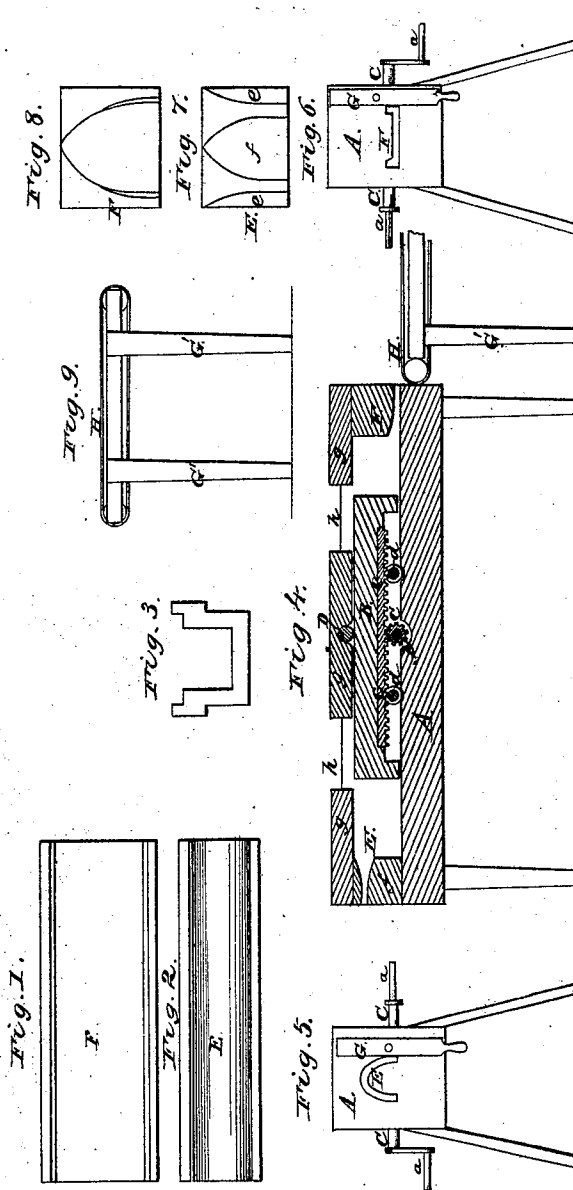


Milroy & Cook,
Tile Machine.

No 82,861.

Patented Oct. 6, 1868.



Witnesses:
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JAMES W. MILROY AND JOHN COOK, OF GALVESTON, INDIANA.

Letters Patent No. 82,861, dated October 6, 1868.

IMPROVED MACHINE FOR MAKING DRAIN-TILES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, JAMES W. MILROY and JOHN COOK, of Galveston, in the county of Cass, and State of Indiana, have invented a new and useful Improvement in Drain-Tiles; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a top view of bottom tile.

Figure 2 is a top view of upper tile.

Figure 3 is an end view of another form of bottom tile.

Figure 4 is a longitudinal section of box or machine for making the tiles.

Figure 5 is an end view of box, showing form of mould for upper tile.

Figure 6 is an end view of box, showing form of mould for bottom tile.

Figure 7 is a plan view of upper tile-mould.

Figure 8 is a plan view of bottom tile-mould.

Figure 9 is a side view of tile-table arranged with an endless carrier.

Like letters in the different figures of the drawings indicate like parts.

The nature of our invention consists in the construction of a longitudinal box, with suitable moulds at the ends thereof, for making upper and lower tiles, and having in the centre therein a sliding block, the said block being arranged with ratchet-gearing, friction-rollers, and crank-shaft, whereby it may be worked either backward or forward, and on the introduction of clay or other suitable material, in openings on either side of said block, the upper and lower tiles may be made alternately from either end of the box, by the pressure of said block forcing the clay through the moulds.

To enable any one skilled in the art to make and use our invention, we will proceed to describe its construction and operation.

A is the box. B is the sliding block, fitting loosely but snugly between the sides of the box. C is a shaft, passing transversely through the sides of the box, with crank-handles *a a* on both ends thereof.

In the centre of the shaft, between the sides of the box, is a small cog-wheel, *b*, meshing with the teeth of the ratchet-plate *c*, which is attached longitudinally to the centre of the block.

The block slides on the friction-rollers *d d*, which are notched or grooved sufficiently for the teeth of the ratchet-plate to pass through. A friction-roller, D, is placed across the box and over the block, to facilitate its sliding movement. Both ends of the box are provided with pieces 1 and 2, projecting below the under side of the block, which, when the block is slid back either way, come against the rollers, and thus prevent the block from going beyond the proper distance.

E is the mould for the upper tile, (see fig. 7.) The pieces *e e* constitute the sides of the mould, which are attached to the sides of the box by screws, from on the outside thereof. The piece *f* constitutes the centre of the mould, which is made rounding on the top, and of a conical shape at the end, and fastened in a proper manner to the bottom of the box.

F is the mould for the bottom tile, (see fig. 8,) which is made of a conical shape on the under side, and bevelled slightly on the edges, and which is placed at the other end of the box, fastened to the sides thereof, from on the outside, by screws; the conical shape and enlarged passages of the moulds being arranged inwardly toward the sliding block.

G is a table, arranged with an endless carrier, H, and which is placed at the end of the box, to receive the tile as it leaves the mould.

We do not propose to limit ourselves to the particular form of bottom tile, above described, as we contemplate making almost any form of mould with this machine, either for upper or lower tiles, as it will be readily seen that the machine can be adapted to almost any form of mould required, without altering it, except to merely change the moulds, which is attended with but little trouble.

The top of the box is covered over with plates *g g g*, leaving opening, *h h*, of sufficient size for the introduction of the clay into the box. The box is supported on legs, at a suitable height from the ground.

Operation.

The block is first drawn back clear of either opening, *h*, by turning the crank-handles *a a*. The clay is then deposited in sufficient quantity through the opening into the box, when the block is pushed forward, and the clay compressed into and through the mould, and, passing out therefrom, is received by the endless carrier of the table; the edge of the tile, as soon as presented to view from the mould, being first made straight, by drawing the knife *G* across it, which knife is attached, by a pivot, to the end of the box on the side of the mould, and, when the tile is out a sufficient length from the mould, it is cut off by the knife, and then laid away in the proper place for drying and burning.

It will thus be seen that, by sliding the block either way, the upper and lower tiles may be made alternately from the ends of the box.

Having thus fully described our invention, what we claim therein as new, and desire to secure by Letters Patent, is—

The combination and arrangement of the box *A*, sliding block *B*, shaft *C*, cog-wheel *b*, ratchet-plate *c*, friction-rollers *d d*, and friction-roller *D*, moulds *E* and *F*, knives *G G*, and table *G'*, substantially in the manner and for the purposes as herein set forth.

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Witnesses:

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