

No. 756,561.

PATENTED APR. 5, 1904.

E. S. BACON.  
POTTERY KILN.

APPLICATION FILED NOV. 16, 1903.

NO MODEL.

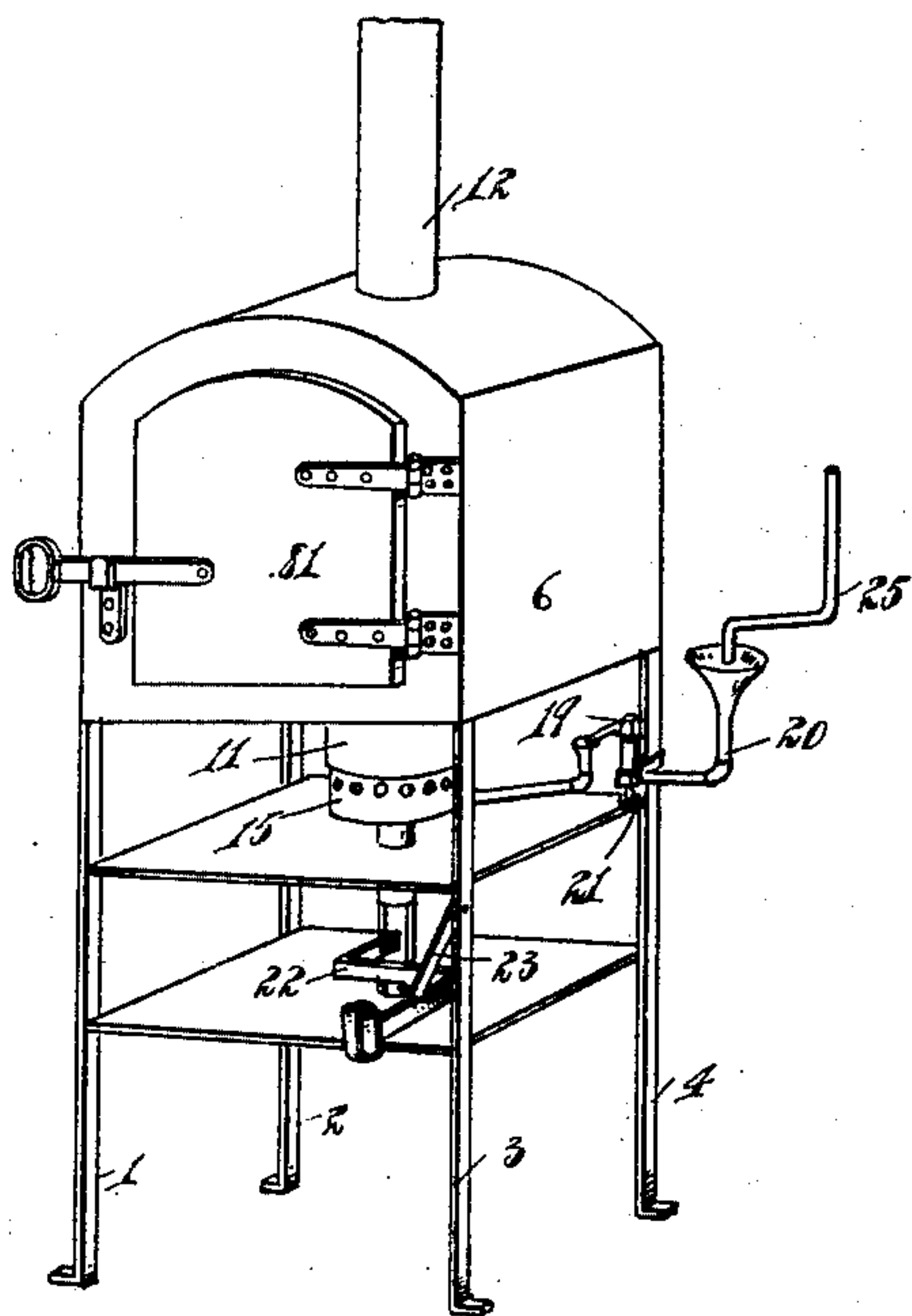


Fig. 1.

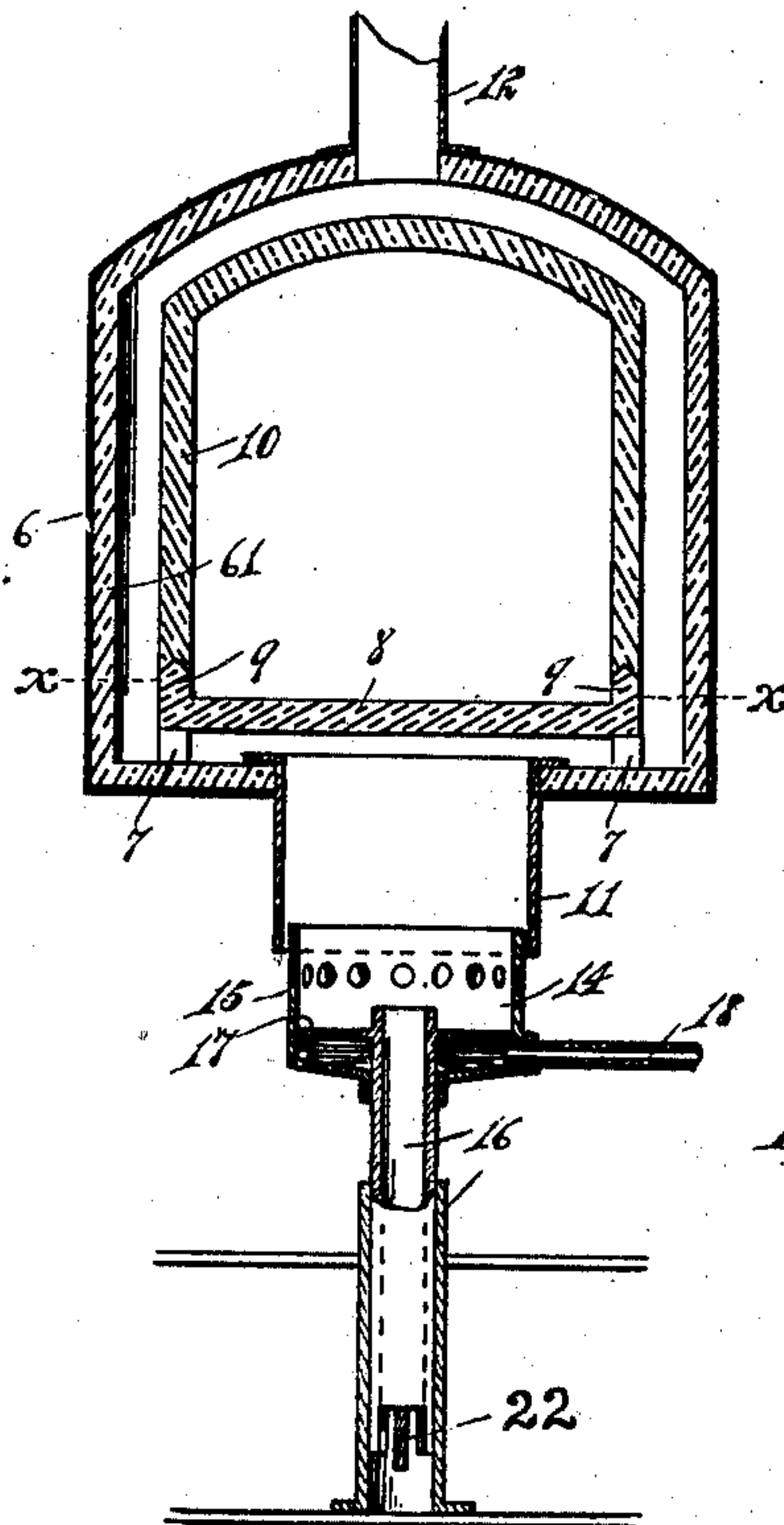


Fig. 2.

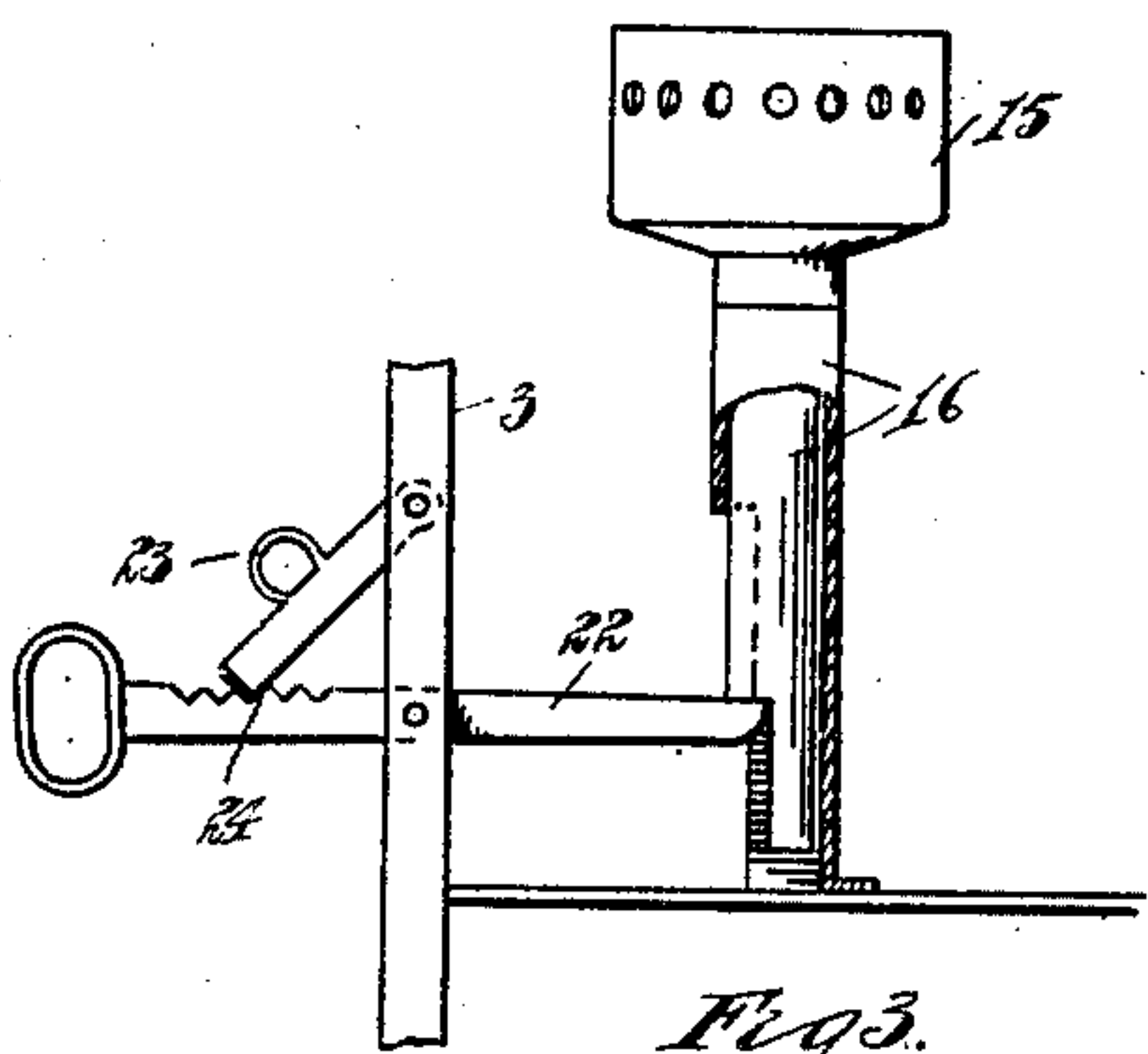


Fig. 3.

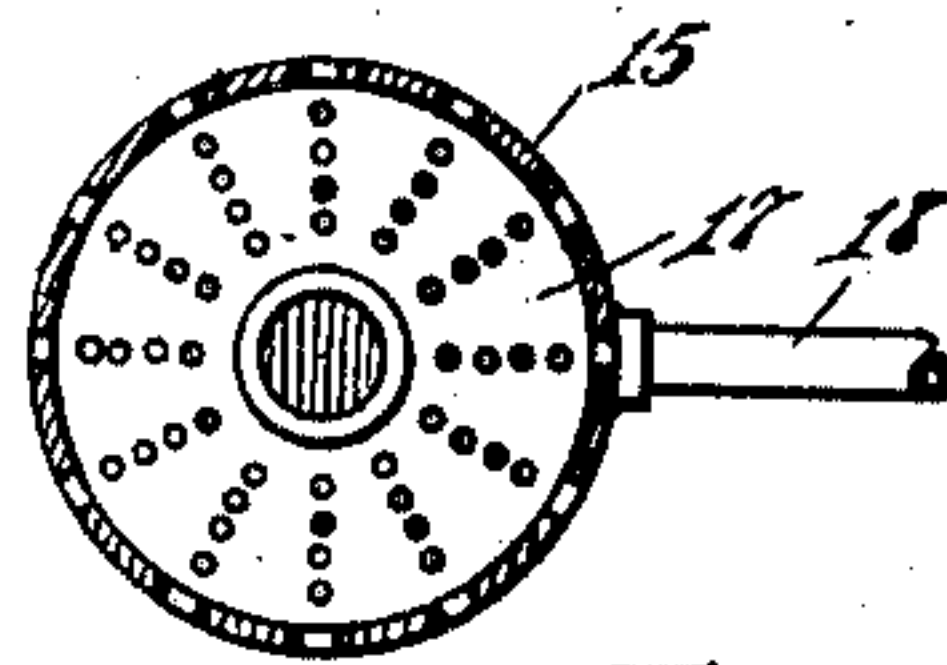


Fig. 4.

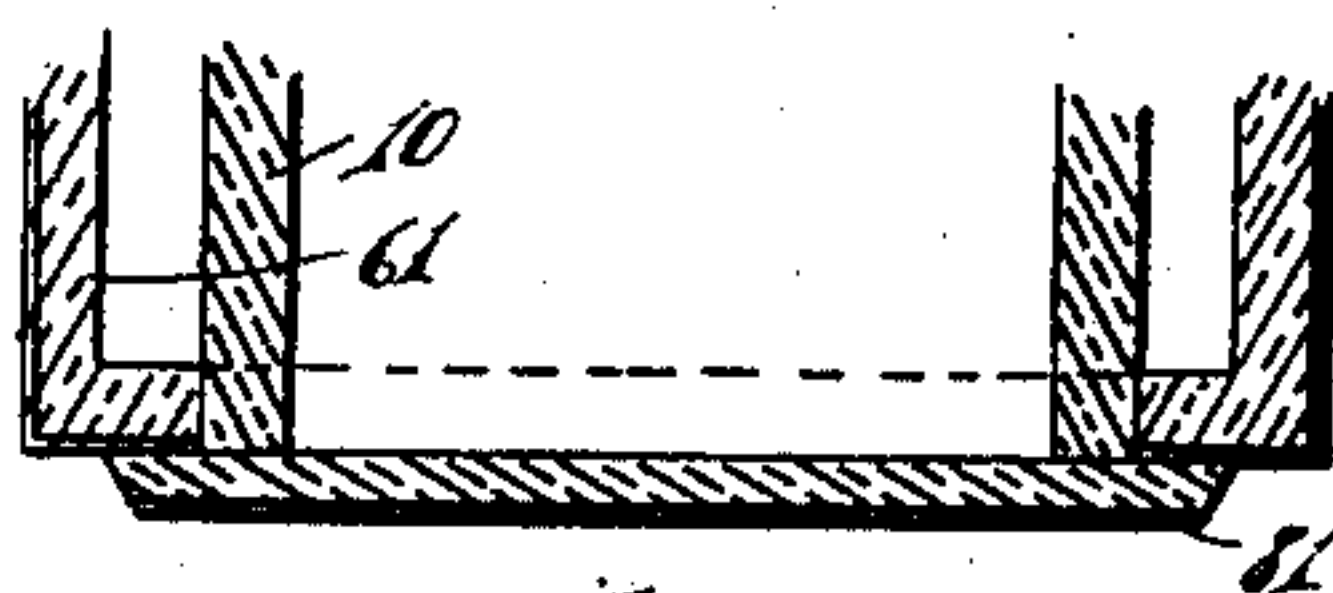


Fig. 5.

WITNESSES  
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# UNITED STATES PATENT OFFICE.

EBENEZER S. BACON, OF DETROIT, MICHIGAN.

## POTTERY-KILN.

SPECIFICATION forming part of Letters Patent No. 756,561, dated April 5, 1904.

Application filed November 16, 1903. Serial No. 181,262. (No model.)

*To all whom it may concern:*

Be it known that I, EBENEZER S. BACON, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Pottery-Kilns; and I 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 pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to pottery-kilns, and has for its object an improved kiln for firing pottery and similar articles.

In the drawings, Figure 1 is a perspective showing the kiln. Fig. 2 is a vertical cross-section. Fig. 3 is an elevation of the burner. Fig. 4 is a sectional plan of a plate located within and forming part of the burner. Fig. 5 is a section at  $x-x$  of Fig. 2.

1 2 3 4 indicate the standards or legs which support a kiln 6. The kiln has an external shell or wall 6, covered with sheet metal and lined with a refractory material 61. Within the external chamber is an inner chamber or muffle spaced on five sides from the external wall, except for the struts or legs 7, by which it is supported above the floor of the shell. On the sixth side is the door-opening, and the walls of the muffle project through an opening in the external wall, and a door 81, hinged to the shell, closes against the muffle. The muffle is made of refractory material in two parts—a base 8, provided with upwardly-projecting flanges 9, and a cover or dome 10, made as a single monolithic structure, resting upon the upper edges of the flanges of the base 9. The flanges are tongued, and the tongues engage in grooves in the bottom end of the dome. Through the floor-wall of the outer chamber is an opening, into which leads a pipe 11 from the furnace, and through the upper wall is an opening, from which leads the pipe 12 for the escape of the products of combustion.

The burner used is made for burning liquid fuel, preferably kerosene-oil, and consists of an annular receptacle 14, from which a cylindrical perforated outer wall 15 rises and surrounds the lower part of a combustion-cham-

ber. The receptacle 14 surrounds an air-inlet pipe 16 and is itself loosely filled with some absorbent, as asbestos fiber, and is covered by a perforated plate 17, through which the fuel emerges into the combustion-chamber, where it is fired. The fuel is fed into the combustion-chamber through pipe 18 from the top of a short stand-pipe 19, preferably filled or partially filled with water. An oil-pipe 20, provided with a funnel-shaped terminal, receives fuel-supply from supply-pipe 25. The fuel is admitted to the bottom of the water-column through valve 21. The burner itself is movable and is held and guided by the air-pipe 16, which serves as a stem to the burner and is lifted by a lever 22, that is pivoted to a standard and held in its lifted position by pawl 23, which engages in ratchet 24. There is a strong draft of air through the pipe 16 to the interior of the combustion-chamber above the oil and a draft of air through the holes in the perforated wall 15, producing an exceedingly rapid and hot combustion, which is carried entirely around the dome of the oven, heating it intensely hot.

The entire kiln is elevated from the floor by the legs 1 2 3 4 of the frame.

The combustion-chamber is in two parts. One part, 11, is connected fixedly to the muffle, and the other part, 15, is movable with reference thereto. The fire may be instantly regulated by changing the relation of the two parts of the combustion-chamber. When the part 15 is lifted to engage closely within the pipe 11, the combustion reaches the maximum. If the part 15 is lowered, the fire immediately dies down.

What I claim is—

1. In a pottery-kiln, in combination with an external shell lined with refractory material, a muffle located within the chamber of the shell made of refractory material in two parts, a base part and a dome, said base part being provided with an upwardly-projecting tongue-terminated flange, and the said dome being a single monolithic structure provided with a groove around its bottom edge to engage the tongue and having its walls extended at one side through an opening in the walls of the external shell to engage against the inner



wall of a door hinged to said outer shell, substantially as described.

2. In a pottery-kiln, in combination with an external shell lined with refractory material, 5 a muffle-base supported above the floor of said external shell on struts and provided with an upwardly-extending flange, a monolithic dome resting on said flange and spaced from the lining of said shell, a hanging pipe 10 located under said dome and leading through the walls of the shell, a fuel-burner consisting of an annular receptacle the outer walls of which engage closely within the hanging pipe, an air-inlet central to the bottom of said 15 receptacle, air-inlets through the wall of said annular receptacle, and means for adjusting the receptacle vertically with respect to the pipe, substantially as described.

3. In a pottery-kiln, in combination with a 20 muffle, an annular fuel-receptacle thereunder, a pipe hanging from the floor of the outer shell of the kiln and sleeving over said fuel-receptacle and adapted to coact therewith to form an extensible combustion-chamber, 25 means for adjusting the fuel-receptacle with reference to the hanging pipe, means for ad-

mitting air from below centrally into said fuel-receptacle, a water-column at a distance from said receptacle, means for feeding oil through the water in said column into said fuel- 30 receptacle, substantially as described.

4. In a pottery-kiln, in combination with an external shell, a muffle located within said shell and spaced therefrom, a pipe hanging from the wall of the external shell and leading 35 through an opening into the bottom thereof, a fuel-receptacle sleeved within said pipe and provided with an air-inlet through the bottom thereof and with air-inlets through the side walls and with a fuel-chamber surrounding 40 the inlet through the bottom, and means for adjusting the fuel-chamber with respect to the hanging pipe and thereby varying the combustion-chamber and regulating the combustion, substantially as described. 45

In testimony whereof I sign this specification in the presence of two witnesses.

EBENEZER S. BACON.

Witnesses:

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