

J. RUSTON.
KILN.

APPLICATION FILED JAN. 27, 1912.

Patented Mar. 4, 1913.

2 SHEETS—SHEET 1.

1,055,233.

Fig. 2.

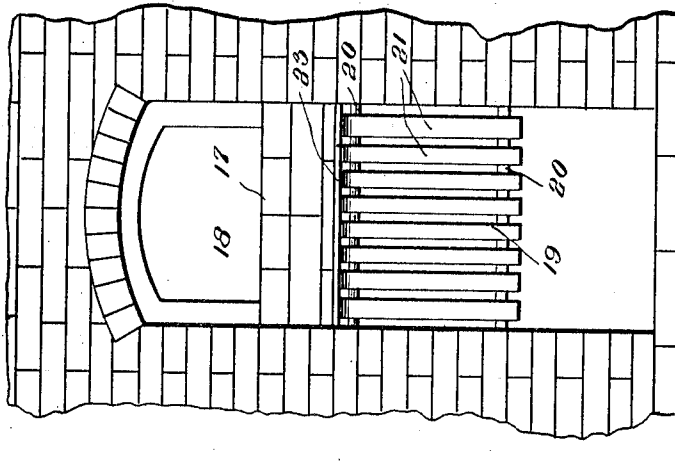
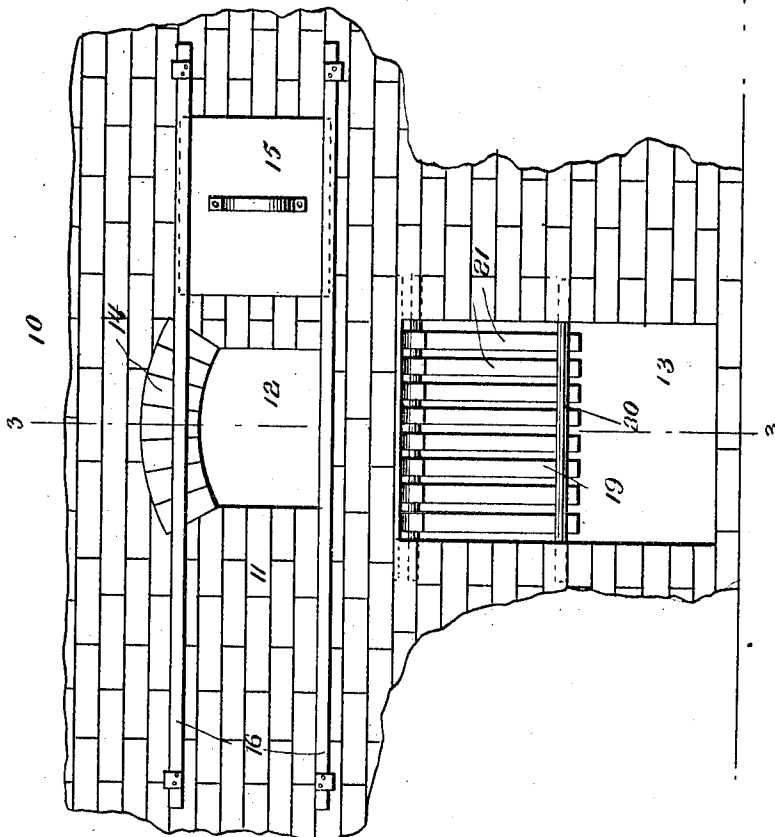


Fig. 1.



Witnesses

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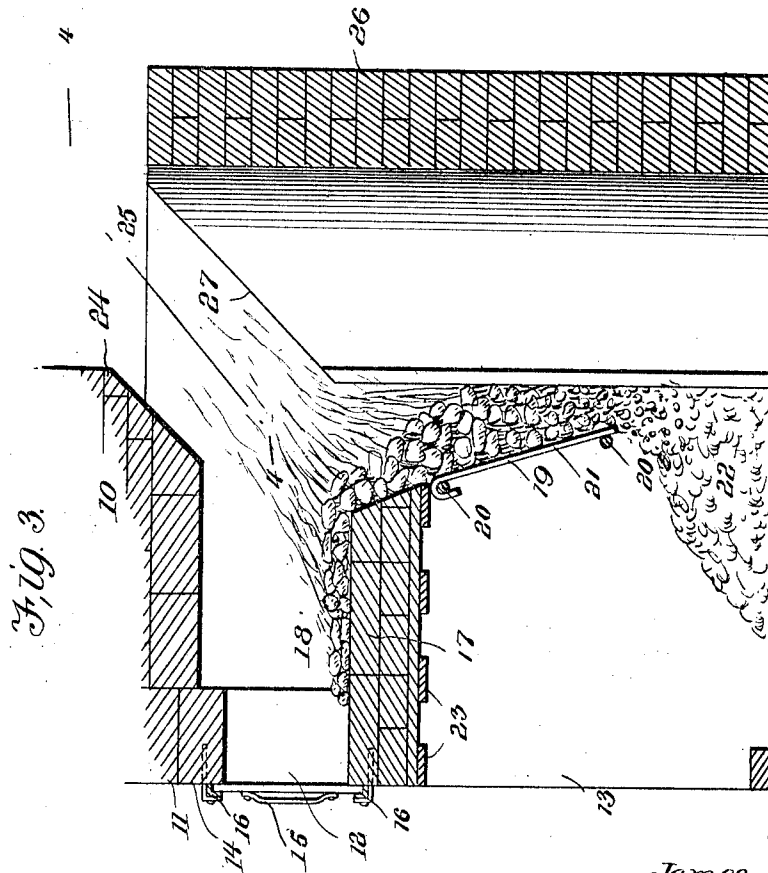
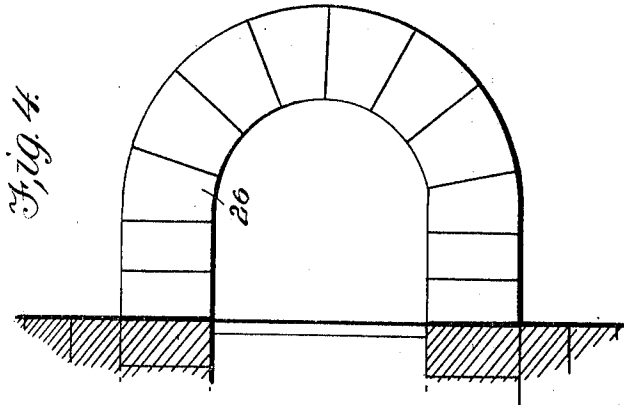
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UNITED STATES PATENT OFFICE.

JAMES RUSTON, OF ATHENS, OHIO.

KILN.

1,055,233.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES RUSTON, a citizen of the United States, residing at Athens, in the county of Athens and State of Ohio, have invented new and useful Improvements in Kilns, of which the following is a specification.

An object of the invention is to provide a kiln for burning earthen ware, such as brick, terra cotta and ceramic.

The invention embodies among other features a kiln in which the fuel can be conveniently conveyed to the fire to form a thin coating or layer over the fire; in which the heat produced is carried to all parts of the ware and in which the resulting ash will be prevented from coming in contact with the ware, the particular arrangement of the structure of my device being adapted to facilitate the production of an intense heat in the kiln.

In the further disclosure of the invention, reference is to be had to the accompanying drawings constituting a part of this specification, in which similar characters of reference denote corresponding parts in all the views, and in which—

Figure 1 is a front elevation of the kiln. Fig. 2 is a rear elevation looking toward the front wall of the kiln. Fig. 3 is a vertical sectional view taken on the line 3—3 in Fig. 1. Fig. 4 is a horizontal sectional view taken on the line 4—4 in Fig. 3.

Referring more particularly to the views, I provide a kiln 10 having a front wall 11 provided with openings 12, 13, an arch 14 being formed in the front wall 11 over the opening 12, the said opening 12 being adapted to be closed by a door 15 mounted on track members 16, secured to the outer side of the front wall 11. A coking table 17 is mounted in a passage 18, formed in the wall 11 by the opening 12, the inner end of the coking table being inclined to aline with a grate 19, supported by horizontal rods 20, secured to the wall 11, the said grate 19 consisting of spaced grate bars 21 and arranged so that the upper end thereof will lie adjacent the lower inclined end of the coking table 17, the said grate being inclined inwardly to form an ash pit 22. The coking table 17 is supported by beams 23 mounted horizontally in the wall 11 and the upper portion 24 of the inner side of the wall 11 extends upwardly at an incline from the passage 18 to form a flue 25.

A substantially semi-circular baffle 26 is mounted within the kiln 10, in the rear of the grate 19, the upper end 27 of the said baffle being inclined to the same angle as the inner portion 24 of the wall 11 so that the upper end of the mentioned baffle will form one of the pointers of the flue 25.

The ware that is to be burned or baked is stacked in the rear of the baffle 26 and a fire is then started between the grate 19 and the baffle, the fuel being placed upon the coking table 17 prior to its contact with the fire, when it will be consumed. Now assuming that coal is placed upon the coking table 17, when the coal is pushed along the inclined end of the coking table, the inclination of the mentioned coking table will cause a thin even layer of the coke to fall upon the fire thus producing an even fire and aiding in the proper combustion of the fuel. It will be readily seen that by arranging the grate 19 as mentioned and providing the flue 25 to extend upwardly at an incline, the draft produced for a fire will aid in creating an intense heat, which heat, however, will be of an even nature, this feature being particularly necessary to accomplish the proper baking or burning of the ware. It will be also noticed that by arranging the structure of the kiln as mentioned, the heat created by the fire will pass around the baffle and over the top of the baffle and in this manner will gain access to all parts of the ware, thus evenly baking or burning the same, the provision of the mentioned baffle being adapted to prevent the ashes from the fire from contacting with the ware. As the fuel that is burned becomes entirely consumed, the ashes will gravitationally fall into the ash pit 22 and can then be conveniently raked therefrom, the structure of my device being so arranged that the removal of the ashes from the ash pit will in no manner interfere with the operation of placing a new supply of coal on the coking table for the purpose of converting the same into coke before the fuel comes in contact with the fire.

From the foregoing description it will be seen that the inclination of the coking table at the point where the fuel is fed to the fire causes the fuel, when passing over the inclined end of the coking table to fall upon the grate bars and fire in a thin bed or layer and the air, drawn through the grate

and the ash pit to the fire, together with the manner in which the coke is fed to the fire will aid in producing an intense heat in a short space of time and with very little
5 fuel. In a large number of kilns now used the fuel drops onto the fire in lumps and masses, thus not only causing a clogging in the grate bars but also preventing the proper passage of the draft through the
10 burning fuel and destroying the proper combustion of the fuel. As mentioned heretofore the distance between the opening 12 and the ash pit 22 and the particular arrangement of the coking table and ash pit
15 enables the operator to supply fuel to the coking table without interfering with the ash pit and the ashes can be removed from the ash pit without interfering with the fuel that is to be fed to the fire. It will also
20 be noticed that by arranging the grate 19 as shown and mentioned, the lower horizontal rod 20 can be conveniently employed as a base of fulcrum in prying any hard clinkers from the sides and bottom of the
25 fire box, adjacent the inner side of the grate. The particular position of the fire in the kiln and the manner of supplying the draft thereto as mentioned, enables the heat produced not only to bake or burn the ware
30 but also to contact with the coal upon the

coking table and converts the same into coke, while at the same time the provision of the baffle 26 prevents the resulting ashes from coming into contact with the ware but does not prevent the passage of the heat 35 from the fire to the ware.

I claim:—

In a kiln the combination of a coking table mounted on a wall of the kiln, the said wall being provided with an entrance to 40 the coking table, a grate mounted beneath the coking table and adjacent one end thereof to form a fire box and an ash pit, an entrance to the said ash pit being provided in the said wall, a semi-circular baffle mounted 45 in the rear of the said grate, the said fire box being arranged between the said baffle and the grate, the upper end of the said baffle and an inner side of the said wall being inclined and spaced apart to form a 50 draft flue, the mentioned upper inclined end of the said baffle and inclined side of the said wall being substantially parallel.

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

JAMES RUSTON.

Witnesses:

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AUDREY D. RUSTON.