, but as the grate is shaken maintain the same position in relation thereto.

I claim as my invention—

A grate-bar formed with the flat top surface *m*, the depending bar ends *c*, and convex faces *d*, forming arcs of a circle, and with the pivotal studs *e f*, arranged below bars *a* and in line with the apex or center of said arcs, substantially as specified.

DANIEL CHAMBERLAIN.

Witnesses:
T. W. PORTER,
R. W. E. HOPPER.