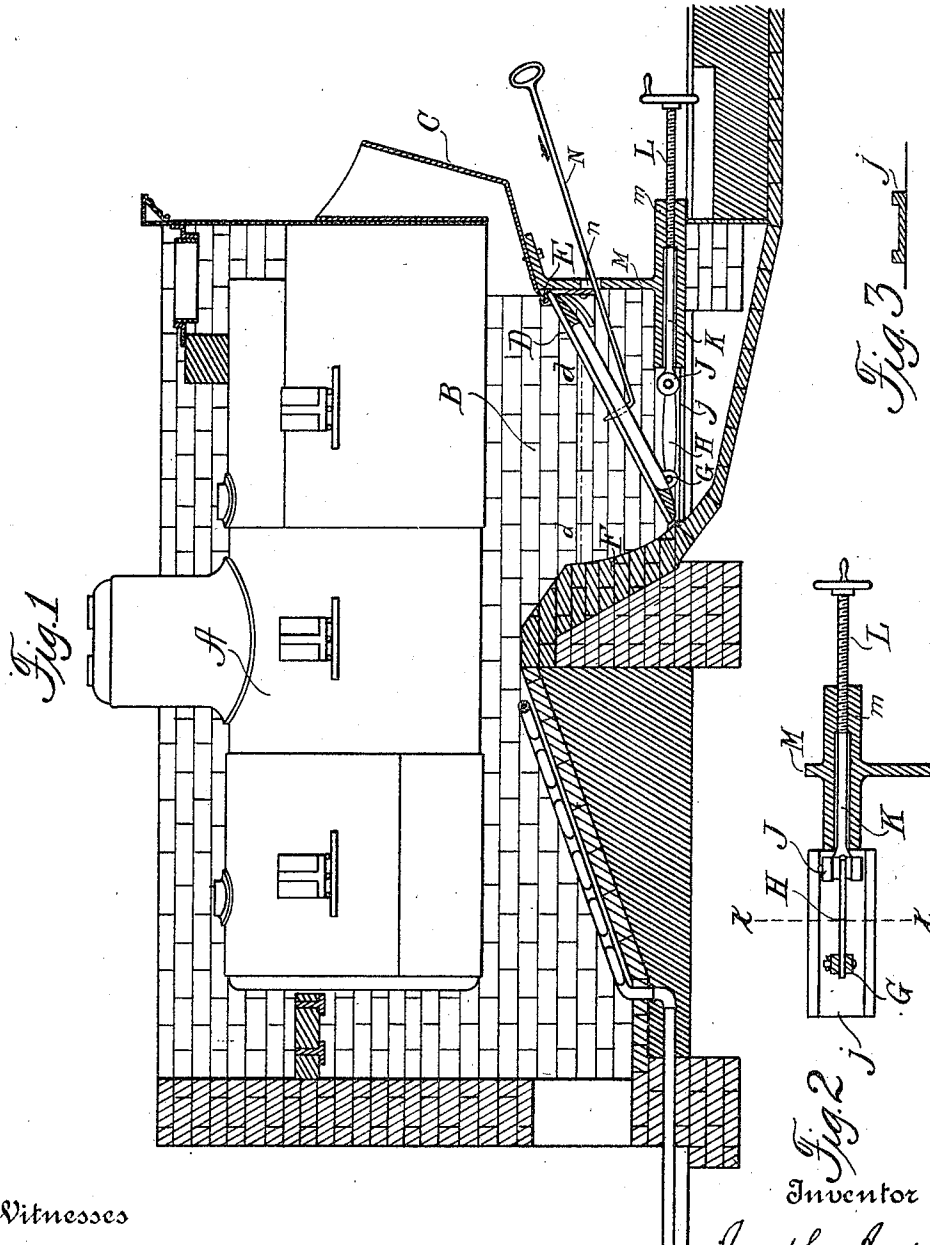


J. ANRIG.
 TILTING FURNACE GRATE.
 APPLICATION FILED NOV. 10, 1910.

1,012,963.

Patented Dec. 26, 1911.



Witnesses
H. R. George
R. C. Balingier

Inventor
Joseph Anrig
 By *Edwin Guthrie*
 Attorney

UNITED STATES PATENT OFFICE.

JOSEPH ANRIG, OF WEST HOBOKEN, NEW JERSEY.

TILTING FURNACE-GRATE.

1,012,963.

Specification of Letters Patent.

Patented Dec. 26, 1911.

Application filed November 10, 1910. Serial No. 591,687.

To all whom it may concern:

Be it known that I, JOSEPH ANRIG, a citizen of the United States, residing at West Hoboken, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Tilting Furnace-Grates, of which the following is a specification.

This invention relates to tilting furnace grates, and its object is to provide a grate that may be adjusted to any desired inclined position, depending upon the size of the coal used, and the invention consists of parts having particular construction and form, and specially arranged and associated one with another, whereby it is believed greater convenience and economy in the handling and consumption of fuel results, and the whole is rendered easy to manufacture or to repair.

The construction and arrangement comprising this invention is illustrated in the accompanying drawings, of which—

Figure 1 represents a vertical, longitudinal section of a boiler setting and furnace to which this invention has been applied. Fig. 2 is a horizontal section through the holding tube or sleeve for the guide rod, and, Fig. 3 is a cross-section of the track for the rollers.

Each part illustrated and described is designated throughout the drawings and specification by the same letter of reference.

Considering the drawings, A represents a boiler, B a furnace, into which coal enters from a hopper C, descending upon the grate D. The grate has a front pivot E, and is arranged to be swung upwardly from the position shown, along the curved back wall F.

The position of the grate illustrated in Fig. 1 is its lowest position, and it may be caused to assume any inclined position up to the horizontal indicated by the broken line *d-d*. A satisfactory and durable means for raising the grate, and for holding it securely in the position to which it may be adjusted, comprises the lug G on the grate at the rear, to which is pivotally joined a connecting rod H, which, together with the rollers J, is pivotally connected with a guide rod K. The outer end of the guide rod K abuts against the end of the adjusting screw L, the axes of the rod and screw being alined. To keep the rod and screw in alinement, the breast M of the furnace has at its lower part the tube *m*, one end of which is threaded to engage the screw, while the rod enters the other or

inner end of the tube. It is believed to be shown that by operating the handwheel of the screw, pressure may be exerted upon the rod K, and through connecting rod H upon the rear of the grate, which will consequently be swung upward upon its pivot E.

In practice, the breast M of the furnace is made removable, and carries with it the hopper, and the grate, and all the parts attached thereto.

In Fig. 1 it is shown that the hopper C is attached to and supported by the front or breast M of the furnace, and the hopper is brought into place when the breast M is moved up to the furnace walls into the position illustrated.

It will be understood, that when the screw L is turned to raise the grate, the rollers J take the weight in part, and, it is advantageous to provide the track *j* for the rollers. The track is best illustrated in Figs. 2 and 3. It will be also noted that the rollers sustain part of the weight of the grate and its load of fuel or ashes, when the breast M is moved outwardly. The breast is moved outwardly, when it is desired to dump the grate. Ordinarily, the fire may be adequately manipulated by means of a suitable implement or poker N introduced through the orifice *n* in the furnace breast. When the grate has been adjusted to the desired inclination, and the breast M is in normal position, the rear of the grate is near enough to the curved back wall F to prevent the fuel at the rear from falling too fast. If it is desired to dump the grate, the breast is moved outwardly as set forth.

Having now described this invention, and explained its mode of operation, what I claim is:—

1. In a furnace, the combination with a furnace having a curved back wall, of a furnace breast having an opening for the introduction of fuel, a grate pivotally connected with said breast immediately below said opening, the rear of the grate being movable up and down near said curved back wall and upon a like curve whereby fuel is prevented from falling from the rear of the grate, a horizontal screw arranged at the bottom of the breast, a guide rod arranged to be moved by the screw, means constructed to engage the screw and guide said rod, a connecting rod arranged to pivotally connect said rod and the rear of said grate, rollers arranged at the lower end of the connecting rod, and a

track constructed and arranged to afford a path for the rollers whereby the weight of the grate is supported.

2. In a furnace, the combination with a
5 furnace having a curved back wall, of a furnace breast removable outwardly and having an opening for the introduction of fuel, a grate pivotally connected with said breast immediately below said opening, the rear of
10 the grate being movable up and down near said curved back wall and upon a like curve whereby fuel is prevented from falling from the rear of the grate, a horizontal screw arranged at the bottom of the breast, a guide
15 rod arranged to be moved by the screw,

means constructed to engage the screw and guide said rod, a connecting rod arranged to pivotally connect said rod and the rear of said grate, rollers arranged at the lower end of the connecting rod, and a track constructed and arranged to afford a path for the rollers whereby the weight of the grate is supported. 20

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH ANRIG.

Witnesses:

EDWARD GUNTHER,
MORRIS EICHMANN.