

W. GIBFORD.
BRICK KILN.

APPLICATION FILED AUG. 13, 1908.

925,432.

Patented June 15, 1909.

3 SHEETS—SHEET 1.

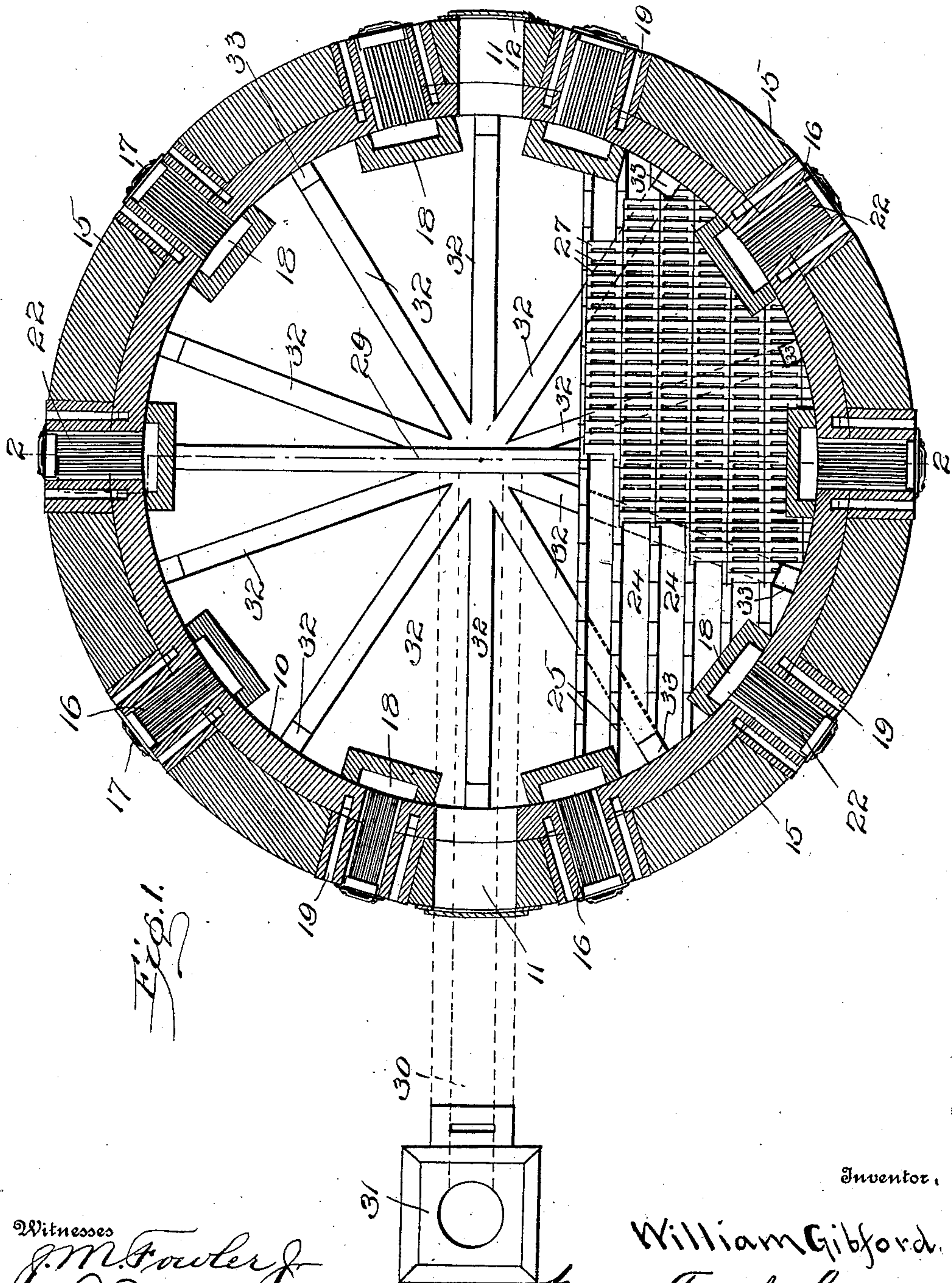


Fig. 1.

Witnesses

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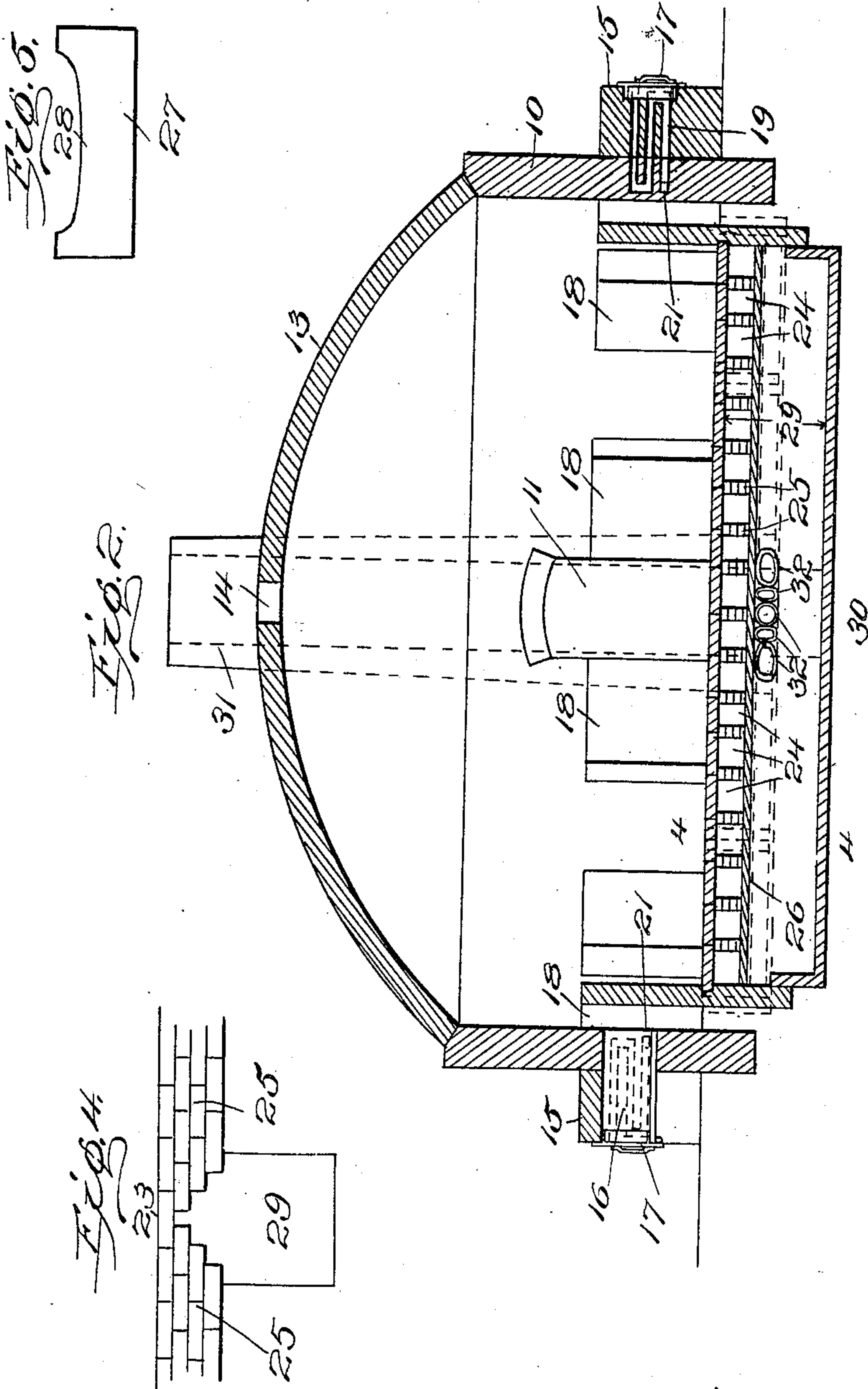
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Witnesses

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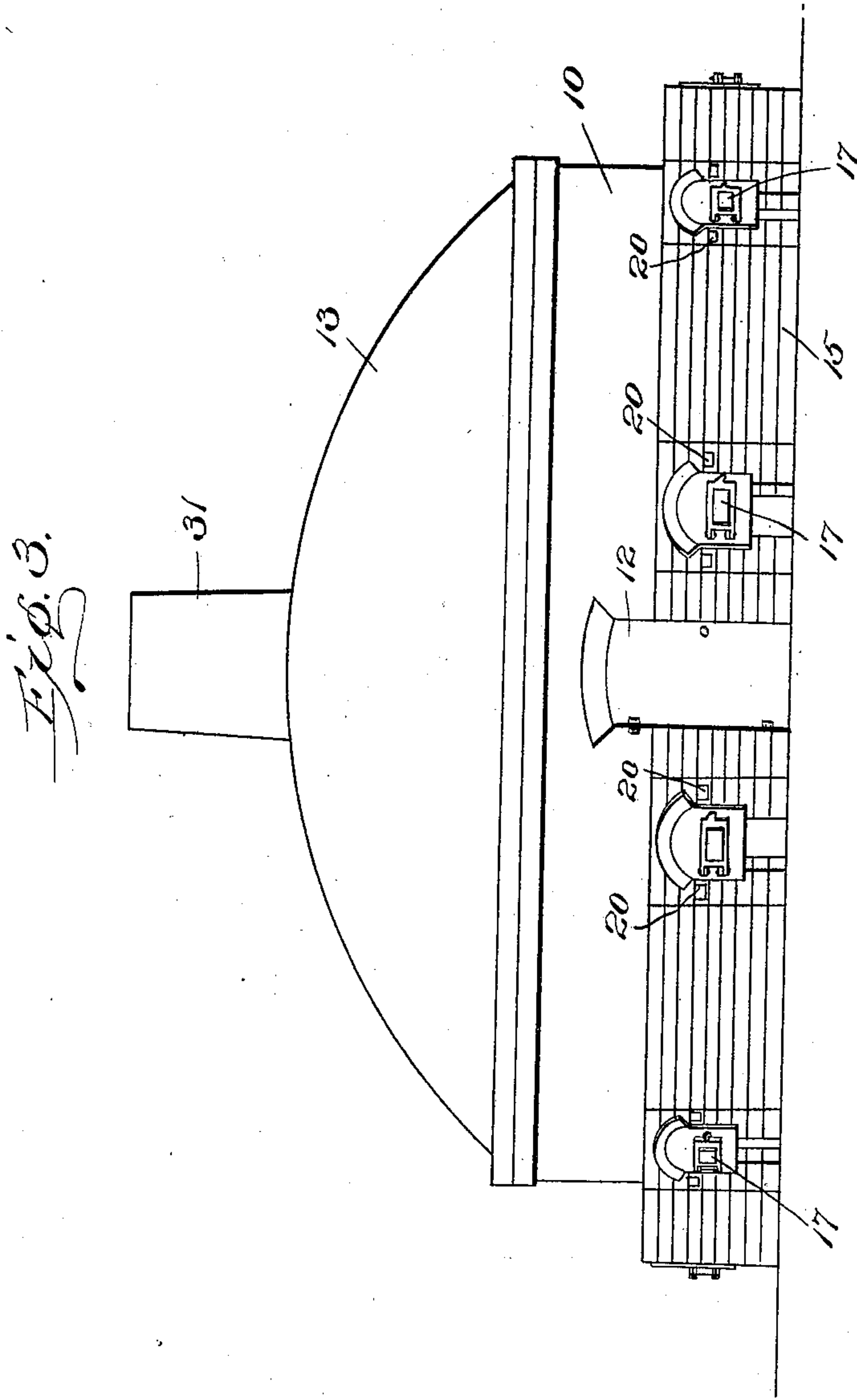
William Gibford.

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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

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BRICK-KILN.

No. 925,432.

Specification of Letters Patent.

Patented June 15, 1909.

Application filed August 13, 1908. Serial No. 448,420.

To all whom it may concern:

Be it known that I, WILLIAM GIBFORD, a citizen of the United States, residing at Golden, in the county of Jefferson and State of Colorado, have invented certain new and useful Improvements in Brick-Kilns; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to brick kilns, and has for an object to provide a kiln embodying new and improved means for equality of firing.

A further object of the invention is to provide in a brick kiln means to produce heat at spaced intervals, about the circumference of the kiln and to withdraw such heat downwardly throughout the floor area and especially at the periphery of the floor.

A further object of the invention is to provide in a brick kiln a flue communicating with the stack and with radial flues adapted to draw the heat downwardly at the periphery of the kiln, and with other flues and openings adapted to draw the heat downwardly throughout the entire floor area.

With these and other objects in view, the invention comprises certain other novel constructions, combinations and arrangements of parts, as will be hereinafter more fully described and claimed.

In the drawings: Figure 1 is a view showing a portion of the floor in plan with a wall in horizontal section and with other portions showing the plan of the radial and diametrical flues. Fig. 2 is a diametrical, vertical section taken on line 2—2 of Fig. 1. Fig. 3 is a view in side elevation. Fig. 4 is a transverse sectional view of the diametrical flue as taken on line 4—4 of Fig. 2. Fig. 5 is a plan view of the tiles used for floor covering.

Like characters of reference designate corresponding parts throughout the several views.

The brick kiln forming the subject matter of this application comprises a wall 10, circular in plan, and with doorways 11 preferably upon opposite sides closed in any approved manner, as by the doors shown conventionally at 12. The kiln is also provided with the usual dome top 13 resting upon the wall 10 and provided with a flue 14 at its apex, employed for cooling. About the wall

10 a thicker wall 15 is constructed in which a plurality of fire places or fire boxes 16 are supported, closed at the outer side by any approved form of door, shown conventionally at 17. The fire boxes 16 open inwardly through the wall 10, and flues 18 communicate with said fire boxes and extend upwardly a portion of the height of the wall 10, here shown as approximately one-half of the distance.

To supply air to the fire boxes 16 to support combustion a sinuous flue 19 is constructed upon each side of each fire box, comprising openings 20 extending through the wall 15 adjacent each door 17 and doubling upon itself to form a discharge port 21 slightly above the grate 22 and adjacent the rear end of the fire box or the flues 18. Within the kiln a floor, shown as a whole at 23, is constructed substantially on a level with the ground and a plurality of flues 24 are constructed by means of dividing rows of brick 25 disposed within the dug-out portion of the ground and preferably supported upon a course of paving brick, cement, or other material, at 26. The floor is preferably constructed of tiles 27 shown in detail in Fig. 5 and having a cut-out portion 28 forming openings communicating with the passageways or flues 24 in such floor. Transversely of the kiln a diametrical flue 29 is constructed, sunk in the ground, communicating with the parallel flues 24 and also with the flue 30 extending outwardly beyond the limits of the kiln and communicating with a stack 31. The vertical limit of the transverse flue 29 is shown in Fig. 2 by the arrows associated with the numeral and in Fig. 4 the association of the diametrical flue 29 with the divisions 25 and floor 23 is shown in detail. Sunken beneath the course of paving brick or other paving material 26 a plurality of radial flues 32 are employed, communicating centrally with the diametrical flue 29 and at their extremities by means of openings 33 upwardly through the floor 23 adjacent the inner periphery of the wall 10, and spaced between the flues 18 and fire boxes 16. It will thus be seen that as the heat and products of combustion from the fire boxes 16 pass upwardly through the flues 18 they are deflected by the arched dome 13 and directed downwardly upon the brick stacked within the kiln. The heat passes thus between the stacked bricks

through the openings 28 in the floor 23 and into the parallel passages or flues 24. The heat is also drawn through the openings 33 at the periphery of the wall into the radial
5 flues 32 and through such flues into the diametrical flue 29 and all of the heat thus discharged from the diametrical flue into the trunk flue 30 and to the stack 31.

No means have been shown for controlling
10 the inlet of air through the ports 20 or to the fire boxes 16, or closure for the flue 14, such means being preferably simply any common and well-known means for regulating such openings, and have been omitted for the
15 purpose of clearness.

What I claim is:

In a brick kiln, a stack, a trunk flue extending to and terminating at the center of the kiln, a diametrical flue in the same plane

with and communicating at its center with 20 the terminus of the trunk flue, a plurality of radial flues disposed on the plane above and communicating at their central ends only with the trunk and diametrical flues 25 and at their peripheral extremities with the interior of the kiln, a plurality of parallel flues disposed in a plane above and out of communication with the radial flues and communicating at their middles with the 30 diametrical flue, and flooring disposed on the plane and having openings therethrough communicating only with the parallel flues.

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

WILLIAM GIBFORD.

Witnesses:

ISABEL M. STRONG,
CARLE WHITEHEAD.