

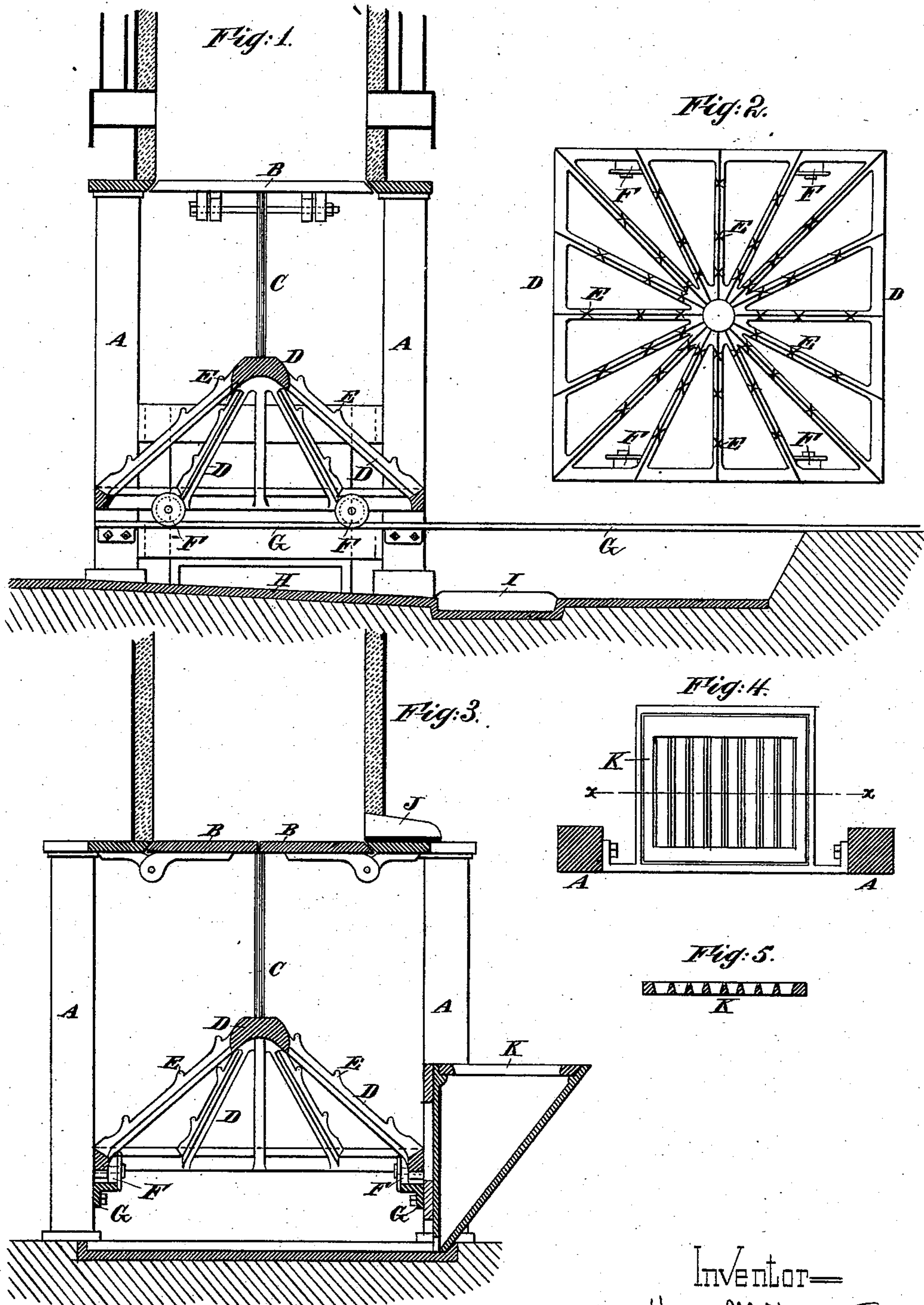
(No Model.)

H. W. FAYETTE.

ATTACHMENT FOR CUPOLA FURNACES FOR RECEIVING THE DUMP.

No. 287,527.

Patented Oct. 30, 1883.



Witnesses—
Charles R. Searle,
John Buckler,

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UNITED STATES PATENT OFFICE.

HENRY W. FAYETTE, OF NEW YORK, ASSIGNOR OF ONE-HALF TO J. R. EMBREE AND E. B. EMBREE, BOTH OF WESTCHESTER, N. Y.

ATTACHMENT FOR CUPOLA-FURNACES FOR RECEIVING THE DUMP.

SPECIFICATION forming part of Letters Patent No. 287,527, dated October 30, 1883.

Application filed May 7, 1883. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. FAYETTE, of the city, county, and State of New York, have invented certain new and useful Improvements in Attachments or Devices for Cupola-Furnaces for Separating the Iron from the Débris or Dump, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My improvement relates especially to cupola-furnaces, and has for its object the production of a device simple and effective in operation, and whereby much of the metal heretofore wasted and lost after each heat will be reclaimed by the expenditure of little time and trouble.

To attain this end my invention consists, essentially, in a pit beneath the furnace, having a sloping floor terminating at one side in ingot-molds or a space wherein pigs may be formed. A track is laid under the furnace between the supporting pillars or walls. Upon this track, running upon suitable wheels, is located a cone-shaped grate, the center or apex whereof is near the center of the furnace. The bars of the grate are provided with projecting points or spurs. Beneath the tap-hole of the furnace is located a grate, upon which the ladles are supported while being filled. Beneath said grate a channel leads to the molds above mentioned. By this means any metal accidentally spilled while filling a ladle will be caught and conveyed to the molds.

In furnaces of this character as heretofore constructed, it has been customary after each heat to drop the doors at the bottom of the furnace and dump the refuse matter into the pit there beneath. By so doing a quantity of metal or "shot-iron" aggregating several hundred pounds was lost, or, if reclaimed, entailing an outlay of labor not warranted by the value of the metal, the iron taken from the dump being in such small pieces as to greatly retard the heat wherein it was remelted. By my device this loss and extra labor and expense is overcome, as when the doors are released the mass supported thereon falls, the sand floor forming the foundation of the charge first strikes the cone-shaped grate,

and the mass, being semi-fluid, catches upon the spurs, bending downward in each direction, allowing the molten metal to flow down through the grate-bars over the inclined floor to the molds prepared for its reception at the side or back of the furnace. When the dump is sufficiently drained, the grate is drawn out from under the furnace upon its supporting-track and the refuse matter removed.

In the drawings, Figure 1 is a vertical central sectional view of a cupola with which my improvement is employed. Fig. 2 is a plan view of the cone-shaped grate. Fig. 3 is a sectional view of the device at right angles to that shown in Fig. 1. Fig. 4 is a plan view of the ladle-supporting grate beneath the tap-hole, and Fig. 5 is a sectional view of said grate at line *x x* of Fig. 4.

Like letters of reference, wherever they occur, indicate corresponding parts in all the figures.

A are the columns supporting the cupola, and B are the falling doors held in an elevated position by prop C.

D is a cone-shaped grate, constructed of metal in any approved manner. The bars of said grate are provided with points or spurs E. The bars of the grate extend from a rim, to which are affixed wheels F, running upon a track, G.

H is the sloping floor beneath the furnace, and I are molds placed for the reception of the metal. If preferred, the metal may be run into pigs instead of ingots.

J is the tap, and K is the grating therebeneath.

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

1. In a cupola, a cone-shaped grate located beneath the furnace, and adapted and arranged to receive the dump, holding it in an elevated position while the molten metal drains therefrom, substantially as shown and described.

2. In a cupola-furnace, a cone-shaped grate located beneath the hinged bottom, said grate being mounted upon wheels traveling upon a supporting-track, substantially as shown and described.

3. The combination, with a cupola-furnace,

of a cone-shaped grate mounted upon wheels, as set forth, and means for collecting the molten metal when the refuse is dumped, substantially as shown and described.

5 4. Cone-shaped grate D, mounted upon track G, as set forth, the bars of said grate being provided with spurs or points E, substantially as shown and described.

10 5. The combination, with a cupola-furnace, of a cone-shaped grate, D, mounted upon wheels F, running upon rails G, and a sloping

floor located beneath said furnace and grate, said floor leading to molds, substantially as shown and described.

In testimony that I claim the foregoing I 15 have hereunto set my hand in the presence of two witnesses.

HENRY W. FAYETTE.

Witnesses:

J. P. SANDERS,

JOHN C. SMALL.