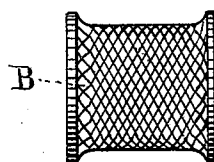
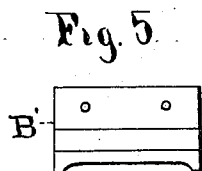
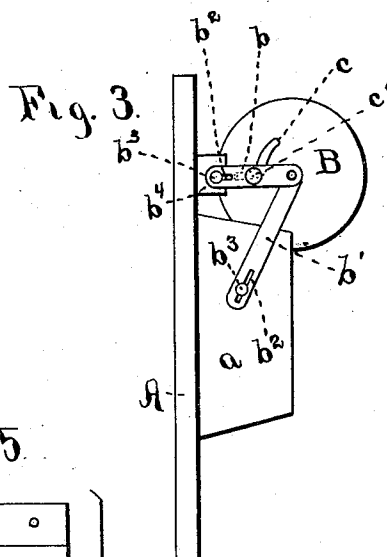
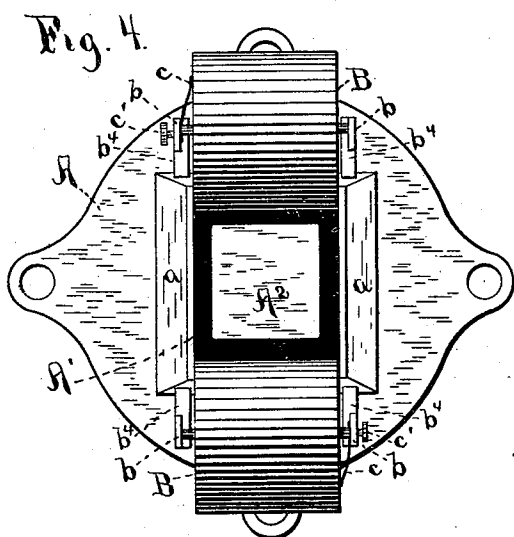
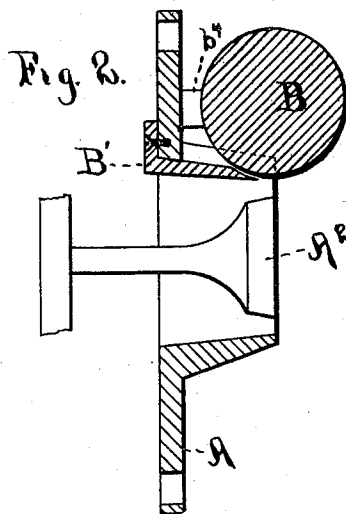
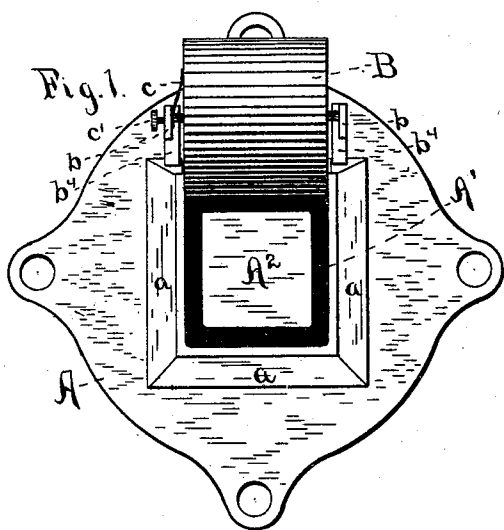


(No Model.)

G. C. SKINNER.
BRICK OR TILE MACHINE DIE.

No. 478,136.

Patented July 5, 1892.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE C. SKINNER, OF TROY, OHIO.

BRICK OR TILE MACHINE DIE.

SPECIFICATION forming part of Letters Patent No. 478,136, dated July 5, 1892.

Application filed June 29, 1891. Serial No. 397,814. (No model.)

To all whom it may concern:

Be it known that I, GEORGE C. SKINNER, a citizen of the United States, residing at Troy, in the county of Miami and State of Ohio, have invented certain new and useful Improvements in Dies for Brick or Tile Machines, of which the following is a specification.

My invention relates to improvements in dies for brick or tile machines; and its object is to provide an adjustable die, the constructions of which are such that brick or tile having different contour of faces may be made in the same die.

A further object of my invention is to provide a die for forming hollow brick for building purposes, one or more faces of which may be formed smooth and true with solid square corners or shaped to present a suitably raised or embossed surface or other design, as desired.

My invention consists in the various constructions and combinations of parts herein-after described, and set forth in the claims.

In the accompanying drawings, which form a part of this specification, Figure 1 is a front elevation of a die embodying my invention. Fig. 2 is a sectional and Fig. 3 a side elevation of the same. Fig. 4 is a front elevation showing a modification. Fig. 5 shows details showing modifications in the constructions of portions of the die.

Like parts are represented by similar letters of reference in the several views.

In the said drawings, A represents the base or supporting plate of the die, adapted to be secured to any brick or tile machine of well-known construction.

A' is the die proper, formed with projecting flanges *a*, extending from the base-plate A and forming the sides of an opening of a desirable shape to be imparted to the brick or tile.

A² is a central portion or core of the die, supported in the usual manner, with its outer face flush with the projecting edges of the flanges *a a* to form a hollow brick or tile in a well-known manner.

In forming brick or tile for building purposes, whether hollow or otherwise, it is desirable that at least one face of said brick or tile be formed with a smooth surface or dec-

orated or embossed to present an attractive appearance when laid up in a wall with the said face exposed. To accomplish this I dis-
55 pense with one or more of the projecting side flanges *a* and substitute therefor a roller B, supported on suitable adjustable supporting-arms *b* and brace-arms *b'*, each provided with
60 slotted openings *b*², through which fastening bolts or screws *b*³ extend to connect said arms to lugs *b*⁴ on the base-plate A and the flanges
65 *a*, respectively. This roller B is made of a sufficient length to fit snugly between the respective side flanges *a a* on each side thereof, so that the tile or brick which passes through
70 the die formed by said flanges is rolled or pressed on one or more faces by said roller or rollers as the material forming said tile or brick is forced outwardly through said die from the machine to which it is attached.
75 The result is that the exposed face of the tile or brick used for building purposes is formed with perfectly-square edges and a uniform periphery, which cannot be accomplished when a solid non-movable die is employed.

To further provide for changing the character of the exposed forms of said tile or brick, I employ a removable plate B', extending outwardly from the supporting-faces, with its under side substantially in line with the under
80 periphery of the roller. This removable plate may be formed of any desired shape to impart to this face of the brick or tile any desired contour or appearance, the periphery
85 of the roller being correspondingly formed in contour, and, if desired, may be further provided on its periphery with a suitable design, which, as the material is forced out, will be
90 imparted to the surface of the brick as it comes in contact with said roller.

In Figs. 1 and 4 I have shown smooth peripheries on the rollers, two rollers being employed, one at the top and one at the bottom.

In Fig. 5 I have shown the plate B' and the roller B formed with a different conformation, it being understood that the constructions of the removable plate and roller may be varied,
95 as desired, so that the same die may be employed for producing bricks or tiles having variously-finished sides or faces.

It is desirable when a design is employed on the roller adapted to cover the length of one brick that means be employed for

causing said roller to revolve sufficiently to make a complete revolution in a given length, and thus impart the design on said roller to the outwardly-moving material in a length equal, or substantially so, to the length of the brick or tile. To accomplish this, I preferably employ a small brake adapted to retard the movement of the roller B. This brake consists in a spring *c*, secured to one of the arms *b*, so as to bear against the end of the roller B, and provided with a tension-screw *c'*, by means of which the tension between said spring and roller may be varied. This construction serves to retard the rotation of the roller as the material is forced outwardly, revolving the same, and thus, to a certain extent, elongate the design formed on the outwardly-moving material, so that means are provided for causing the design to be imparted to a given length on said material. It is obvious that the core *a*² should be modified to correspond to the shape or conformation of the removable plates and rollers when a hollow tile or brick is to be formed.

It will be seen that by the constructions described I provide a simple die, by means of which any desired conformation may be imparted to one or more sides or faces of a brick or tile, the parts being adjustable, so that the same die may be employed in constructing bricks or tiles of various shapes and conformations. The arrangement of the roller or rollers B between the respective side flanges of the die, so that the rollers fit snugly therein and operate on the moving material in conjunction with the stationary side flanges, produces perfectly-square edges on the sides of the brick or tile to which the rollers are applied. By this construction two rollers arranged on opposite sides of the die, as shown in Fig. 4, produce four perfectly-square corners. It should be noted that the arrangement of the roller within the stationary sides of the die is an important feature, as it has been found in practice that rollers applied on adjacent sides of a die or in front of the stationary walls thereof will not operate successfully, as the clay will in all such cases be forced out between the adjacent parts.

Having thus described my invention, I claim—

1. A die for a brick or tile machine, having two or more stationary sides, and a roller or rollers forming one or more sides of said die,

said roller or rollers being adapted to project between the adjacent stationary sides and fit snugly between the same, substantially as specified.

2. A die for a brick or tile machine, having projecting flanges adapted to form the sides thereof, a removable plate arranged at one side of said die and within the adjacent projecting flanges, and an adjustable roller the periphery of which is substantially in line with said removable plate and having a contour corresponding to the contour of said plate, substantially as specified.

3. In a die for brick or tile machines, a roller or rollers forming one or more sides of said die, said roller or rollers being located between the adjacent stationary sides of said die, and means, substantially as described, for regulating the speed of said roller or rollers in relation to the outward movement of the brick or tile material through said die, substantially as specified.

4. The combination, with the projecting side flanges forming the walls of a die, as described, of a roller arranged in connection with said stationary walls and fitted between the same, and adjustable arms for supporting said roller, substantially as specified.

5. In a die for brick or tile machines, the combination, with the base or supporting plate, of the projecting stationary side flanges, and a removable plate arranged within said side flanges, and a roller in proximity to said removable plate, the periphery of which is of a contour corresponding to said removable plate, said roller being supported on adjustable arms, so that the operating-periphery is located between the stationary side flanges, and means, substantially as described, for regulating the speed of said roller in relation to the movement of the material passed through said die, substantially as specified.

6. In a die for brick or tile machines, a roller or rollers forming one or more sides of said die, said roller being supported on adjustable arms, and an adjustable friction device connected with said arms for varying the speed of said roller, substantially as specified.

In testimony whereof I have hereunto set my hand this 25th day of June, A. D. 1891.

GEORGE C. SKINNER.

Witnesses:

CHARLES N. BURNS,
JAMES H. MEANS.