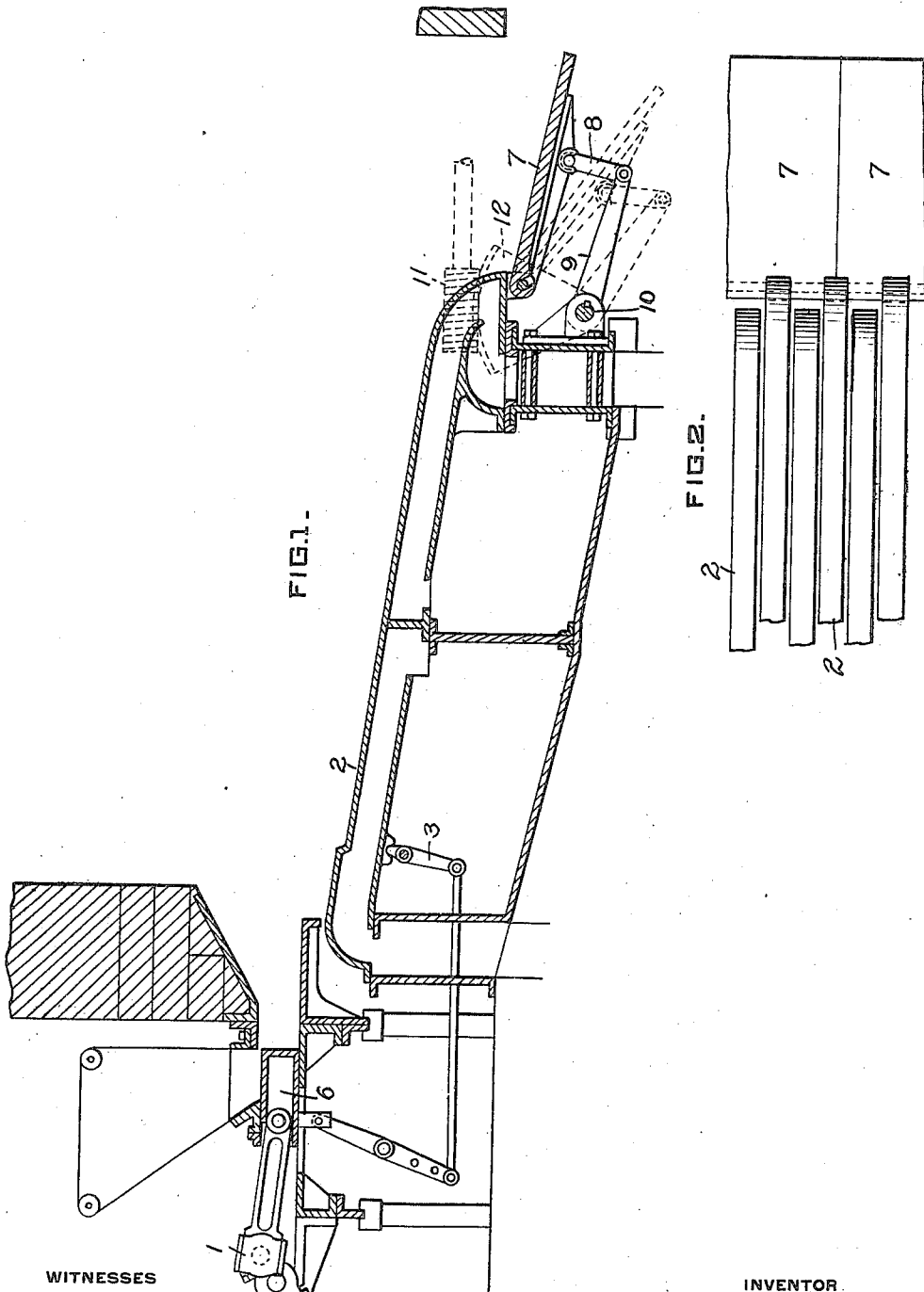


T. A. PEBBLES.
BOILER FURNACE.

APPLICATION FILED AUG. 28, 1917. RENEWED JULY 10, 1920.

1,400,830.

Patented Dec. 20, 1921.



WITNESSES

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UNITED STATES PATENT OFFICE.

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BOILER-FURNACE.

1,400,830.

Specification of Letters Patent.

Patented Dec. 20, 1921.

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To all whom it may concern:

Be it known that I, THOMAS A. PEEBLES, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, a citizen of the United States, have invented or discovered certain new and useful Improvements in Boiler-Furnaces, of which improvement the following is a specification.

The invention described herein relates to certain improvements in mechanism for effecting the progressive movement of fuel during combustion, the delivery of ashes onto a supporting surface and the reciprocation of such surface to effect the delivery of the ashes into the ash pit. The invention is hereinafter more fully described and claimed.

In the accompanying drawings forming a part of this specification, Figure 1 is a sectional elevation of a furnace for boilers and showing the invention claimed herein in combination with fuel feeding and fuel supporting and shifting members; and Fig. 2 is a plan view of the ash supporting means and portions of the fuel supporting means.

In the practice of the invention the fuel is fed into the furnace and onto the front ends of the fuel supporting members by any suitable form or construction of stoking mechanism indicated at 1. The fuel is caused to move progressively along the fuel supporting members 2 by the reciprocation of alternate members or bars. This reciprocation may be effected by any suitable means such for example as that shown. As shown, the alternate members or bars are connected to or engaged by the upper ends of levers 3 which have their opposite ends connected to driven members as 6 of the stoking mechanism.

As the ashes move from the fuel supporting members or bars 2, they drop onto the plate or ash supporting member 7, which is arranged in the space between the rear ends of the bars 2 and the rear wall of the furnace. The ash supporting member is not designed to completely close the space at the rear ends of the bars 2 but is made of such a width that a narrow gap or space is provided for the continuous passage of ashes into the ash pit. The front edge of the ash supporting member, which for convenience is formed in sections longitudinally, is

pivottally connected to the rear ends of the reciprocating bars 2, while the opposite portion of the plate is connected by links 8 to the outer ends of arms 9 secured on a shaft 10. This shaft is held as against rotation except when it is desired to change the inclination of the ash supporting plate or member by any suitable means. The locking of the shaft and its movement to adjust the plate 7 can be effected by a worm 11 engaging the teeth on a sector 12 secured to the shaft.

As is well known, some coals contain a greater percentage of ash forming material than others, and hence provision should be made for a movement of the ashes across the plate 7 and into the ash pit proportional to the amount of ashes formed in the combustion of the coal. In the construction shown, the movement of the ashes can be changed by changing the inclination of the plate 7 by rotating the shaft 10.

It is preferred to arrange a shoulder 13 on the rear wall of the furnace in such relation to the plane of reciprocation of the plate 7 that lumps of ashes or clinkers may be sheared or broken to a size sufficient to pass through the normal space provided for the discharge of the ashes. If the lumps or clinkers cannot be broken up sufficiently to pass into the ash pit, or ashes accumulate on the plate 7, the latter can be turned down to or toward a vertical position thereby effecting a discharge of all ashes, etc. This adjustment to dumping position can be effected without stopping the reciprocation of the fuel supporting surface.

It will be observed that there will not be any substantial change in the inclination of the plate 7 due to the reciprocation of the latter.

I claim herein as my invention:

1. In a furnace the combination of fuel supporting members consisting of two series of longitudinal bars, means for reciprocating the bars of one series in unison and relative to the bars of the other series, an ash supporting member operatively associated with and adapted to be reciprocated by the movable series relative to the other bars, whereby the latter series of bars would operate to crowd the ashes across the supporting member in the same direction as the feed of fuel into the furnace.

2. In a furnace, the combination of fuel

supporting members consisting of two series of longitudinal bars, means for reciprocating one series of bars relative to the other series, an ash supporting member operatively associated with and adapted to be reciprocated by and in the same direction as the movable series of bars and means for adjusting the inclination of the ash supporting member.

10 3. In a furnace the combination of fuel supporting members consisting of two series

of longitudinally arranged bars, means for reciprocating one series of bars relative to the other series, an ash supporting member pivotally connected to the discharge ends of the movable bars and means for adjusting the inclination of the ash supporting member.

15 In testimony whereof, I have hereunto set my hand.

THOMAS A. PEEBLES.