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Brown et al.

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[54] **BUILDING CONSTRUCTION GASKET**

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[51] **Int. Cl.** **E04b 1/66**

[58] **Field of Search** 52/396, 285, 471, 464, 52/393, 403, 459, 470, 564, 565, 404; 49/487; 404/64, 65

[56] **References Cited**

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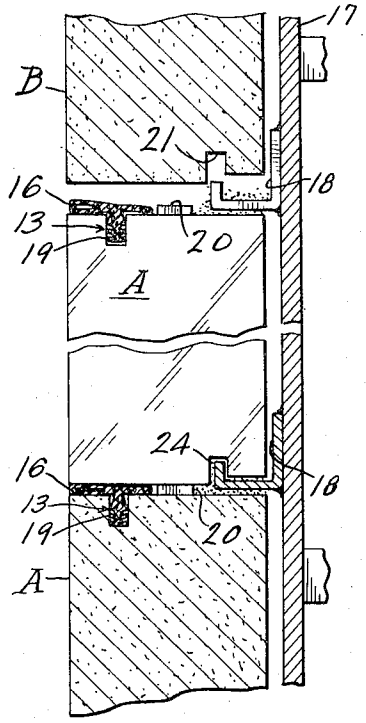
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[57] **ABSTRACT**

A resilient gasket for use as a weather seal between adjacent blocks in a wall construction in place of conventional caulking. The gasket has a cross-sectional configuration designed for use within a block joint having a single recessed channel on one block for positioning the gasket and has a thickness or depth, when uncompressed, larger than the joint width. Installation will provide a weathertight seal between the adjacent blocks which has an attractive visual appearance.

1 Claim, 3 Drawing Figures



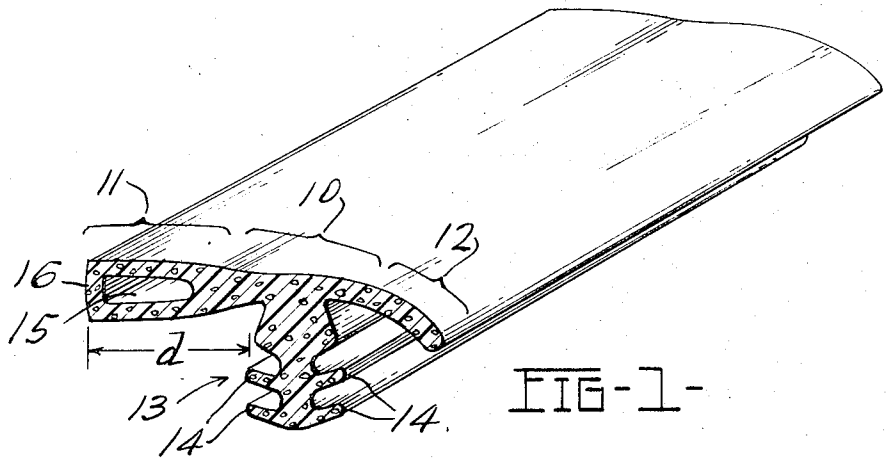


FIG-1-

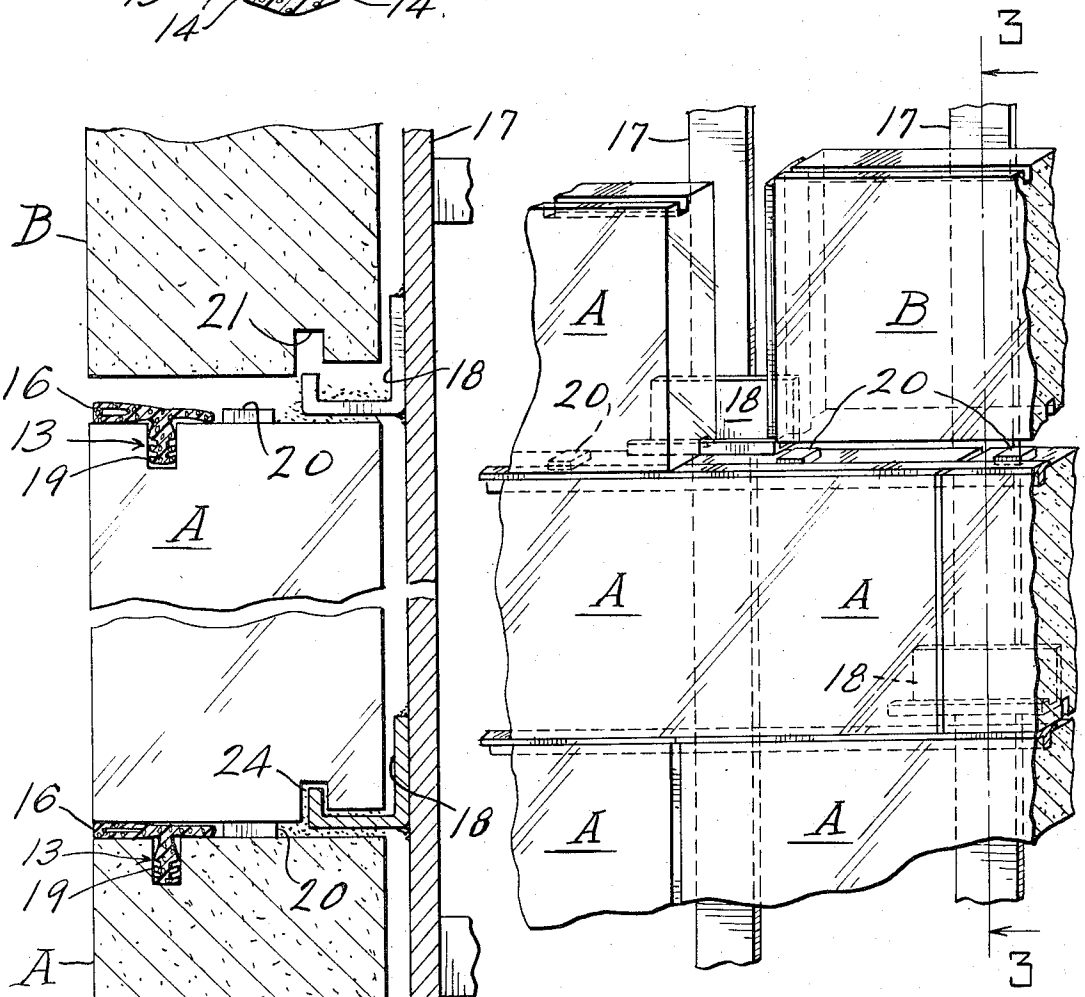


FIG-2-

FIG-3-

BUILDING CONSTRUCTION GASKET

This invention relates to a resilient gasket to be used in constructing building walls of a plurality of blocks, such as marble, cut stone, cast stone or precast concrete and the like, in which the gasket is positioned between the abutting edges of the blocks for the purpose of providing a weathertight seal and for eliminating conventional cement, mortar or caulking. More specifically, this invention relates to a particularly-shaped gasket which can be used in the construction of interior or exterior bearing walls or curtain walls which completely eliminates the need for time-consuming and expensive caulking or cement mortar and which is designed so that the blocks require only a minimum of special cutting in order to receive and retain the gasket in place.

Conventional block wall constructions of cut marble or other construction stone have for years utilized mortar or caulking which is injected under pressure between the joints after the wall has been constructed. Particularly in the case of an exterior wall in northern latitudes, any amount of water which can enter the joint between adjacent blocks will eventually damage and destroy the joint and adjacent blocks due to the expansion and contraction caused by repeated freezing and thawing. Known caulking materials, while recently improved, are subject to shrinkage, cracking and require periodic inspection and maintenance. Previous attempts to eliminate the caulking have been unsatisfactory in that substituted materials were difficult to work with, would not provide a watertight joint, and would not have the conventional appearance of a caulked wall.

Resilient gaskets have been used in some building applications as so-called control or expansion joints which are designed to accommodate thermal expansion of the entire wall along a single joint. Gaskets such as those disclosed in U.S. Pats. Nos. 3,009,110; 3,119,204 or 3,205,629 are designed for use between adjacent blocks, usually placed in the interior of joints and with or without conventional caulking added thereto. These prior art gaskets are generally cross-shaped in cross-section and require some sort of matching undercut ridge or channel on the adjacent faces of both of the blocks to receive the arms of the cross to secure the gasket in place and to provide a labryrinth against the passage of moisture therethrough.

It is an object of the present invention to provide a resilient gasket in a wall construction system which completely obviates the need for subsequent caulking, and which can be used in a wall construction in which the adjacent edges of a block juncture are spaced apart a predetermined distance by other structural members so that the gasket performs no actual spacing function, but only its sealing and appearance functions.

It is also an object of this invention to provide a gasket in such a wall construction in which one of the adjacent opposed edges of the blocks require an undercut recess or groove to position the gasket, thus eliminating approximately one-half of the necessary cutting or machining of the block faces.

Other objects and advantages of this invention will be apparent to those skilled in the art from the following detailed description of a preferred embodiment thereof, with reference being made to the accompanying drawings in which:

FIG. 1 is a view in perspective of a short section of the gasket of this invention, showing its cross-sectional configuration prior to installation;

FIG. 2 is a view in perspective of a small section of a wall constructed using the gasket of this invention, illustrating the method of applying one block upon another in accordance with this invention; and

FIG. 3 is a cross-sectional view, taken along line 3—3 of FIG. 2, showing the gasket in both uncompressed and compressed positions.

Referring first to FIG. 1, the preferred embodiment of the gasket of this invention is an elongate strip of resilient material, such as rubber or synthetic resilient materials which can be readily extruded into the cross-sectional shape illustrated. The gasket, in cross-section, has a body portion **10**, a head portion **11**, and a tail portion **12**, all of which have common upper surfaces forming the continuous unbroken upper surface of the gasket. Extending from the body portion **10** is a foot **13** which, in this preferred embodiment, has several opposed, laterally extending ribs **14** which extend at a slight angle upwardly towards the body portion **10** as shown.

The head portion **11** has a hollow passage **15** extending through its length and having a length in cross-section substantially co-extensive with that of the head portion **11**. The end **16** of the head portion **11** is slightly convex-shaped. It will be noted that the depth of the head portion **11**, that is, the distance between the upper and lower surfaces as described, is greater than the depth of the body or tail portions **10** and **12** for reasons which will be subsequently described.

Referring briefly to FIG. 2, an exterior curtain wall of construction blocks, such as cut marble or other building stone, is shown supported by vertical rails **17** which are attached to interior building structure. Affixed to the rails **17** are a number of angle hangers **18** whose cross-section is shown in FIG. 3 and whose length is sufficient to extend across a vertical interface of two adjacent blocks, as shown in FIG. 2.

The blocks of the curtain wall are applied as follows, referring to FIG. 2, assuming that all of the blocks A are already in place. First, it should be noted that all of the blocks including block B are provided, on two sides only, with a recessed channel **19**, best seen in FIG. 3, extending longitudinally across the two edges. In the system shown, the channel **19** is cut into only the left and top edges of the block, when viewed from the outside. The distance from the outer surface on the blocks to the channel **19** is coordinated with the size of the gasket so that it relates to the distance between the end **16** of the head portion **11** to the foot **13**, this distance being designated by *d* in FIG. 1. Accordingly, when the gasket is inserted within the channel **19**, the end **16** of the gasket is spaced slightly inside the outer face of the block as shown in FIG. 3. The width of the channel **19** is slightly less than the uncompressed lateral width of the opposed ribs **14** on the foot **13** so that insertion of the foot **13** into the channel will slightly compress the ribs to engage the walls of the channel to keep the gasket in place. In addition, it should be noted that the tail portion **12** is slightly depressed below the body and head portions **10** and **11** when the gasket is not installed, as seen in FIG. 1. When the gasket is inserted into the channel **19**, a slight amount of distortion of the tail and body takes place to exert a downward force on the head portion **11** to keep it snugly against the block

so that any possibliity of it being rolled or folded over between the blocks is substantially reduced.

Prior to placing the block B upon the wall, the worker places upon the upper surface of the block A below a pair of spacer elements **20**, such as lead shims, which set the predetermined distance between the adjacent vertical block rows. It is important to note that it is this spacer **20** which sets the predetermined distance, and not the gasket itself. Thus, regardless of the size and weight of the block, the distance set by the spacer **20** will remain the same so that the external wall always appears as having joints of uniform width. As previously indicated, the width of the head portion **11** from its top to bottom surface is larger than the predetermined joint width so that when the weight on the block is resting upon the spacer element **20**, the head portion is compressed, as shown in the lower joint in FIG. **3**. The depth of the hollow passage **15**, however, is greater than the difference between the depth of the entire head portion **11** and the predetermined block distance, so that compression of the head portion **11** between the blocks to an extent equal to the predetermined distance will not completely collapse the passage **15**. As also will be apparent from FIG. **3**, the convex outer face **16** of the gasket, when compressed, bulges uniformly outwardly toward th outer sides of the blocks to simulate a caulked joint.

Referring again to FIG. **2**, with the spacers **20** in place and with a length of gasket attached to the left vertical side of the block B, the block B is then pushed into place, resting upon the block A below it. The horizontal distance between the block B and its laterally adjacent block A can also be set by shims or can be set by a depth gauge or stop block inserted as the block B is being moved to the left.

Finally, with the block B in place, a new length of gasket can be placed across its top surface and that of the adjacent block A to prepare these surfaces for supporting a subsequent row of blocks. As previously stated, the vertical spacing between the blocks is set by the spacer elements **20** and the angle hangers **18** are provided primarily to hold the wall adjacent the vertical rails **17**. The corners of the lower edges of each of the blocks are provided with an oversized slot **21**, as seen in FIG. **3**, to receive the angle hangers **18**. If desired, once the wall has been set as previously described, a cementitious mastic or other setting material can be injected into the space between the slot **21** and the end of the angle hanger **18** to firmly set the block relative to the vertical rails **17**.

It will be obvious to those skilled in the art that the absolute dimensions of the cross-section of the gasket will vary in accordance with the size of blocks with which it is used. It is to be noted that one advantage of the instant system is that the weight of the blocks can vary from row to row without causing a noticeable difference in the size of the space between such rows because the gasket itself is not the weight supporting

member. In addition, the gasket, because of the fact that its compressible member is positioned towards the outer surface of the wall, has a caulking-like appearance and provides a moisture barrier near the outer edge of the joint, because of its uniformly compressed condition. The gasket can be used with interior or exterior stone veneer walls with solid masonry or concrete backup walls as well as the structural frame back-up construction shown in FIGS. **2** and **3**. Finally, it should be noted that the gasket, regardless of its composition, can be surface painted only on its head end **16** prior to installation to give the color chosen for the architectural design of the wall being built.

Various other objects and advantages of the invention will be apparent to those skilled in the art and may be made without departing from the spirit and scope of the attached claims.

We claim:

1. In a mortar free joint in a wall construction having building blocks with opposed parallel edges and means for spacing such edges apart a predetermined distance with the edge of one block having a recessed channel extending inwardly away from the opposite block, the improvement comprising a gasket intermediate said opposed block edges, said gasket comprising an elongate strip of a resilient material having a cross-sectional configuration including a generally flat body portion, a head portion having a longitudinal axis parallel to said body portion and having a depth, prior to compression, greater than said predetermined distance such that placement between said blocks will tightly compress the adjacent faces of said head portion against the opposed parallel edges of said blocks, said head portion including a passage extending the length of said gasket strip, said passage in cross-section being substantially co-extensive in length from the end of said head protion to said body portion and having a depth greater than the difference between the depth of said entire head and said predetermined block distance such that compression of said head portion between said blocks to a depth equal to said predetermined distance will not completely collapse said passage, the end of said head portion having an arcuate convex configuration extending between the upper and lower faces of said head portion, a tail portion extending from said body portion in an arcuate path downwardly and away from said heat portion with the upper surfaces of the head, body and tail providing a continuous upper surface, and a foot portion extending generally normal to said head, body and tail portions from the lower surface of said body portion intermediate said head and tail portions, said foot portion including at least one pair of opposed ribs extending laterally outwardly from said foot portion and having an uncompressed total width slightly larger than the width of said channel whereby insertion of said foot into said channel will distort said ribs causing them to bear against the faces of said channel.

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