

No. 645,651.

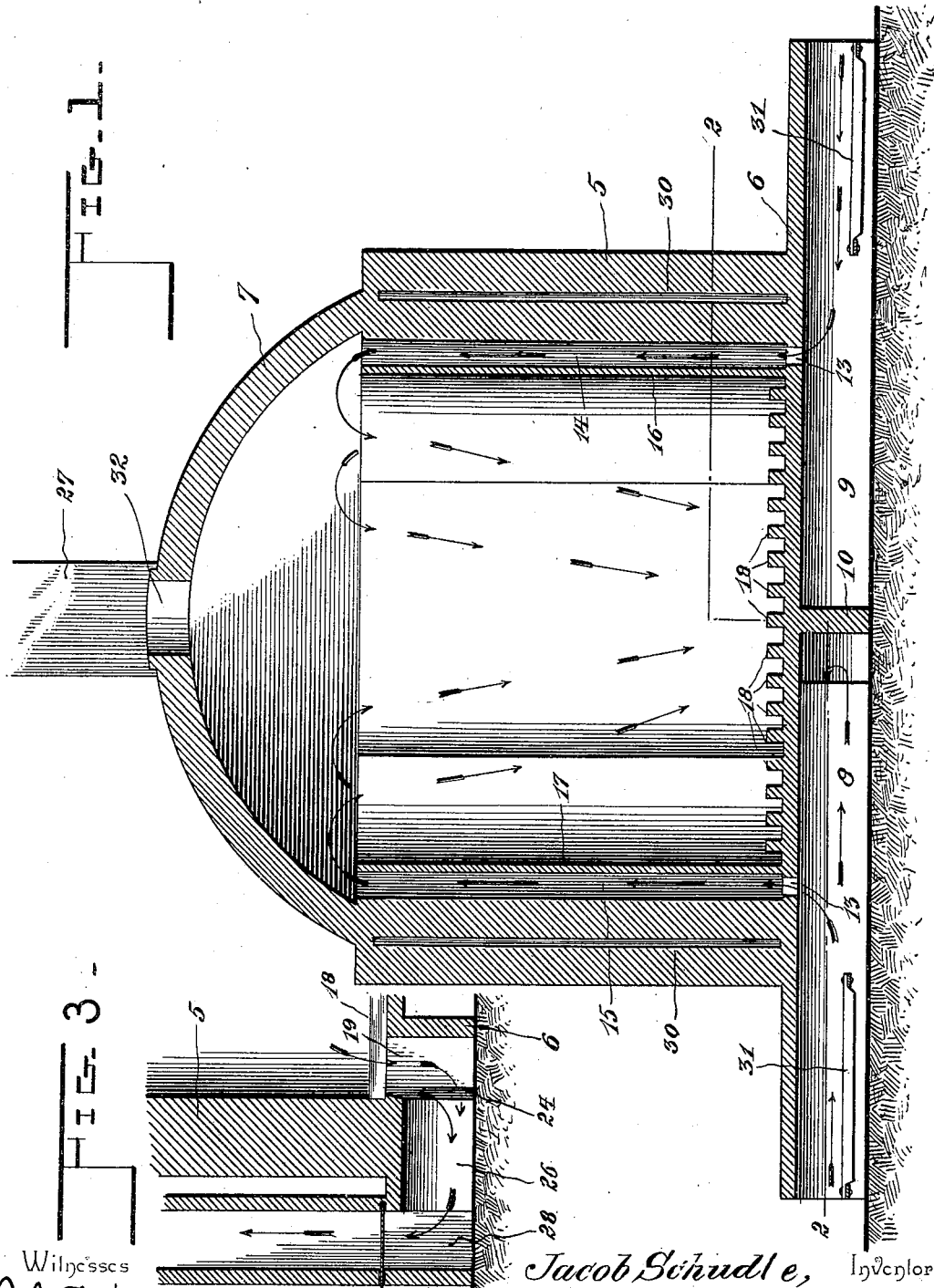
Patented Mar. 20, 1900.

J. SCHUDLE.
BRICK KILN.

(Application filed Oct. 18, 1899.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses
John F. Seufferheld
Ernst Schmale

Jacob Schudle, Inventor
By his Attorneys.

C. A. Snow & Co.

No. 645,651.

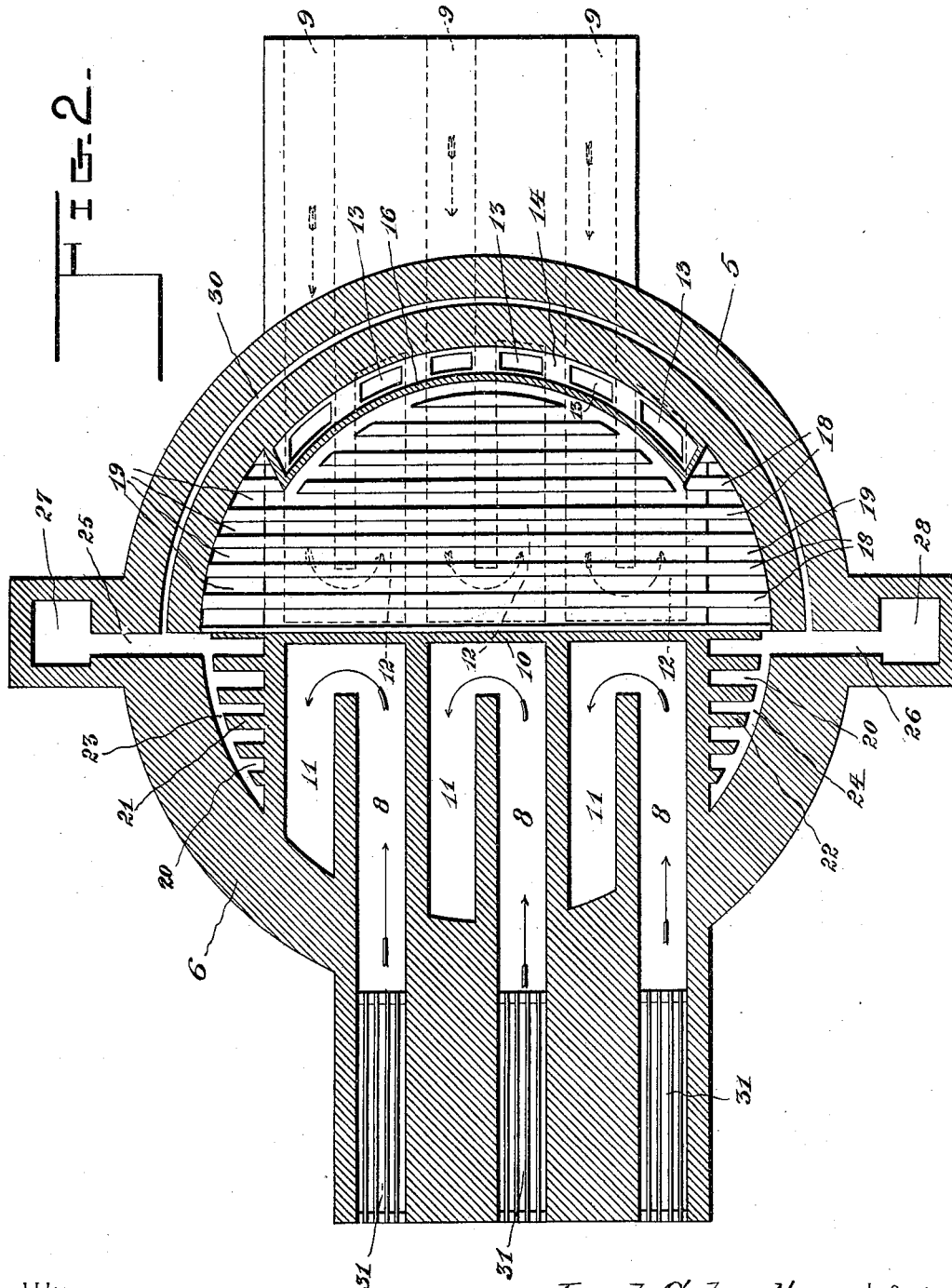
Patented Mar. 20, 1900.

J. SCHUDLE.
BRICK KILN.

(Application filed Oct. 13, 1899.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses
John F. Deuffermial
Geo. H. Chandler

Jacob Schudle, Inventor
By His Attorneys.

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

JACOB SCHUDLE, OF ZONE, OHIO.

BRICK-KILN.

SPECIFICATION forming part of Letters Patent No. 645,651, dated March 20, 1900.

Application filed October 13, 1899. Serial No. 733,522. (No model.)

To all whom it may concern:

Be it known that I, JACOB SCHUDLE, a citizen of the United States, residing at Zone, in the county of Fulton and State of Ohio, have invented a new and useful Brick-Kiln, of which the following is a specification.

This invention relates to kilns in general, and more particularly to that class employed for the baking of bricks, pottery, and similar material and also to that class in which the heated air and products of combustion are taken upwardly and into the upper portion of the kiln and then downwardly to the bottoms of the chimneys.

The object of the invention is to provide a construction in which a maximum of heat may be applied to the interior of the kiln and in which the walls of the kiln will be heated to radiate inwardly and in which the circulation will be complete and such as to quickly and efficiently dry out the materials to be operated upon.

In the drawings forming a portion of this specification and in which similar numerals of reference designate like and corresponding parts in the several views, Figure 1 is a central vertical section of the kiln, showing the circulation of the heated air beneath the floor and upwardly through the walls. Fig. 2 is a section on line 2 2 of Fig. 1, one half of the section being taken through the arches and the other half in the plane of the floor. Fig. 3 is a detail section showing the direction of the air-currents from the inclosure of the heating-chamber to a chimney.

Referring now to the drawings, the kiln comprises a preferably-cylindrical body portion or heating-chamber 5, resting upon a base 6 and having a preferably dome-shaped roof 7. Formed in the base 6 are archways or passages 8 and 9, lying upon opposite sides of a central diametrical partition 10, these archways extending inwardly beneath the floor of the baking-chamber and being then returned upon themselves to points beneath the floor of the chamber adjacent the walls thereof, these returned portions 11 of the archways 8 terminating at one side of the partition 10, while the returned portions 12 of the archways 9 terminate at points diametrically opposite thereto. Formed in the floor of the baking-chamber and communicating with the

arches and their return portions are flue-openings 13, brought through the floor close to the inner wall of the chamber and opening into interspaces 14 and 15 between the adjacent portions of the inner wall and parallel concentric arc-shaped partitions 16 and 17, which are connected at their ends with the inner wall and rise to the top of the latter. These interspaces are open at their tops and form means of communication between the passage-way and the dome of the chamber, the ends of the partitions being separated by substantially eighty degrees of the inner periphery of the chamber.

Transversely of the floors of the baking-chamber are disposed stringers 18, separated by interspaces and lying parallel with the chords of the arc-shaped partitions. The floor proper does not extend entirely across the baking-chamber in a direction at right angles to the archways 8 and 9, but instead is of a width slightly in excess of the chords of the arcs of the partitions 16 and 17, the result being segmental interspaces 19 and 20. The stringers 18 extend beyond the sides of the floor proper and over the interspaces 19 and 20 and rest upon piers 21 and 22 in these interspaces, the ends of the piers being separated from the inner wall of the downward continuation of the cylindrical body or baking-chamber by air-passages 23 and 24, these passages communicating through ducts 25 and 26 with chimneys 27 and 28.

In order to heat the wall of the baking-chamber to prevent chilling, an air-space 30 is formed within the wall and concentric therewith and extends throughout its height, this air-space communicating with the ducts 25 and 26.

The operation of the kiln is as follows: The bricks or other articles to be baked having been suitably disposed upon the floor of the kiln and in such a manner as to permit the passage of air between them, fires are built upon the grates 31 at the entrances of the arches 8 and 9, when the heat will pass inwardly and under the floor of the kiln and will rise through the openings 13 and interspaces 14 and 15 to the dome of the kiln. The heat will then pass downwardly through the kiln and upon the article to be baked and will pass along the floor between the stringers

18 and then downwardly between the piers 21 to the air-spaces 23 and 24 and thence through the ducts 25 and 26 to the chimneys 27 and 28, a portion of the heat rising in the
 5 air-space 30 to heat the wall of the kiln. After the articles have been treated to a sufficient extent they may be removed, as they were applied, through a manhole 32 in the top of the dome or through any other suitable
 10 opening.

It will of course be understood that in practice the kiln may be made of any size, that any desired number of archways 8 and 9 may be used, and that various other modifications
 15 in the form and construction may be made without departing from the spirit of the invention.

What is claimed is—

1. A kiln comprising a baking-chamber
 20 having a floor, archways leading inwardly beneath the floor and having return portions, openings in the floor leading to the archways and their return portions, uptakes communicating with said openings and leading to
 25 the top of the chamber, stringers upon the floor separated by interspaces, and chimneys communicating with said interspaces below the floor.

2. A kiln comprising a baking-chamber
 30 having arc-shaped partitions at diametrically-opposite portions inclosing interspaces, a corrugated floor for the chamber, archways leading inwardly beneath the floor in opposite directions and having return portions, open-
 35 ings through the floor forming communications between the interspaces and the adjacent archways and their return portions, and

chimneys communicating with the baking-chamber through the floor and at diametrically-opposite points thereof. 40

3. A kiln comprising a baking-chamber having a floor, archways leading inwardly beneath the floor, air-spaces between the outermost archways and the wall of the chamber, stringers disposed transversely of the
 45 archways and extending beyond the outermost archways, said stringers being separated by interspaces which communicate at their end portions with the air-spaces, chimneys connected with the air-spaces, and uptakes
 50 leading from the archways to the chamber above the floor.

4. A kiln comprising a baking-chamber having an air-space in its walls concentric therewith, a floor within the chamber having
 55 stringers upon its upper surface separated by interspaces, said stringers projecting beyond the floor, piers supporting the ends of the stringers and separated by interspaces, an air-space connecting the interspaces of
 60 the piers, air-ducts connected with the air-spaces and leading to chimneys and connections between said ducts and the first-named air-chambers, archways leading inwardly beneath the floor of the kiln, and connections
 65 between said archways and the top of the kiln.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JACOB ^{his} X SCHUDLE.
 mark

Witnesses:

JESSE RUPP,
 DAVID SNYDER.