May 9, 1967 L. E. WRIGHT 3,318,059

WALL FOUNDATION CONSTRUCTION INVOLVING BLOCK HAVING MORTAR RETENTION MEANS

Filed May 16, 1966

2 Sheets-Sheet 1

Fig-1

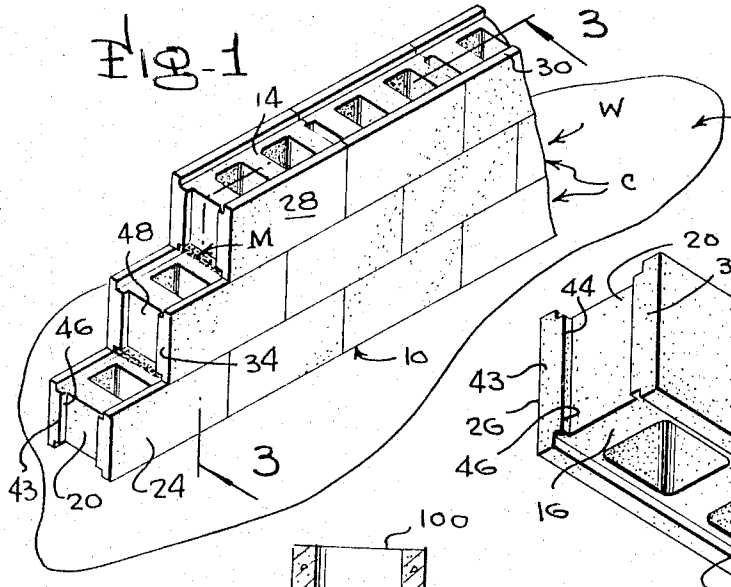


Fig-2

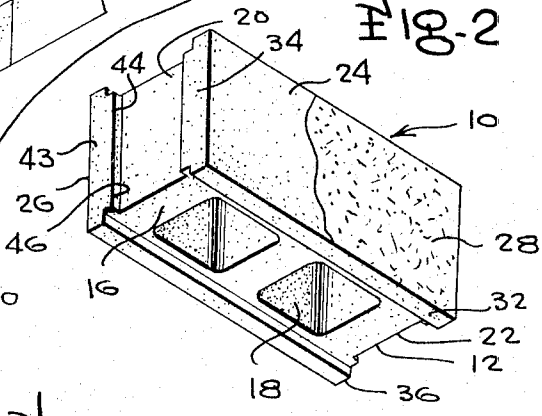
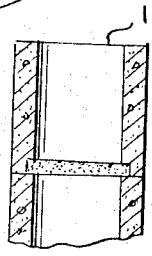


Fig-5



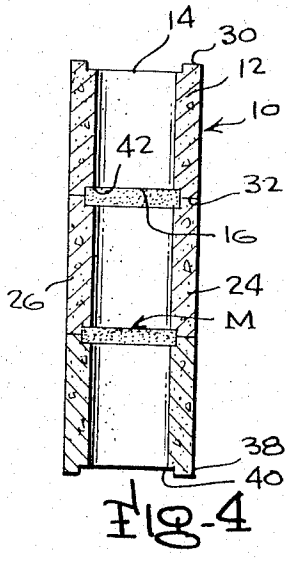


Fig-4

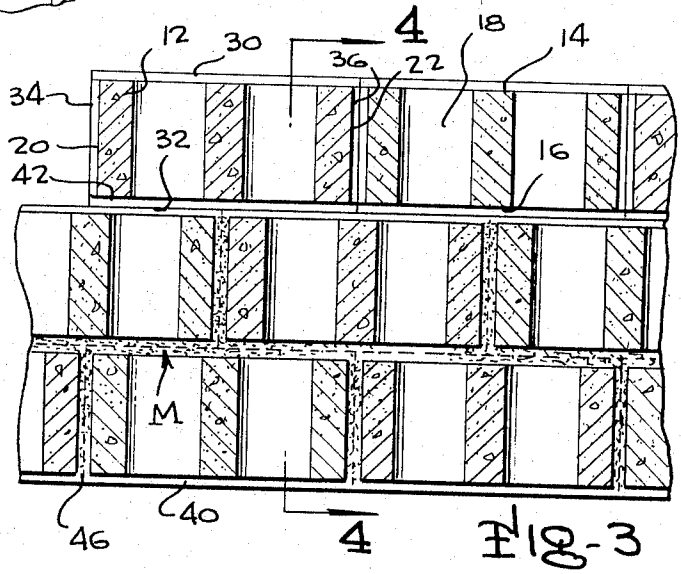


Fig-3

INVENTOR

LYLE E. WRIGHT

BY Robert D. McMorrow

ATTORNEY

May 9, 1967 L. E. WRIGHT 3,318,059

WALL FOUNDATION CONSTRUCTION INVOLVING BLOCK HAVING MORTAR RETENTION MEANS

Filed May 16, 1966 2 Sheets-Sheet 2

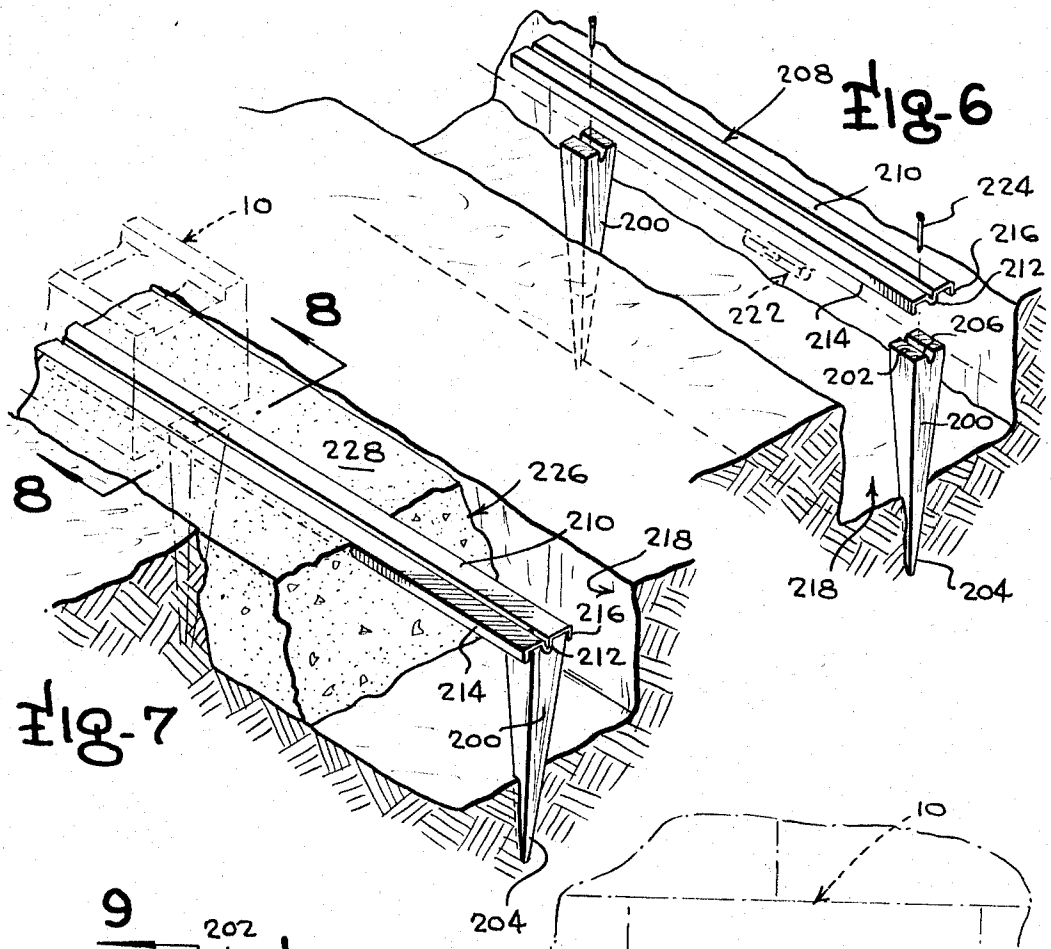


Fig-6

Fig-7

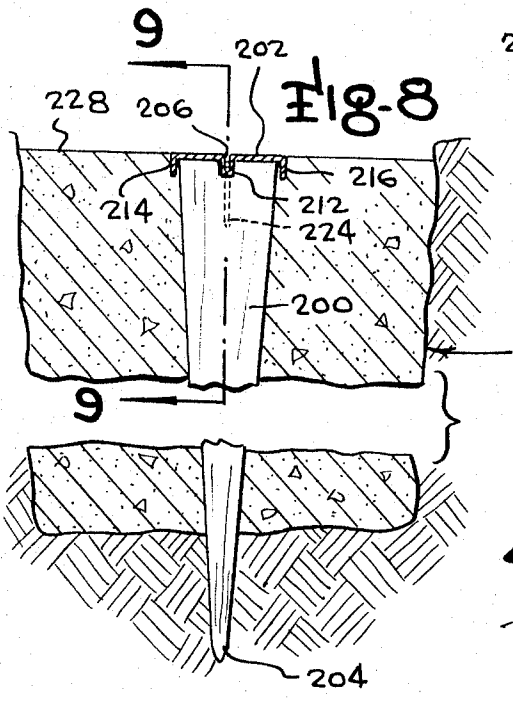


Fig-8

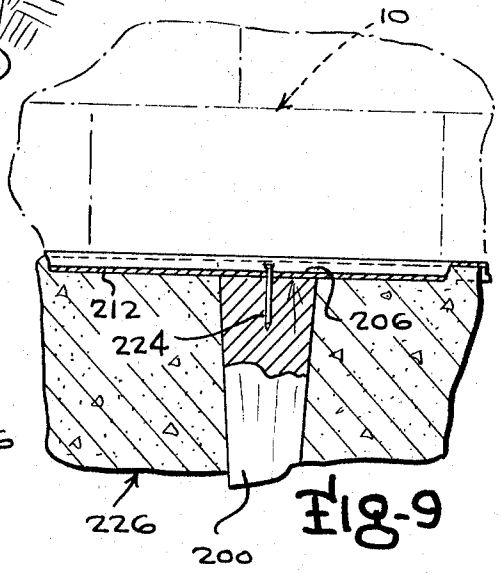


Fig-9

INVENTOR

LYLE E. WRIGHT

BY Robert D. McMorrow

ATTORNEY

United States Patent Office 3,318,059 Patented May 9, 1967

3,318,059

WALL FOUNDATION CONSTRUCTION INVOLVING BLOCK HAVING MORTAR RETENTION MEANS

Lyle E. Wright, Lanham, Md., assignor to Universal Building Products Corporation, Washington, D.C.

Filed May 16, 1966, Ser. No. 557,852
2 Claims. (Cl. 52—169)

This application is a continuation-in-part of application Ser. No. 406,689, filed October 27, 1964, now abandoned.

This invention pertains to wall constructions formed of blocks made from aggregate materials, such as cinder blocks, cement blocks, and the like, wherein the wall is of new and novel decorative form and is of an improved, substantially waterproof construction.

The basic object of the present invention is to supply a block for use in a wall construction, the block being of a construction such that adjacent blocks are adapted to meet in edge to edge contact insofar as all visible portions are concerned while, at the same time, the blocks are provided with improved mortar joints.

Another object of importance resides in the provision of blocks for use in a wall construction wherein the mortar joints of the wall are concealed and protected.

A further object of the arrangement hereof is the provision of a block with side and end edges arranged for flush contact with side and end edges, respectively, of adjacent blocks forming enclosures about the mortar joints of the block, thereby rendering the wall construction virtually impregnable to the passage of water or moisture therethrough.

Yet another object is to provide decoratively faced blocks meeting in close edge to edge contact, to provide a minute and inconspicuous joint therebetween—giving the effect of a monolithic wall surface. In this respect, the invention provides an effect similar to that provided in my prior copending application Ser. No. 393,893, filed Sept. 2, 1964.

An additional and related basic objective hereof concerns the provision of levelling means for insuring the level horizontal alignment of the initial course of a wall construction. In the formation of special block configurations, previous proposals have been objected to on the basis of difficulties involved in the levelling of the first or base course of a series thereof. It is therefore an objective of this invention to supply a means to insure initial course levelling.

A further object is to provide a wall construction wherein mortar joints between adjacent block courses are encased by the block whereby the block courses are supported on underlying courses during erection of the wall, as opposed to conventional systems wherein the courses rest on underlying mortar joints. In the absence of weight bearing on the mortar joints, improved strength characteristics of the finished wall are achieved, and the walls may be constructed to any selected height without delay for curing of the joints.

Additional objects and advantages of the invention will become apparent to those skilled in the art from a consideration of the following specification when read in conjunction with the annexed drawing, in which:

FIGURE 1 is a perspective view of a portion of wall construction in accordance with the present invention;

FIGURE 2 is an enlarged perspective view of one of the blocks hereof;

FIGURE 3 is an enlarged, longitudinal cross section, taken substantially on the line 3—3 of FIGURE 1, looking in the direction of the arrows;

FIGURE 4 is a vertical cross sectional view taken on

the line 4—4 of FIGURE 3, looking in the direction of the arrows;

FIGURE 5 is a sectional view similar to FIGURE 4, showing a modification;

FIGURE 6 is a fragmentary perspective view showing a footing excavation and disassembled levelling apparatus hereof;

FIGURE 7 shows the elements of FIGURE 6 following pouring of the footing, and indicates the placement of an initial block thereon;

FIGURE 8 is an enlarged sectional view on the line 8—8 of FIGURE 7, looking in the direction of the arrows; and

FIGURE 9 is a detail sectional view on the line 9—9 of FIGURE 8, looking in the direction of the arrows.

Proceeding to a more detailed description of the invention, the block hereof is generally designated in the drawings by reference numeral **10**, and the block is best shown per se in FIGURE 2. The block, for purposes of description, includes a main block body portion **12** having substantially flat upper and lower sides **14**, **16**, respectively. The blocks preferably have a plurality of cores **18** formed therein which extend from the upper sides **14** to the lower sides **16** thereof.

The block body portion **12** further includes opposite ends **20** and **22** of generally flat form, arranged substantially perpendicular to the sides.

Forward and rear facing elements **24** and **26** are fixedly secured (preferably by integral formation of the blocks as monoliths), to the main block body portion **12** and the facing elements are of enlarged dimension relative to the portion **12** and extend outwardly of the sides and ends thereof. Each element may, if desired, be decoratively coated as at **28**, and each has upper and lower side edges **30**, **32**, and end edges **34**, **36**.

The edges **30** and **32** of the facing elements project outwardly from the sides **14** and **16** and thus form flanges **38** with inwardly facing walls **40**. The walls **40** and the sides **14** and **16** define mortar retention troughs **42** along the upper and lower central block areas in a course thereof.

The facing elements further extend outwardly of the ends **20** and **22** of the blocks whereat they comprise flanges **43** of increased depth as indicated at **44** with inner walls **46**. The inner walls **46** and ends **20**–**22** define mortar retention pockets **48** at the central end areas of the blocks.

As shown in the drawings, the blocks are adapted for employment in a wall construction W or the like, installed on a surface S. In such arrangement, the blocks **10** are placed in courses C which may be staggered. With the blocks in position, the mortar M occupies the troughs and pockets, but is concealed from view and protected from moisture and otherwise by the flanges **38** and **43**. The end and side edges of the facing elements are in close contact and present an appearance of a monolithic structure to all but the closest inspection, and in fact, this close abutment of the end and side edges prevents the intrusion of moisture into the wall and into contact with the mortar M.

In FIGURE 5, a modified form of the block is disclosed. In this embodiment of the invention, the upper side **100** is flat and uniplanar. As seen in the drawings, the uniplanar side is arranged adjacent a flanged side to provide a mortar pocket. The provision of a pocket with one flat, uniplanar side permits manufacture of the blocks in certain types of machinery wherein such feature is a requirement.

In the formation of walls employing blocks **10** of the type hereinbefore described, it is quite important that the surface S on which the blocks are to be installed be level (or that the first course be levelled). In order to provide

an initially level footing, the present invention includes a means for levelling of a footing during its installation. This means includes a plurality of grade stakes **200** each having a generally flat top side **202** and preferably sharpened at its lower end **204** to facilitate the driving of the stakes into the ground. The stake top sides have central slots **206** therein extending the full length of the top for a purpose appearing below.

Further included in the levelling means is a plurality of levelling plates **208** each comprising an elongated plate **210** formed preferably of metal or the like. Each plate has a central, longitudinal, depending crimp section **212**, and side flanges **214**, **216**. As indicated in the drawings, the plate is dimensioned to overlie the top side **202** of the stakes, with the crimp **212** occupying the slot **206** and the flanges **214**, **216**, being engaged about the sides thereof.

In the use of this apparatus, an excavation **218** is first formed at the described location of the footing. Stakes **200** are then driven into the ground at the approximate center of the footing at longitudinally spaced locations. The tops **202** of the stakes are thereafter levelled with respect to one another as indicated in FIGURE 6 wherein, by way of example, a line **220** is extended along the top of each stake, and the stake tops are then driven into the ground to an extent such that a levelling device **222** indicates that the desired level coalignment of the tops has been achieved. With the stakes thus levelled, plates **208** are connected thereto at required intervals to form an uninterrupted series thereof, nails **224** being driven through the crimps **212** and into the stakes to effect connection thereof. Thereafter, the level of the plates is again checked with a suitable instrument such as the spirit level **222**, and the aggregate material for formation of the footing block is poured. Any flat tool of appropriate size is thereafter used to strike the aggregate level with the top **210** of the plate, and the finished footing **226** is thus levelled with the previously levelled top of the string of plates. This provides a top surface **228** for the footing to which the blocks **10** or **100** may be applied directly without additional levelling.

Having described and illustrated several embodiments of this invention in some detail, it will be understood that this description and illustration have been offered merely by way of example, and that the invention is to be limited in scope only by the appended claims.

What is claimed is:

1. In a wall construction:

a footing including a plurality of upstanding, earth engaging stake elements arranged at spaced locations and having horizontally coaligned upper ends;

elongated plate means secured along the stake element upper ends, the plate means having a top surface arranged in a substantially uni-planar horizontal line;

a concrete footing formed about the stake elements and subjacent the plate, the footing having an upper surface level with the top surface of the plate means;

the stake element upper ends having slots formed therein;

the plate means having downwardly extending crimp sections fastened in engagement with the slots;

the plate means having side flanges and embracing the upper ends of the stakes with the flanges extending over either side thereof;

a plurality of blocks arranged in courses, the blocks each including a main block body portion;

a plurality of enlarged facing elements secured to the main block body portions; and

the facing elements defining mortar retention areas.

2. In a wall construction:

a footing including a plurality of upstanding, earth engaging stake elements arranged at spaced locations and having horizontally coaligned upper ends;

elongated plate means secured along the stake element upper ends, the plate means having a top surface arranged in a substantially uni-planar horizontal line;

a concrete footing formed about the stake elements and subjacent the plate, the footing having an upper surface level with the top surface of the plate means;

the stake element upper ends having slots formed therein;

the plate means having downwardly extending crimp sections fastened in engagement with the slots;

the plate means having side flanges and embracing the upper ends of the stakes with the flanges extending over either side thereof;

a plurality of blocks arranged in courses, the blocks each including a main block body portion;

enlarged forward and rear facing elements secured on the main block body portion and extending outwardly from the sides and ends thereof to provide outwardly extended flanges at the upper and lower sides of the block;

the flanges being parallel with one another;

the flanges and sides defining mortar retention troughs extending along the upper and lower sides of each block;

the facing elements extending outwardly of the ends of the blocks to provide end flanges thereby permitting the introduction of mortar therein following initial placement of the blocks; and

the flanges being in edge to edge contact to enclose mortar pockets and to present the appearance on a monolithic structure.

References Cited by the Examiner

UNITED STATES PATENTS

Re. 25,199	7/1962	Brownell	52—742
901,833	10/1908	Rettig	52—421
1,154,546	9/1915	Peters	52—438
2,202,850	6/1940	Guignon	52—274 X
2,558,630	6/1951	Steward	52—436
2,753,962	7/1956	McBerty	52—293 X
2,887,869	5/1959	McKay	52—438 X
3,114,244	12/1963	Silver	52—169 X

FOREIGN PATENTS

53,707	12/1910	Switzerland.

FRANK L. ABBOTT, *Primary Examiner.*

A. C. PERHAM, *Assistant Examiner.*