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C. B. HENRY

2,708,359

EXPANSION JOINT FOR MASONRY WALLS

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Fig. 1

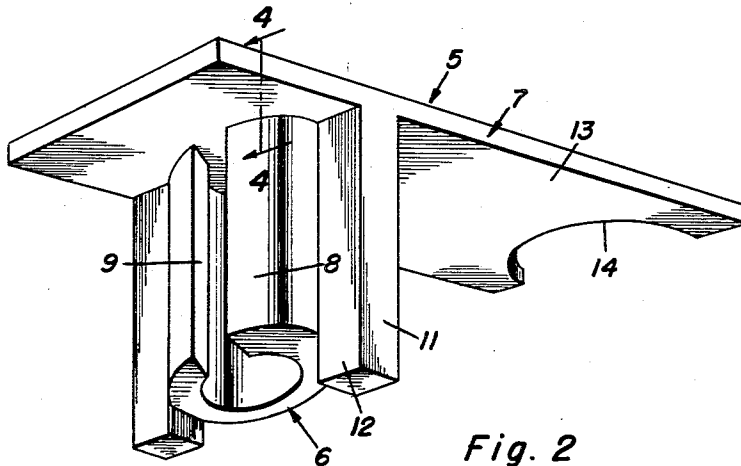


Fig. 2

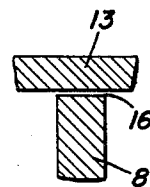
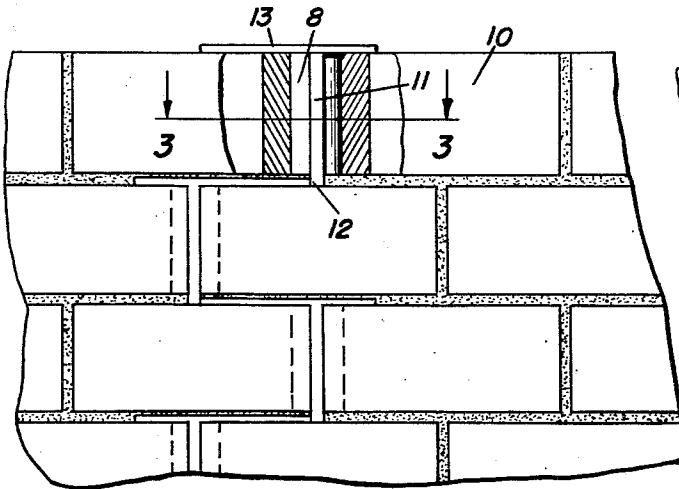
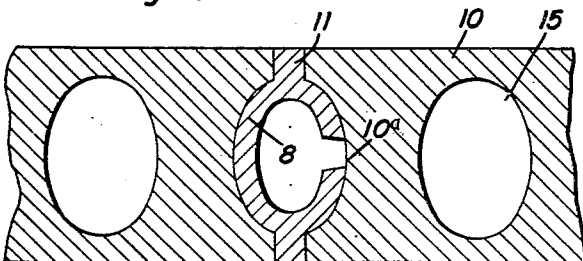


Fig. 4

Fig. 3



Clarence B. Henry
INVENTOR.

BY *Almonce A. O'Brien*
and *Harvey B. Jackson*
Attorneys

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Clarence B. Henry, Columbus, Ohio

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3 Claims. (Cl. 72-107)

The present invention relates to new and useful improvements in masonry wall construction and more particularly to the provision of an expansion joint between adjacent units of a course of the wall, as well as between adjacent courses.

An important object of the invention is to provide an expansion joint adapted for placing at the mortar joint of building blocks or other structural units, which acts as a key and seal for the joint, and to further construct the expansion joint with an integrally formed top plate which bridges the joint, to thus provide for vertical as well as horizontal expansion and contraction of the units of the wall.

A further object is to provide a device of this character of simple and practical construction, which is efficient and reliable in its use, relatively inexpensive to manufacture, and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, in which:

Figure 1 is a perspective view.

Figure 2 is a fragmentary side elevational view of a masonry wall with parts broken away and shown in section, and showing the expansion joint in position therein.

Figure 3 is a horizontal sectional view taken on a line 3-3 of Figure 2, and

Figure 4 is an enlarged fragmentary sectional view taken on a line 4-4 of Figure 1.

Referring now to the drawing in detail, wherein for the purpose of illustration I have disclosed a preferred embodiment of invention, the numeral 5 designates the expansion joint generally, and which comprises a vertically disposed element 6 and a horizontally disposed element 7. The elements 6 and 7 may be constructed of rubber, with or without reinforcing means embedded therein (not shown), or the elements may be constructed of any other suitable yieldable material.

The vertical expansion element 6 comprises a substantially cylindrical or tubular body 8 and is of oval-shape in cross section to conformably fit in the vertical key-ways 10a at the ends of building blocks or other wall units 10. The cylindrical body 8 is formed with a vertical slot 9 in one side thereof, to permit expansion and contraction thereof.

Vertical wings or strips 11 are integrally formed or molded with the ovate body 8 at diametrically opposite sides of the latter, and in a position at 90° with respect to the slot 9, the lower ends of the wings or strips 11 projecting downwardly below the lower end of the cylindrical body 8 to provide extensions 12.

The horizontal expansion member 7 comprises a substantially rectangular shaped plate 13, which is integrally molded or formed with the cylindrical body 8 as well as with the upper ends of the wings or strips 11, and with the ovate body 8 and wings or strips 11 positioned trans-

versely on the plate 13, and adjacent one end of the latter. The outer edges of the wings or strips 11 are disposed in the vertical plane of the side edges of the plate 13. One end of the plate 13 is formed with an arcuate notch 14 to match the central cell 15 of the building block 10.

The side walls of the ovate body 8 which extend between the vertical slot 9 and the adjacent wings or strips 11, are unattached at their upper ends, as indicated at 16 in Figure 4 in the drawing, to thus permit unobstructed expansion and contraction of the ovate body 8 at its portion immediately adjacent the longitudinal slot 9.

The expansion joint embodying the vertical element 6 and horizontal element 7, as illustrated in Figure 1 of the drawing, is placed at the mortar joint of adjacent building blocks 10 with the cylindrical or ovate body 8 positioned in the mortar locking grooves at the ends of the blocks, and with the wings or strips 11 flush with the inner and outer surfaces of the blocks. The extensions 12 at the lower ends of the wings or strips 11 extend to the top of the adjacent lower course of blocks, as shown in Figure 2, to effectively seal the joint, while the plate 7 bridges the joint at the tops of the adjacent blocks, as shown to advantage in Figure 2.

The end of the expansion plate 13 formed with notch 14 is constructed of a length substantially one-half the length of the building block 10 to abut the lower extension 12 of the wings or strips 11 of the expansion joint of an adjacent upper course of blocks and the said ends of the plates of adjacent upper and lower courses are positioned to extend in opposite directions from each other to form a continuous expansion joint throughout the height of the wall, as shown in Figure 2.

The horizontal plates 13, being positioned in the horizontal mortar joints 17 of the wall compensate for vertical expansion and contraction between the courses of blocks, while the vertical cylindrical bodies 8 and wings or strips 11 compensate for expansion and contraction of the blocks in a horizontal direction.

In view of the foregoing description taken in conjunction with the accompanying drawings it is believed that a clear understanding of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and the scope of the appended claims.

Having described my invention, what is claimed as new is:

1. A joint for masonry walls composed of courses of wall units having opposing mortar grooves in the vertical meeting edges of adjacent units, said joint comprising a vertical substantially cylindrical expansible and contractible hollow member having a vertical slot therein extending from top to bottom of the member, a pair of vertical strips of yieldable material united with the outer surface of the hollow member at diametrically opposite sides of the latter, said hollow member and said strips being adapted for placing in said mortar grooves, and said hollow member being coextensive in height with a pair of wall units between which the hollow member is positioned, and a flat horizontal member united with the upper portions of said hollow member and said strips and projecting outwardly in opposite directions therefrom and adapted to bridge the mortar joint and said horizontal member being coextensive in width to said wall units.

2. A joint for masonry walls composed of courses of wall units having opposing mortar grooves in the vertical meeting edges of adjacent units, said joint compris-

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ing a vertical substantially cylindrical expansible and contractible hollow member having a vertical slot therein extending from top to bottom of the member, a pair of vertical strips of yieldable material united with the outer surface of the hollow member at diametrically opposite sides of the latter, said hollow member and said strips being adapted for placing in the vertical mortar grooves at the meeting ends of a pair of wall units, said hollow member being coextensive in height to said wall units and a flat horizontal member united with the upper portions of said hollow member and said strips, and adapted for placing in the horizontal mortar joint between adjacent courses of blocks and said horizontal member being coextensive in width to said wall units.

3. A joint for masonry walls composed of courses of wall units having opposing mortar grooves in the vertical meeting edges of adjacent units, said joint comprising a vertical substantially cylindrical expansible and contractible hollow member having a vertical slot therein extending from top to bottom of the member, a pair of vertical strips of yieldable material united with the outer surface of the hollow member at diametrically opposite sides

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of the latter, said hollow member and said strips being adapted for placing in the vertical mortar grooves at the meeting ends of a pair of wall units, said hollow member being coextensive in height to said wall units and a flat horizontal member united with the upper portions of said hollow member and said strips, and adapted for placing in the horizontal mortar joint between adjacent courses of blocks, and said horizontal member being coextensive in width to said wall units said cylindrical member being free of the horizontal member at the top of the former and in the region of the slot.

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