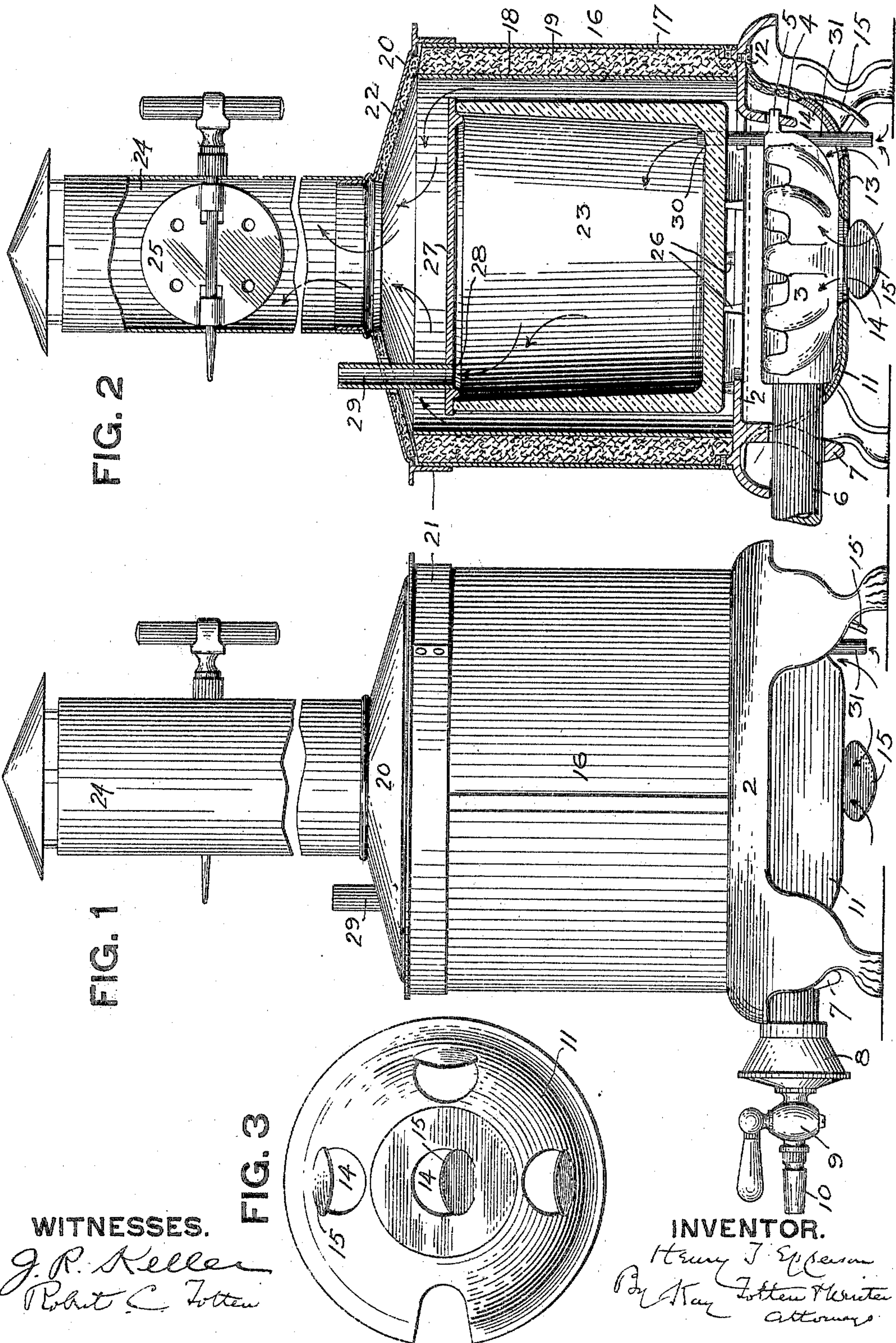


No. 812,029.

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H. T. EPPERSON.
KILN.

APPLICATION FILED JUNE 10, 1905.



WITNESSES.

J. R. Keller
Robert C. Totten

FIG. 3

INVENTOR.

Henry J. Epperson
By Kay Totten & Winter
Attorneys

UNITED STATES PATENT OFFICE.

HENRY T. EPPERSON, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR OF
ONE-HALF TO GEORGE W. CLARKE, OF EAST LIVERPOOL, OHIO.

KILN.

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To all whom it may concern:

Be it known that I, HENRY T. EPPERSON, a resident of San Francisco, in the county of San Francisco and State of California, have
5 invented a new and useful Improvement in Kilns; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to kilns for burning
10 china, its object being to provide a portable kiln more especially adapted for the requirements of small china decorators or amateurs which can be carried from one place to another and connected up to an ordinary gas-
15 burner in substantially the same way as gas-stoves are attached. One of its further objects is to provide a kiln in which an intense heat is generated, so that the time required for burning the china is greatly reduced.

20 To these ends my invention comprises the novel features hereinafter set forth and claimed.

To enable others skilled in the art to make and use my invention, I will describe the
25 same more fully, referring to the accompanying drawings, in which—

Figure 1 is a side elevation of my improved kiln. Fig. 2 is a sectional elevation of the same, and Fig. 3 is a bottom view of the pan
30 inclosing the burner.

Like numerals indicate like parts in each of the figures.

In the accompanying drawings the numeral 2 designates a suitable cast-iron base
35 adapted to form a support for a suitable gas-burner 3 of any suitable construction, that shown consisting of a series of radiating-ribs with openings formed therein for the escape of the gas. There are, however, many other
40 suitable forms of burners which may be employed. The cast-iron base 2 has the depending flange 4, with which a lug 5 on the burner engages, while the inlet-pipe 6, leading to said burner, is supported by the de-
45 pending flange 7 of the base. This inlet-pipe 6, leading to the burner, is provided with the ordinary mixer 8 and the valve 9 with the connection 10, by means of which the burner may be connected up by means of a rubber
50 tube with an ordinary gas-burner. A pan or bowl 11 surrounds the burner 3, said pan being secured to the base 2 by means of the screws 12. The pan 11 is lined with a layer 13 of asbestos-cement or other like incom-

bustible material which is a non-conductor of
55 heat and which acts to retain the heat in the manner hereinafter set forth. The pan 11 is further provided with openings 14, which are controlled by the dampers 15. These damp-
60 pers 15 may be stamped from the metal composing the pan, and the metal of the pan having a sufficient resiliency these dampers may be forced in or out to regulate the supply of
65 air and remain in the position to which they are adjusted. These openings 14 supply additional air to the burner and insure perfect combustion, thereby greatly increasing the heat of the kiln, as will more fully hereinafter appear.

Mounted upon the cast-iron base 2 is the
70 jacket 16, which comprises the outer shell 17, formed of Russian iron or other like material, and the inner shell 18, which may be formed of ordinary black iron. The space between the inner and outer shells 16 and 17 is filled
75 in with the asbestos-cement 19 or any other suitable material which is practically indestructible when exposed to a high heat and which at the same time is a good non-conductor of heat. This asbestos-cement when
80 packed in between the inner and outer shells becomes hard and self-supporting in time, so that when the inner shell burns out the said shell may be removed and the asbestos-cement itself forms the inner wall of the jacket.
85

The jacket 16 is provided with the top 20, having the annular flange 21 adapted to encircle the outer wall of the jacket, so as to fit snugly thereon, said top having a lining 22 of
90 asbestos-cement or other suitable material. This lining assists in retaining the heat and reflecting it onto the fire-pot 23 contained within the said jacket. A flue-pipe 24 is provided for the jacket, said flue-pipe being of
95 any desired length and being provided with the damper 25, by means of which the supply of air to the kiln is regulated.

The fire-pot 23 rests upon the lugs 26 on the cast-iron base 2, said fire-pot being made of fire-clay and being formed with a thick
100 bottom and with walls gradually tapering toward the top, so as to insure an even degree of heat throughout the pot. The pot being formed of clay or other suitable refractory material absorbs the heat and reflects it on
105 the ware to be fired and contained therein. A cover 27 is provided for the pot 23, which may be made of cast-iron, said cover being

provided with the openings 28 with a pipe 29 leading through the top 20 of the jacket to the open air, by means of which the said pot is vented. The pot 23 is further provided 5 with the air-inlet 30, with which the pipe 31 is connected, the lower end of said pipe extending down below the pan 11, so as to permit the entrance of pure air which passes up into the pot and drives off the fumes through the 10 pipe 29, while at the same time it assists in the heating.

When my improved kiln is in use, the article to be burned is placed in the pot 23 and the pot placed in the jacket with the cover 27 15 thereon. The top 20 of the jacket is then put in place and the kiln is ready for the burning operation. The gas is then lighted in the burner 3 and the flame, together with the air entering the openings 14 in the pan 11, 20 passing up strike the pot, the air passing through the gas acting upon the same principle as a blowpipe and creating an intense heat. The walls of the jacket act to retain this heat, owing to the non-conducting character of the asbestos-cement, and the heat is 25 reflected upon the pot 23, so that it is very quickly raised to a very high heat. This heat is absorbed by the pot 23 and acts directly on the ware contained therein. The 30 pure air entering the pipe 31 acts to drive off the fumes from the burning china and at the same time assist in the heating. By confining the pot in this manner, while it is sub-

jected to such an intense heat and substantially every particle of heat is utilized and directed on the pot, the time required for the 35 burning of the china contained therein is reduced to a minimum.

The kiln being portable in its character and easily handled, it may be used to great advantage by small china decorators or amateurs, 40 as it only requires to be connected up to an ordinary gas-burner to be ready for immediate use.

What I claim is—

1. In a kiln, the combination with a suitable base, of a gas-burner, a jacket, and a fire-pot within said jacket, said fire-pot having a thick bottom and walls tapering in thickness 45 toward the top.

2. In a kiln, combination with suitable base, of a gas-burner, an inclosed heating-chamber having a flue leading therefrom, a damper controlling said flue, a fire-pot within said chamber, means for admitting air to said 50 fire-pot from below, a cover for said fire-pot, and a pipe leading from said fire-pot and passing out through the walls of said fire-chamber to the atmosphere.

In testimony whereof I, the said HENRY T. 60 EPPERSON, have hereunto set my hand.

HENRY T. EPPERSON.

Witnesses:

WILLIAM H. SCHOOLER,
OLIVER DIBBLE.