

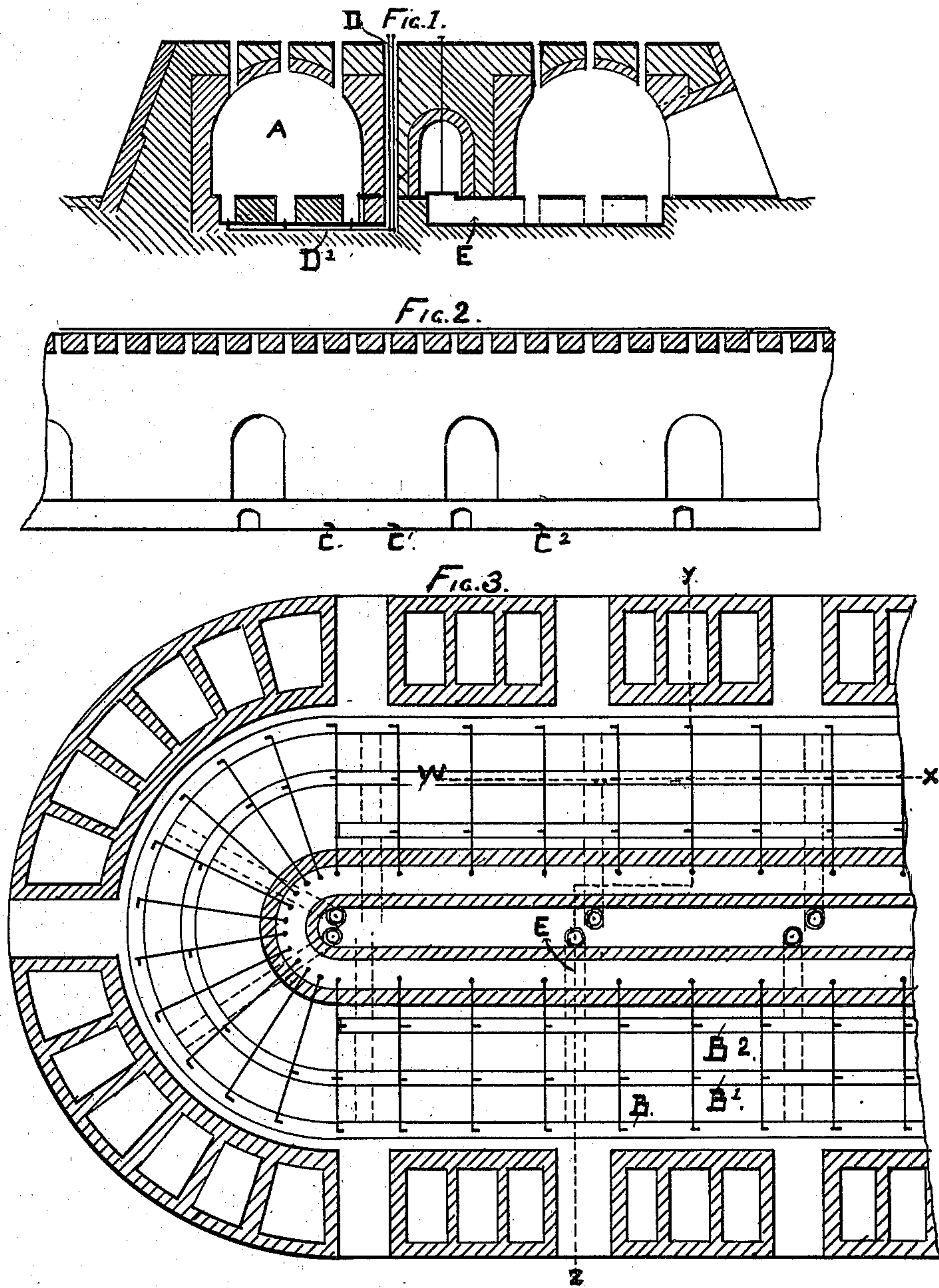
No. 735,462.

PATENTED AUG. 4, 1903.

W. A. BUTLER.
CONTINUOUS KILN.

APPLICATION FILED SEPT. 4, 1902.

NO MODEL.



WITNESSES:

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CONTINUOUS KILN.

SPECIFICATION forming part of Letters Patent No. 735,462, dated August 4, 1903.

Application filed September 4, 1902. Serial No. 122,137. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. BUTLER, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented certain new and useful Improvements in Continuous Kilns, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention consists in a simple and novel arrangement of pipes, combustion-chambers, and flues, with the object of burning liquid, powdered or gaseous fuel in the most economical way and accomplishing the greatest results therefrom.

To this end my invention consists in certain improvements over the improved continuous kiln patented July 1, 1902, No. 703,533, and it further consists in the improved construction, arrangement, and combination of parts, substantially as hereinafter fully described, and specifically pointed out in the claims.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a transverse vertical section on the line Y Z, Fig. 3. Fig. 2 is a longitudinal vertical central section on the line W X, Fig. 3. Fig. 3 is a longitudinal horizontal section.

A, Fig. 1, represents the kiln in which bricks, tiles, &c., are to be burned.

B B' B², Fig. 3, are the combustion-chambers below the kiln-floor opening into the kiln.

C C' C², Fig. 2, are the burners.

D D', Fig. 1, are the pipes for the introduction of fuel into the combustion-chambers.

E, Figs. 1 and 3, are the cross draft-flues.

The fuel introduced into the combustion-chambers is burned in suspension, rising at the same time to the bricks, tiles, or other ware, which are set in the kiln to be burned. The pipes for the supply of fuel are run from the top of the kiln down to the combustion-chambers, across and below the kiln-floor, where the burners are attached. The burners can always be repaired at the smallest possible cost, as they are within easy reach of the kiln-men and can be replaced without removing any of the walls or fuel-pipes. The combustion-chambers running in the same

direction as the fire, I require no other connection-flues than the draft-flue. I use the paper partition as is usual in all kilns of this character, placing it in any part of the kiln desired and extending it below the kiln-floor, across the combustion-chambers. I have full control of the draft with the aid of the dampers and these paper partitions.

With this system of kiln the fuel is burned in a perfectly natural updraft fashion with the least possible amount of waste, as the draft is carried from the burning ware through the green ware until the heat is dissipated and the gases are too heavy for further use, when they are allowed to escape through the draft-flues.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. A continuous kiln with combustion-chambers extending lengthwise below the kiln-floor in which fuel is burned in suspension, opening into the kiln, parallel with and between the kiln-walls, combined with fuel-pipes extending across and below the kiln-floor, and connecting the burners in the said combustion-chambers, substantially as described.

2. A continuous kiln comprising combustion-chambers extending longitudinally and below the kiln-floor, parallel with the side walls of the kiln and the semi-annular walls at the ends of the kiln, in which fuel is burned in suspension, opening into the bottom of the kiln; combined with fuel-pipes running from the top of the kiln, and extending horizontally below the said combustion-chambers and connecting burners for the introduction of fuel into the combustion-chambers, the said combustion-chambers joining cross damper-controlled draft-flues, substantially as described.

3. A continuous kiln having combustion-chambers extending lengthwise and below the kiln-floor in which fuel is burned in suspension, the top of the combustion-chambers being the bottom of the kiln-floor, between and parallel with the kiln-walls and concentrically at the ends of the kiln, combined with fuel-pipes running from the top of the kiln and across and below the kiln-floor, and connecting burners in the said combustion-chambers,

the combustion-chambers joining damper-controlled draft-flues extending across and below the kiln-floor, substantially as described.

4. A continuous kiln comprising combustion-chambers running longitudinally and below the kiln-floor the full length of the kiln and semi-annularly at the ends of the kiln in which fuel is burned in suspension, opening into the floor of the kiln, connecting cross damper-controlled draft-flues below the kiln-floor; and pipes running to the top of the kiln for the purpose of supplying fuel to the combustion-chambers, substantially as described.

5. A continuous kiln having combustion-chambers extending lengthwise and directly under kiln-floor parallel with the inclosing

walls of the kiln proper, in which fuel is burned in suspension, the top of the combustion-chambers being the bottom of the kiln; the said combustion-chambers joining horizontal damper-controlled draft-flues; and having pipes running to the top of the kiln and across and below the combustion-chambers, joining burners in the said combustion-chambers, for supplying fuel to the combustion-chambers, substantially as described.

In witness whereof I have, this 15th day of August, A. D. 1902, affixed my signature.

WM. A. BUTLER.

Witnesses:

JOHN A. DUNKER,
J. C. MOFFAT.