D. LAMOUREUX.

Grate.

No. 25,338. Patented Sept. 6, 1859.

Fig. 1.

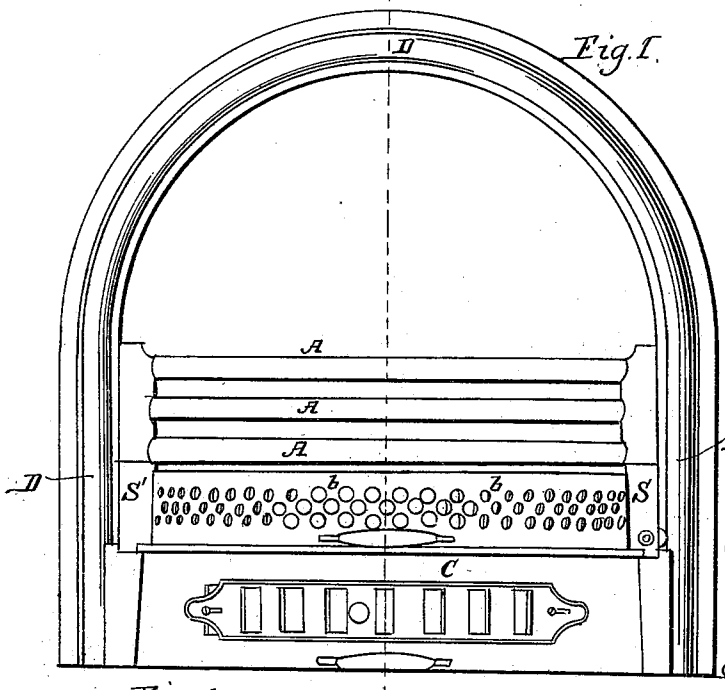


Fig. 2.

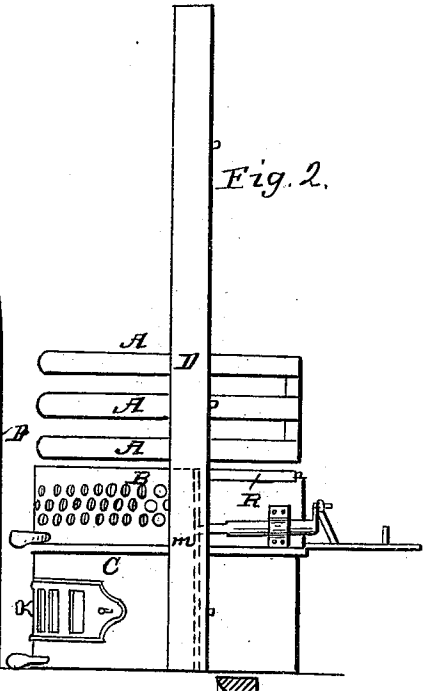


Fig. 6.



Fig.

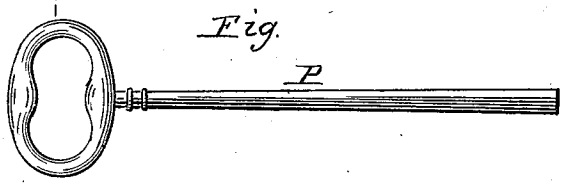


Fig. 4.

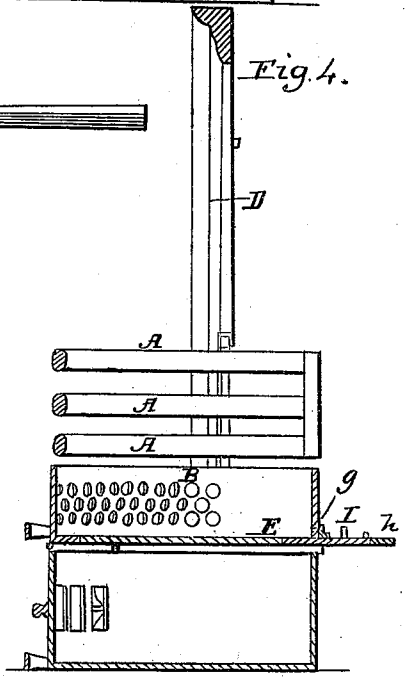
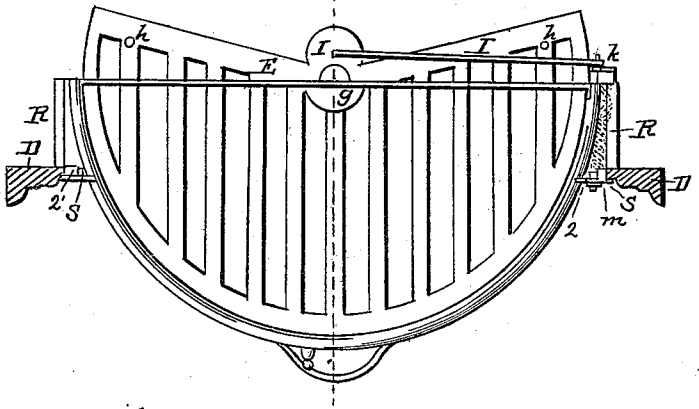


Fig. 3.



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UNITED STATES PATENT OFFICE.

DAMASE LAMOUREUX, OF NEW YORK, N. Y.

PARLOR-GRATE.

Specification of Letters Patent No. 25,338, dated September 6, 1859.

To all whom it may concern:

Be it known that I, DAMASE LAMOUREUX, of New York, in the county of New York and State of New York, have invented certain Improvements in Parlor-Grates, the construction and operation of which I have described in the following specification and illustrated in its accompanying drawings with sufficient clearness to enable competent and skilful workmen in the arts to which it pertains or is most nearly allied to make and use my invention.

My said invention consists in:—1st, constructing the grate so that while the bars remain fixed, the fuel box, and the ash box, may be drawn out or removed altogether, so that I am thereby enabled to remove the ashes and cinders or either of them separately without resorting to the common method of taking them out with a shovel, or by hand, and also without the liability of raising a cloud of dust in the apartment; 2d, so constructing the fuel box of my said grate that its bottom will not be attached to its back, sides, or ends, except by a pivot at the back of and behind the said box, around which pivot the said bottom is capable of being vibrated horizontally in a small circular arc; and the combination therewith of a crank and rod, which latter operated by a key, gives to the said bottom a horizontal vibratory motion, thereby sifting out the ashes and depositing them in the box underneath, as more fully described hereafter; 3d, so constructing the grate that when set up in an ordinary fire-place, a vacuity is left between the back of the grate and the mason work behind sufficient to allow of the vibratory or reciprocating motion of the bottom of the fuel box, said bottom projecting sufficiently far behind the back plate of the said fuel box as to allow of said vibration, as hereinafter more fully set forth.

My invention is illustrated in the accompanying drawings as follows:—

Figure 1 is a front elevation of my improved grate. Fig. 2 is a side elevation. Fig. 3 is a plan. Fig. 4 is a vertical section through the line X X on Figs. 1 and 3. Fig. 5 is an elevation of the key for operating the crank hereafter described. Fig. 6 is an end view of the said key showing a square orifice or pipe, into which the axis of the crank is entered, so as to operate the latter and thereby to operate the bottom of the fuel box.

A, A, are the bars, B, B, the front part of the fuel box of the grate, which is formed of bars and a perforated plate, as shown; C, the front of the ash pit provided with a ventilator, and D the surrounding architrave or other ornamentation.

The bars A, A, are similar to the same parts in a common grate, and attached in the same manner. The fuel box B, B, has lugs or horizontal projections Q, Q′, cast upon, or otherwise attached to it, which slide in grooves prepared for that purpose in two horizontal arms R, R′ which are attached to and project behind the ornamentation. The fuel box is also provided with vertical stops S, S′, one at each side cast on, or otherwise attached to it, and at such a distance from its back that when the said fuel box is pushed home, these stops catch upon the front of the ornamentation or architrave D, and prevent the said box from being pushed any farther than is necessary to bring it into the proper position. A small vertical flange is cast upon the lower edge of the front of this box, of sufficient depth to catch upon the inside of the outer rim of the ash box; by this latter arrangement the ashes which may casually fall during combustion are deposited in the ash box, and their liability of being blown about the room is obviated.

E is the bottom of the fuel box having two fan-like projections as shown in Fig. 3, and supported upon the continuous flange F, cast on the inside of the front and back, or made in a separate piece and attached thereto if preferred, and having a sufficient projection to support the bottom E.

To the back of the fuel box at the bottom, and in the center of its length, I attach a socket G, which receives a spindle or axis g, which passes down through the bottom of the fuel box and allows the said bottom to vibrate upon it horizontally through a small circular arc until stopped by the striking of the studs h, h' against the back of the fire box.

To the circular projection H of the bottom of the fuel box which connects the two fan like projections before described, I attach one extremity of a rod I at a point J, a short distance behind the center of vibration, and the other extremity of this rod I form into a socket K, to receive a cylindrical pin

projecting from the crank L, which crank is so positioned as to allow it to play freely behind the grate. The shaft or axis of this crank is of such a length as to allow it to project in front of the surrounding architrave or ornamentation D, a sufficient distance to allow the end O of the key P to be passed on it, as shown at M in Figs. 2 and 3.

The mode of operation is as follows:— The end O of the key being pushed on to the end M of the crank shaft, said key is turned so as to operate the crank arm L, which by its motion pushes or pulls the rod I as the case may be, and causes the point J to pass through a small arc until one of the studs *h*, *h'* strikes against the back of the fuel box, which prevents any further motion in that direction. The key is then turned the opposite way until the other stud strikes against the back of the fuel box, and this alternate motion of the key is continued as long as may be deemed necessary. By these movements of the key, it is evident that a horizontal reciprocatory motion will be given to the bottom of the fuel box, the effect of which will be to sift out the ashes from the fuel, and deposit them in the ash pit, leaving the cinders, clear of ashes in the fuel box, which can then be withdrawn and the cinders removed at once; the advantage of this arrangement is obvious when it is considered that in grates of the common construction a shovel is used to remove the portions of the cinders at the center, while those at or near the corners, (and frequently all, if the fire-place be narrow) have to be removed by hand. My arrangement also allows the cinders to be removed while hot, an operation which though not impossible to be effected by hand is not likely to be often attempted.

The dirt and dust which by the common method are developed and blown about the apartment, are altogether unknown in grates constructed in conformity with my device.

Should it be thought more desirable, the crank arm L may be made so short as to perform an entire revolution clear of the bottom of the fuel box; the studs *h*, *h'* may then be dispensed with, and by giving the key a continuous circular motion in the same direction a reciprocating circular horizontal motion will be given to the bottom of the fuel box as before.

The particular improvements which constitute my said invention, and which I claim as having been originally and first invented by me are:—

1. So constructing the grate that the fuel box and the ash pit are distinct from and independent of the bars, and capable of being removed while the bars remain undisturbed; thereby enabling me to effect the removal of the ashes and cinders with much less trouble than by the ordinary mode, and thereby keep the apartment free from the dust and dirt which are inseparable from the common method of removal, as hereinbefore more fuly described.

2. The combination of the crank L, the rod I, and the movable bottom E of the fuel box, constructed and arranged as hereinbefore described, by which an easy and convenient means of giving a reciprocating horizontal circular motion to the grate bottom is secured, without the necessity of cutting an opening in front for the passage of an arm by which to vibrate the grate, substantially as described, and for the purpose set forth.

3. The arrangement in a parlor grate, of the bottom grate upon which the fuel is supported, in the manner described, by which it is made capable of being vibrated through the back of the fuel box upon a fixed axis placed entirely back of the space devoted to fuel, the wings of said bottom grate being so extended as to cover or compensate for the necessary vibration, which is made into open space back of the fire box, as set forth.

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