G. KAUPERT.

MACHINE FOR FILLING IN HOLLOW CAVITIES IN TILES.

APPLICATION FILED SEPT. 10, 1913.

1,119,084.

Patented Dec. 1, 1914.

Fig. 1

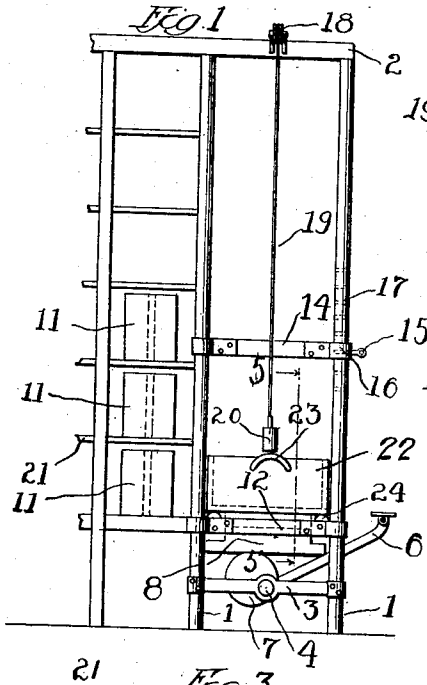


Fig. 2

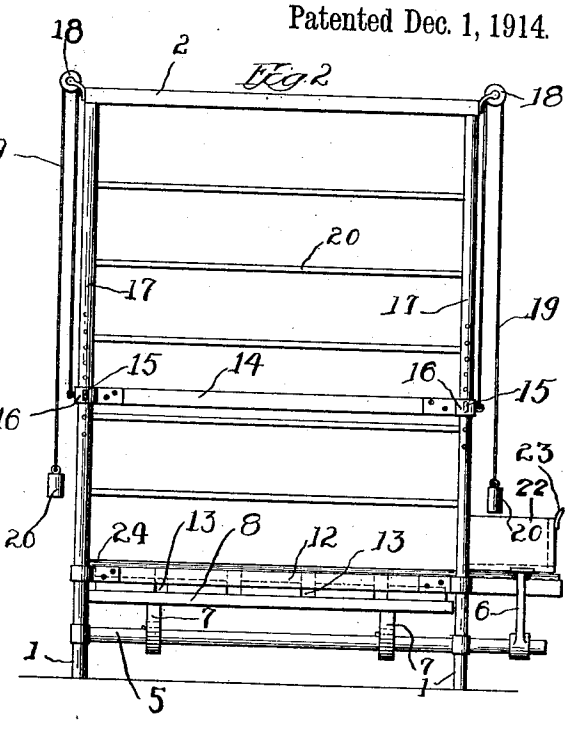


Fig. 3

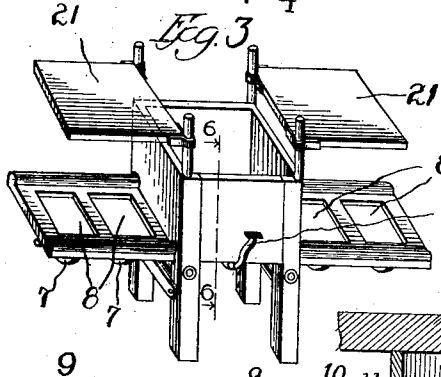


Fig. 4

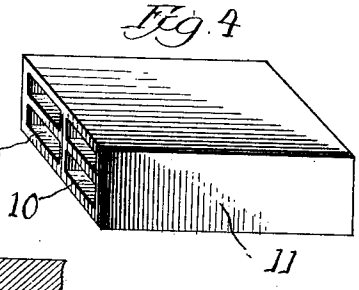


Fig. 5

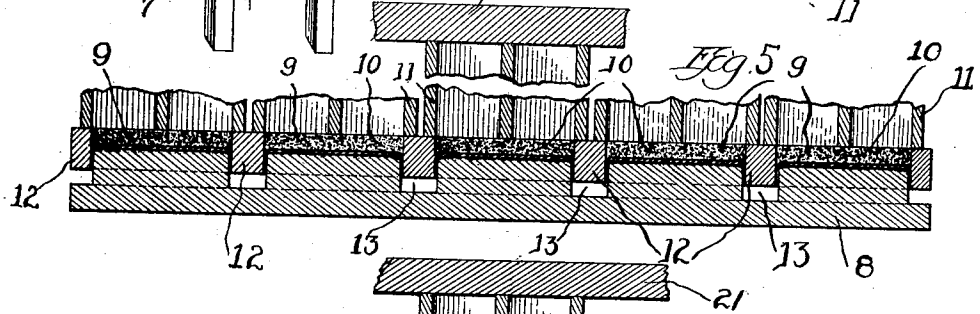
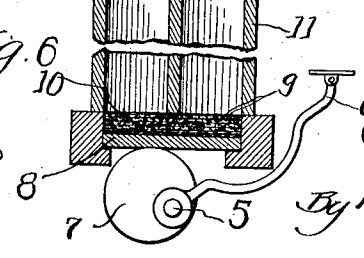


Fig. 6



Witnesses:
Geo. C. Lavion
Chas. Koursh.

Inventor
George Kaupert.
By Robt. Hess & E. R. Goldsmith
Attys.

UNITED STATES PATENT OFFICE.

GEORGE KAUPERT, OF CHICAGO, ILLINOIS.

MACHINE FOR FILLING IN HOLLOW CAVITIES IN TILES.

1,119,084. Specification of Letters Patent. Patented Dec. 1, 1914.

Application filed September 10, 1913. Serial No. 789,029.

To all whom it may concern:

Be it known that I, GEORGE KAUPERT, a subject of the Emperor of Germany, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Machines for Filling in Hollow Cavities in Tiles, of which the following is a specification.

The essential object of this invention is to provide an apparatus for a process of filling in the open ends of the hollow cavities customarily present in the ordinary building tile. Such tile in the condition in which they are ordinarily delivered from the factory to the consumer are open at the ends, and it is the object of this invention to provide a device adapted quickly to seal such open ends with mortar, cement, or the like.

In the drawings, Figure 1 is an end elevation of a machine embodying the invention; Fig. 2 is a side elevation taken at right angles to the view of Fig. 1; Fig. 3 is a perspective view of a smaller apparatus than that shown in Figs. 1 and 2; Fig. 4 is a perspective view of a tile upon which the invention is adapted to operate; Fig. 5 is a section on the line 5—5, Fig. 1; and Fig. 6 is a section on the line 6—6, Fig. 3.

The salient feature of the machine is the provision of suitable devices for holding the tile, the ends of which are to be sealed, and other devices adapted to cause a table or floor upon which cement or mortar is spread to be elevated so as to force the mortar into the open end of each of the hollow perforations of the tile.

The machine comprises a number of suitable uprights 1 and cross-pieces 2 forming a framework. At the ends of the machine and extending from each leg 1 to the opposite leg 1 is a strip or bar 3 containing a journal or bearing 4 within which the shaft 5 is adapted to rotate or rock. Secured to said shaft 5 is pedal 6 which, when depressed by the foot of the operator, moves the shaft 5 within its bearings 4. Upon the shaft 5 are cams or eccentrics 7, which cams bear upon and engage the under surface of the vertically moving table 8. Upon said table 8 the mortar or cement 9, which is to be forced into the open ends of the perforations 10 provided in the tile 11, is placed. Since the tiles 11 are adapted to be held fixed against vertical movement, it is obvious that to cause the table 8 to move upwardly will force the mortar or cement 9 into the mouths of the perforations 10 and in this manner to seal said perforations. After the cement has had time to set, it will solidify and yet adhere to the wall of the tile, thus forming a rectangular tile, all six walls of which are imperforate instead of only four walls as in the tile upon the market today.

Extending transversely of the apparatus are strips or supports 12 which are spaced apart a distance corresponding to the thickness of the tiles which are being operated upon and which strips 12 are received within suitable recesses 13 in the table 8. Said members 12 serve the functions not only of supporting the different tiles 11, but also of guiding the table 8 in its reciprocation and of keeping the cement or mortar 9 within predetermined limits.

To prevent the tiles 11 from being lifted upwardly at the time that the table 8 is elevated, the sliding frame 14 is provided, which frame 14 can be secured in place through the medium of the pins 15 which extend into perforations in loops 16 and are received within recesses 17 in the legs 1. The loops 16 encircle said legs 1. To the top of the framework pulleys 18 are secured and a rope or cable 19 passes over each pulley 18, one end of said rope 19 being secured to the sliding frame 14 and the other to the weight 20. When the pins 15 are removed from the perforations 16, the table 14 can slide vertically, being moved upwardly when it is desired to have the sliding member 14 out of the way of the tile, and downwardly when the operator wishes the support 14 to rest upon the top edges of the tile and thus limit their upward movement.

The apparatus is provided with a number of shelves 21 upon which the tiles can rest while the mortar or cement is being allowed to set, and with a box or trough 22 to which a handle 23 is secured, into which container 22 the supply of mortar or cement can be poured or shoveled preparatory to being spread upon the upper surface of the table 8. Said container 22 is carried upon rollers 24.

In Figs. 3 and 6 there is depicted a much smaller apparatus than that shown in the remaining figures, the object of this smaller apparatus being to provide a portable device which may be used right on the job. Said portable apparatus incorporates a rising and falling table 8, shelves 21, pedal 6, and other salient features of the invention,

the construction of same being obvious from the drawings so that a detailed description is not necessary.

In both the larger and the smaller machines the upper surface of the reciprocating table upon which the mortar or cement 9 is placed is covered with a layer of asbestos or tar paper, or some other substance to which the cement will not adhere. If the cement 9 were allowed to rest directly upon the member 8, which is preferably made of wood, the cement or mortar 9, which possesses a certain degree of adhesion to wood but almost none for asbestos or tar paper, would not remain plugged in the openings or perforations 10, but by coating or covering the top of the table 8 with a substance to which the cement or mortar will not normally adhere, that cement or mortar which has been forced into the openings or hollows of the tile will remain embedded therein after the table 8 has been depressed.

It will be obvious from the foregoing detailed description that sundry changes in the construction and operation of the apparatus may be made without departing from the scope of the invention.

I claim as my invention:

1. An apparatus of the character described comprising means for supporting a tile, means for holding same against upward movement, a reciprocating table upon which mortar or cement is adapted to be placed, and means for elevating said reciprocating table and causing same to press against said tile, whereby the mortar or cement upon said table is pressed or plugged into the perforations of said tile.

2. An apparatus of the character described comprising means for supporting a tile, means for holding same against upward movement, a reciprocating table upon which mortar or cement is adapted to be placed, a shafting, an eccentric upon said shaft adapted to engage the under surface of said table, and means to rotate said shaft and thereby cause said table to be moved toward said tile, whereby the cement or mortar upon said table is plugged or pressed into the opening within said tile.

3. An apparatus of the character described comprising means for supporting a tile, means for holding same against upward movement, a reciprocating table upon which mortar or cement is adapted to be placed, and means for elevating said reciprocating table and causing same to press against said tile, whereby the mortar or cement upon said table is pressed or plugged into the perforations of said tile, the upper surface of said table being provided with a coating adapted to resist the adhesive action of the mortar or cement.

4. An apparatus of the character described comprising means for supporting a tile, means for holding same against upward movement, a reciprocating table upon which mortar or cement is adapted to be placed, the upper surface of said table being provided with a coating adapted to resist the adhesive action of the mortar or cement, a shaft, an eccentric upon said shaft adapted to engage the under surface of said table, and means to rotate said shaft and thereby cause said table to be moved toward said tile, whereby the cement or mortar upon said table is plugged or pressed into the opening within said tile.

5. An apparatus of the character described comprising a framework, a plurality of strips supported therein, said strips being adapted to receive the edges of the tiles upon which said apparatus is intended to operate, a reciprocating table having recesses to receive said strips, means for holding the tiles in place, means for causing said table to move toward said tiles, whereby the mortar or cement adapted to be received within said table is forced or plugged into the openings of said tiles.

6. The combination of a vertically-reciprocatory table divided into sections, stationary tile-supports coöperating with each section of said table, an adjustable superstructure, and means for moving said table toward said supports and said superstructure.

7. The combination of a vertically-reciprocatory table divided into sections, stationary tile-supports adapted to enter between the sections of the table upon the movement thereof, a vertically-adjustable superstructure above said table, and means for moving the said table toward said superstructure.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

GEORGE KAUPERT.

Witnesses:
ROBT. KLOTZ,
AUG. KUNTZE.