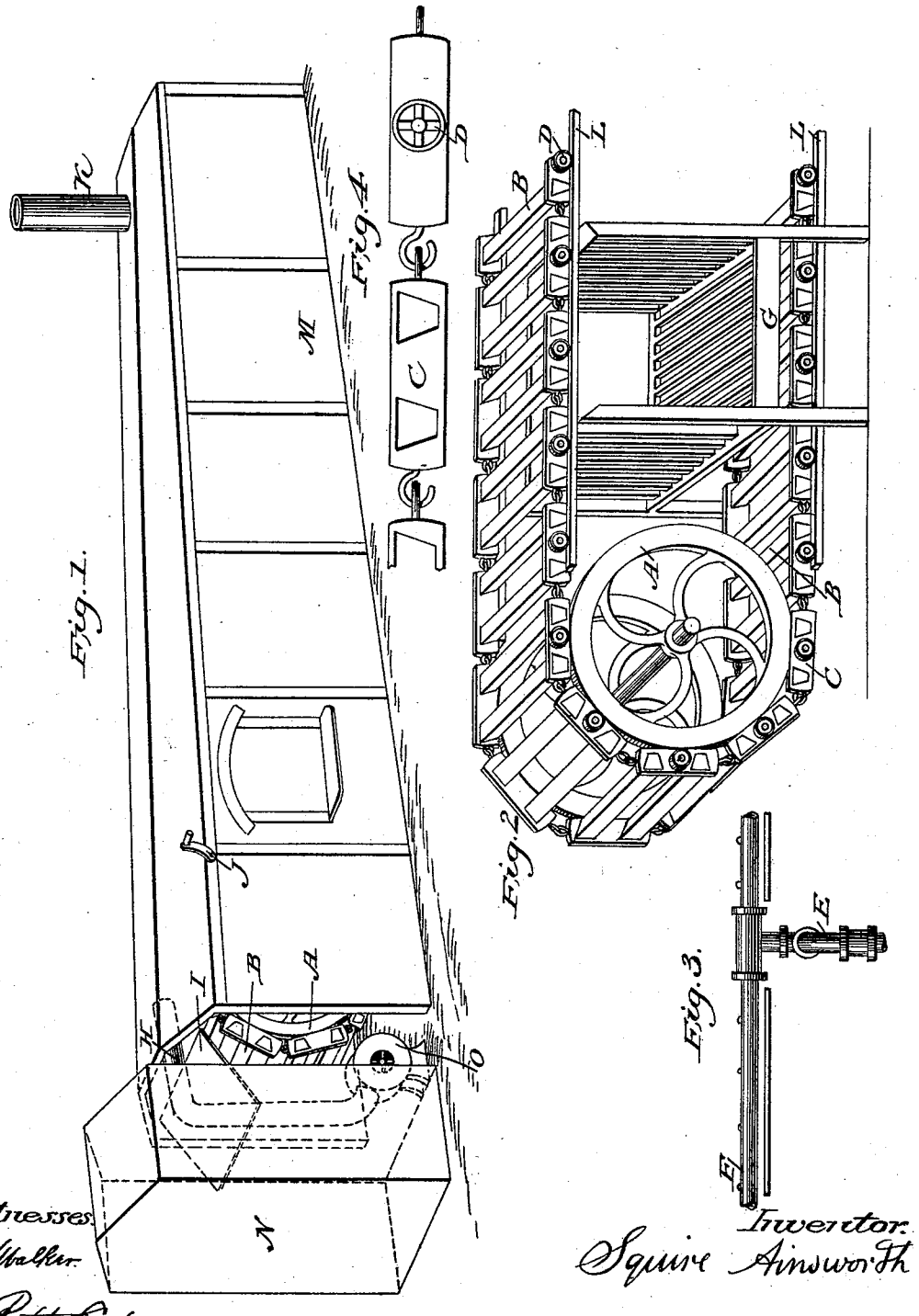
(No Model.)

S. AINSWORTH.

CONTINUOUS BRICK DRYING AND BURNING MACHINE.

No. 496,840. Patented May 9, 1893.



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SQUIRE AINSWORTH, OF PITTSBURG, PENNSYLVANIA.

CONTINUOUS BRICK DRYING AND BURNING MACHINE.

SPECIFICATION forming part of Letters Patent No. 496,840, dated May 9, 1893.

Application filed February 24, 1892. Serial No. 422,711. (No model.)

To all whom it may concern:

Be it known that I, SQUIRE AINSWORTH, of the city of Pittsburg, county of Allegheny, and State of Pennsylvania, have invented a new and useful machine for drying and burning bricks, tile, and other articles manufactured from clay in one continuous motion without any handling from the time they leave the mold and are placed on the machine until they are dried, burned, and cooled ready for use, of which the following is a specification.

My invention consists of a long horizontal endless movable table or belt, with fire clay slats or other suitable material and a furnace consisting of a front and grate bars with fire clay sides and ash pan, if desired, suspended across from one wall or side to the other in such a manner as to permit the said table to pass over the said furnace and the empty table to pass under the said furnace to the front, and being so constructed, as to prevent the fuel from falling on the said table while passing under the furnace. The green bricks are placed on the front of the table in single rows or layers and as one layer moves to the furnace another layer is placed on the table, and so continued, keeping the table full. The heat coming to the front dries the bricks slowly at first, the heat increasing as they move to the furnace, and as they pass over they are burned, and they pass down a slide, into the cooling shed. When they are cooled they are ready for use. When gas or oil can be obtained, it is preferable to other fuel. The gas or oil pipes can branch from the outside and pass between the upper and lower table, and in case of oil the dripping pan can be suspended across the same as the furnace in such a manner as to permit the lower part of the table passing under, while the upper table passes through the fire with the bricks on the same as the aforesaid furnace. The pipes can be placed in the furnace and can also extend along the full length of the table if desired, with small burners at the front and large burners at or in the furnace for burning the bricks as they pass over.

One or more flues may be used to conduct the waste heat from the cooling shed and pass over or at the sides of the table to conduct the waste heat to the front. A fan or blower may be used to force a draft if it is required.

A damper may be used to prevent the blaze from going back of the furnace, and regulate the draft.

When the machine is short for want of room, two or more layers might be placed one above the other; but a single layer is preferable, as the bricks can dry and burn in a shorter time and more evenly.

I am aware that cars or trucks might be run on rails and removed at the lower end and sent back, but the slats are liable to get broken, and it would entail extra expense in labor, and unnecessary delay in waiting for them to cool off. I am aware of other methods of the manufacture of bricks, &c.; but they are either too expensive in construction or operation or are entirely impracticable in other respects. The most practical manufacturers of bricks that I know of pile them on cars from six to ten layers high and run them into a steam drying house. After they are dry they pile them in a kiln from thirty to fifty layers high and burn them. Then they stay there until they are cooled off, which is expensive in time and destruction of bricks in handling and burning, all of which I save with my simple process, which is its greatest advocate.

The machine can be made stationary or portable, and can be made in sections. The table can be made in sections or links, with wheels attached to the table, or they may be set in the frame. The sections can be made in such a manner that a party having a short machine can order an extra length, or a party having a long machine can remove a length as desired; also the machine may be set on a very slight incline to enable the table when loaded with bricks to move more easily.

In the accompanying drawings, Figure 1 is a perspective view of the machine and cooling shed. Fig. 2 is a view of the furnace and a portion of the table or belt formed of double slat lengths. Fig. 3 is a view of the oil

and gas pipes that may be used. Fig. 4 is a side view of several slats of which the table or belt is made.

In the Figs. 1 and 2, A A A A are the four large wheels for moving the table on. B shows the table over the furnace. B B shows the table passing under the furnace. C is the fire clay slats. They can be made solid or hollow, as required.

D in Fig. 3 are the sides showing the small wheels so constructed that they can run on the upper rail over the furnace and also on the lower rail in returning under the furnace to the front. E shows the oil pipes with the dripping pan. F is the gas pipe. G is the fuel furnace with ash pan, suspended so as to permit the table to pass under to the front. H is the waste heat flue to conduct the air to the front of the furnace. I is the slide for the bricks to pass into the cooling shed, or I may use another endless table to take them a long distance and load them on cars or boats. *b* is the damper. K is the smoke stack. L are the rails for the table to run on. M is the outside frame. N is the cooling shed. O is the fan or blower to force the waste heat to the front and create a draft when desired.

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

1. The suspended furnace, for gas oil or other fuel in combination with the horizontal endless movable fire proof table or belt. as herein set forth.

2. The combination in a continuous brick drier and burner of the suspended furnace. table or belt. and back damper with a cooling shed and waste heat flue:

3. The aforesaid furnace and table and fan. waste heat flue cooling shed, back damper, and portable frame, with movable sections, and movable links combined, in and for the purpose herein set forth.

SQUIRE AINSWORTH.

Witnesses:
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