W. L. HANLEY, Jr.

FORMER OR DIE FOR MAKING HOLLOW TILES.

APPLICATION FILED MAR. 21, 1917.

1,234,017. Patented July 17, 1917.

Fig. 1.

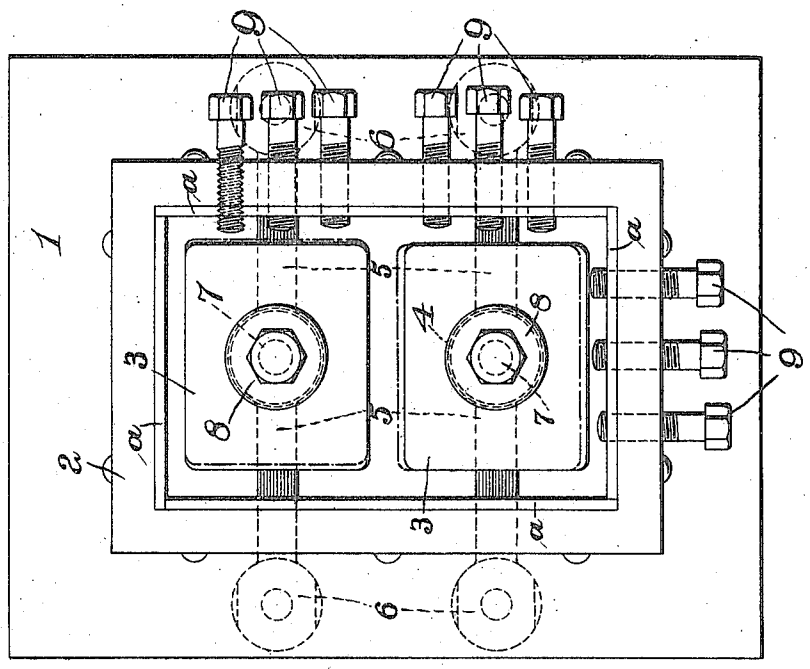


Fig. 2.

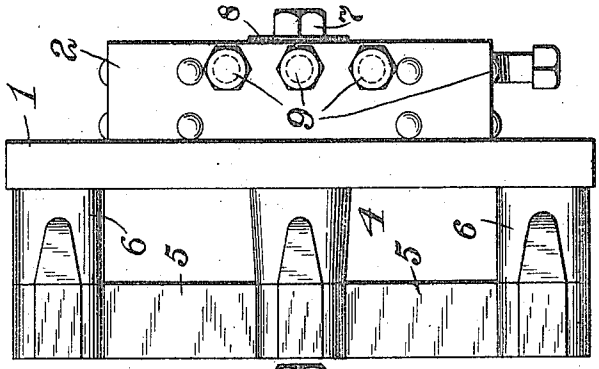
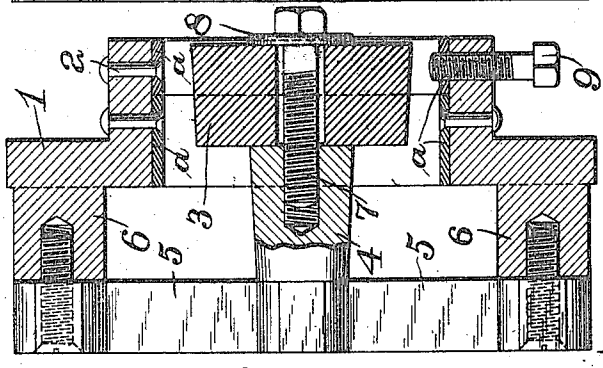


Fig. 3.



Inventor:

WILLIAM L. HANLEY, JR.

by Spear, Middleton, Donaldson & Spear Atty's.

UNITED STATES PATENT OFFICE.

WILLIAM L. HANLEY, JR., OF BRADFORD, PENNSYLVANIA.

FORMER OR DIE FOR MAKING HOLLOW TILES.

1,234,017. Specification of Letters Patent. Patented July 17, 1917.

Application filed March 21, 1917. Serial No. 156,332.

To all whom it may concern:

Be it known that I, WILLIAM L. HANLEY, Jr., a citizen of the United States, and resident of Bradford, Pennsylvania, have invented certain new and useful Improvements in Formers or Dies for Making Hollow Tiles, of which the following is a specification.

The invention is a former or die for making hollow tiles and consists in the features and combination and arrangement of parts hereinafter described and pointed out in the claims.

In the accompanying drawings:

Figure 1 is a front view of the die or former.

Fig. 2 is a side view, and

Fig. 3 is a sectional view.

The former or die consists of an outer frame 1 having an open interior, the frame consisting of a base member and a rim flange or portion 2 arranged around the edge of the opening in the base member and extending perpendicular to said base member. Within the opening provided by this wall or rim, former or die blocks 3 are supported in any suitable manner, these being positioned separated from each other and also separated from the surrounding wall or rim of the die by a space equal to the thickness that the tile is to be. While the supporting means for these interior blocks or dies may assume various forms I show them attached to posts or arms 4 extending from cross bars 5 which are held to the base plate of the die by suitable connections or posts 6. The interior die blocks rests upon these posts 4 and are secured thereto by bolts 7 screw-threaded into sockets in the posts, washers 8 being provided between the heads of the bolts and the outer faces of the die blocks. The openings through the die blocks for re-receiving the bolts are slightly larger than said bolts, so that the blocks can be adjusted, in all directions toward and from each other and consequently toward and from the surrounding wall of the main part of the die or the blocks may be set at a slight angle to each other and to the adjacent portion of the surrounding wall of the main part of the die or former. By this means should the flow of material be found to be too fast at one point the block can be adjusted to contract the space through which this rapid flow takes place, so as to retard it and this adjustment can take place both as between the two blocks and also between each block and the surrounding wall of the die.

In order to provide the outer faces of the hollow tiles with grooves to receive plaster, cement or the like I provide a number of bolts 9 only a few of which need be shown extending through the rim or wall of the die and into the interior space, the inner ends of these bolts, which of course are threaded are exposed in this threaded condition, so that as the material passes these projecting threaded ends the channels will be formed in the outer faces of the hollow tile material and these channels will have minor channels or grooves in their faces resulting from the passage of the material against the threads of the exposed ends of the bolts and these minor channels will serve to receive the plaster or cement and lock the same in the main grooves or channels of the tile.

Furthermore, these bolts extending through the wall of the die to the interior space thereof may be made to perform another function, namely, that of adjusting or controlling the flow of the material through the spaces between the main part of the die and the inner die blocks and if the material is found to be flowing too fast at any point the bolt or bolts at that point are adjusted inwardly and thus offer greater resistance because of the reduction of the space to the flow of the material and thus the flow can be regulated throughout the entire perimeter or edge of the die. The hollow tiles will be formed with a transverse division wall because of the fact that the two interior die blocks are separated from each other by a space through which the material is forced. Any suitable means may be provided for forcing the material from the rear of the block, that is, the side upon which the frame-work and posts are located through the same to the front.

The die blocks may be tapered toward the rear as indicated to provide flaring openings between themselves and also between themselves and the surrounding wall of the main parts or frame of the die to receive the material and direct it forwardly. The screw conveyer which forces the material through the die may work in a suitable cylinder, against the front end of which the die is fixed.

I provide wearing plates or liners, as shown at *a*, on the interior face of the die

block or former and preferably I employ two of such plates for each of the faces, one plate covering the fore part of the face and the other plate covering the rear portion of the inner face. These plates are renewable when worn, being held by any suitable means, such as bolts, screws or rivets, the rivets shown having heads which may be cut when a plate is to be replaced. The wear plate which is located nearest the outlet side of the main die is the one which receives the greatest wear and when worn this can be removed and replaced without removing the rear wear plate or section.

What I claim is:—

1. In combination in a die or former for hollow tiles, a main die portion having an open interior, a die block within the opening and bolts closely set together and passing through the main part of the die with their ends projecting into the opening, said bolts being located at different points along and opposite a side face of the die block independently adjustable and adapted to form the grooves in the outer face of the material expressed through the die, substantially as described.

2. In combination in a die or former for hollow tiles, a main die portion having an open interior, a die block within the opening and bolts passing through the main part of the die with their ends projecting into the opening, said bolts being independently adjustable and adapted to form the grooves in the outer face of the material expressed through the die, said bolts having their exposed inner ends provided with lateral projections to form minor grooves in the main grooves, substantially as described.

3. In combination in a die or former for hollow tiles, a main portion having an open interior, a die block within the opening and bolts closely set together and extending through the wall of the main die and having their inner threaded ends projecting into the opening to form grooves in the face of the material with minor grooves in the main grooves resulting from the screw threads, substantially as described.

4. In combination in a die or former a main portion having an interior opening, a die block within the opening having faces substantially parallel with faces on the interior of the main portion, said inner die block being adjustable about its axis into different angular positions, bolts closely set together and extending through the main die and having their inner ends exposed opposite the face of the inner die to form grooves in the material, said bolts being independently adjustable toward and from the inner die.

5. In combination, in a die or former for hollow tiles, a main die having flat inner faces, an inner die block within the opening of the main die having flat faces substantially parallel with the inner faces of the main die, said inner die being adjustable laterally and angularly to vary the position of its flat faces in respect to the flat faces of the outer die and bolts extending through the outer die and disposed at different points along a flat face thereof, said bolts having broad inner ends to form channels in the outer face of the tile, the bolts disposed along one face being adjustable relative to each other to regulate the flow of material between said face and the opposing face of the inner die, substantially as described.

WILLIAM L. HANLEY, JR.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."