Feb. 23, 1937. R. M. NYHAGEN, JR 2,071,653

BUILDING CONSTRUCTION

Filed July 20, 1936

Fig.1.

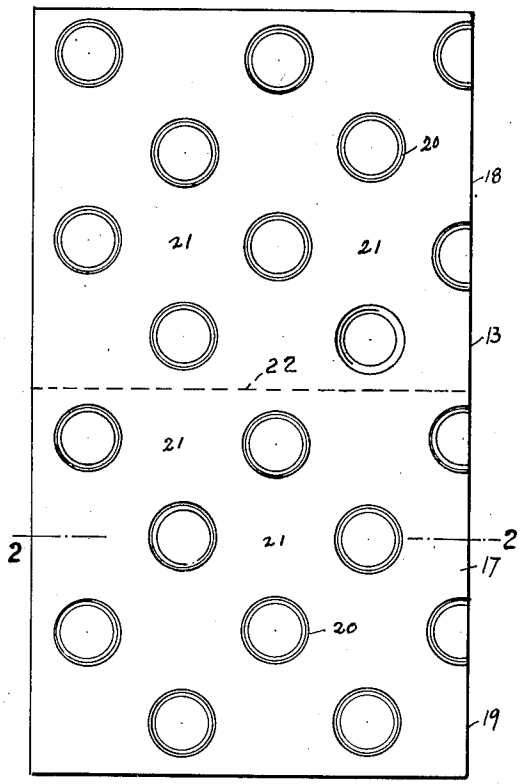


Fig.3.

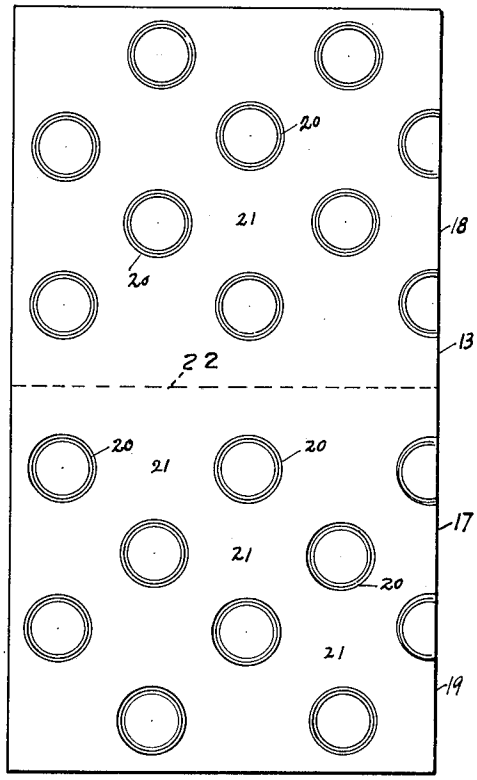


Fig.2.

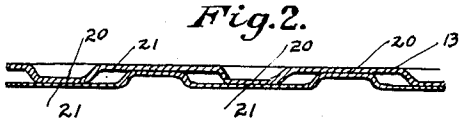


Fig.4.

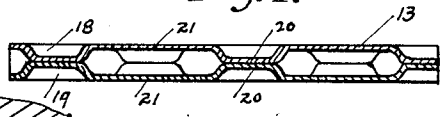
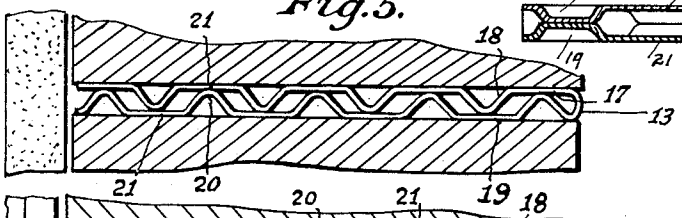


Fig.5.



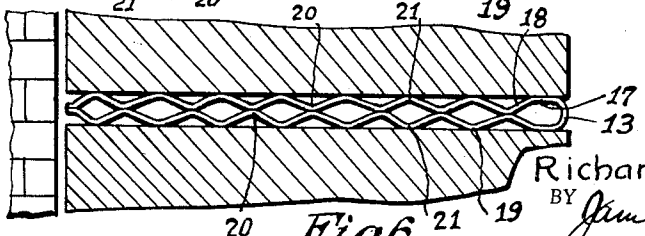


Fig.6.

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BUILDING CONSTRUCTION

Richard M. Nyhagen, Jr., Chicago, Ill.

Application July 20, 1936, Serial No. 91,520

6 Claims. (Cl. 72—106)

My invention relates to building construction and particularly to a pressure relieving and wall strengthening joint.

Among the objects of my invention is to provide a pressure relieving and wall strengthening joint having a unitary structure thereby eliminating the necessity of fillers; to create a joint formed of a single sheet of material, and having a plurality of integral raised portions adapted to be forced down by excessive weight to relieve pressure; to supply a joint adapted to be folded on itself to produce a water tight course, and such other objects, advantages and capabilities as will later more fully appear and which are inherently possessed by my invention.

While I have shown in the accompanying drawing preferred embodiments of my invention, yet I wish it understood that the same are susceptible of modification and change without departing from the spirit of my invention.

Fig. 1 is a detail view of my compressible filler before it has been bent on itself to form the upper and lower layers for the finished product; Fig. 2 is a sectional view of my filler as it appears when a finished product; Fig. 3 is a sectional view of another embodiment of my wider type of joint where the raised portions on the upper and lower layers contact each other; Fig. 4 is a sectional view of Fig. 3; Fig. 5 is an enlarged sectional view showing my folded joint in use in building construction; Fig. 6 is a similar view to Fig. 5 but of my wider type of joint.

One form of my compressible filler **13** shown in Fig. 1 comprises a body member **17**, adapted to be bent back on itself preferably at **22** to form an upper portion or layer **18** and a lower portion or layer **19**. A plurality of raised portions **20** all preferably of substantially the same height on both layers **18** and **19** are spaced to leave a plurality of unraised spaces **21**. In the form shown in Fig. 1, the raised portions **20** on the upper layer **18** are placed so that when the body member is bent on itself, said raised portions **20** will contact unraised spaces **21** of the lower layer **19**. In the form shown in Fig. 4, the raised portions **20** on the upper layer **18** are placed so that when the body member is bent back on itself, said raised portions **20** on the upper layer will contact raised portions **20** on the lower layer **19** and thus provide a wider type of joint.

It is also within the contemplation of my invention that some of the raised portions **20** on the upper layer **18** are placed so as to contact in some instances raised portions **20** on the lower layer **19** and in some instances will contact unraised spaces **21** on the lower layer **19**.

While I prefer to construct my joint or filler **13** of ductile metal such as lead, or fiber, rubber or the like, yet it is within the spirit of my invention to construct my joint **13** of any compressible material having substantially the same qualities and features as lead. My invention providing for a joint of one piece of material eliminates the necessity of expensive fillers. By eliminating the need of any filler and making my joint of one integral part, I substantially decrease the cost and amount of material and labor.

While I have shown as illustrated in the drawing, raised portions in circular form, yet I wish it understood that my raised portions may be in the shape of squares, triangles, rectangles, bumps or any other form of raised portions without departing from the spirit of my invention. The size, height and number of my raised portions are not material except in so far as they affect the maximum results contemplated by my invention.

My joint may be used in any type of building construction, and particularly where the construction is divided into zones. My joint may be placed in any place and as many times as desired within each zone, and at any place between units of a wall.

In use when my joint or filler **13** is inserted within the zone of any of the types of building construction my joint is load sustaining. When stresses and movements are thrust upon the facing blocks of the building so as to create a superimposed load, my joint compresses by the raised portions thereof being forced down and consequently absorbs the thrust resulting in protection of the facing blocks from cracking or spalling. My joint is also a strengthening member functioning to prevent loss of mortar due to breaking and substantially eliminating the need for future tuckpointing.

My form of joint is particularly efficient in that it is unitary in structure. When stress is applied to my joint the raised portions tend to break down in proportion to the weight thrust thereon and thus absorb and compensate for added stress and weight. In building construction where unusual weight and stress are contemplated the form of my joint shown in Fig. 3 providing a wider type of joint is more useful in that it is adapted to absorb greater stress and weight.

My joint is particularly useful in wall structures made of glass which are in many cases susceptible to cracking from expansion and other

causes. Frequently where the wall structure is glass I find it desirable to use more than one joint within a zone.

Having thus described my invention, I claim:

1. A unitary compressible filler for use as a pressure relieving joint in a wall structure comprising a sheet of metal bent upon itself to form an upper layer and a lower layer, said sheet having a plurality of raised portions spaced so that when said sheet is bent back upon itself the raised portions of one layer will contact unraised portions of the other layer.

2. A unitary compressible filler for use as a pressure relieving joint in a wall structure comprising a sheet of metal bent upon itself to form an upper layer and a lower layer, said sheet having a plurality of raised portions spaced so that when said sheet is bent back upon itself the raised portions of one layer will contact the raised portions of the other layer.

3. A compressible filler for use as a pressure relieving joint in a wall structure comprising upper and lower metal members, said members having a plurality of raised portions spaced so that when one of said members is positioned above the other of said members, the raised portions of one member will contact unraised portions of the other member.

4. A compressible filler for use as a pressure relieving joint in a wall structure comprising upper and lower metal members, said members having a plurality of raised portions spaced so that when one of said members is positioned above the other of said members, the raised portions of one member will contact raised portions of the other member.

5. A compressible filler for use as a pressure relieving joint in a wall structure comprising a sheet of metal folded to form upper and lower layers, and interposed spacing means comprising integral raised portions on said layers.

6. A compressible filler for use as a pressure relieving joint in a wall structure comprising a single pair of oppositely disposed metal members having raised portions, said members adapted to withstand a desired dead weight without substantial compression but adapted to be compressed by excessive pressure.

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