

(No Model.)

W. H. PRIDE.
TILE MACHINE.

No. 519,773.

Patented May 15, 1894.

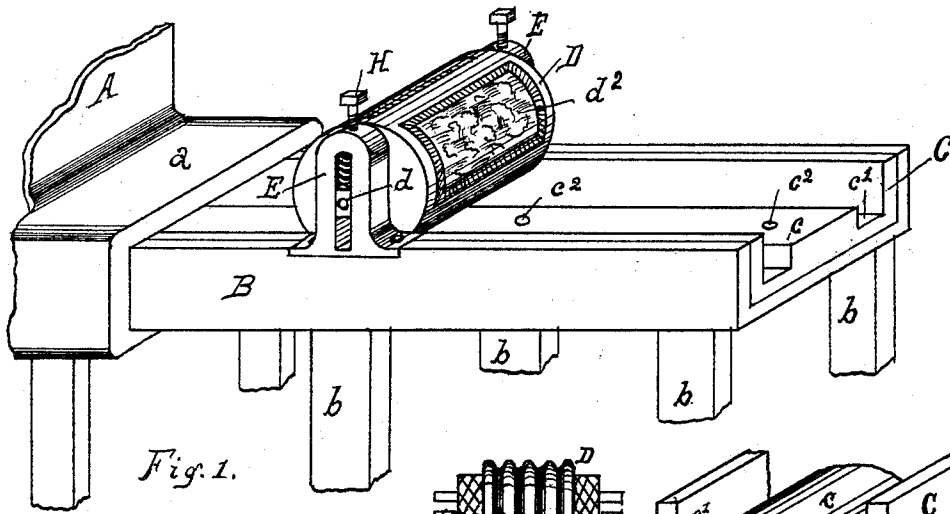


Fig. 1.

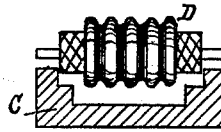


Fig. 4.

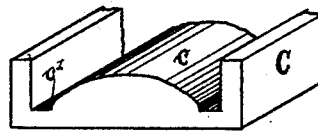


Fig. 3.

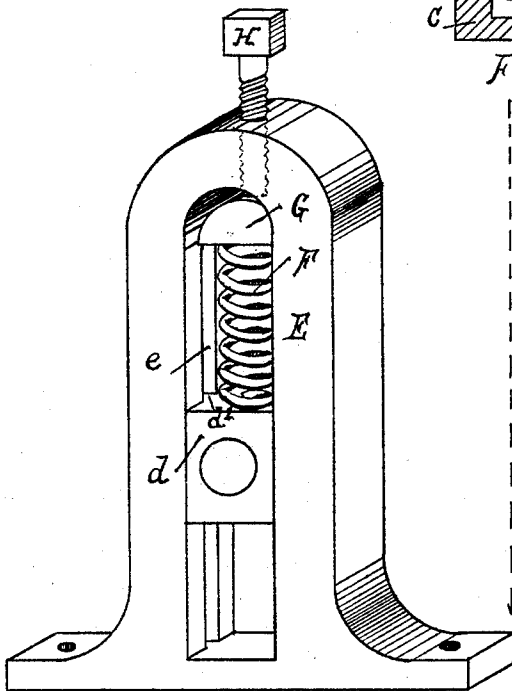


Fig. 2.

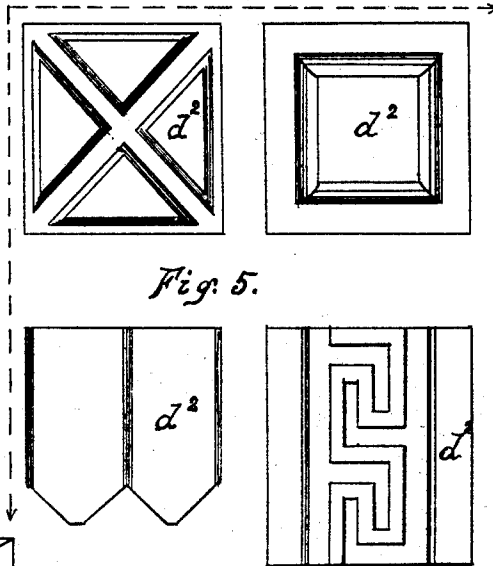


Fig. 5.

Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM H. PRIDE, OF SPRINGFIELD, ILLINOIS.

TILE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 519,773, dated May 15, 1894.

Application filed April 22, 1893. Serial No. 471,487. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. PRIDE, a citizen of the United States, residing at Springfield, in the county of Sangamon and State of Illinois, have invented a certain new and useful Improvement in Tile-Machines, of which the following is such a full, clear, and exact description as will enable those skilled in the art to which it pertains to make and use my said invention.

My improvement is intended to be attached to any of the force-feed tile machines now in common use.

I do not lay any claim to the tile machine itself, and hence illustrate only so much of the machine as is necessary to illustrate the connection of my improvement therewith.

The purpose of my invention is to provide means whereby any suitable configuration or ornamentation may be given to the tiles as they emerge from the machine.

Reference is hereby made to the accompanying drawings in which—

Figure 1—is a perspective view of my improvement connected with the tile machine. Fig. 2—is an enlarged detached view of one of the housings in which the impression roll works. Fig. 3—is a detached view of an alternative construction of the molds adapted to be used in the bed. Fig. 4—is a detached view showing an alternative form of the impression roll, also showing an alternative form of mold adapted to be used in the bed. Fig. 5—is a representation of some of the various designs which may be impressed on the tiles by means of my improvement.

Similar letters indicate similar parts in all the views.

The pug mill A is of ordinary construction and may be provided with any suitable means for kneading the clay and forcing it through the mouth *a* of the mill. The bed B may be connected in any suitable manner with the pug mill, and this bed is supported on suitable legs *b*. The bottom of the bed may be flat, or may be provided with channels *c'*, or may be rounded, ridged or furrowed in any suitable manner to give any desired form to the under side of the tile. The bottom molding surface may be integral with the bed. I prefer however to use molds C detachably connected with the bed in any suitable man-

ner, as being cheaper and more conveniently handled and as adapting a single machine to mold a greater variety of forms. In the drawings I have shown an inserted mold having a raised flat central part *c*, and on each side thereof, a channel *c'*, so as to form a tile hollow or recessed in its central part and having ledges on its under side. Bolts *c²* having their heads flush with the upper surface of the mold, connect the mold C with the bed B, but any other suitable connection may be used.

It is obvious that great variety in the form of the bottom of the tiles may be obtained by varying the forms of the channels in the bed.

The impression roll D is journaled in boxes *d*, and these boxes slide in housings E, which are bolted or otherwise suitably secured to the bed B, being guided by lugs *d'* moving in vertical slots *e* in the sides of the housings. Within the housings and on top of the sliding boxes are coiled springs F, and above the springs are followers G, which also move vertically and are guided by lugs on the followers, said lugs moving in the slots *e*. In the top of the housings are screws H which may be turned down on top of the followers, thereby compressing the springs F and giving elasticity and any desired pressure to the impression roll.

In the drawings I have shown only one impression roll, but in practice two or more rolls may be used, placed parallel to each other, or placed end to end, without departing from my invention.

On the periphery of the roll D are wrought the forms and designs *d²* which it is desired to give or to impress upon the face of the tiles. These designs may be either in relief or in intaglio, and a great variety of designs may be used. In Fig. 5 I have indicated a few of them, but I do not confine myself to the designs shown. A single design may occupy the entire surface of the roll or two or more designs may be placed side by side or end to end on a single roll. It is obvious also that the roll may be ridged and furrowed as shown in Fig. 4, or may have any other suitable form, thus adapting the machine to produce great variety in the form as well as the ornamentation of the upper surface of the tiles.

The impression roll D is made solid and heavy so that the weight of the roll may be

utilized in making the impression on the clay.

Ordinarily the weight of the roll will be sufficient to make the impression, but in cases where it is not, additional pressure may be given by turning the screw H so as to compress the spring, thereby increasing the pressure of the roll. The spring F also permits the bearings of the roll to rise in the housings when there is undue pressure on the roll thus permitting the roll to pass over hard substances in the clay without injury to the roll.

The operation of my machine is as follows: The clay after being properly ground and kneaded in the pug mill A is forced out through the mouth a, in a yielding and pliable mass into the mold C in the bed B, and is pushed along in the mold and under the roll D. The pressure of the moving clay actuates the roll and the pressure of the roll forces the under side of the clay into the channels c in the molds, and at the same time the roll impresses on the upper surface of the clay the form or the design which is wrought in the periphery of the roll, and this operation continues as long as the clay continues to issue from the mouth of the pug mill.

The slab of clay formed and impressed, as above described may be received on any suitable table or receptacle, and afterward cut into lengths in a manner well known.

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

1. In a tile machine, a rotatable impression roll having on its periphery the form or design which is to be given to or impressed upon the surface of a tile, in combination with means for supporting a slab of clay in contact with the periphery of said roll and means

for propelling said slab of clay in such manner as to rotate said roller by the pressure of said moving slab of clay acting against the periphery of said roll, as set forth and for the purpose stated.

2. In a tile machine, the combination of the bed adapted to be connected with the mouth of the pug mill, the longitudinal mold detachably connected with the bed, the housings on the bed and the roll journaled and vertically movable in said housings, as set forth and for the purpose stated.

3. In a tile machine, the combination of the bed attachable to the mouth of the pug mill, the longitudinal molds detachably secured in said bed, the housings on the bed, the boxes sliding in said housings, the impression roll journaled in said boxes, the springs acting against said boxes, the followers in the housings above the springs and the screws operating said followers, as set forth and for the purpose stated.

4. In a tile machine, the bed attachable to the pug mill and adapted to impress on one side of the tile the counterpart of the conformation of the surface of the bed, in combination with the vertically adjustable and rotatable impression roll supported on said bed, adapted to be actuated by the moving slab of clay and adapted to impress on said slab the counterpart of the conformation of the periphery of said roll, as set forth.

In witness whereof I have hereunto subscribed, at Springfield, Illinois, this 24th day of March, A. D. 1893.

WILLIAM H. PRIDE.

Witnesses:

WILLIAM I. OLDEN,
TAD A. BAILEY.