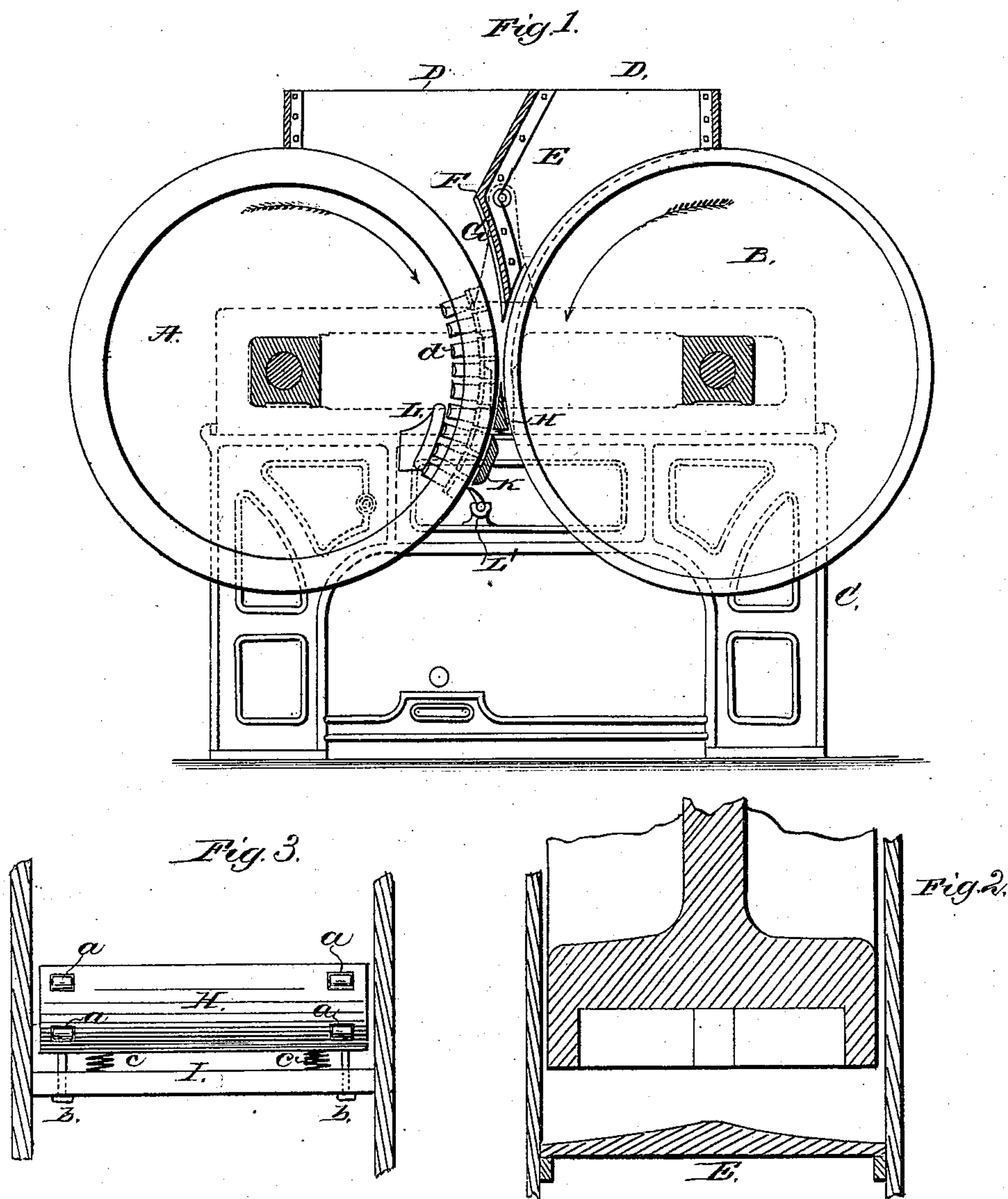


(No Model.)

F. W. SCHU.
Brick Machine.

No. 230,348.

Patented July 20, 1880.



Witnesses.
John F. C. Prentiss
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UNITED STATES PATENT OFFICE

FRANK W. SCHU, OF BALTIMORE, MARYLAND.

BRICK-MACHINE.

SPECIFICATION forming part of Letters Patent No. 230,348, dated July 20, 1880.

Application filed May 31, 1880. (No model.)

To all whom it may concern:

Be it known that I, FRANK W. SCHU, a citizen of the United States, residing at Baltimore, Maryland, have invented new and useful Improvements in Brick-Machines, of which the following is a specification.

My invention relates to certain novel improvements in brick-machines, and more particularly to that class in which a rotary mold-wheel and press-wheel are employed. In this last-named class of machines the two wheels can touch but at a single point, and as a consequence the brick contained within the mold in the face of the mold-wheel is not only left slightly concave by the action of the pressure-wheel during the advance of the mold-wheel, but tends to press outwardly, at the lower edge, from its mold the brick being operated upon. This trouble is overcome in the present state of the art by a division-tongue; which is rigidly mounted between the press and mold wheels; but owing to the rigid arrangement of this device, if any bulky or foreign substance should accidentally get between the wheels it would result in the breaking of the machinery.

One of the objects of my invention is to overcome this disadvantage in operation; and it consists in arranging between the side frames of the machine, and upon an adjustable spring-bearing, a plate having a comparatively broad base and tapering in curved lines upward to a knife-edge, as will be hereinafter fully explained; this plate being so arranged with relation to the two wheels, as hereinafter described, that the clay within the mold shall, immediately after passing the point of contact with the presser-wheel, travel under said plate and be held thereby against any outward movement induced by the changed point of pressure.

Another difficulty and disadvantage in the class of machines to which my invention relates exists in the hopper, which is either so constructed that the clay lies as a dead weight upon the press-wheel, or where that difficulty is removed by a partition, as has been suggested, there is no means of forcing the clay into the molds (except by its weight) prior to being operated upon by the press-wheel.

Another object of my invention is to overcome all these difficulties; and it consists in providing the hopper with a partition, the up-

per portion of which is inclined toward the axis of the mold-wheel in a straight line, and the lower portion bent at an obtuse angle thereto, so as to produce a curved wedge-shaped space between said partition and the face of the mold-wheel and above the plane in which pressure is exerted by the pressure-wheel, as will be hereinafter more fully explained.

In order that those skilled may more fully understand the construction and operation of my improved brick-machine, I will proceed to describe the same, referring by letters to the accompanying drawings, in which—

Figure 1 is a longitudinal section of a machine embodying my improvements; Fig. 2, a detail transverse section of the hopper and a portion of the mold-wheel; and Fig. 3, a detail view, showing, in elevation, the brick-holder arranged in a yielding position between the side frames.

In the drawings I have not shown the means for finally forcing the bricks out of the molds, nor the traveling belt which receives them, as that forms no part of my invention.

Similar letters indicate like parts in the several figures.

A is the mold-wheel, and B the presser-wheel, mounted in suitable bearings upon the frame C in the usual manner. D is the ordinary hopper, arranged above and in close contact with the wheels A and B in the usual way; and E is my improved partition, arranged across the hopper, as shown, and bolted or otherwise secured to the sides thereof. The upper and lower portions of said partition are inclined so as to form an obtuse angle or knee, F, that portion below the knee being inclined in a curved line, and producing a curved wedge-shaped space, G, between it and the face of the mold-wheel, so that the clay contained in the hopper above the wheel, if the latter is kept full, will prevent the lumps which usually lie on top from rolling down into the molds. The presser-wheel will be relieved from the useless friction produced by the weight of the clay as in ordinary hoppers, and the clay in the space G will be more thoroughly compressed prior to being acted upon finally by the presser-wheel B, by reason of the curved wedge-space into which the clay is forced and grad-

ually compressed by the rotation of the wheels in an obvious manner.

In the ordinary machines it will be observed that the point of compression relatively to the clay in the mold is constantly changing by reason of the rotation of the wheels, and a natural tendency exists, when that point is at the upper edge of the mold, to force the brick outward at the lower edge, not only producing a concave surface on the brick, but tending to produce a crack in the edge of the brick. In overcoming this difficulty, I arrange upon suitable bearings on the side frames and between the peripheries of the two wheels a plate, H, comparatively broad at its base and tapering upwardly in lines concentric with the peripheries of the two wheels, the upper point of said plate very closely approaching the plane of pressure between the two wheels, so that the moment the clay in the mold passes below said plane it travels under the face of said plate, and is held against any outward movement thereby. In the rear face of this plate, and in order to avoid unnecessary friction, which might occur by its contact with the presser-wheel B, I arrange at suitable points anti-friction rollers *a*. This plate I mount upon a cross-piece, I, (secured to the side frames,) by bolts *b* and interposed springs *c*, the arrangement being such that the springs will hold the plate up to its working-point under all ordinary circumstances, and yet enable it to yield vertically in case any foreign body should pass between the wheels.

Below the plate H, I arrange a rigid plate, K, so that its face next to the mold-wheel will be concentric therewith, and cover, preferably, two rows of molds.

L is a cam-block arranged in an obvious manner on the frame, and its working-face is in such relation to the plate K and mold-plungers *d* that the latter are gradually and positively forced toward the periphery of the wheel,

thereby compressing the clay in the mold between the head of said plungers and the plate K.

Below the plate K, at any suitable point, is arranged an ordinary smoothing-knife or scraper, L', and below such knife is arranged the usual mechanism for finally ejecting the molded brick onto the traveling belt.

As shown in Fig. 2, the partition E is tapered from each side toward the center, to further assist in the primary compression of the clay before and as it enters the mold.

I have shown the partition E arranged in an ordinary hopper, in order to show the adaptability of my invention to machines as at present made; but of course I do not wish to confine myself to such construction, as the partition E may serve as one side of the hopper, or, in other words, the hopper is transferred from over the presser-wheel B to the mold-wheel A.

What I claim as new, and desire to secure by Letters Patent, is—

1. In combination with the mold and press wheels of a brick-machine, and below the pressure-point between the same, the brick-holding plate or tongue H, mounted upon yielding or adjustable supports, whereby the bricks are held against outward movement and accident avoided, as hereinbefore set forth.

2. The hopper provided or formed with the partition E, constructed and arranged, as described, to form a curved wedge-space, G, within which the clay is partially compressed before being subjected to the direct and final pressure between the wheels, as hereinbefore set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

FRANK W. SCHU.

Witnesses:

E. M. NOURSE,
JNO. T. MADDOX.