L. H. REPPELL.

BRICK KILN.

APPLICATION FILED MAY 1, 1908.

915,309.

Patented Mar. 16, 1909.

Fig. 1.

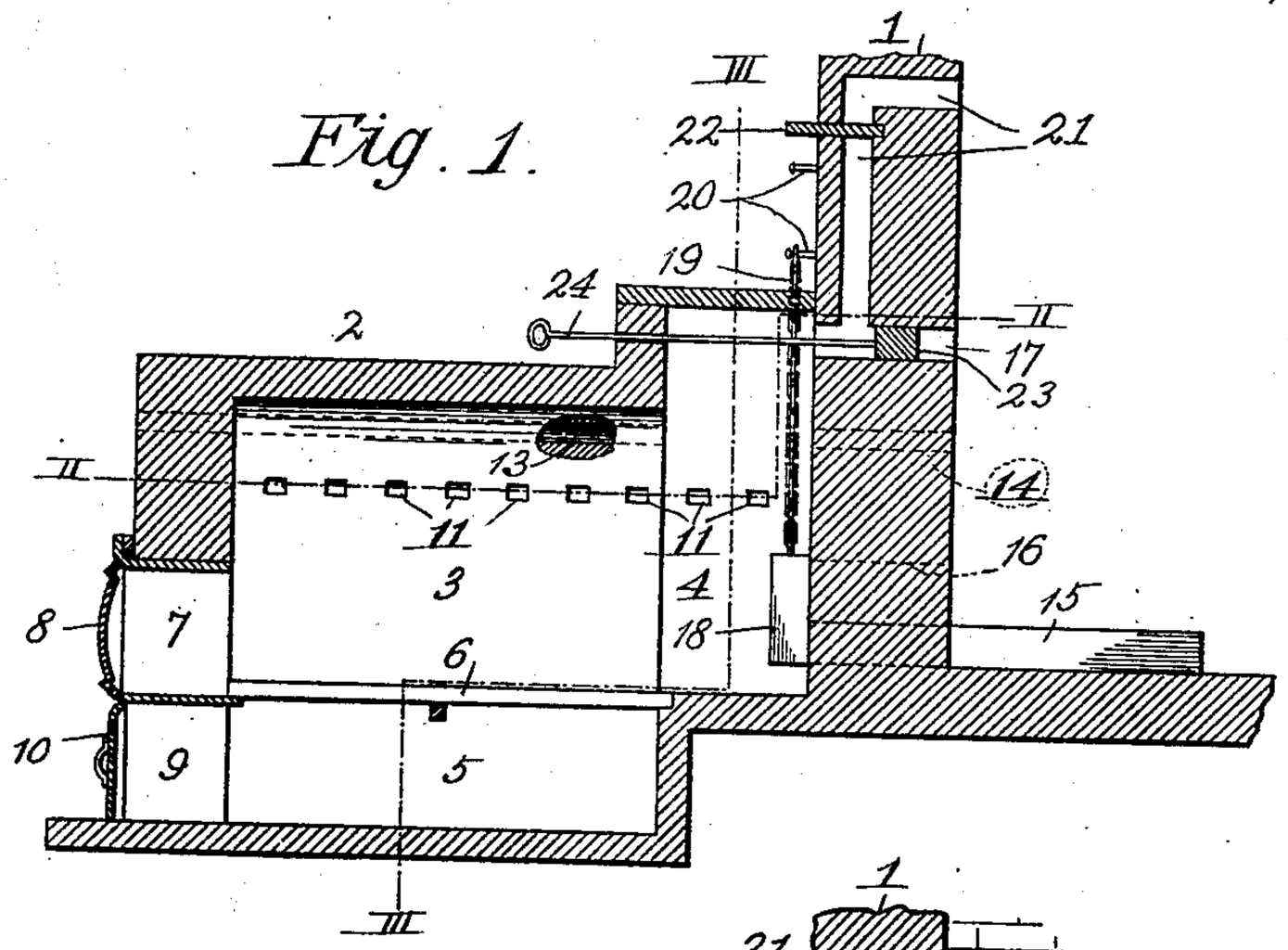


Fig. 2.

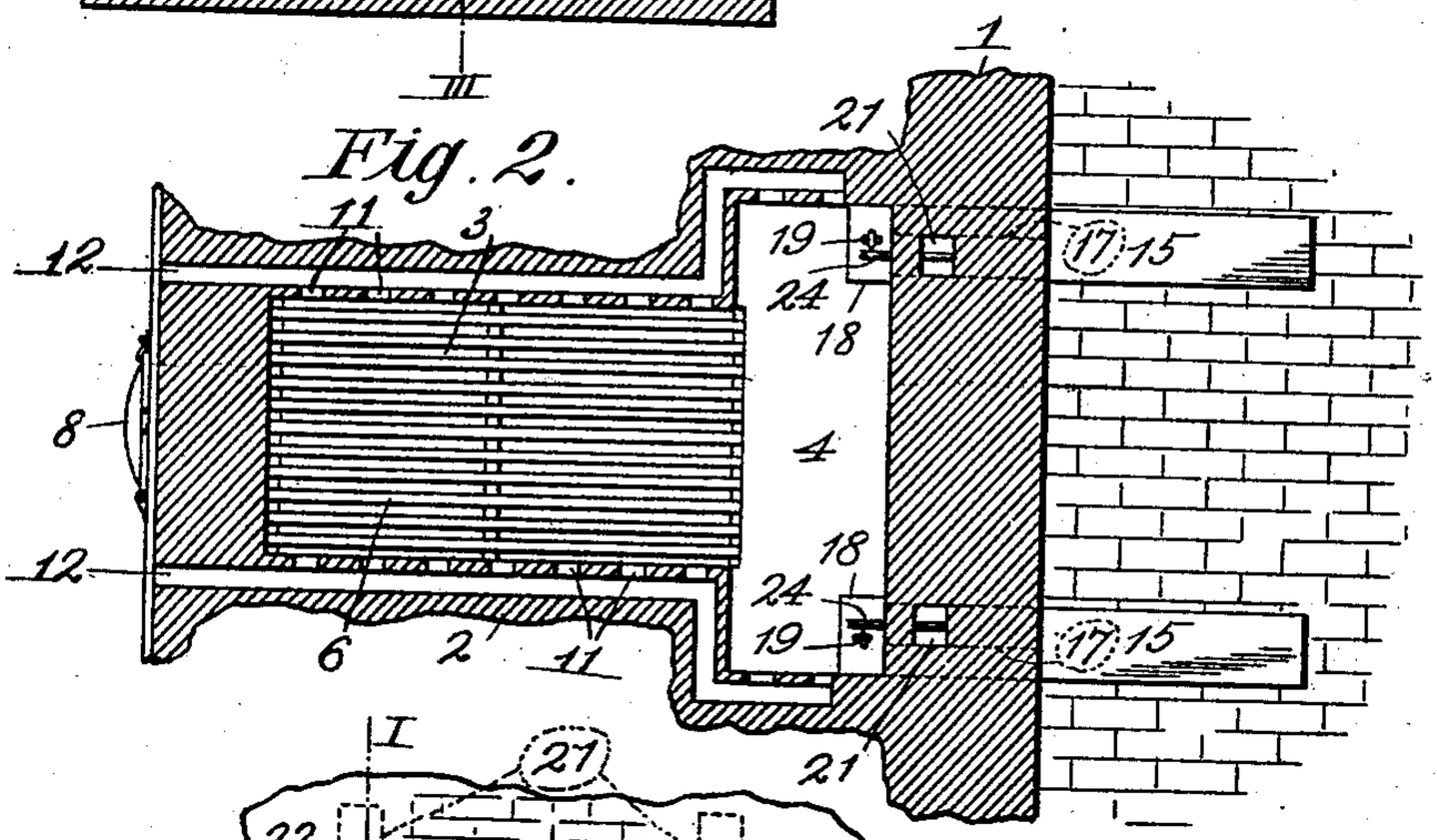
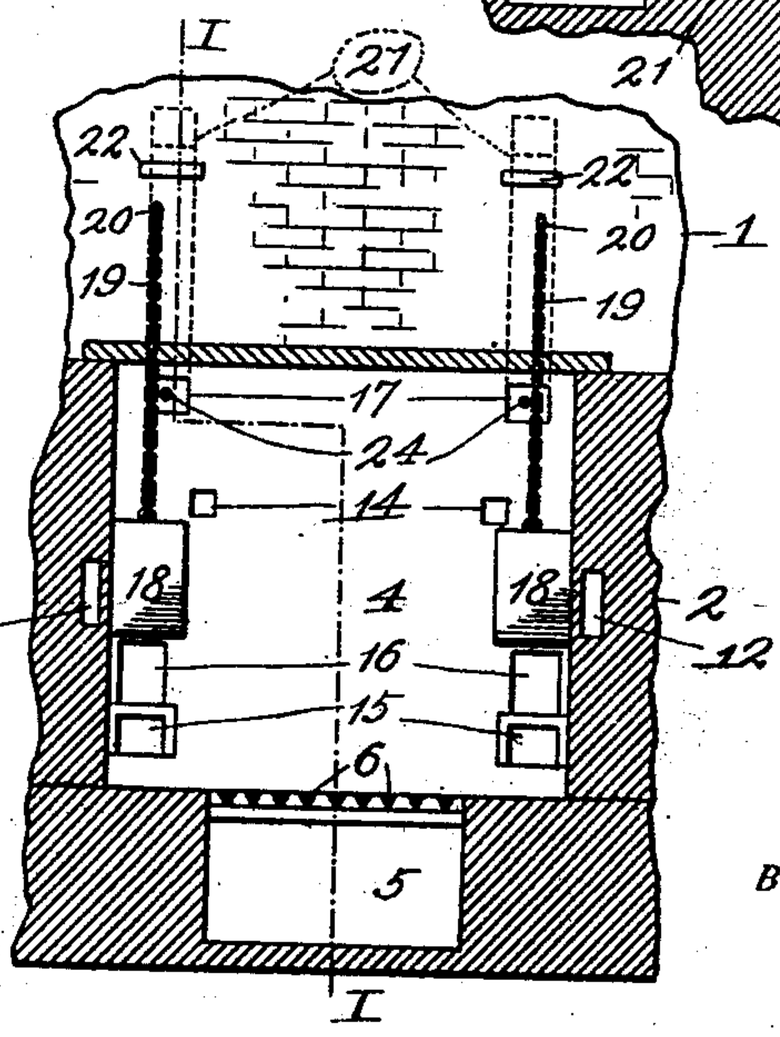


Fig. 3.



WITNESSES:

R. C. Hamilton.

M. Cox.

INVENTOR.

Louis H. Reppell,

BY F. G. Fischer

ATTORNEY.

UNITED STATES PATENT OFFICE.

LOUIS H. REPPELL, OF KANSAS CITY, MISSOURI.

BRICK-KILN.

No. 915,309. Specification of Letters Patent. Patented March 16, 1909.

Application filed May 1, 1908. Serial No. 430,352.

To all whom it may concern:

Be it known that I, LOUIS H. REPPELL, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Brick-Kilns, of which the following is a specification.

My invention relates to improvements in brick-kilns; and my object is to provide a kiln wherein the heat from the furnaces thereof may be equally distributed, to the end that the green brick in said kiln may be burned to a uniform degree of hardness and color, so that the value thereof will be greatly enhanced.

The invention embraces a novel arrangement of ducts, flues, and dampers for regulating the intensity of the heat and for distributing the same to any point in the kiln, and in order that the invention may be fully understood, reference will now be made to the accompanying drawing, in which:

Figure 1 represents a broken, irregular, vertical section of my improved kiln on line I—I of Fig. 3. Fig. 2 is an irregular, horizontal section on line II—II of Fig. 1. Fig. 3 is an irregular, vertical cross-section on line III—III of Fig. 1.

1 designates the side wall of the kiln against which a series of furnaces 2 are built in the well-known manner. Each furnace consists of a fire-chamber 3, a combustion-chamber 4, and an ash-pit 5. The fire-chamber and the ash-pit are separated by the customary grate-bars 6, to which fuel is fed through an opening 7 in the front wall of the furnace, said opening being controlled by a door 8; and the ashes are removed from the ash-pit through an opening 9 controlled by a door 10. Air is admitted to opposite sides of the fire-chamber and the combustion-chamber through ports 11 communicating with two air-ducts 12 extending longitudinally through the side walls of the furnace. The supply of air may be temporarily cut off from either side of the furnace by plugging the entrance to either of the air-ducts with a loose tile or brick.

13 designates two peep-holes extending longitudinally through the side walls of the furnace in alinement with like holes 14 in the kiln-wall, so that the operator may look into the kiln and ascertain the condition of the brick therein.

In order that the heat from the furnace may be equally distributed throughout the kiln, I provide the latter with two flues 15, two lower hot-air ducts 16 located immediately above said flues, and two upper hot-air ducts 17 leading from the upper portion of the combustion-chamber. Flues 15 lead from the lower portion of the combustion-chamber, and the walls thereof rest on the floor of the kiln, into which latter they may be extended any desired distance. The entrances to flues 15 and ducts 16 are controlled by a pair of dampers 18, provided with chains 19 extending up through the top of the combustion-chamber and adapted to engage any of the pins 20 projecting from the kiln-wall to support the dampers in raised positions. Dampers 18 may be lowered to completely close the entrances to flues 15 and ducts 16, or they may be arranged to partly close or entirely open the same, and in this manner control the escape of the heat into the lower portion of the kiln.

21 designates a pair of hot-air ducts leading upwardly in the kiln-wall from ducts 17 and thence inwardly into the kiln, as shown in Fig. 1. The flow of hot-air through ducts 21 is normally controlled by dampers 22 which extend outward through the kiln-wall within easy reach of the operator.

23 designates a pair of dampers slidably arranged in ducts 17 and provided with handles 24 extending outwardly through the front wall of the combustion-chamber. Dampers 23 may be adjusted to simultaneously cut off the flow of hot-air through ducts 17 and 21, by drawing them backward until they close the openings at the lower ends of ducts 21, or they may be adjusted to close ducts 17 alone by pushing them inward to the position shown in Fig. 1, or they may be entirely withdrawn from ducts 17 so that the hot-air may freely flow through the same and also through ducts 21 into the kiln.

From the above description it is apparent that I have provided means for insuring an equal distribution of hot-air throughout the kiln and means for controlling the same as conditions require.

Having thus described my invention, what I claim is:

1. In combination, a brick-kiln, a furnace adjacent thereto, a hot-air duct leading from said furnace into said kiln, a hot-air duct communicating with the first-mentioned one extending upward in the kiln wall and thence inward into said kiln, and a damper whereby one of said ducts may be closed independ-

ently of the other or whereby they may be simultaneously closed.

2. In combination, a brick-kiln, a furnace adjacent thereto, hot-air ducts leading from the upper portion of said furnace into said kiln, hot-air ducts communicating with the first-mentioned ones extending upward in the kiln walls and thence inward into said kiln, hot-air ducts leading from the lower portion of the furnace into the kiln, and dampers for independently controlling the upper and lower hot-air ducts, substantially as described.

In testimony whereof I affix my signature, in the presence of two witnesses.

LOUIS H. REPPELL.

Witnesses:
F. G. FISCHER,
M. COX.