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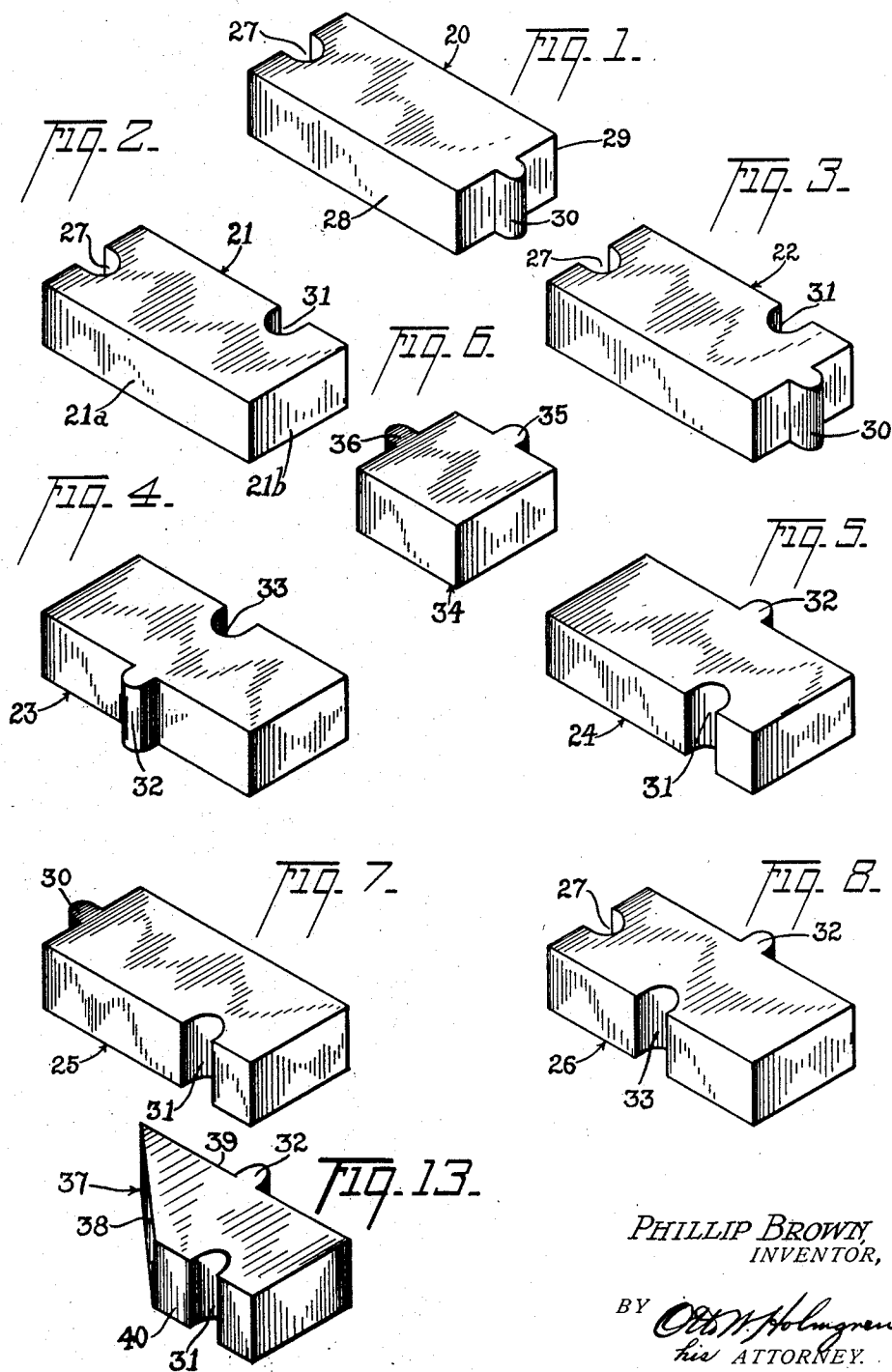
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INTERLOCKING BUILDING BRICK

Filed Sept. 23, 1932

2 Sheets-Sheet 1



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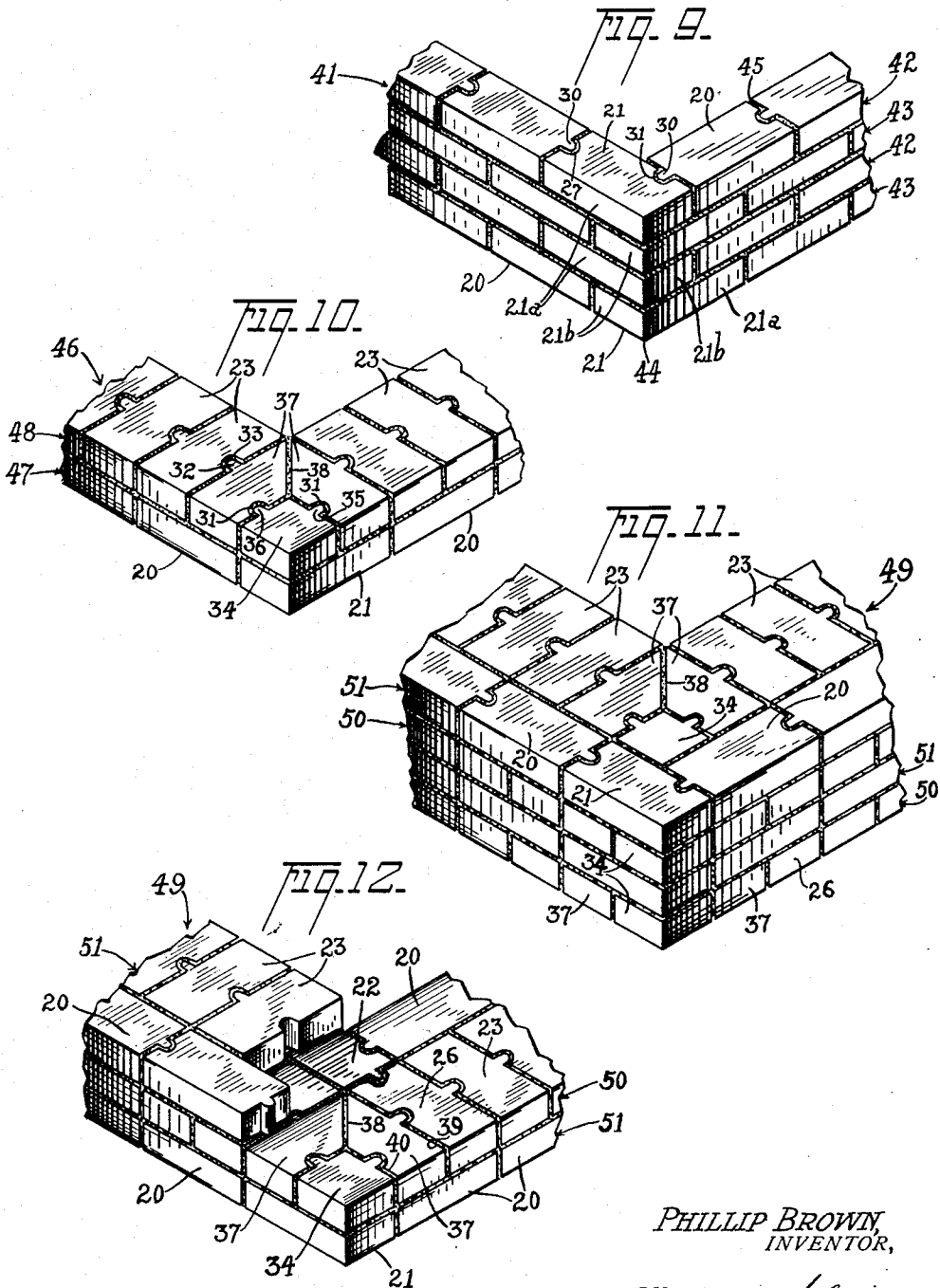
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UNITED STATES PATENT OFFICE

1,984,393

INTERLOCKING BUILDING BRICK

Phillip Brown, Brooklyn, N. Y.

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5 Claims. (Cl. 72—38)

This invention relates to building bricks, and aims particularly to provide a novel and valuable interlocking brick construction for use in building walls, laying pavements or floors, constructing stairways, piers and the like, and for other building purposes for which common bricks have heretofore been employed.

The primary object of the invention is to provide an interlocking brick construction in which the bricks in each course are firmly bonded, one to another, thereby imparting strength and durability, as well as contributing toward the prevention of the passage of fire or water seepage through the joints.

A further object of the invention is to simplify and improve the construction of interlocking building bricks, to reduce the cost of manufacture thereof, and to facilitate the laying of such brick by the workman, thereby economizing in labor and materials and resulting in a saving in the cost of constructing buildings or other structures.

A still further object is to provide a set of interlockable building bricks which are interchangeable for the production of walls of different width, as well as in a variety of bond patterns, and also for other construction purposes in a wide variety of designs or patterns.

Another object is to provide interlocking building bricks capable of simplifying and improving the construction of locking corners for a wall and the like, in which the bricks in each course are firmly interlocked at the corners, with adjoining courses alternating for the production of a variety of ornamental effects at the exterior of the wall.

Yet another object of the invention is to provide a plurality of tongued and grooved building bricks capable of use interchangeably for the production of a variety of corner constructions as well as a variety of wall patterns.

Other objects and advantages of the invention will be hereinafter specifically pointed out, or will become apparent, as the specification proceeds.

With the above indicated objects in view, the invention resides in certain novel constructions and combinations and arrangements of parts, clearly described in the following specification and fully illustrated in the accompanying drawings, which latter show embodiments of the invention as at present preferred.

In the drawings,

Figures 1 to 5, inclusive, and Figures 7 and 8, illustrate different forms of interlocking bricks

constructed according to the present invention and suitable for interchangeable use as headers or stretchers in different wall constructions.

Figure 6 illustrates another form of interlocking brick particularly adapted for use in building up corners and the like.

Figure 9 illustrates a narrow wall construction the width of which is equal to the breadth of the brick, with all courses constructed of stretcher bricks.

Figure 10 illustrates a wide wall with my improved locking corner construction, the width of the wall being equal to the length of the brick.

Figure 11 illustrates a still wider wall incorporating features shown in Figs. 9 and 10.

Figure 12 shows a corner construction built up as shown in Fig. 11, but partly broken away to more clearly illustrate the construction of adjoining courses; and

Figure 13 shows an irregularly constructed brick for use in combination with the brick shown in Fig. 6.

Referring more particularly to the drawings, I provide in this instance a plurality of differently constructed bricks, designated 20, 21, 22, 23, 24, 25 and 26, each of which is shown as a rectangular block, which may be of any desired dimensions, but here shown of a size in which the proportions are substantially the same as in common brick, viz., with the thickness, breadth and length in the ratio of 2:4:8 inches; each of these bricks having rounded tongue and/or groove portions by which the several forms of bricks are interlockable one with another.

Brick 20 is provided with a rounded groove 27, parallel with the sides 28 and 29 thereof, and midway between these sides, at one end of the brick, and a similarly arranged projecting rounded tongue portion 30 at the opposite end adapted to fit a groove 27 of an adjacent brick.

Brick 21 is constructed like brick 20, but omits the tongue 30 and includes a rounded groove 31 parallel with the groove 27, and positioned from one end a distance equal to one-half of the breadth of the brick.

Brick 22 includes the combined features of bricks 20 and 21, with grooves 27 and 31 and a tongue 30.

Brick 23 consists of a rectangular body including a tongue 32 and a transversely aligned groove 33, both positioned midway of the length of the brick.

Brick 24 is similar to brick 23, but has a groove 31 positioned as in Figs. 2 and 3 instead of the groove 33 shown in Fig. 4.

Brick 25 is like brick 22, but with the tongue omitted.

Brick 26 is like brick 23, and includes the groove 27 shown in Figs. 1 to 3, inclusive.

In addition to the aforesaid rectangular bricks, I provide a set of complementary angular bricks particularly adapted for use in producing a right angular or square formation, in the laying of corners, as well as for other purposes. These complementary bricks include a rectangular brick 34 (see Fig. 6), square at top and bottom, and of one-half the size of the rectangular bricks already described, this brick 34 having tongue portions 35 and 36 positioned midway of one of the sides and one of the ends, respectively; and an irregularly shaped angular brick 37 (see Figs. 10, 11, 12 and 13), formed with a tongue 32 and groove 31 positioned as seen in Fig. 5, but having an inclined end 38 extending at an angle from the long side 39 toward the short side 40, which latter is one-half as long as the side 39 and the same length as one of the sides of the square brick 34.

The bricks may be constructed in other angular shapes, and with tongue and groove portions arranged in a variety of ways, but the constructions shown herein are particularly adapted for use in producing the wall and corner constructions shown in Figs. 9 to 12, inclusive, as well as others, the several tongues and grooves being interlockable in many different ways, using all or only certain of the brick shapes illustrated herein.

Referring to Fig. 9, I here illustrate a narrow wall 41 built up by using bricks 20 and 21, laid in alternating courses 42 and 43. One course, 42, may be commenced with a brick 21 at the corner 44, the unbroken long side 21a of the brick 21 being disposed at one side of the corner and the unbroken end 21b thereof at the opposite side of the corner. A brick 20 is then laid at each side of the corner, the tongue 30 of a brick 20 at one side being lodged within the groove 31 of the brick 21; and the similar tongue 30 of a brick 20 at the opposite side being lodged in the groove 27 of brick 21. Bricks 20 are then continued, end to end, at each side of the corner, to complete the course.

The next course 43 is similarly laid, except that the corner brick 21 is reversed, so that the end 21b extends part-way along the length of the side 21a of the brick 21 in the course already laid; and the side 21a of the brick 21 in course 43 extends over and beyond the end 21b of the brick 21 in course 42. The courses 42 and 43 are alternated in this fashion, all the bricks 20 in all courses being laid as stretchers, with the ends 21b of the corner bricks 21 alternating as headers in the several courses at the corner 44. The complete wall in this instance presents the appearance of American bond; and any desired variations may be resorted to in the arrangement of particular courses located a specified number of courses apart, for the production of ornamental effects.

In laying the brick, mortar or other plastic cementitious material 45 is applied in the usual way, and without any more difficulty than in laying common brick. In applying the mortar the grooves are desirably filled and the tongued portions of the brick may be mortared and troweled off substantially flush with the end of the tongue, thus simplifying the work for the bricklayer. The tongued portions are then pressed into the

grooves in tapping the brick in place; and the resultant joint affords a firm bond which also resists the passage of fire or the seepage of rain or other water through the joint. The grooved portions are desirably of such size with relation to the tongued portions that when the bricks are laid end to end or face to face, as the case may be, the mortared joint will be of substantially the same width from end to end or face to face, or end to face, as the brick may be laid.

In Fig. 10 I illustrate a wall 46 twice the depth of the wall 41. This wall 46 includes a plurality of courses 47 and 48, and may be constructed in different ways to produce different bond patterns. As illustrated in this figure, the course 47 may be constructed with the course 43 of Fig. 9 at the exterior and the course 42 at the interior, thus producing a wide, interbonded course; and this arrangement may be alternated when the next course 47 is to be laid above a course 48, so that, in the next alternate course 47, the external effect will be like that of course 42.

The courses 47, as just described, are thus composed of stretchers throughout; and in this instance I lay the bricks of course 48 as headers, using bricks 23 and 37 at the sides of the wall and the square brick 34 at the corner. The brick 34 being laid at the corner, a pair of bricks 37 are then laid at opposite sides of the corner, with the tongues 35 and 36 of brick 34 interlocking with the grooves 31 of the respective bricks 37, and the inclined ends 38 of the bricks 37 meeting each other. Bricks 23 are then laid with their respective grooves 33 receiving the tongues 32 of the bricks 37 at each side of the corner; and the remainder of each wall side is constructed by continuing with bricks 23 laid side by side. Constructed as just described in connection with Fig. 10, a very artistic English bond effect is obtainable, the bricks in each succeeding course extending across each other and providing a firm bond throughout. Variations may also be resorted to for the production of a Flemish or other bond effect, if desired.

It is understood, of course, that a wall may be produced with all courses laid as in the course 48 if desired; and that any desired arrangement may be resorted to in the sequence of courses, or in courses succeeding or alternating with the course 48 for the production of different effects.

Referring now to Figs. 11 and 12, I here illustrate a wall 49 the depth of which is equal to one and one-half times the length of the rectangular bricks 21 to 26 inclusive. In this modification I employ alternating courses 50 and 51, clearly illustrated in Figs. 12 and 11, respectively.

Referring to course 51, it will be seen that this course is produced by employing the course 48 of Fig. 10 at the inside, and the course 42 of Fig. 9 at the exterior. The next succeeding course 50 may be produced by laying the course 48 of Fig. 10 at the exterior and the course 42 at the inside; but, as seen at the right hand side of the corner in Fig. 12, I desirably substitute a brick 26 for the brick 23 shown in Fig. 10, and employ a brick 22 to cooperate with the brick 26 as well as with the adjacent brick 20, in order to more firmly bond the inner and outer portions of the course 50.

It is understood, of course, that the courses 43 of Fig. 9 may be employed as part of the courses 50 or 51 of Figs. 11 and 12; and that in these courses 50 and 51 the course portions 42 and 43 may alternate. The bricks in the succeeding courses 50 and 51 are laid across each other, thus

resulting in a strong, interbonded construction capable of supporting the weight represented by a wall of considerable height. The resultant external appearance of the wall is that of the English bond type.

The present interlocking bricks may be constructed of clay, cement or any other suitable composition or material, and may be finished with glazed or enamelled surfaces, and in any desired color or combination of colors, for the production of different ornamental effects.

The bricks may be conveniently produced by the extrusion and baking process, or by molding, or otherwise; and it will be noted that in view of the fact that in most instances grooves correspond with tongue portions, the amount of material required in forming the bricks is about the same as with common rectangular bricks.

Considerable particularities of description, as to materials, part details, dimensions, capacities and utilities may have been herein indulged in, but it will be understood that these statements, made with particular reference to those now preferred of the many possible embodiments of the invention illustrated in the drawings, are not in any way to be taken as definitive or limitative of the invention. Inasmuch as many apparently widely different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the language contained in the following claims is intended to cover all the generic and specific features of the invention herein described, and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

In other words, the scope of protection contemplated is to be taken solely from the appended claims, interpreted as broadly as is consistent with the prior art.

What I claim is:

1. A corner unit for use in building construction including a plurality of bricks, one of said bricks comprising an angular body having a long side, a short side and an inclined end extending from one end of said long side to the terminus of said short side, said short side having a groove midway thereof and said long side having a tongue midway of said long side, and another of said bricks comprising a rectangular body, square at top and bottom and including a tongue portion at one of its sides and at one of its ends, each positioned midway of said side and end, respectively, the grooved portions of the short sides of said angular body being adapted to interlock with the tongue portions of said other brick, with the inclined sides of said angular bodies in abutting relation, and means for securing said bodies one to another.

2. In a brick wall and the like, a corner construction including a plurality of courses, one of said courses including a square cornerpiece having right and left smooth outer faces, each inner

face having a tongue portion, an angular brick laid against each of said tongued faces, said angular bricks each having a groove to receive the tongue portions of said cornerpiece, said angular bricks having inclined meeting end faces bisecting the corner, each of said angular bricks having a tongue portion at a long side thereof projecting away from the corner in opposite directions, and a plurality of outer header bricks successively laid adjacent said angular bricks at each side of the corner, and plastic means for securing all said bricks together as a unit.

3. A brick wall corner construction as set forth in claim 2, including a header brick immediately adjacent one of said angular bricks having an end groove, an inner stretcher brick disposed at the opposite side of the corner and having a tongue portion at one of its ends extending into the end groove of said immediately adjacent header brick, and a groove at its opposite end, another tongued stretcher brick laid end to end against said inner stretcher brick and against the inner ends of a plurality of said header bricks, and a tongued stretcher brick interlockably engaging said inner stretcher brick at the same side of the corner as said immediately adjacent header brick and being disposed against the inner ends of a plurality of header bricks at said last mentioned corner side.

4. In a brick wall and the like, a corner construction including a plurality of courses, one of said courses including a rectangular corner brick having a smooth side face and a smooth end face disposed at the left and right hand sides of the corner respectively, the opposite side and end faces having grooved portions, a plurality of outer stretcher bricks disposed at each side of the corner and interlockably engaging said rectangular corner brick, an inner square-topped brick laid diagonally in the plane of the corner and having inner tongue portions extending toward the left and right hand sides of the corner, an angular brick laid against each of the tongued faces of said inner square brick and each having a groove to receive the tongues of the latter, said angular bricks having inclined meeting end faces bisecting the corner, each of said angular bricks having a tongue portion at a long side thereof projecting away from the corner, a plurality of inner header bricks successively laid against said angular bricks at each side of the corner and in abutting relation with said outer stretcher bricks, and plastic means for securing all said bricks together.

5. An interlocking building brick comprising an angular body having a short side, a long side, and end portion at right angles to said long and short sides and a diagonally inclined side, said long side having a vertical tongue portion integral therewith substantially midway between the ends thereof, and said short side having a vertical groove substantially midway between the ends thereof, said tongue portion and groove being adapted to cooperate with the groove and tongue, respectively, of adjacent bricks.

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