J. C. BOSS.

APPARATUS FOR DRYING BRICKS.

APPLICATION FILED JULY 8, 1911.

1,026,558.

Patented May 14, 1912.

3 SHEETS—SHEET 1.

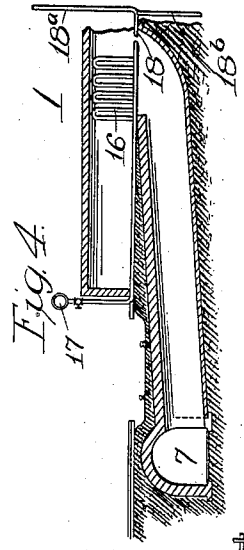

Fig. 4.

Fig. 1.

Witnesses:
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H. L. Alden

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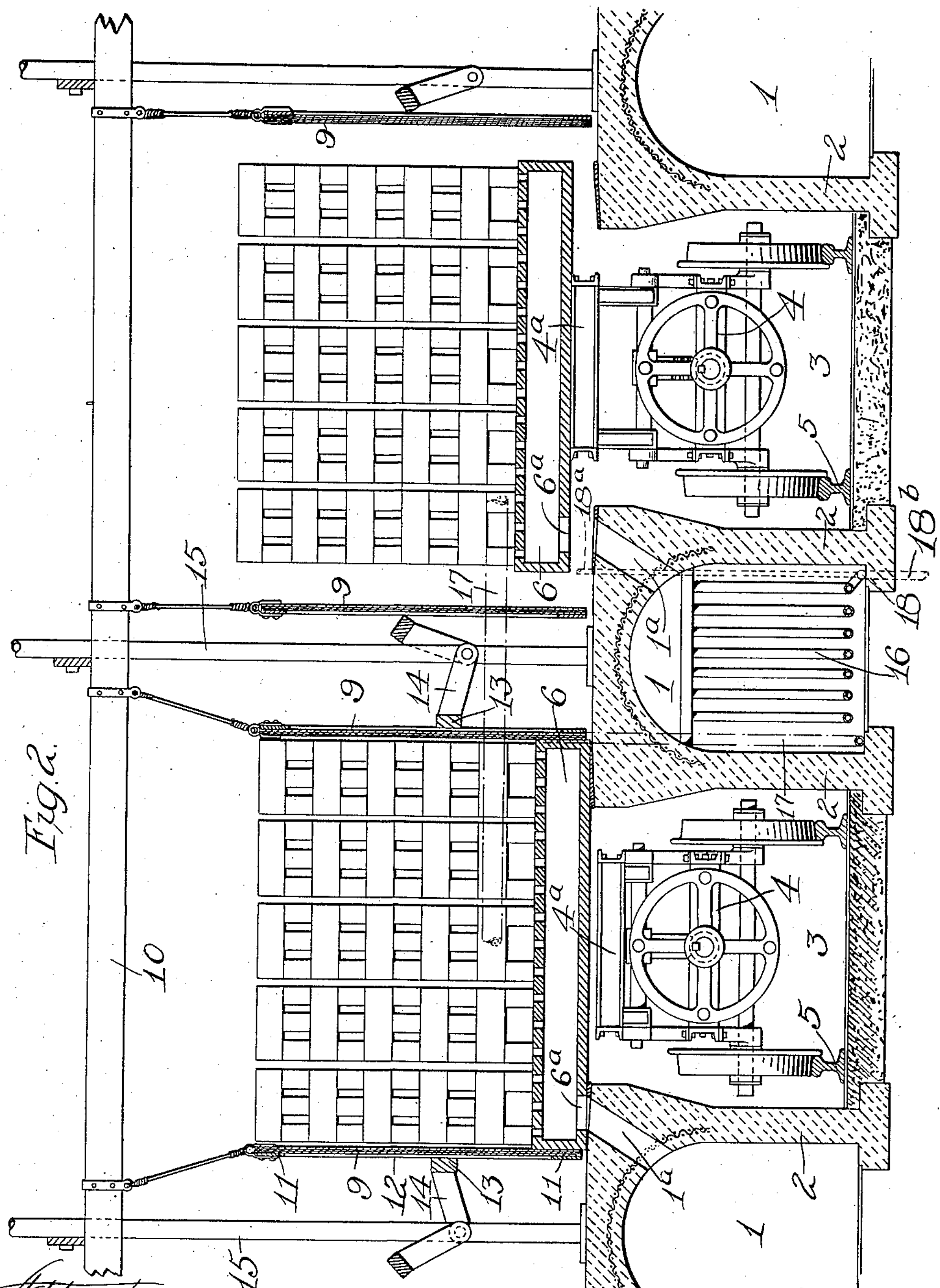

Fig. 2.

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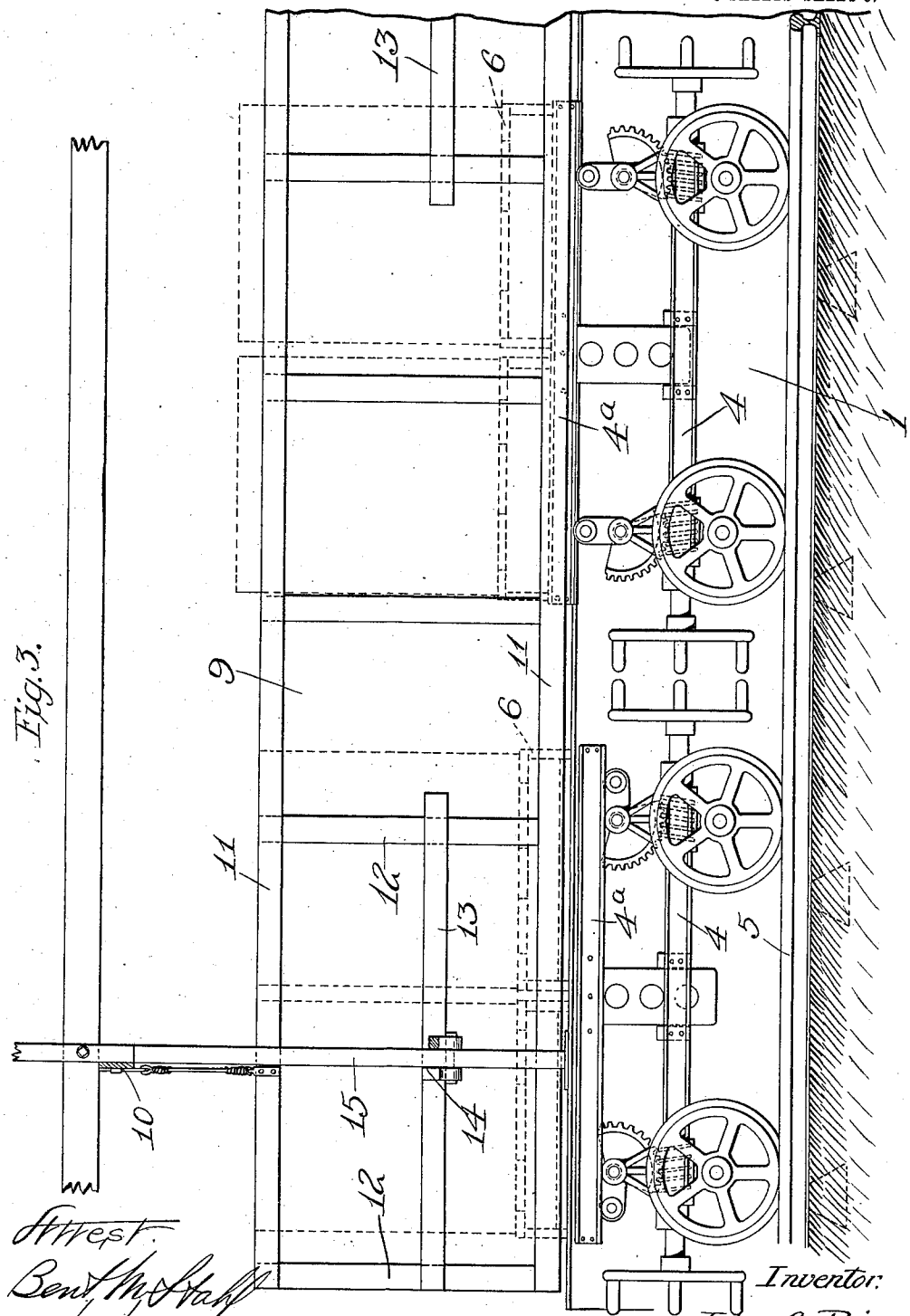

Fig. 3.

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UNITED STATES PATENT OFFICE.

JOHN C. BOSS, OF ELKHART, INDIANA.

APPARATUS FOR DRYING BRICKS.

1,026,558. Specification of Letters Patent. Patented May 14, 1912.

Application filed July 8, 1911. Serial No. 637,582.

To all whom it may concern:

Be it known that I, JOHN C. BOSS, citizen of the United States, residing at Elkhart, Indiana, have invented certain new and useful Improvements in Apparatus for Drying Bricks, of which the following is a specification.

My present invention is in the nature of a refinement of or improvements upon the apparatus which forms the subject Letters Patent of the United States #867,872, granted to me October 8, 1907, and the invention includes the novel features of construction and arrangement and combination of parts hereinafter described and particularly defined in the appended claims.

An apparatus embodying my invention is illustrated in the accompanying drawings in which—

Figure 1 is a plan view; Fig. 2 is a transverse section on line 2—2 of Fig. 1; and Fig. 3 is a longitudinal vertical section on line 3—3 of Fig. 1. Fig. 4 is a detail of the inclined duct and connections.

According to my present construction, I provide a plurality of parallel ducts 1 which are formed of hollow concrete walls 2 of any desired number and length with a clear space between them, as indicated at 3, open at both ends so that trucks, as 4, can be run from either end upon tracks indicated at 5. These trucks are designed to carry the pallets 6 which are fitted to carry any desired number of bricks piled loosely thereon, so as to permit the air to pass therethrough. Each pallet is hollow, and has perforations in its top, preferably in the form of slots, for the passage of the air from the interior of the pallet upward into and through the mass of bricks resting on the pallet. The pallets are of such length as to bridge the space between the duct walls and rest at their ends upon the upper faces of said duct walls, which latter are preferably widened at their tops, so as to somewhat overhang their bases, as shown.

The pallets are provided with openings 6^a in their under sides, which, when the pallets are supported by the duct walls, aline with ports or passages 1^a, and thus place the ducts in communication with the interior of the pallets. Between the adjoining faces of the duct wall and pallet around said alining openings may be placed a suitable elastic packing material to effect a tight joint.

The trucks 4 are provided with vertically adjustable platforms 4^a by which the pallets may be held high enough to enable the trucks to be run in between the duct walls and after the pallets are properly positioned the platforms are lowered until the pallets rest on said walls with the openings alined as above described.

The drier ducts 1 are connected at their bottoms by inclined ducts which lead to an underground main supply duct 7, which leads to a blower, which, in turn, is connected by similar ducts 8 designed to be connected to and receive air which has been heated by passing through the hot kilns.

Arranged over each of the drier duct walls are a pair of parallel curtains or movable shields 9 of fire proof material such as asbestos, which are supported at their upper ends by a suitable supporting frame work indicated at 10, from which the curtains hang freely, the point of suspension of each curtain being such that it tends to hang clear of the corresponding faces of the pallet and pile of brick carried thereby, so that the curtains do not interfere with the placing of the pallets with their loads of bricks and their removal after the bricks are dried. The curtains are made continuous of the length of the drier ducts which are generally one hundred feet in length or over, and may conveniently be made of layers and which are stiffened by horizontal strips 11 and vertical strips 12.

Suitable means are provided over the drier duct walls and between the curtains for forcing the same away from each other and into contact with the sides of the pallets and the piles of brick thereon. A means which I have found well adapted for this purpose is shown in the drawings in which 13 designate bars extending parallel to the curtains and which are pivotally connected by arms 14 with the roof supporting uprights 15. By dropping or forcing these bars down, the curtains may be pinned against the faces of the brick and pallets, thereby preventing the escape of any of the heated air laterally, causing it to pass upward through the entire pile of bricks.

I have found that when the conduits are of considerable length there is a tendency for the air to cool in its passage therethrough so that by the time it has reached the farthest pallets it may be too cool to secure the most effective results. To over-

come this objection I place at a suitable point in each of the conduits a reheater which may be in the form of a coil of pipe as indicated at 16, which are connected outside of the ducts and at the end with an exhaust steam pipe 17 receiving exhaust steam from the engine (not shown) of the brick plant. From the coils exhaust steam pipes 18 lead to the opposite ends where they are provided with branches 18^a and 18^b for the escape of any uncondensed steam and water of condensation respectively. As the drier ducts have in practice preferably a ten inch drop, the pipes 18 can be laid flat upon the bottoms of the duct, and have slope enough to carry off any water of condensation.

Having thus described my invention what I claim is:—

1. In a brick drying apparatus, a plurality of parallel hollow walls forming drier ducts provided with exit ports terminating in the upper faces of the walls near the edges thereof, a series of pallets for supporting the bricks, and having their ends resting on and supported by said hollow walls which pallets have openings in their upper faces for the passage of air to the bricks, and have also openings in their under faces communicating with the ports in the drier duct walls.

2. In a brick drying apparatus, a plurality of parallel hollow concrete walls forming drier ducts provided with exit ports terminating in the upper faces of the walls near the edges thereof, a series of pallets for supporting the bricks, and having their ends resting on and supported by said hollow walls which pallets have openings in their upper faces for the passage of air to the bricks, and have also openings in their under faces communicating with the ports in the drier duct walls, and underground connecting ducts leading from a source of supply of heated air to the bottom of the drier ducts.

3. The combination with a brick drying apparatus having means for supporting a pile of bricks and means for forcing a drying medium vertically therethrough, of a plurality of movable shields adapted to be held against opposite sides of the pile of brick.

4. The combination with a brick drying apparatus having means for supporting a pile of bricks and means for forcing a drying medium vertically therethrough, of a plurality of movable shields adapted to be held against opposite sides of the pile of brick, said shields being freely suspended from their upper edges.

5. The combination with a brick drying apparatus having means for supporting a pile of bricks and means for forcing a drying medium vertically therethrough, of a plurality of movable shields adapted to be held against opposite sides of the pile of brick, said shields being freely suspended from their upper edges, and coöperating movable clamping devices for holding the partitions pressed against the side faces of the pile of bricks.

6. The combination with a brick drying apparatus having means for supporting a pile of bricks and means for forcing a drying medium vertically therethrough, of movable curtains or shields freely suspended from their upper edges so as to normally hang clear of the faces of the pile of brick, and means for holding said curtains pressed in contact with said faces.

7. In a brick drying apparatus, a plurality of parallel hollow walls forming drier ducts provided with exit ports terminating in the upper faces of the walls near the edges thereof, a series of pallets for supporting the bricks, which pallets have openings in their upper faces for the passage of air to the bricks, and have also openings in their under faces for communicating with the ports in the drier duct walls when the pallets are supported thereby, means for introducing previously heated air into said ducts, and air reheating means located within said ducts.

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

JOHN C. BOSS.

Witnesses:
GEORGE J. MANNING,
WILLIAM B. HILE.