

941,792.

Patented Nov. 30, 1909.
2 SHEETS—SHEET 1.

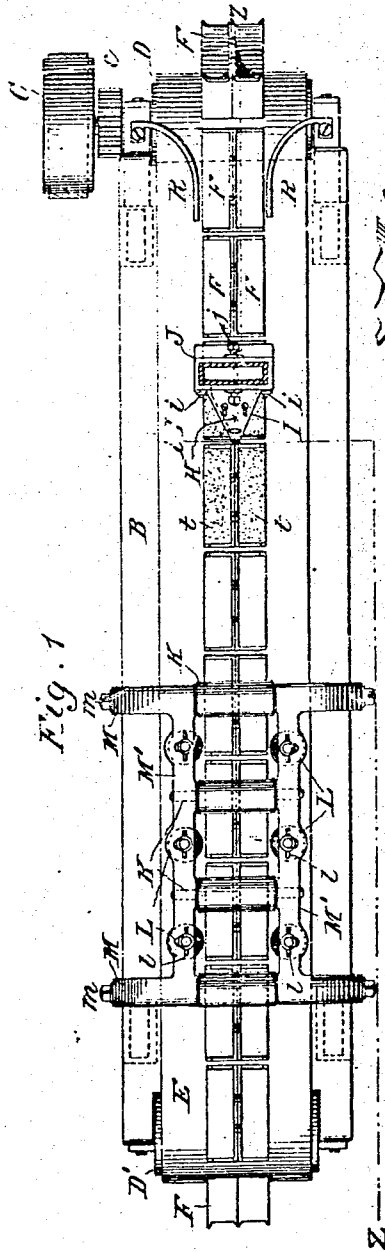


Fig. 1

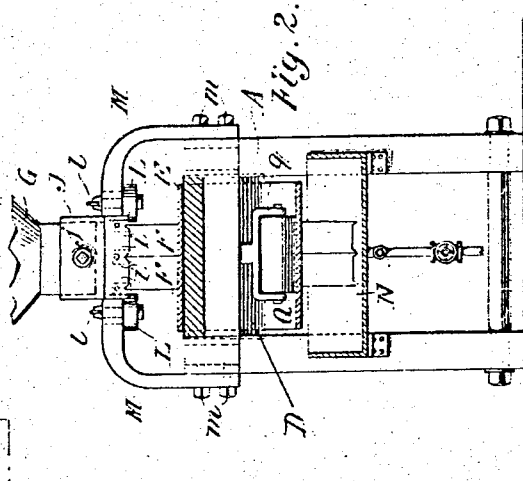


Fig. 2

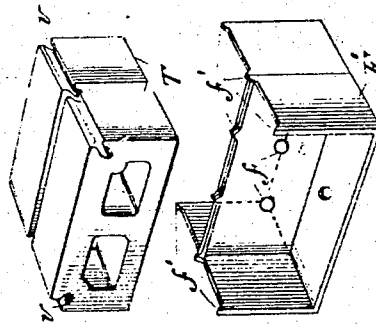


Fig. 3

Fig. 4



Fig. 5



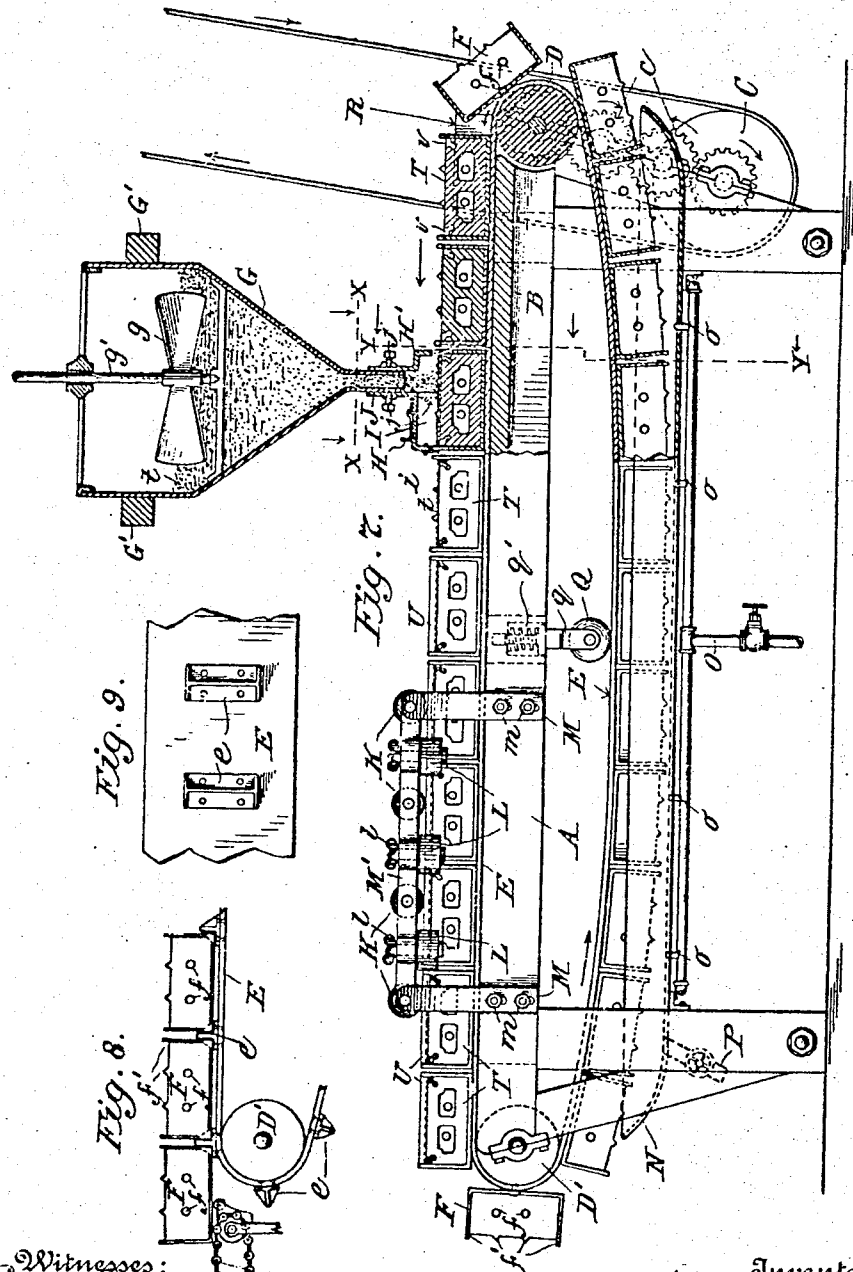
Fig. 6

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3 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

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BLOCK-TILING MACHINE.

941,792.

Specification of Letters Patent.

Patented Nov. 30, 1909.

Application filed January 31, 1908. Serial No. 413,508.

To all whom it may concern:

Be it known that I, WILLIAM PASSMORE MEEKER, a citizen of the United States and State of New Jersey, residing in Maplewood, Essex county, New Jersey, have invented certain new and useful Improvements in Block-Tiling Machines, of which the following is a specification.

My invention relates to a machine for cementing glass facing tiles upon previously-prepared body blocks, and consists in the particulars hereinafter set forth and claimed.

In the art of attaching glass faces to previously-prepared body blocks, it has been customary to perform, by hand, the various operations involved in cementing the tile to the body block. This renders the operations tedious and expensive, and also makes it difficult to obtain as uniform a product as can be produced when machinery is used; and I have therefore devised mechanism whereby the body blocks are fed under a cement distributing apparatus which places the required amount of cement upon them, after which they receive glass facing tiles which are adjusted and pressed into position by suitable machinery, after passing which the tiles are removed from the machine and the cement is allowed to set in the usual manner.

In the drawings Figure 1 is a plan view of my machine with the cement hopper removed, on the lines X X of Fig. 7; Fig. 2 is a cross sectional view of the machine taken on the line Y Y of Fig. 1, looking to the left; Fig. 3 is a perspective detail of a pair of the block carriers; Fig. 4 is a perspective view of two body blocks; Fig. 5 is a side view and Fig. 6 is an end view of a facing tile adapted for use on such body blocks; Fig. 7 is a side view partially in section, of my machine, taken on the line Z Z of Fig. 1, and showing the cement hopper in section; Fig. 8 is a detail or modified form of block carrier, and Fig. 9 is a plan view of a section of such modified carrier.

In all the figures corresponding reference letters designate similar parts.

The frame A is provided with a table-like top B, and at one end a suitable driving pulley C and intermediate gear c drive the carrier roll D; and at the opposite end of the frame is another roller D'. A carrier belt E travels around these rollers D D', and has riveted to it block holders F F, which are preferably set in pairs, as shown in the drawings, and secured together by rivets f f.

These block holders are open on their outer sides and tops, and their upper edges are provided with projections f' f', which form tile gages, as I will hereafter point out.

G is a cement hopper carried by suitable supports, as G' G', and provided with a screw feeder g carried by a suitable driving shaft g'. This cement hopper has a sliding cut off H which slides below the mouth of the hopper, and it also carries the inclined cement scrapers I I, which just clear the upper edges of the block carriers and are provided with suitable notches through which the projections f' f' of the block carriers may pass, these notches being loosely covered on their outer sides by flexible flaps i i which will rise to allow the projections f' f' to pass below them. Another cement scraper H' is placed on the opposite side of the cement hopper's mouth, and these scrapers can be adjusted vertically by means of a sliding collar J and set screws j j.

A series of transverse rollers K K and vertical rollers L L are carried by a suitable frame M M, which is attached to the main frame A by the bolts m m passing through slotted holes in the uprights of the frame M, and lateral adjustment of the rollers L L is provided for by their shafts passing through slots in the stretchers M' M' of the frame in which they are secured by thumb nuts n n.

Below the bed of the frame A is a tank or trough N which can be supplied with water through a suitable supply pipe O, having nipples or ducts o o opening into the pan; and the pan is also provided with a suitable waste pipe as P, shown in broken lines in Fig. 7.

A tension roller Q is mounted in suitable bearings q below the bed of the frame A, and may be carried in yielding contact against the belt E by the coiled spring q'. Near the front of the machine are placed curved guides R R, shown partially in broken lines in Fig. 7, which serve to adjust the blocks in position in the holders, as I will afterward explain.

In Fig. 8 I have shown a modification of the carrier belt in which instead of the block carriers F F being permanently attached to the belt, flanged pockets e e are fastened to the belt and the holders F F are set into them; and when they have been fed to the end of the table the flanged pockets E will drop from beneath the ends of the holders F F, which, with the blocks within them,

will then be pushed off onto a gravity roller or other suitable carrier S.

The operation of my machine is as follows:—As the carrier belt revolves around the rollers D D', body blocks T T are placed, by hand, in the block holders F F, and passing between the guides R R, are thereby adjusted, laterally, in the block holders, before they reach the cement hopper G under which they travel, receiving, in so doing, a suitable layer of cement / upon their upper faces. The glass tiles U U are then placed, by hand, on top of the cement, their undercut lugs u u bedding in the cement which fills the end rabbets e e of the body block, and are then carried under the rollers K K, which press the tiles firmly down into the cement, and between the rollers L L which true the tiles, laterally, upon the body blocks. The projections f f act as guides to prevent the glass tiles from being pushed off of the top of the blocks. Both the rollers K K and L L are preferably rubber covered, in order to give them a somewhat yielding bearing upon the tiles and to prevent fracturing or breaking the tiles by an unyielding contact therewith.

After the tile faced blocks have been carried beyond the adjusting rollers they may be removed from the block holders, F F, by hand, and the cement allowed to set; or in case the detachable holders shown in Fig. 8 are used, the holders with the blocks in them will be carried off upon a suitable carrier and the tile faced blocks left in the holders until the cement has set. This last arrangement avoids any danger of disturbing the position of the tiles upon the blocks by handling them before the cement has set. It will be readily understood that if detachable block holders F F are used, fresh holders must be placed upon the carrier belt to receive the uncemented body blocks as they are put upon the machine.

After the tile faced blocks have been removed from the block holders F F the holders are carried through the trough N, which may contain water enough to wash the superfluous cement from them, or the water may be thrown up in jets or sprays from the nipples o o so as to wash the cement off the block holders, the muddy water being drawn off through the pipe P.

It will be observed that the carrier belt E is considerably wider than the block holders F F, so that it will catch any cement which falls outside of the block holders and carry it to the end of the machine where it will be dropped off as the belt passes around the roller D' or shaken or washed off as the belt passes back under the machine.

It is obvious that my machine may be modified in details without departing from the spirit of my invention.

Having thus described my invention, what I claim and desire to secure by Letters Patent of the United States is:

1. In a block-tiling machine, the combination with a traveling carrier of a series of block holders each having an open side and top which remain unclosed during the operation of the machine, such block holders being arranged in pairs back to back.

2. In a block-tiling machine, the combination with a traveling carrier of a block holder having an open side and top and tile-guide projections consisting of raised points upon its upper edges.

3. In a block-tiling machine, the combination with a frame of belt-carrying rollers, a belt carried thereby and provided with a series of block holders permanently open upon their sides and tops and set in pairs back to back, a pair of curved guides past which the open sides of such block holders are carried, an angular cement distributor with its apex in the direction in which the belt is moving, series of vertically adjustable rollers and laterally adjustable rollers past which the open tops and sides of said block holders are carried, substantially as described.

4. In a block-tiling machine, the combination with a frame of belt-carrying rollers, a belt carried thereby and provided with a series of block holders permanently open upon their sides and tops and having projecting points upon their upper edges and set in pairs back to back, a pair of curved guides past which the open sides of such block holders are carried, an angular cement distributor with its apex in the direction in which the belt is moving, series of vertically adjustable rollers and laterally adjustable rollers past which the open tops and sides of said block holders are carried, substantially as described.

5. In a block-tiling machine, the combination with a frame of belt-carrying rollers, a belt carried thereby and provided with a series of block holders permanently open upon their sides and tops and having projecting points upon their upper edges and set in pairs back to back, a pair of curved guides past which the open sides of such block holders are carried, an angular cement distributor with its apex in the direction in which the belt is moving, series of vertically adjustable rollers and laterally adjustable rollers past which the open tops and sides of said block holders are carried, said belt having a wide margin extending out from the open sides of said block holders, substantially as described.

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