Sept. 15, 1936. E. A. NELSON 2,054,679

FORMTILE STRUCTURE

Original Filed Aug. 22, 1933 2 Sheets-Sheet 1

Fig. 1.

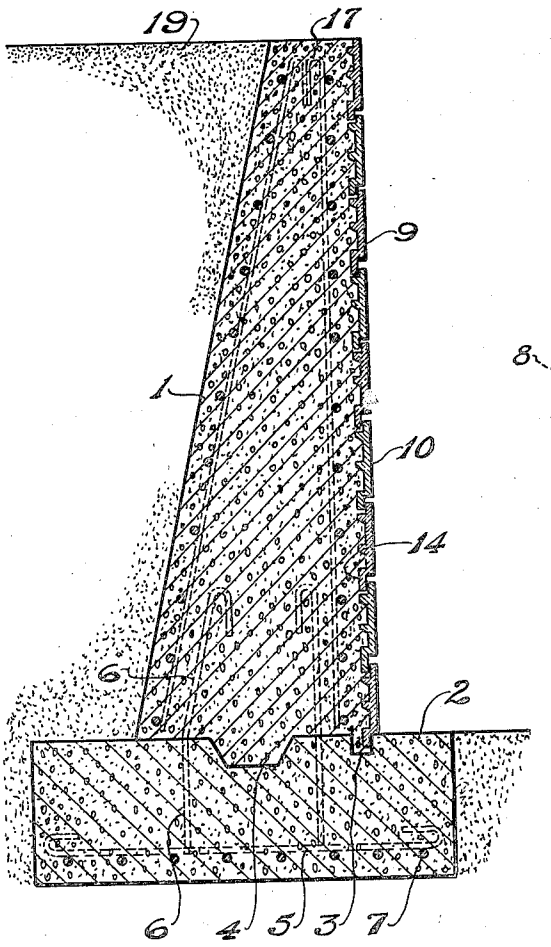

Fig. 2.

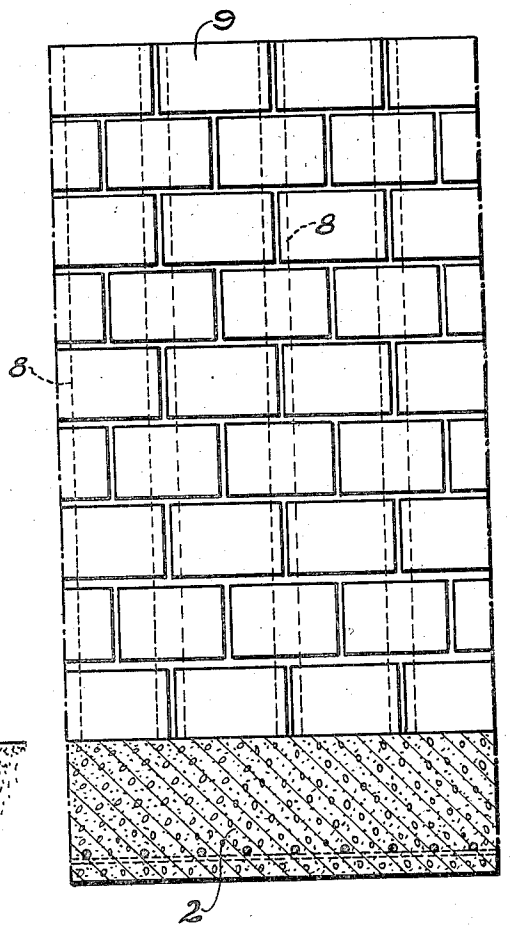

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Fig. 3.

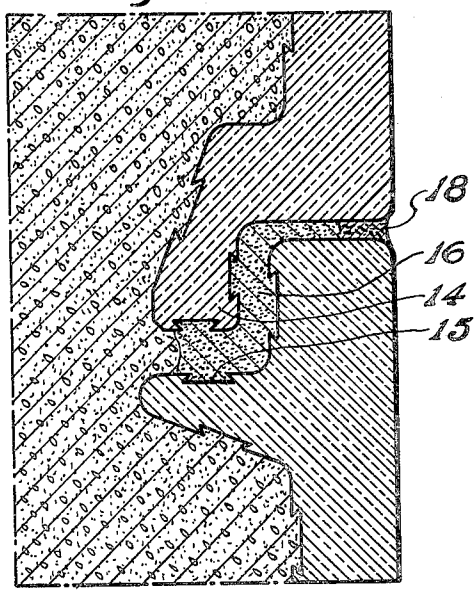


Fig. 4.

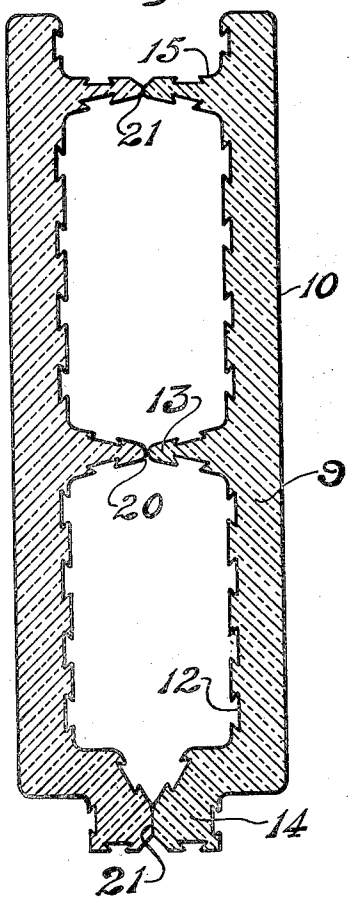
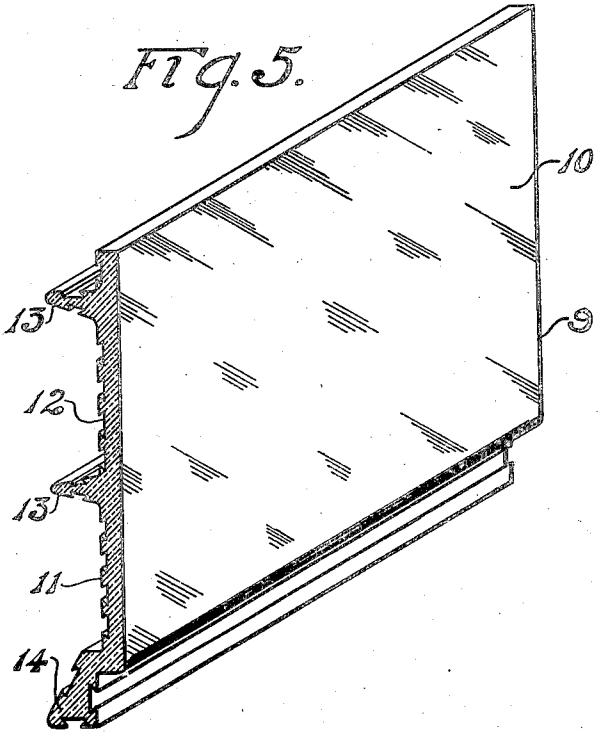


Fig. 5.



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UNITED STATES PATENT OFFICE

2,054,679

FORMTILE STRUCTURE

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Original application August 22, 1933, Serial No. 686,222. Divided and this application May 22, 1934, Serial No. 726,934

3 Claims. (Cl. 72—18)

This invention relates to new and useful improvements in interlocking form-tile, and the present application is a division of an application bearing Serial No. 686,222 filed August 22, 1933.

It is among the objects thereof to provide an interlocking tile for facing concrete walls or abutments such as retaining walls for swimming pools, dams, or any other uses where the concrete wall would be subject to disintegration by acid or water without surface protection.

Another object of the invention is the provision of a tile which is designed to be manufactured as a double unit to cheapen its production and facilitate its handling in manufacture, such double unit being split after firing to constitute two single units for use as form-tile hereinbefore mentioned.

These and other objects of the invention will become more apparent in consideration of the accompanying drawings constituting a part hereof in which like reference numerals designate like parts and in which:

Figure 1 is a cross-sectional view illustrating a retaining wall with a smooth glazed interlocking form-tile facing embodying the principles of this invention;

Figure 2 a front elevational view of a part of the wall shown in Figure 1;

Figure 3 an enlarged detail showing the horizontal interlocking joint construction of the tile;

Figure 4 an end elevational view of a double unit of interlocking tile before it is separated along the center line to constitute the single tile facing; and,

Figure 5 a perspective view of the separated unit tile.

With reference to the several figures of the drawings, the structure therein illustrated comprises a retaining wall of concrete generally designated by the reference numeral 1 mounted on a concrete footing 2. The wall is constructed by first pouring the concrete footing 2 allowing a pocket 3 for facing tile and a key 4 for the wall 1. The footing is provided with a steel reinforcing 5 which has dowels 6 projecting upwardly above the footing and transverse reinforcing rods 7 extending thereacross. Supports shown by dotted lines 8 in Figure 2 are erected on the footing adjacent the pocket 3 and the form-tile designated by the numeral 9 is then built up against the support.

The tile 9 has a smooth glazed outer surface 10 and a serrated inner surface 11 consisting of dove tails 12 and bayonet projections 13 which are designed to interlock with the concrete of the retaining wall. The bottom of the tile 9 is provided with a downwardly depending portion 14 which is designed to interact with a shoulder 15 at the upper end of the tile in the manner shown in Figure 3 of the drawings to form staggered horizontal and a vertical mortar joint. Water proof cement 16 is employed in the horizontal and vertical joints. When the glazed tile is assembled in the manner shown in Figure 1 of the drawings it constitutes a formwork for the concrete of the retaining wall which is poured with steel reinforcing 17 extending vertically as shown. After the concrete is poured, the shoring is removed and the glazed tile is pointed with a bituminous asphalt material 18 to prevent the seepage of water into the joint. It is, of course, necessary to use adjustable anchors on the supports 8 where the height of the wall requires it.

After the wall has set, the back of the wall is filled as designated by the numeral 19, thus producing a strong retaining wall with a smooth glazed outer surface which protects the concrete and steel reinforcing from disintegration.

While the form-tile has been illustrated as applied to a retaining wall, it is evident that this construction may be employed for bridge piers, abutments, canals, dams, basements, foundation walls, tunnels, and for any purpose where the concrete structure is subjected to acid water or to other liquids.

With reference to Figures 4 and 5, attention is directed to the serrations of the inner wall of the double tile which, as shown, can be produced by an extrusion die, and as the joints 20 and 21 of the double tile are relatively thin sections, the double tile would readily split when subjected to a blow to produce the single form-tile units.

With reference to Figure 3 of the drawings, it will be noted that the off-set joint constituted by the members 14 and 15 provides a pair of horizontal and a vertical border line which not only securely join the adjacent edges of the tile, but prevents the seepage of water through the tile to the inner concrete wall. The tile, in itself, constitutes a structural section of considerable strength and need not be very heavy, a three-quarter inch wall section being considered sufficient for most uses.

It is evident from the foregoing description of this invention that form-tile employed as a glazed facing for retaining walls or the like does not add appreciably to the cost of such retaining walls, and will greatly enhance the life of the structure to which it is applied as well as provide

a smooth and esthetic appearance to otherwise drab construction.

Although one embodiment of the invention has been herein illustrated and described, it will be obvious to those skilled in the art that various modifications may be made in the details of construction without departing from the principles herein set forth.

I claim:

1. A form-tile for retaining walls or the like comprising a smooth glazed outer surface and a serrated inner surface, one end of the tile having an off-set downwardly projecting portion, and the opposite end of the tile an inwardly extending shoulder, said shoulder being spaced below the end of the tile to form an off-set portion for receiving the downwardly projecting portion of adjacent tile whereby to form horizontal and vertical mortar joints when the tile are placed in end to end relation.

2. A form-tile for retaining walls or the like comprising a smooth glazed outer surface and a serrated inner surface, one end of the tile having an off-set downwardly projecting portion, and the opposite end of the tile an inwardly extending shoulder, said shoulder being spaced below the end of the tile to form an off-set portion for receiving the downwardly projecting portion of adjacent tile whereby to form a pair of horizontal and a vertical mortar joint when the tile are placed in end to end relation, said tile having inwardly projecting portions for embedment in the concrete.

3. A tile unit comprising a hollow refractory body having its parallel outer faces glazed, said parallel walls being offset inwardly to close one end of the hollow unit and being further offset at their closed end to form a projection thereon, a partition extending between the parallel walls at substantially the center of the unit, and a second partition spaced from the end of the unit opposite the end on which the projection is formed, said last named partition being spaced from the end of the tile to form a recess for receiving the projecting end portion of similar tile, the inner walls and projections of the tile having recesses constituting interlocking mortar faces of maximum area, and said tile unit being further adapted to be split through the partition and end members to constitute a facing tile for concrete walls or the like.

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