W. Wright,

Furnace Grate.

No. 37,933. Patented Mar. 17, 1863.

Fig. 1

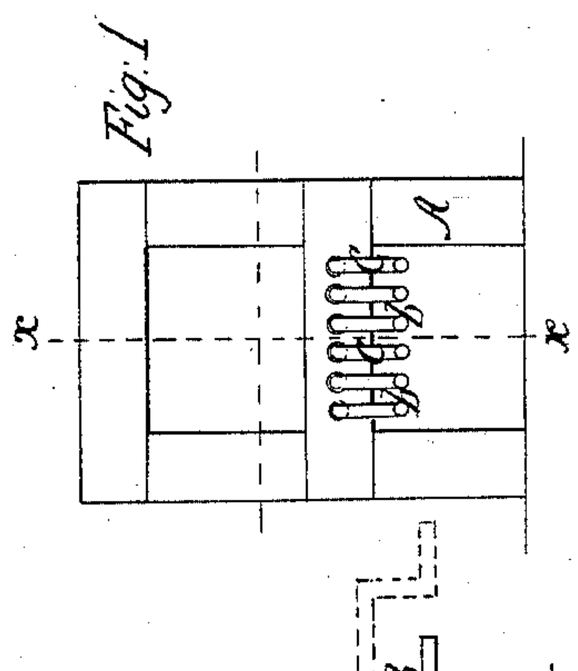


Fig. 2

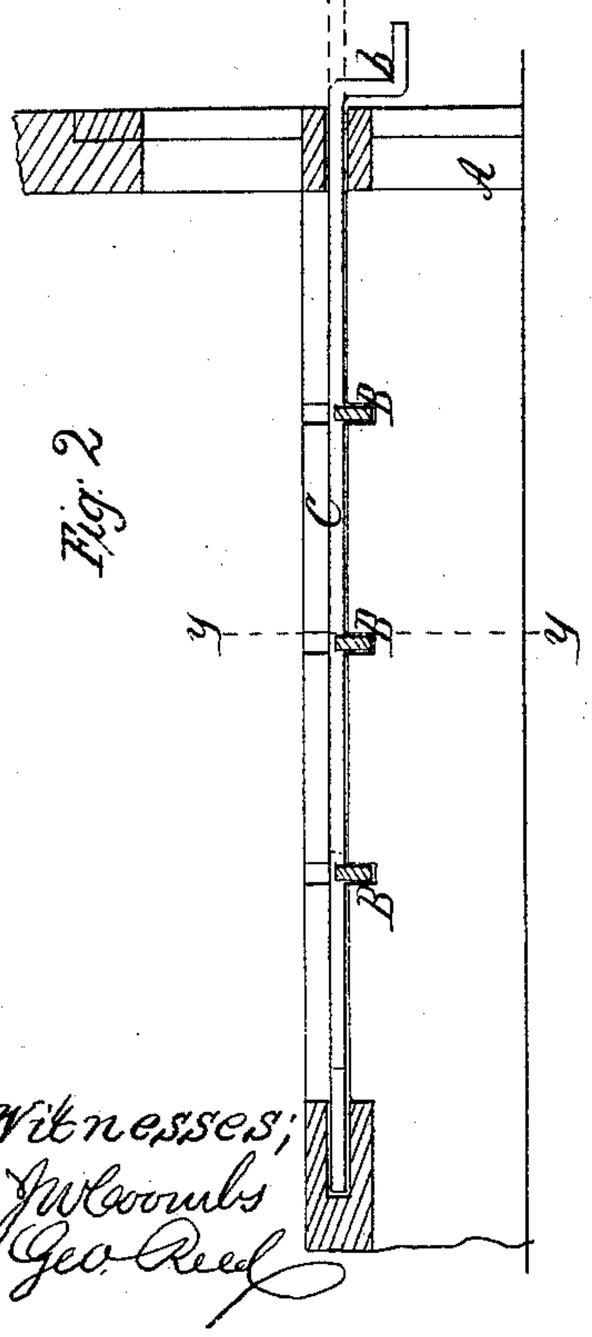


Fig. 3

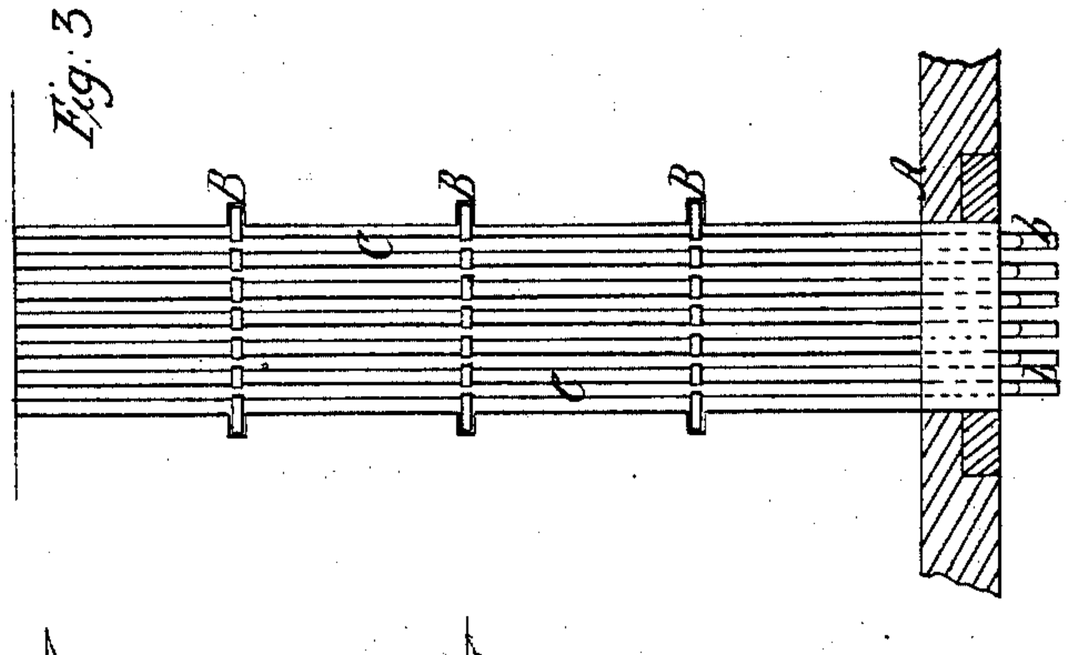


Fig. 4.

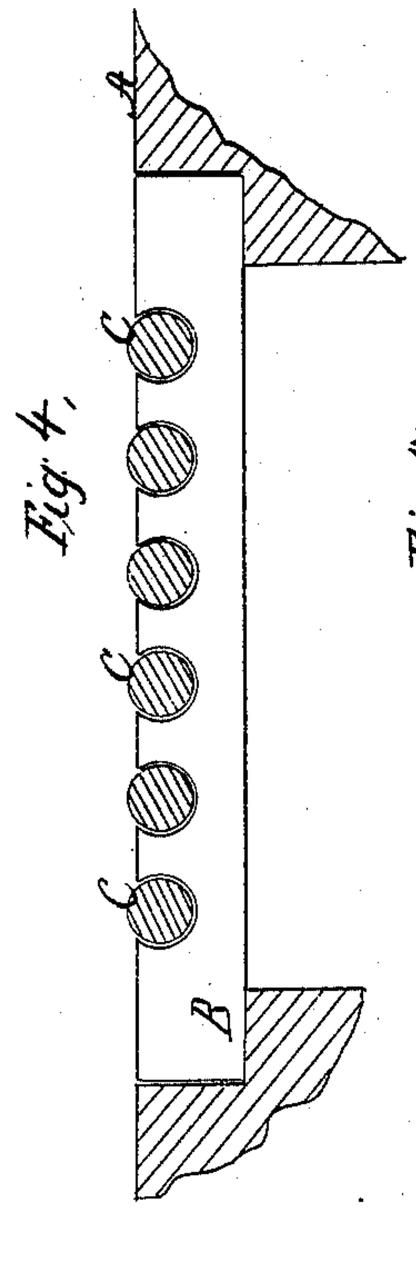
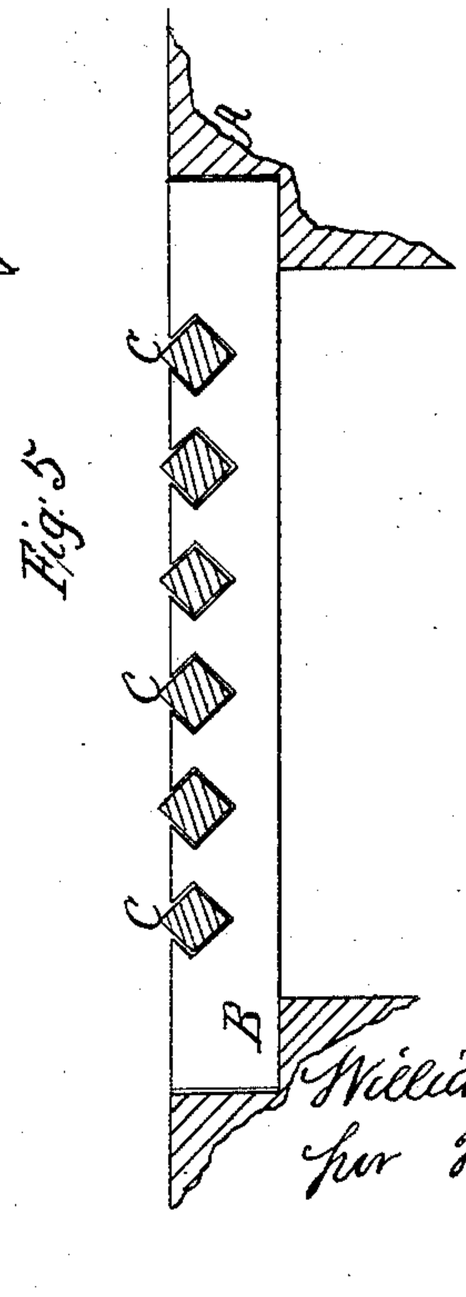


Fig. 5.



Witnesses;
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UNITED STATES PATENT OFFICE.

WILLIAM WRIGHT, OF SOUTH RIVER, NEW JERSEY.

IMPROVEMENT IN GRATES.

Specification forming part of Letters Patent No. **37,933**, dated March 17, 1863.

To all whom it may concern:

Be it known that I, WILLIAM WRIGHT, of South River, in the county of Middlesex and State of New Jersey, have invented a new and useful Improvement in Grates for Furnaces; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a part view of my invention; Fig. 2, a longitudinal vertical section of the same, taken in the line *x x*, Fig. 1; Fig. 3, a plan or top view of the same; Fig. 4, an enlarged transverse vertical section of the same, taken in the line *y y*, Fig. 2; Fig. 5, an enlarged transverse vertical section of the same with square bars, instead of cylindrical ones, as shown in Fig. 4.

Similar letters of reference indicate corresponding parts in the several figures.

The object of this invention is to obtain a grate for furnaces which will admit of being cleaned with far greater facility than usual without exposing the operator to the heat or to the dust attending the operation, and without admitting any cold air into the furnace.

The invention consists in having the grate formed of separate or independent bars fitted in bearing-plates, and arranged as hereinafter fully shown and described.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents the lower part of a furnace, and B represents a series of metal plates, which are fitted transversely in the furnace parallel with each other and at suitable distances apart. The plates B form bearings for the grate-bars C, and the latter may be of cylindrical, square, or other form. The plates B are notched upon their upper surfaces, as shown at *a*, to receive the bars C, the latter projecting a trifle above the upper surfaces of the plates B, as shown clearly in Figs. 3 and 4. The notches *a* prevent the bars C rising from the plates B and getting out of proper position. The bars C extend the whole length of the fire-chamber or furnace and project through its front end, each bar being bent at its front end in the form of a crank, *b*, as shown clearly in Fig. 2. Each bar C is allowed to slide freely in a longitudinal direction, and when the bars are of cylindrical form they are allowed to turn or rotate freely in their bearing-plates B.

When the fire requires to be freed from ashes, the operator slides each bar C separately, drawing them outward and shoving them inward, and rotating them if they are of cylindrical form. As the bars C project through the front of the furnace, it will be seen that the doors of the furnace do not require to be opened in order to manipulate the rods, and consequently the operator will be protected from dust as well as from the heat of the furnace.

In the operation of shaking or sliding the bars C the plates B serve as scrapers, and effectually cleanse the bars from clinkers which may adhere to them, and, as each bar is moved or operated separately or independently of its fellows, it will be seen that the work may be done with the greatest ease, however large the grate or grates of a furnace may be.

This invention will prove very advantageous in furnaces for burning bricks or pottery, for as the furnace-doors do not require to be opened in shaking the grate or bars, the contents of the furnace will not be checked or cracked, a contingency which is sure to occur if cold air be let into the furnace during the baking process.

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

A fire-grate for furnaces, constructed of a series of independent sliding bars, C, fitted in bearing plates B, and extending through the front of the furnace, substantially as set forth.

WM. WRIGHT.

Witnesses:

P. H. CONOVER,

CHRISTOPHER VAN DEVENTER.