

No. 721,751.

PATENTED MAR. 3, 1903.

E. D. SCOTT.

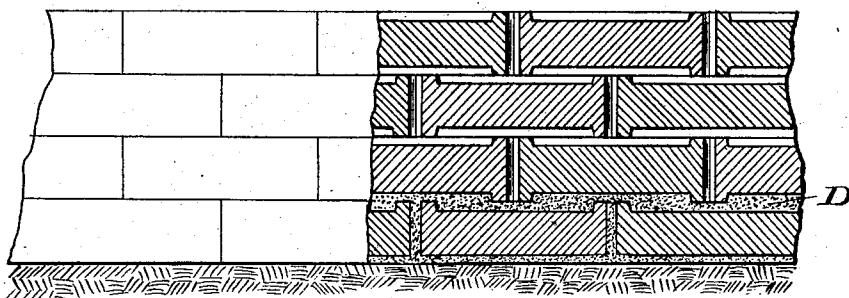
BRICK CONSTRUCTION.

APPLICATION FILED AUG. 29, 1901.

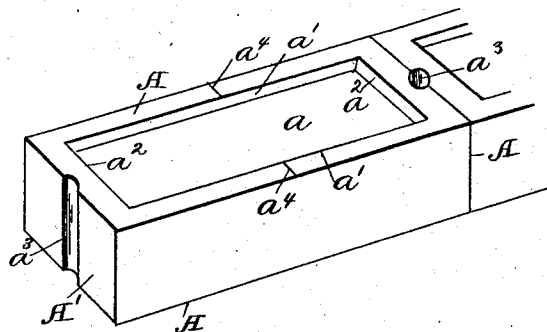
NO MODEL.

2 SHEETS—SHEET 1.

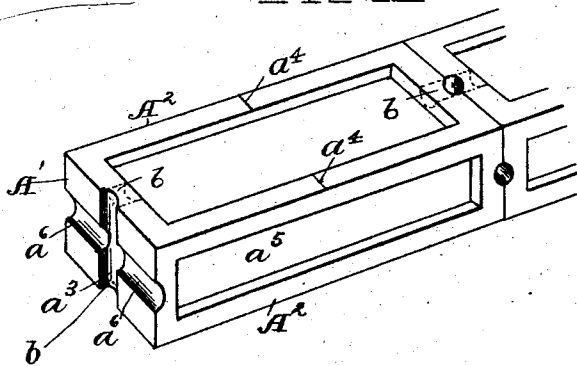
-FIG. I-



-FIG. III-



-FIG. IV-



Witnesses,

J. C. Turner

A. E. Merkel

Inventor

E. D. Scott

By

J. D. Fay

Atty.

No. 721,751.

PATENTED MAR. 3, 1903.

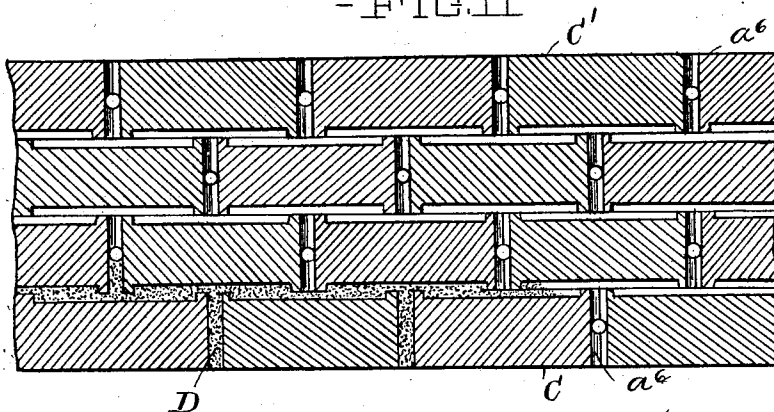
E. D. SCOTT.
BRICK CONSTRUCTION.

APPLICATION FILED AUG. 29, 1901.

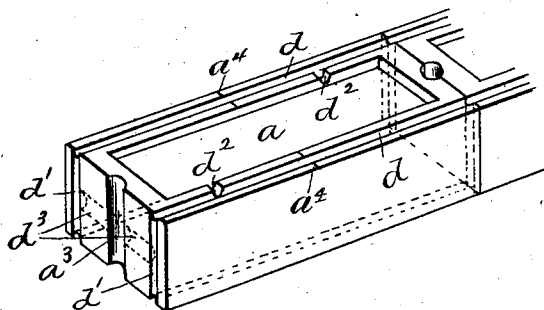
NO MODEL.

2 SHEETS—SHEET 2.

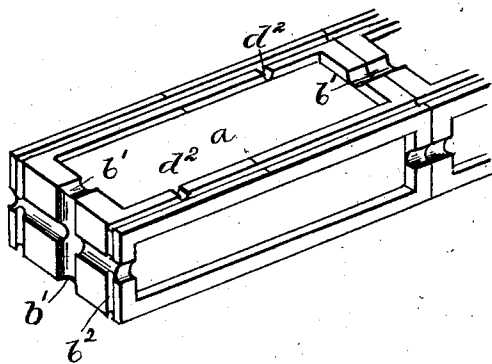
—FIG. III



—FIG. V



—FIG. VI



Witnesses,
J. C. Turner
A. C. Merkel

Inventor,
E. D. Scott
By
J. D. Fay
Atty

UNITED STATES PATENT OFFICE.

ELMER D. SCOTT, OF GLENVILLE, OHIO, ASSIGNOR OF ONE-HALF TO JOHN R. BLAKESLEE, OF CLEVELAND, OHIO.

BRICK CONSTRUCTION.

SPECIFICATION forming part of Letters Patent No. 721,751, dated March 3, 1903.

Application filed August 29, 1901. Serial No. 73,698. (No model.)

To all whom it may concern:

Be it known that I, ELMER D. SCOTT, a citizen of the United States, and a resident of Glenville, county of Cuyahoga, and State of Ohio, have invented a new and useful Improvement in Brick Construction, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

My invention relates to brick constructions, its object being to permit of such construction in a simple, economical, and efficacious manner.

Such invention consists of means hereinafter fully described, and specifically set forth in the claims.

The annexed drawings and the following description set forth in detail certain means embodying the invention, such disclosed means constituting but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawings, Figure I represents an elevation of a portion of the brick structure embodying my invention, showing a portion broken away and in vertical cross-section. Fig. II represents a horizontal cross-section of a portion of the brick structure embodying my invention and illustrating a modified form thereof. Fig. III represents a perspective view of a portion of such structure, upon an enlarged scale, illustrating one elemental brick used therein. Figs. IV, V, and VI represent views similar to that illustrated in Fig. III, illustrating modified forms of bricks embodying my invention.

My said invention may be embodied in a construction requiring any of the usual forms of bricks. In the construction illustrated, however, the bricks shown are those having the common form—that is, the form of a parallelepiped. The following description will hence be devoted to the invention as particularly applied to said common form of brick. Such description will, however, enable any one skilled in the art to apply such invention to any one of the usual other forms of brick.

The upper and lower faces A of such brick are each provided with a depression a , having

its peripheral surface portions $a' a' a^2 a^2$ removed from the periphery of the brick, Fig. III. In the form shown the depression is bounded by five plane surfaces, of which the lateral ones $a' a'$ and $a^2 a^2$ converge toward each other in the direction of the center of the brick in order to facilitate the withdrawal of the die used for forming same, as will be readily understood. The form shown, in which the depressions are entirely included within peripheries of their respective faces, is my preferred form; but any shape of depression may be employed in which a line may be drawn parallel with the longitudinal or transverse brick axis and pierce the laterally-bounding planes of the depression at at least two points. Each of the two end faces A' of the brick is provided with a semicylindrically-formed duct a^3 , located transversely with relation to and intersecting the upper and lower faces A. Said ducts are preferably located centrally with relation to their respective end faces, such location facilitating the laying of the bricks, as hereinafter described and as will be readily understood. In bricks of form other than that shown in the construction such ducts a^3 may be located in any face transversely located relatively to the faces containing the depressions a and intersecting such faces.

In forming a structure with bricks of the above description the latter are laid in courses one upon the other, adjacent bricks of the same course being laid so as to cause their contiguous end surfaces to be in contact with each other and the bricks of the different courses to have their contiguous upper and lower surfaces in contact with each other. As in the ordinary method of laying bricks, these bricks are laid so as to overlap one another, and the depressions in the upper and lower surfaces are made of a length sufficient to cause them to overlap, as illustrated in Fig. I. In such laying it is preferable to cause each brick to overlap half of the contiguous bricks, as shown, and to assist the bricklayer in securing such position transverse marks a^4 are provided in any suitable manner upon the upper and lower surfaces of the bricks. In such position of the bricks the semicylindrical end ducts a^3 of contiguous bricks reg-

ister with one another and form cylindrical ports, as shown in Fig. I. The contiguous depressions a communicate one with the other as a result of the described overlapping and form one continuous longitudinal cavity, as shown in Fig. I. By forming the depression as previously described but a single depression in each face need be provided and longitudinal or transverse displacement of the brick may after being laid be prevented. These cavities are open to exterior communication by means of the ports described, the alternately-occurring location of such ports establishing communication with each other of the various cavities, as is seen from the drawings. Two courses of bricks being in the position above described cement or some other binding agent in liquid form may now be poured into the ports to fill the cavities formed between them. Such cement or binding material D upon hardening forms a solid body which secures the courses as a result of its adhesion thereto and prevents lateral and longitudinal displacement of the bricks as a result of the peculiar formation of such body arising from the above-described form and location of the depressions a . Such pouring may be readily effected, since the adjacent surfaces are all in contact one with the other, thereby inclosing the cavities sufficiently to prevent the cement or other liquid binder from oozing out between such surfaces. Contiguous tiers of courses may be similarly bound one to the other by forming the lateral longitudinal faces A^2 with depressions a^5 , similar to the depressions a , and causing the contiguous bricks of the adjacent tiers to overlap in the above-described manner and as shown in Fig. II. In such case ducts a^6 are formed in the end faces A' , located transversely relatively to ducts a^3 and centrally located, as is shown in Fig. IV. Such ducts a^6 of adjacent bricks register with each other and form ports communicating with cavities formed by the depressions a^5 and located between the adjacent tiers. These cavities communicate with the cavities between the courses, so that the entire system of cavities provides continuous communication, so that the cement or other binder, upon hardening, forms one continuously-connected body throughout the structure.

In order to fill the cavities formed by the depressions a upon the lower side of the first courses of bricks, ducts b may be formed by breaking away a portion of the brick material, as shown in Fig. IV in dotted lines, or bricks may be especially molded for such lowermost courses having such ducts b' already formed, Fig. VI.

When the construction is used which is illustrated in Fig. II, the bricks constituting the two outer courses C and C' , when both the lateral surfaces of the structure are to be exposed, as in a wall, and it is desired to have such surfaces smooth, the inner lateral surface alone of each brick need be provided

with a depression a^5 and with but one duct a^6 , as will be understood.

When it is desired to utilize my invention in a construction with air or liquid tight brick structures, a groove d is formed immediately of each side of the depression a and the adjacent brick edge and intersecting the two end faces of the brick, as shown in Fig. V. Such end faces are formed with a groove d' , intermediate of the duct a^3 and each adjacent side edge of such end faces and connecting the adjacent ends of the grooves d , as shown in said figure. Ducts d^2 are formed connecting the grooves d with the depressions a . It is thus seen that when bricks of the above-described construction are placed contiguous to and upon each other a continuous cavity is formed completely around each side of each brick, which may be filled with cement or other binder during the pouring operation previously described. Such cement or binder upon hardening in such cavities formed by such grooves projects into contiguous bricks, thereby forming an air-tight or liquid-tight joint, as described. Ducts d^3 (shown in dotted lines in Fig. V) may be substituted for the ducts d^2 , or both may be used in combination, it being only necessary to provide intercommunication between the ports formed by ducts a^3 and said grooves at any suitable point.

Fig. VI illustrates a brick combining the features of the invention illustrated in Figs. IV and V and in which additional ducts b' and b^2 are shown providing additional communication between ducts a^3 and depressions a .

By the use of the above-described invention the bricks comprising the structure may be, as will be readily understood, laid "dry"—that is, the bricks of one entire course may be laid before they need be cemented to each other, thereby greatly reducing the time required in forming the structure. Further, since the bricks are laid with their contiguous surfaces in contact with each other, and hence without the intervening layer of mortar or cement, as in the ordinary brick construction, the penciling of the mortar is entirely dispensed with in my improved construction. A further economical advantage arising out of the use of the above-described invention resides in the absence of the necessity for employing the highly-skilled labor usually employed in this class of work.

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the means herein disclosed provided the means stated by any one of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention—

1. In a brick construction, a brick having a centrally-located depression on each of two opposite faces, such depressions being re-

5 moved from the edges of such faces so as to form surrounding projecting walls on the four sides of the brick, each of two other opposite faces being provided with a duct intersecting the planes of the said first-named faces.

2. In a brick construction, a brick having a single depression on each of two of its opposite faces entirely included within the periphery of such face, each of two other opposite faces being provided with a duct intersecting the planes of the said first-named faces.

3. In a brick construction, a brick having a depression on each of two of its opposite faces entirely included within the periphery of such faces, each of two other opposite faces being provided with a duct intersecting the planes of said first-named faces, the latter faces being provided with channels establishing communication between said depressions and ducts.

4. In brick construction, a brick formed with a facial depression, a duct intermediate of one side of such depression and the contiguous edge of the brick, a duct intersecting the sides of such depression and intermediate duct, its end faces formed with a duct located transversely relatively to said upper and lower faces and intersecting the latter.

5. In brick construction, a brick provided upon two opposite faces with a depression, a groove intermediate of each side of such depressions and the adjacent brick edge and intersecting the two end faces of the brick, such end faces being each formed with a duct intersecting the first-named faces, and with

a groove intermediate of each side edge of each such end face and the said end face duct and connecting the adjacent ends of said first-named intermediate grooves and ducts connecting said intermediate grooves with said depression.

6. In brick construction, a brick formed with a single centrally-located depression on its top and bottom faces, such depressions being removed from the adjacent brick edges so as to form projecting walls on the four sides of the top and bottom of the brick, each of the two end faces of the brick being formed with a centrally-located duct traversing a direction at right angles with the plane of the top and bottom of the brick.

7. A brick construction consisting of the combination of a plurality of bricks laid in courses, adjacent bricks of the same course and of different courses being laid with their contiguous surfaces in contact with each other, the bricks of one course overlapping those of the contiguous courses, upper and lower contiguous brick faces being provided with depressions of length sufficient to cause each of such depressions of contiguous bricks to overlap two depressions of contiguous bricks of a contiguous course, each end face of such bricks being provided with a duct intersecting such upper and lower faces.

Signed by me this 7th day of August, 1901.

E. D. SCOTT.

Attest:

GEO. WM. SAYWELL,
A. E. MERKEL.