

No. 775,047.

PATENTED NOV. 15, 1904.

J. SONKA & R. A. METZNER.

BRICK KILN.

APPLICATION FILED JULY 18, 1904.

NO MODEL.

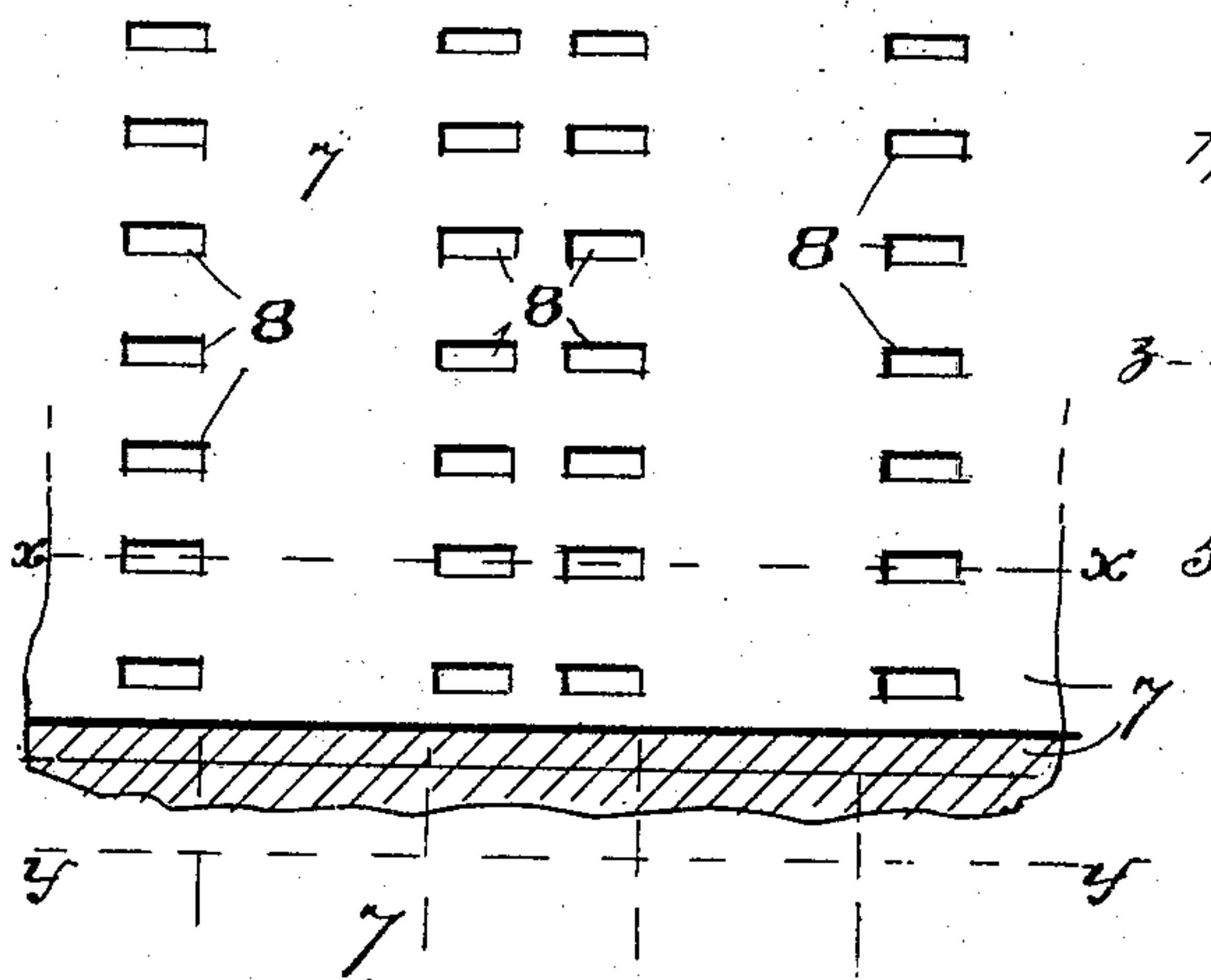


Fig. 1.

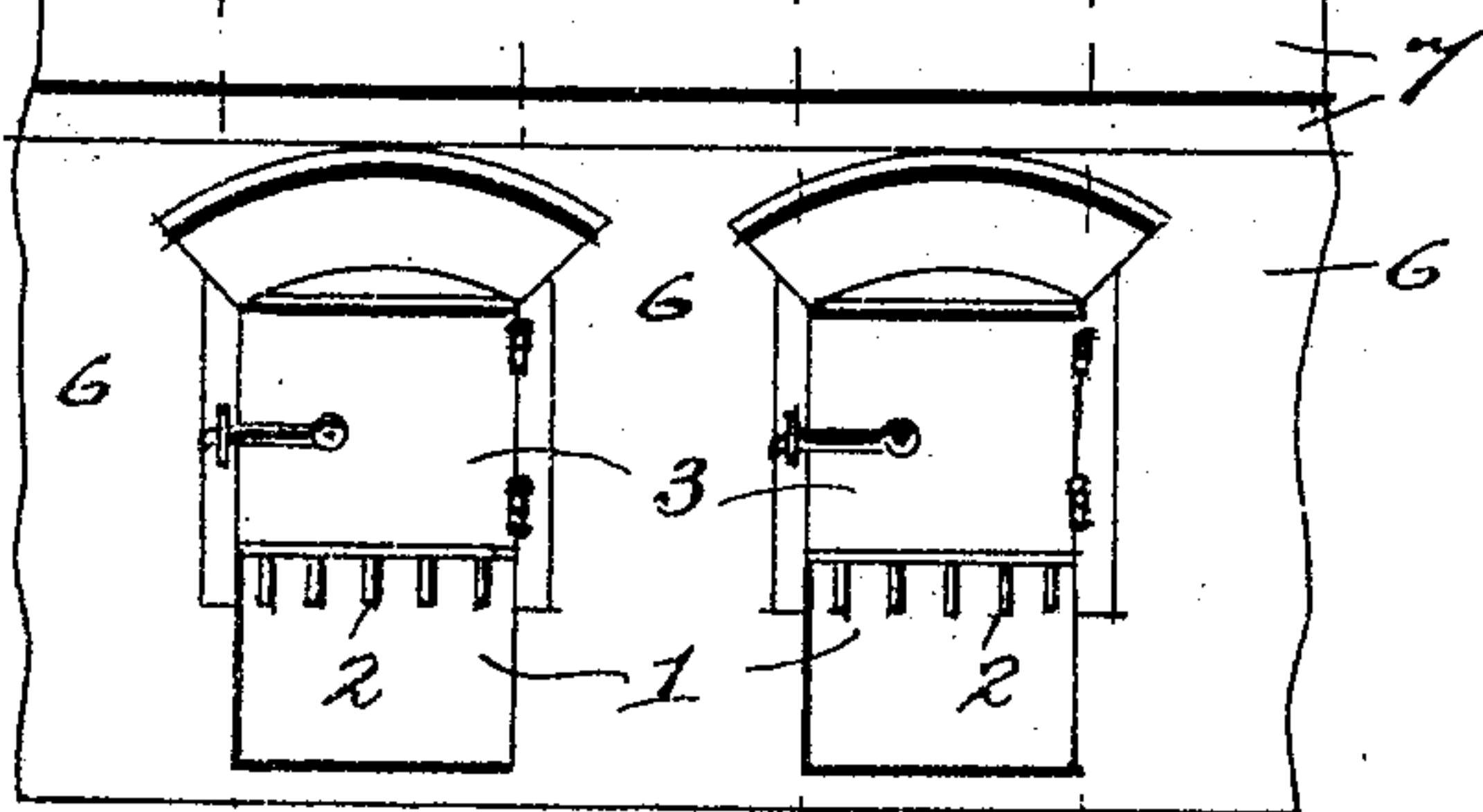
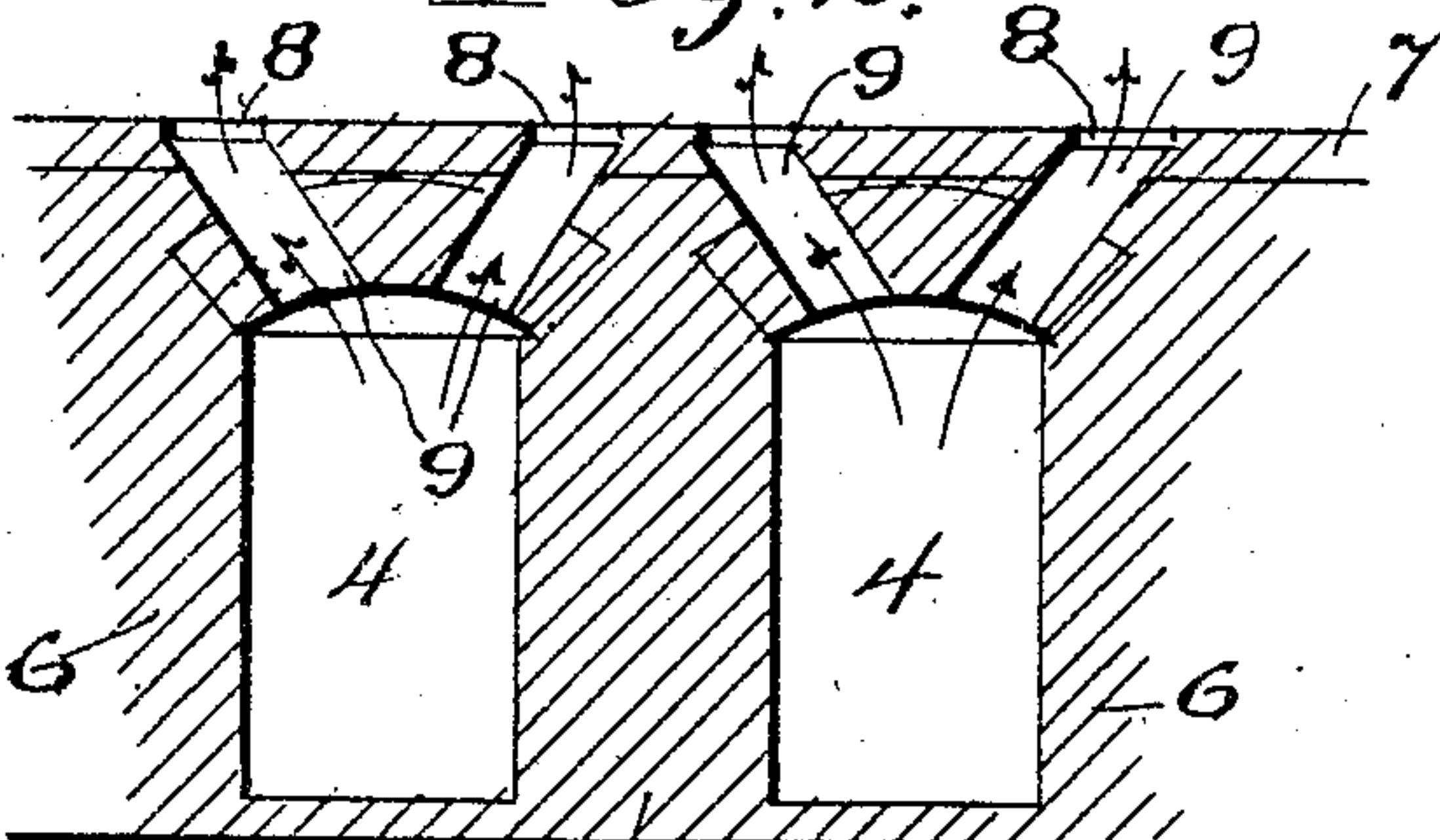


Fig. 2.



Witnesses

C. J. Bell
L. E. Money

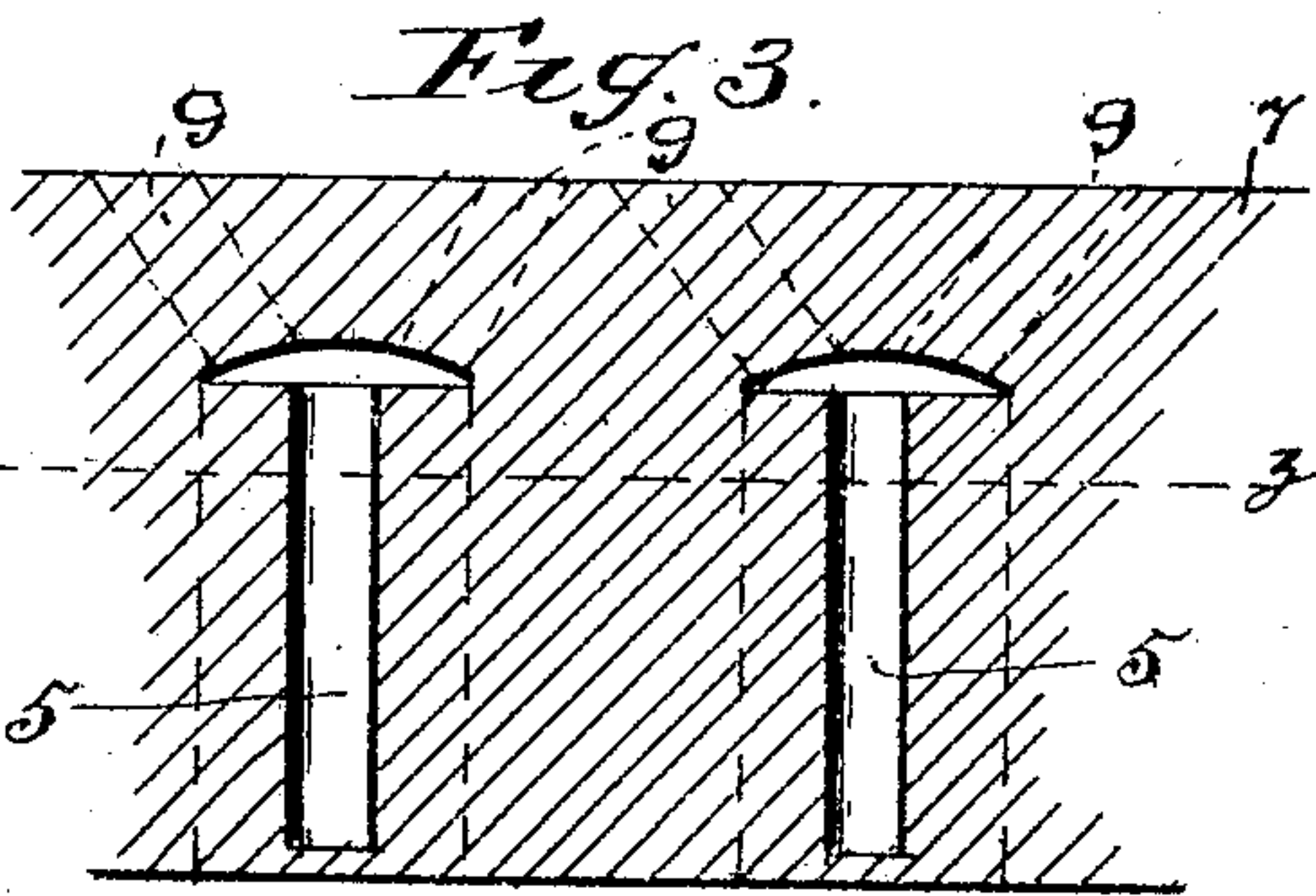
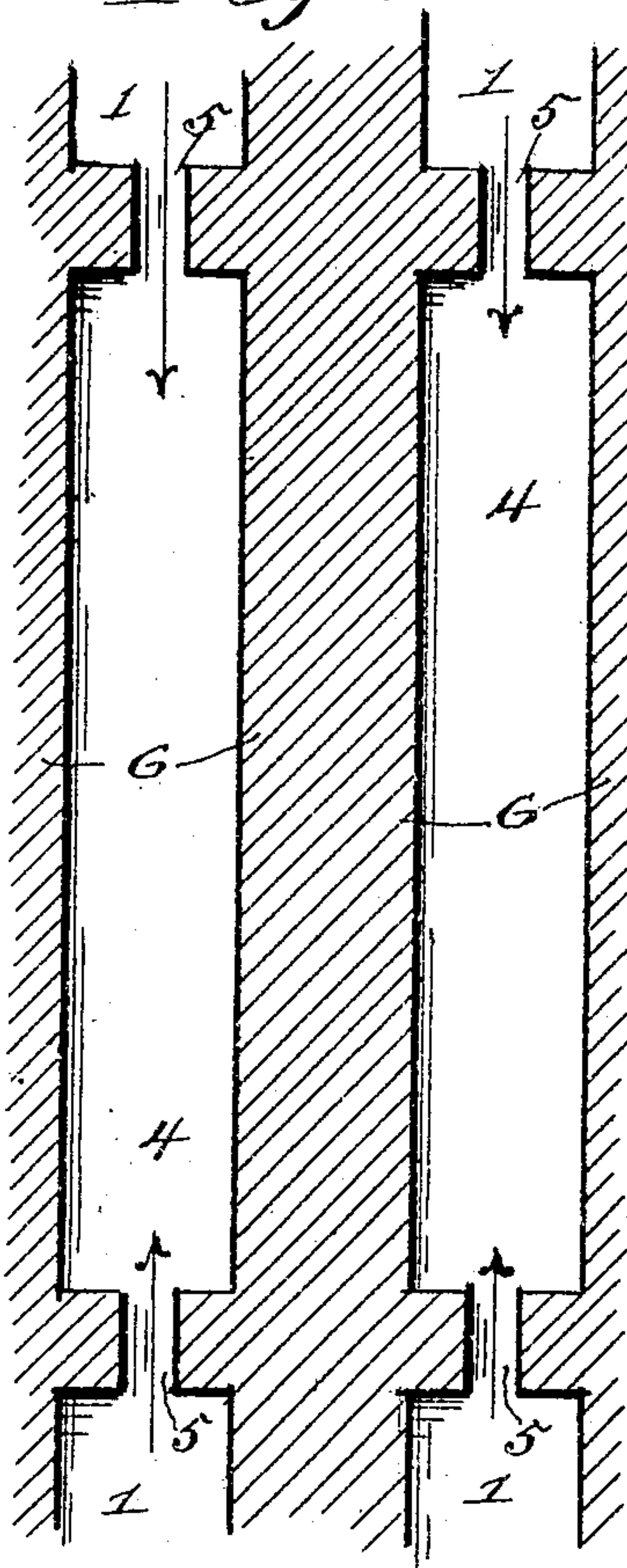


Fig. 4.



Joseph Sonka and Robert A. Metzner
Inventors

By Taker & Whitmanles.

Attorneys

UNITED STATES PATENT OFFICE.

JOSEPH SONKA AND ROBERT A. METZNER, OF SEGUIN, TEXAS.

BRICK-KILN.

SPECIFICATION forming part of Letters Patent No. 775,047, dated November 15, 1904.

Application filed July 18, 1904. Serial No. 217,094. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH SONKA and ROBERT A. METZNER, citizens of the United States, residing at Seguin, in the county of
5 Guadalupe and State of Texas, have invented certain new and useful Improvements in Brick-Kilns, of which the following is a specification.

This invention relates to brick-kilns, and particularly to a kiln equally as well adapted
10 for making lime and Portland cement as for the manufacture of brick.

The object of the invention is to provide a kiln of such novel and peculiar construction and arrangement of parts that a more uni-
15 form and equal temperature of the whole interior is effected and over or under heating is avoided.

A further object of the invention is to provide a smoke-consuming kiln of such special
20 construction that no waste of heat is possible, and the heat is held at a high temperature throughout the kiln with the same or less amount of fuel consumption as any kiln known to applicants.

A still further object of the invention is to provide in a brick-kiln having fire-boxes at each end connected by independant flues a retracted throat or passage for the furnace
25 heat in the flues and to prevent draft from one fire-box to the other and radial draft passage or ducts from the flues through the walls of the latter.

The object still further of the invention is to provide a kiln the top of which is flush
35 with the ground-surface, affording a solid permanent floor or driveway, so that loading and unloading may be accomplished without the usual carting or other transportation of the brick to and from the kiln.

Other objects, advantages, and improved results are attainable in our improved kiln, as will be pointed out in the specification, and set up in the claim to follow.

Brick-kilns, as far as known to us, have the
45 upper half of fire-canal ricked up in arch form with inburned brick for each kiln charge, thereby requiring expert workman to prepare the kiln, and the brick of the arches which receive the heat direct are afterward
50 worthless. Other kilns require a continued

heat for burning the brick; but according to our invention no such arch is required. The fire-arch being permanent and entirely below the floor-surface permits close approach of
55 wagons or trucks. This smoke-consuming kiln permits the fire to be drawn at will without injury to the brick. No special or expert workman are required, and great saving of brick and time and labor in handling the same is accomplished. 60

In the accompanying drawings, forming part of this application, Figure 1 is a perspective view of part of a kiln embodying our inven-
65 tion and partly broken away. Fig. 2 is a section on the line *x x*, Fig. 1. Fig. 3 is a section on the line *y y*, Fig. 1. Fig. 4 is a section on the line *z z*, Fig. 3.

The same numeral references denote the same parts throughout the several views of the drawings. 70

The kiln is composed of the usual number of fire-boxes and flues and may be of any desired size or proportions, but for purposes of illustration only one pair of fire-boxes and
75 flues are shown. The fire-boxes 1 have ordinary grates 2, doors 3, and flues 4, leading from the said boxes and terminating in a contracted throat or passage 5, which prevents the heat-currents from entering the flues 4
80 too suddenly, retards the draft, and holds the heat-currents in the flues longer than if the flues were of the same size throughout or if the heat-currents were permitted to enter the flues in full volume from the fire-boxes. The
85 flues as well as the fire-boxes are separated by partition-walls 6, extending from one end to the other of the kiln, and with the arched top of the flues support a permanent kiln-floor 7, which is adapted to have the vehicles driven
90 upon it in transporting brick to and from the kiln. The floor 7 is provided with heat-discharge apertures 8, between which the brick is stacked upon the floor for drying and bak-
95 ing. Two sets or rows of the apertures 8 are connected with each of the flues 4 by radial ducts or channels 9, leading from the flues through the arched top of the flues, so as to distribute the heat-currents throughout the floor-surface. The ducts or channels may be
100 of any desired number or inclination; but we

prefer to arrange them at about an angle of forty-five degrees relative to each other and in rows extending through the floor of the kiln. It will be observed that the furnace is
5 below the ground-surface, that the floor 7 is permanent, that the brick to be treated are not used to form any part of the kiln, so that the usual loss of brick is obviated, and that the kiln consuming smoke and all particles of
10 combustion will permit the fires to be drawn, as desired, during the process of cooking the brick without injury to the brick.

It is obvious that the flues are built in pairs lengthwise side by side, so that the walls
15 thereof support a continuous top surface or permanent floor, and that the furnaces have the usual smoke-stack or chimney and are provided with suitable regulating devices.

It will be seen that the heat will be distributed equally throughout the kiln, that the
20 brick are cooked or burned from bottom to top with perfect uniformity, that the arrangement of the heat and draft passages are such as to reduce loss of heat, and that the ducts

terminating in a flat level surface will admit 25 of improved facilities for handling the material.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

In a brick-kiln, the combination, with the walls forming separate flues each of which terminates in a contracted passage central of the flues, and the permanent floor forming a
30 driveway flush with the ground-surface and having adjacent double rows of apertures arranged in pairs central of the said walls, of the ducts or channels inclined upwardly and outwardly from each other and connecting
35 the top of the said flues with said apertures. 40

In testimony whereof we affix our signatures in presence of two witnesses.

JOSEPH SONKA.
ROBERT A. METZNER.

Witnesses:

F. J. FURMAN,
A. M. ERSKINE, Jr.