July 22, 1924. 1,502,438

H. M. PRICE

BUILDING ELEMENT

Filed May 10, 1923

Fig. 1.

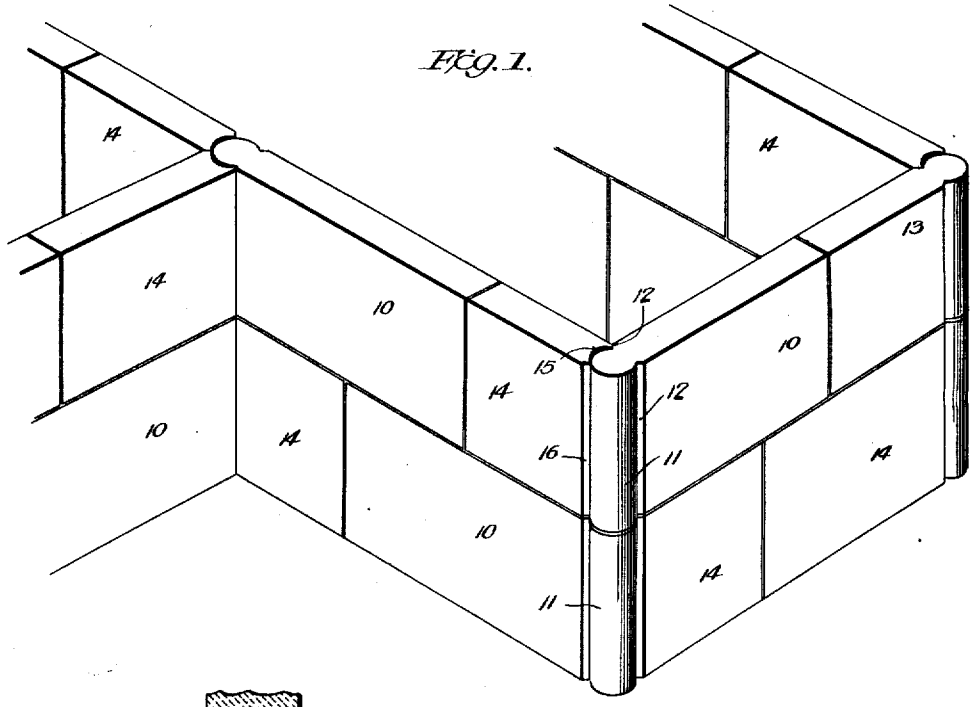


Fig. 2.

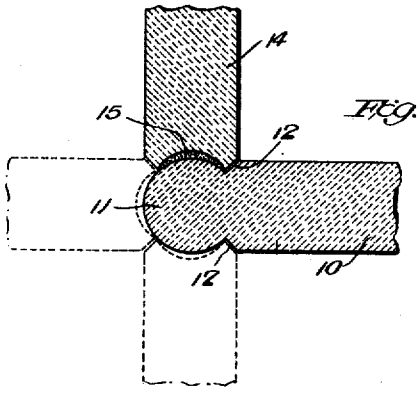
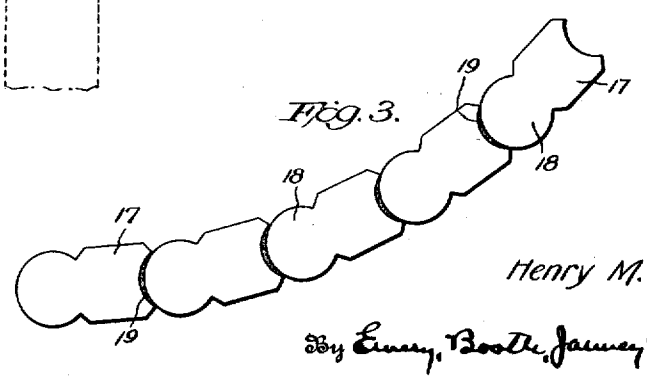


Fig. 3.



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UNITED STATES PATENT OFFICE.

HENRY M. PRICE, OF WASHINGTON, DISTRICT OF COLUMBIA.

BUILDING ELEMENT.

Application filed May 10, 1923. Serial No. 638,032.

To all whom it may concern:

Be it known that HENRY M. PRICE, a citizen of the United States, residing at Washington, District of Columbia, has invented an Improvement in Building Elements, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

My invention relates to building construction and aims to provide building elements particularly well adapted for wall or partition construction, especially for curved or angular walls and intersections and corners of walls, although also adapted for many other purposes.

The nature of the invention will be best understood from the following description of the preferred embodiments illustrated in the accompanying drawings.

In the drawings,

Figure 1 is a perspective view of a wall comprising building elements of my invention and illustrating several advantageous modes of construction in conformity with the invention;

Fig. 2 is a sectional view illustrating the manner in which four of the building elements may be joined together, as at the intersection of two walls or partitions; and

Fig. 3 is a sectional view through a portion of a curved wall constructed with building elements embodying my invention.

Referring to the wall construction illustrated in Fig. 1, the building elements therein shown may be of marble, brick, tile, hollow tile, concrete block or other analogous construction. The wall has, for illustration, two corners or turns and employs at said corners building elements having the general form of rectangular blocks, but with one or more edges modified to meet the conditions which obtain in constructing corners, intersections or changes in direction. For example, the block or element 10 has three flat straight edges, but along the fourth edge there is provided a bead 11 preferably extending throughout the length of said edge, said bead, in the illustrative form, being shown as particylindrical comprehending an arc of substantially three right angles or 270°. The arcuate bead 11 may advantageously have a diameter approximating the thickness of element 10, so that the bead 11 may be said to lie in the general plane of the building element and form one edge thereof.

Obviously other dimensions and positions of the bead are possible and may be desirable for certain constructions, and therefore I do not limit the invention to any particular size or location of the bead.

At each side of the bead 11 beveled surfaces or shoulders 12 may advantageously be provided, said shoulders being preferably plane and extending at an angle of substantially 45° to the plane of the side face of the block. The function of the two shoulders 12 will be apparent as hereinafter explained. For some purposes, a single shoulder will suffice, as will also be made clear. Where two shoulders are provided, they may extend substantially at right angles to each other, as exemplified in the preferred embodiment of the invention, so as not to extend inwardly to such an extent as to weaken the edge of the block.

A building element having a parti-cylindrical bead and two adjacent shoulders as shown in the drawing is not only easy and inexpensive to make but may also be handled roughly without liability of chipping or cracking along its beaded edge, due to the resistant character and strength of its cylindrical shape.

The wall corner construction illustrated in Fig. 1 comprises rectangular blocks 10, which have beads 11 along one end or edge, the other edges preferably being unbeaded, and half blocks 13 substantially square likewise provided with beads 11 along one edge. The beads 11 of the blocks 10 and 13 are disposed in vertical alinement and preferably the blocks carrying them are arranged in alternation on each side of the corner, thus enhancing the appearance of the wall and at the same time increasing the strength of the corner. Cooperating with the blocks 10 are complementary blocks 14 each having a channel, recess or groove 15 along one edge, said groove in each block being preferably, though not necessarily, arcuate. The grooved edges of blocks 14 are designed to be juxtaposed to the parti-cylindrical beads 11, and the depth of the grooves 15 is made sufficient to leave a space for the introduction of cement or the like in the joint between juxtaposed blocks 10 and 14. In other words, when arcuate grooves are employed, the radius of the arc of the grooves is dif-

ferent from the radius of the parti-cylindrical bead 11, and in the preferred embodiment, the radius of the groove is the lesser.

While arcuate grooves are advantageous in that they are easily formed, and do not reduce materially the strength of the blocks, many other types of grooves or channels may be desirable under special circumstances, and my invention contemplates the use of other shapes and modifications thereof having analogous or equivalent functions. The angular width of the groove 15 on each block 14 is advantageously about 90°, such that it spans about one-third of the bead, when the blocks 10 and 14 are placed together as in Fig. 1. The illustrative block 14 has beveled surfaces or shoulders 16 on each side of the groove 15 and extending from each face of the block inwardly approximately at a 45° angle thereto, said shoulders being complemental to shoulders 12 of the blocks 10 and of the same width.

In a right-angled corner of a wall composed of blocks having the beads 11 and grooves 15, the shoulder 16 of a groove block will be abutted against shoulder 12 of a bead block, and cement placed in the bottom of the groove 15 in the space between it and the bead to bind the two blocks together, making a very neat and close joint. When the shoulders 12 and 16 lie exactly at 45° relative to the faces of the corresponding blocks, said blocks will extend exactly at right angles to each other, and no particular skill on the part of the workman will be required to effect this result.

It is obvious that a single bevel shoulder on block 14 may be provided when block 10 likewise has a single shoulder; and by reversing the relative positions of the blocks corners extending in any desired direction may be constructed with no exposed shoulders.

Referring now to Fig. 2, there are shown in section two of the improved building elements 10 and 14 disposed at right angles as is customary in building corners of walls. The dotted lines illustrate how two other elements or courses of elements 14 may be brought together at the same corner, forming a four way intersection, if desired. This arrangement is useful in erecting partitions in buildings. Instead of two intersecting walls, as shown, a single wall may be built having a partition branching off at any desired angle on one side only. The invention is also well adapted for use in building walls having obtuse angles of any degree.

Another of the advantageous features of my improved building element construction is that curved walls may be made (see Fig. 3) without any cutting or modification of the shape of the blocks by the workman. In building curved walls from ordinary brick or masonry blocks, it is frequently necessary to chip off the inner edges of the bricks or blocks and in many cases the joints between the blocks are unduly widened so that the mortar or cement becomes too noticeable. Although curved face bricks are manufactured, they can only be used for walls of a particular curvature. My invention provides building elements of almost universal applicability.

Referring to Fig. 3, there is shown in section a masonry wall of a curvature approximating an arc of a circle wherein blocks 17 are employed each of which has a bead 18 at one end and a groove 19 at the other end. Completely circular walls of any desired radius are readily built by means of beaded blocks 17; also walls of a great variety of contours. For example, it may be desirable to extend a wall or partition at a sharp angle to the curved wall illustrated in Fig. 3, as in building bay windows or the like.

The joint between two juxtaposed bead and groove blocks is particularly strong because the straight edges formed at the intersection of the shoulders 16 with groove 15 are brought adjacent the surface of the bead 11 and contact with said bead throughout their length, so that when the two blocks are cemented together the resistance to transverse stresses will be very large and much greater than in the case of ordinary rectangular blocks.

My invention provides, in effect, an economical interlocking joint for building elements which is easily and cheaply made and does not prevent the employment of the building elements for all kinds of ordinary construction work.

My invention obviously is not restricted to the particular embodiment thereof herein illustrated and described.

I claim—

1. In a bonded building construction, the combination of a pair of complementary building elements of different sizes to present a break joint wall, said elements having interengaging and cooperating bead and groove construction whereby they may be united together by cementitious material in any angular position relative to said wall which is comprehended within an arc of substantially 180°.

2. In a bonded building construction, the combination of a pair of complementary building elements, said elements having cooperating bead and groove construction, the bead portion being of arcuate shape and comprising an arc of not less than 225° whereby the elements may be fitted together in right angular relation to each other.

3. In building construction, a building element having a bead comprising an arc of substantially 270°, in combination with a building element having an arcuate groove complementary to the arc of the bead, each

element having a 45° bevel surface extending from one face inwards toward the bead or the groove as the case may be whereby the two elements may be set with the groove of one element adjacent the bead of the other element and the two bevel surfaces in juxtaposition.

4. In building construction, a building element having an arcuate bead comprising an arc of not less than 225°, in combination with a complementary building element having an arcuate groove, the arc of said groove approximately 90° and the radius of the arc of the groove being less than the radius of the arc of the bead, whereby when the bead and groove of two complementary elements are juxtaposed a space is left between the crown of the bead and the bottom of the groove for cementitious material.

5. In building construction, a building element having a bead along one edge comprising an arc of not less than 225°, in combination with a building element having an arcuate groove along one edge and complementary to the arc of the bead but of smaller radius, each element having a 45° bevel surface extending from one face inwards toward the bead or the groove as the case may be, whereby the two elements may be set at right angles to each other with the groove of one element adjacent the bead of the other element and the two bevel surfaces in juxtaposition, the difference between the radii of the arcs of the bead and of the groove leaving a space for cementitious material between the abutted edges of the two elements.

In testimony whereof, I have signed by name to this specification.

HENRY M. PRICE.