

(No Model.)

E. MARSH.

CONNECTION WITH DOMESTIC FIRE RANGES OR OTHER RANGES.

No. 490,573.

Patented Jan. 24, 1893.

FIG. 1.

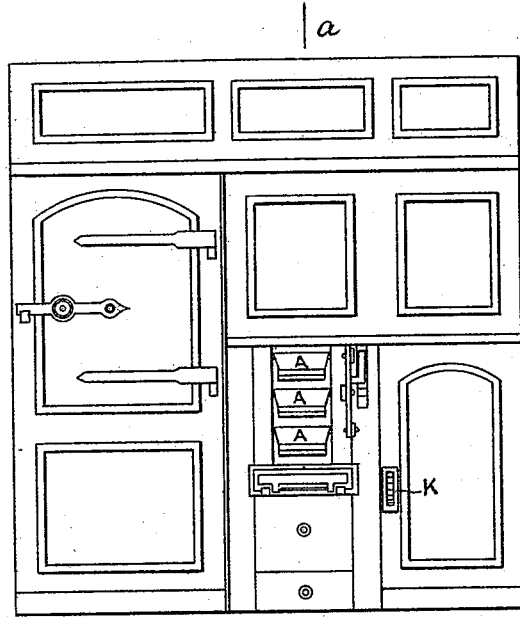


FIG. 2.

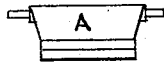
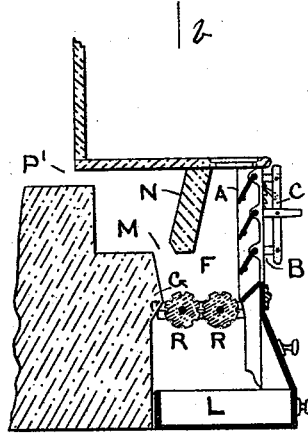


FIG. 3.

FIG. 5.



FIG. 4.

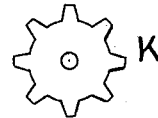
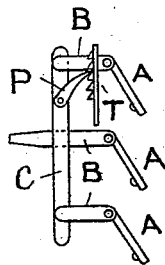


FIG. 6.

Witnesses:
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UNITED STATES PATENT OFFICE.

EDWIN MARSH, OF LEEDS, ASSIGNOR TO HENRY LEGGOTT, OF BRADFORD,
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CONNECTION WITH DOMESTIC FIRE-RANGES OR OTHER RANGES.

SPECIFICATION forming part of Letters Patent No. 490,573, dated January 24, 1893.

Application filed April 21, 1892. Serial No. 430,048. (No model.) Patented in England July 28, 1890, No. 11,769.

To all whom it may concern:

Be it known that I, EDWIN MARSH, a subject of the Queen of Great Britain and Ireland, residing at Leeds, in the county of York, England, have invented certain Improvements in Connections with Domestic Fire-Ranges and other Furnaces, (for which I have obtained Letters Patent in England, No. 11,769, dated July 28, 1890,) of which the following is a specification.

This invention relates to certain improvements in connection with fires and furnaces fitted with louver bars, and has for its object, the removal of the ashes and other waste products of combustion from the range or furnace, by a mechanical arrangement operated at the will of the attendant by suitable connections with a rotating or reciprocating shaft, and for a more perfect consumption of fuel and smoke.

In the accompanying drawings Figure 1. represents a front elevation of a domestic range fitted with louver bars and rollers in accordance with my invention. Fig. 2. is a vertical section through line *a. b.* of the fire space and flue leading therefrom. Fig. 3. a detail of one of the louver bars. Fig. 4. a side view of the louver bars detached. Fig. 5. a detached plan of the rollers, and Fig. 6. a view of a wheel suitable for operating the rollers.

The oven and other parts of the domestic range or fixture are of the ordinary description, to which no claim is made as forming part of this invention. Instead of the usual fixed bars in front of the fire, I mount the louver bars A. supported at each end on studs projecting therefrom, each bar being provided with a lever or arm B. which is connected by a rod C. one arm being extended for the reception of a box key by which the louver bars may be operated, and are held in the desired position by means of pawl P. engaging with the ratchet teeth on plate T.

Instead of the usual open fire grates placed at the bottom of the fire chamber or furnace space F. I place a plate G. secured to the front plate H. of range, or in any other convenient

manner, and through which is formed a hole equal to about the length and width of the bottom of the fire space. To the underside of this plate and at each end thereof is secured a bar, in which are formed recesses or journals for the reception of the spindles of grooved rollers R. R. which are geared together by a pair of spur wheels W. mounted on one end of the said spindles. To one of the spindles is secured a wheel K. the teeth of which are prepared for the reception of a box key, by which the wheel may be operated thereby causing the grooved or fluted rollers R. R. to rotate or reciprocate, by which the ashes or other products of combustion are agitated and caused to pass between the rollers R. R. and fall from the bottom of the fire space F. into a receptacle L. below.

By the introduction of grooved or fluted rollers at the bottom of the fire space F. grate bars are dispensed with, and the space for admission of air reduced, thus necessitating most of the air required for combustion to pass through the spaces between the louver bars A. by which it is deflected on to the fuel in fire space F. the heated gases escaping through opening M. at the underside of fire back N. to the flue P'. thus by these means, causing more perfect combustion of fuel and a prevention of smoke.

What I claim as my invention is:—

1. A fire space or furnace F. fitted with louver bars at the front and rotating grooved or fluted rollers R. R. at the bottom, substantially as shown and described.

2. A fire space or furnace F. fitted with louver bars A. at the front a back N. with opening M. at the underside and the grooved or fluted rollers R. R. at the bottom, all arranged substantially as shown and described.

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

EDWIN MARSH.

Witnesses:

JNO. GILL,
WM. PREST.