

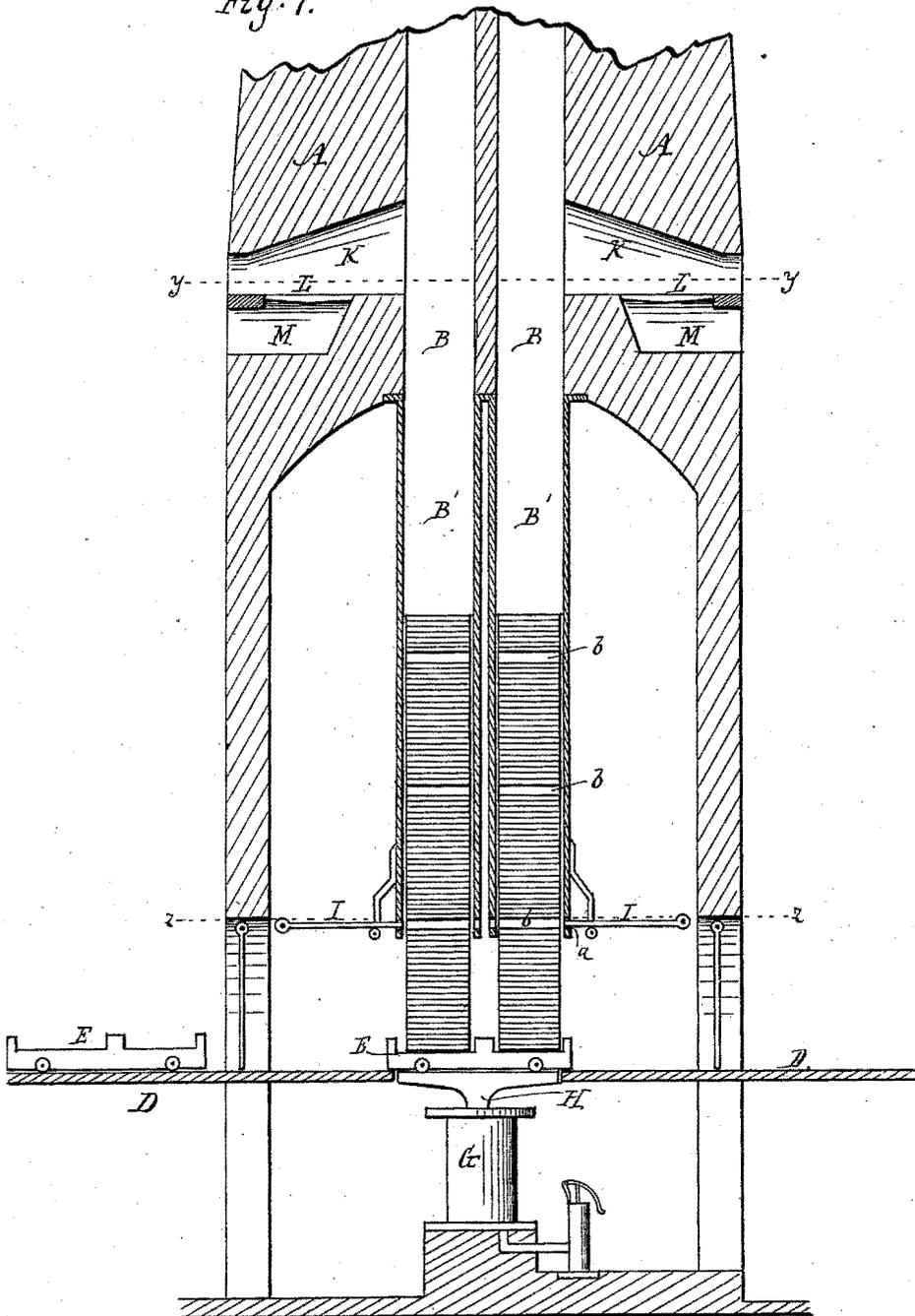
C. D. PAGE.

BRICK KILN.

No. 286,729.

Patented Oct. 16, 1883.

Fig. 1.



Attest.
H. E. Shaffer.
C. A. Newton

Inventor.
Clark D. Page,
per R. F. Osgood,
att'y.

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Fig. 2.

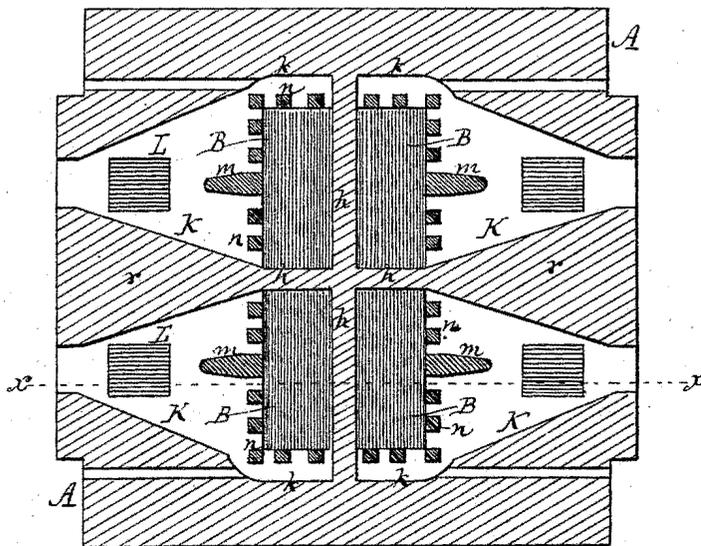
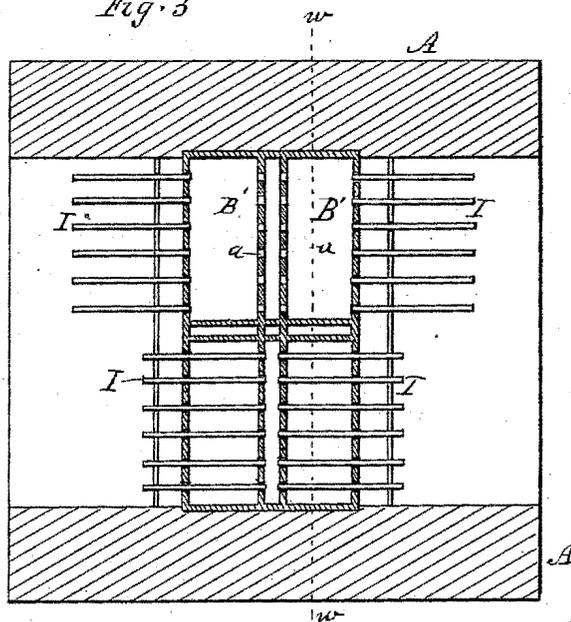


Fig. 3



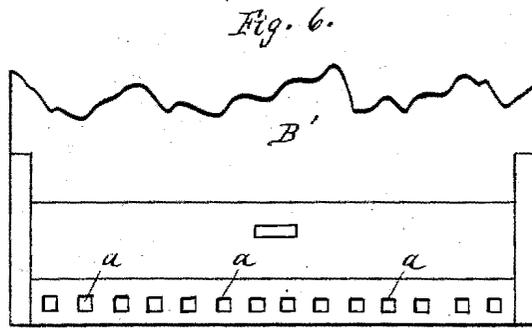
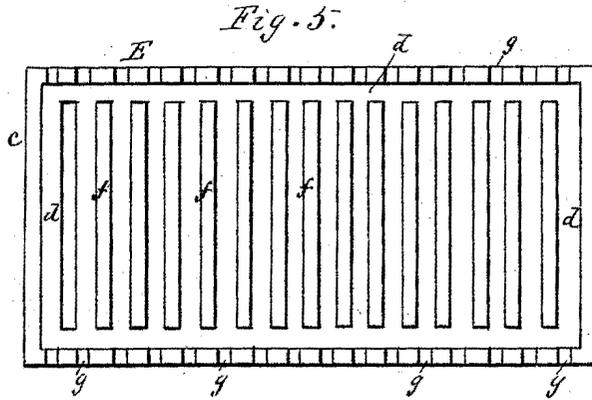
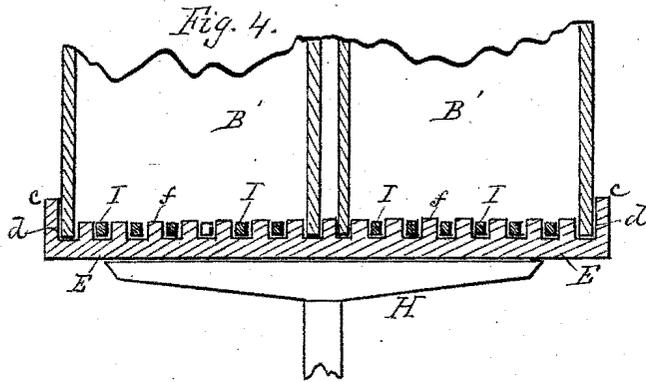
Attest.
H. E. Shaffer
P. A. Costich

Inventor.
Clark D. Page
 by *R. F. Osgood*,
att'y.

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Attest.
P. H. Costick
H. E. Shaffer.

Inventor.
Clark & Page,
per R. F. Osmond,
atty.

UNITED STATES PATENT OFFICE.

CLARK D. PAGE, OF ROCHESTER, NEW YORK, ASSIGNOR OF ONE-HALF TO
ANDREW ALBRIGHT.

BRICK-KILN.

SPECIFICATION forming part of Letters Patent No. 286,729, dated October 16, 1883.

Application filed April 17, 1882. (No model.)

To all whom it may concern:

Be it known that I, CLARK D. PAGE, of Rochester, Monroe county, New York, have invented certain new and useful Improvements in Brick-Kilns; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical section of the kiln in line *xx* of Fig. 2. Fig. 2 is a cross-section in line *yy* of Fig. 1. Fig. 3 is a cross-section in line *zz* of Fig. 1. Fig. 4 is a vertical section in line *ww* of Fig. 3, and showing the car raised and in position under the discharge end of the cupola. Fig. 5 is a plan of one of the cars. Fig. 6 is an elevation showing one of the slides on the lower end of the cupola.

My improvement relates to what are known as "perpetual kilns," in which the green bricks are placed in the top of the cupola and taken out at the bottom, being burned in the passage from top to bottom, a new charge being supplied as the old one is removed. I employ in this connection a hydrostatic press, located under the discharge end of the cupola, with a car resting on the follower of the same, so that said car can be raised and rest closely under the cupola while the firing goes on, and can then be lowered with the burned charge, the unburned bricks being sustained at such time by a series of bars or rods which are run through interstices or passages left in the bricks, and the loaded car can then be run off and a new one supplied in its place.

The invention consists in the construction of the metallic trunk at the lower end of the cupola, the car which is raised and connects with said trunk, and the furnaces in the body of the kiln, by which the bricks are burned, all as hereinafter described.

In the drawings, A shows an upright brick-kiln, in which are located one or more cupolas, B B B B, four being shown in the drawings. In the bottom of the kiln is made an archway, C, and the cupolas are carried down through this archway by hollow metallic trunks B' B' B' B', which correspond in size and shape with the cupola-passages formed in the stack above.

D is a flooring or frame-work provided with tracks, upon which roll cars E E, resting under the end of the cupola some distance below. G is one or more hydrostatic presses, located under the floorway and having a follower, H, which passes up through the floorway, and is provided with a track corresponding with that on the floorway. The car is rolled onto the follower, and the follower is then raised, bringing the car up under the lower end of the cupola, as shown in Fig. 4, in which case it supports the whole weight of the bricks above. The hydrostatic press is of ordinary construction, and the follower is raised by it in the ordinary way of forcing up a piston. The car may be made large enough to cover the whole discharge end of the cupolas, or only a single one, as may be desired.

I I I show a series of straight bars or rods, which pass through sockets *aa* at the lower end of the trunk B'. When the green bricks are placed in the cupola, passages *bb* are left through them at regular distances apart, said passages being formed in packing. When the car is lowered with the charge thereon, one of these passages comes opposite the ends of the bars I I, and the latter can then be pushed through the passages and into the inner walls, as shown at the bottom in Fig. 3, thus supporting the weight of bricks in the cupola above the bars. By lowering the car a very little, it can then be run out with its load. The bars may be run in and out on rollers, and, if desired, means may be used connecting them, so that all on one side can be run in and out together.

To allow the bars I to be used in the manner above described, the cars are constructed in the following peculiar manner: On the outer edge of the car is a vertical flange, *c*, extending all the way around, which flange embraces the lower end of the trunk B' when the car is raised. (See Fig. 4.) Inside this flange is a groove, *d*, extending all the way round, which receives the lower edge of the trunk B', and in which sand is placed to form a packing, and prevent the entrance of air when the car is raised. *fff* are a series of projecting vertical lugs or ribs on the floor of the car, having

grooves between them. When the car is fully raised, the lugs *fff* strike the bricks and lift them, so that the passages *bb* come opposite the bars *II*, and the latter pass between the lugs and rest in the grooves when the car comes up. Notches *gg* are made in the side flanges of the car, to allow the bars to be moved in and out when the car is in place. In this manner the car can be carried up without difficulty, and be made close fitting to the lower end of the trunk *B'*, remaining there during the time the firing is going on, but being lowered with its load of burned brick, and being run off, and a new car being supplied in its place.

KK are the furnaces, of which one is used to each cupola.

LL are the fire-grates, and *MM* are the ash-pits.

In a four-cupola kiln two division-walls, *hh*, are made, and also two wedge-shaped abutments, *rr*, between the furnaces. By this means the interior of each furnace is widened next to the cupola, as shown in Fig. 2, and an exterior flue-space, *k*, is made on the outer side of the cupola, which extends the whole width of the latter. A wedge-shaped deflecting-wall, *m*, is made in the wide part of each furnace, coming opposite the center of the grate, and on each side of this and around the outer edge of the cupola are piers *nn*, with spaces between, which allow the heat to pass through to the interior of the cupola. The heat, as it passes in, is divided by the deflecting-wall *m*, part passing one side and part the other toward the two sides of the cupola. That which passes to the outer side circles round through the flue-space *k*, and enters at the extreme outer side of the cupola, where, naturally, the

least heat enters, and which is most liable to get chilled. This peculiar construction of the furnace equalizes the heat throughout the cupola, and produces uniform burning of the brick, which has heretofore been difficult to do.

I disclaim in a brick-kiln a car which is raised by a screw to receive the burned bricks, and is then lowered to run them off.

I claim—

1. In a brick-kiln, the metallic trunk forming the lower end of the cupola, as herein shown and described.

2. In a brick-kiln, the combination, with the metallic trunk forming the lower end of the cupola, and the bars passing through sockets in the trunk for supporting the bricks, of a car movable vertically up and down, constructed with an exterior flange which embraces the trunk, a sand-groove which receives the lower edge of the trunk, and grooves in the bottom and notches in the sides, which embrace the bars when the car is raised, as herein shown and described.

3. In a brick-kiln, the furnace *K*, wide at its inner end, covering the whole width of the cupola, constructed with the flue *k*, covering the outer side of the cupola, provided with the central deflecting wall, *m*, for dividing the draft, and with supporting-piers *nn*, as shown and described, and for the purpose specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

CLARK D. PAGE.

Witnesses:

R. F. OSGOOD,
WM. J. McPIERSON.

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