United States Patent [19]

Moerk, Jr. et al.

[11] **3,881,835**

[45] **May 6, 1975**

[54] **SIDEWALK-CURB SEALING MEMBER, ASSEMBLY AND METHOD**

[75] Inventors: **John C. Moerk, Jr.**, Buffalo Grove; **Donald W. Malina**, Des Plaines, both of Ill.

[73] Assignee: **Felt Products Mfg. Co.**, Skokie, Ill.

[22] Filed: **June 6, 1973**

[21] Appl. No.: **367,464**

[52] **U.S. Cl.** **404/64;** 52/573; 404/74

[51] **Int. Cl.** **E01c 11/10**

[58] **Field of Search** 404/47, 64, 65, 67, 74; 52/393, 403, 573; 14/16

[56] **References Cited**

UNITED STATES PATENTS

2,103,337	12/1937	Oury	52/396
2,545,705	3/1951	Riesner	52/573 X
3,118,523	1/1964	Girot	52/573
3,299,598	1/1967	Alleaume	52/573 X
3,395,505	8/1968	Lamy	52/573 X
3,510,278	5/1970	Alleaume	52/573 X
3,636,690	1/1972	White	52/633
3,643,388	2/1972	Parr et al.	52/403 X
3,650,184	3/1972	Kolm et al.	404/50
3,713,368	1/1973	McDowell et al.	404/47

FOREIGN PATENTS OR APPLICATIONS

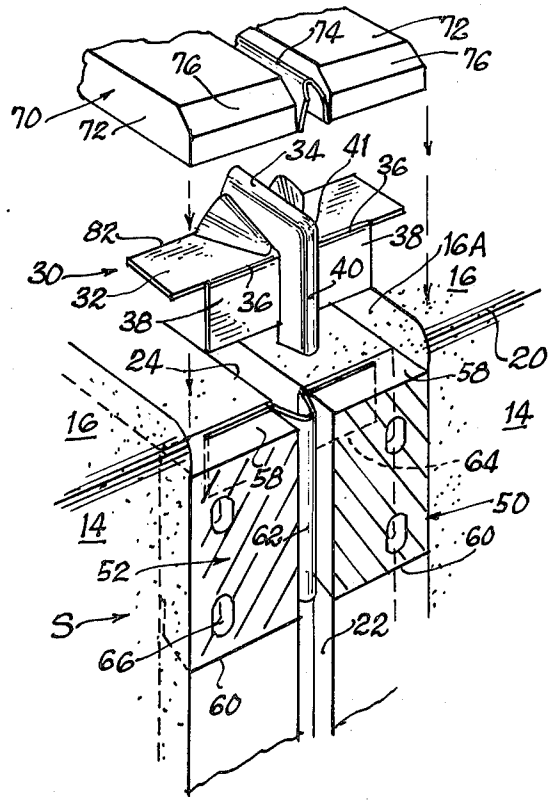
504,570	4/1939	United Kingdom	404/67

Primary Examiner—Marion Parsons, Jr.
Assistant Examiner—Thomas J. Holko

[57] **ABSTRACT**

A member for sealing a corner at the gap and intersection of curb and sidewalk portions of adjacent roadway slabs. The corner sealing member has first sealing flaps joined by a flexible sealing membrane for sealing the sidewalk portions of the adjacent slabs and second sealing flaps extending downwardly and away from the first flaps to confront curb portions of the adjacent slabs. A second membrane, continuous with the first membrane, joins the second flaps at a corner. The membranes and flaps are continuous with each other, respectively, and merge to form a corner. The corner sealing member is adapted to be sealingly secured with a sealing dam section secured to the sidewalk portions of the adjacent slabs and is adapted to extend into slots in a curb dam section secured to curb portions of the adjacent slabs, thereby to provide an assembly for effectively sealing the intersection of the curb and sidewalk portions of adjacent roadway slabs.

20 Claims, 14 Drawing Figures



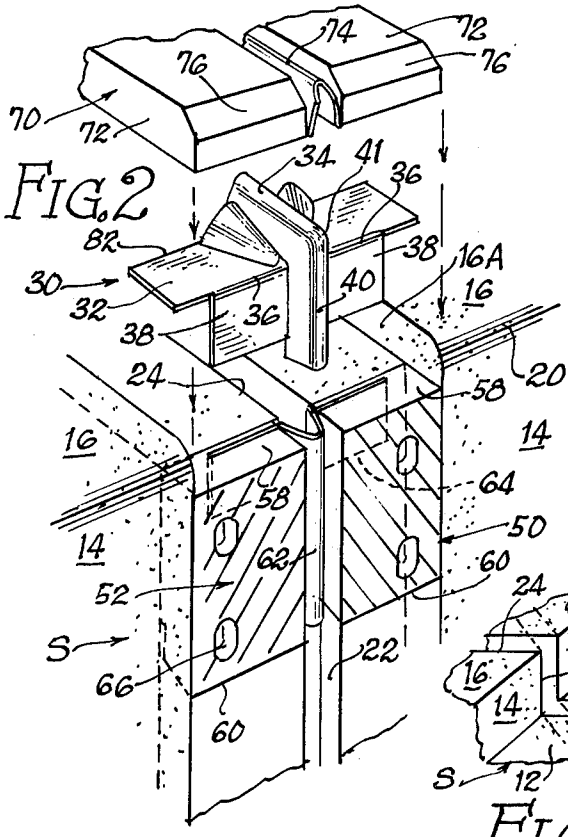


FIG. 2

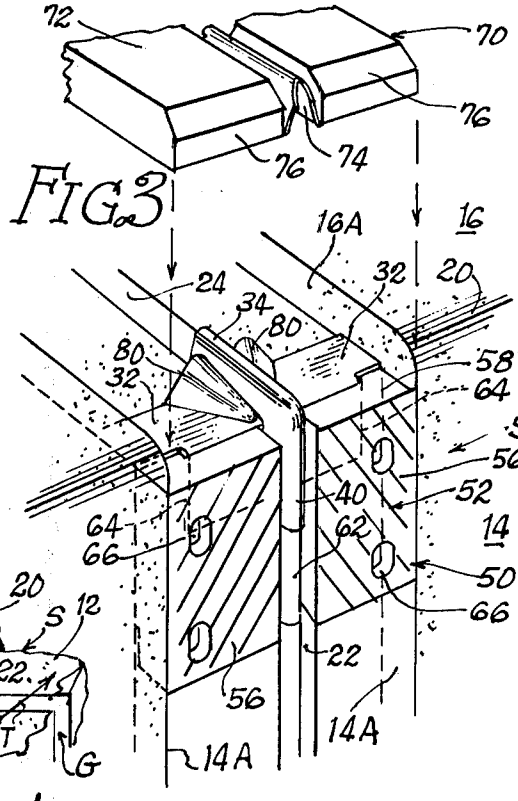


FIG. 3

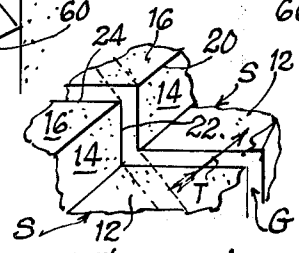


FIG. 1

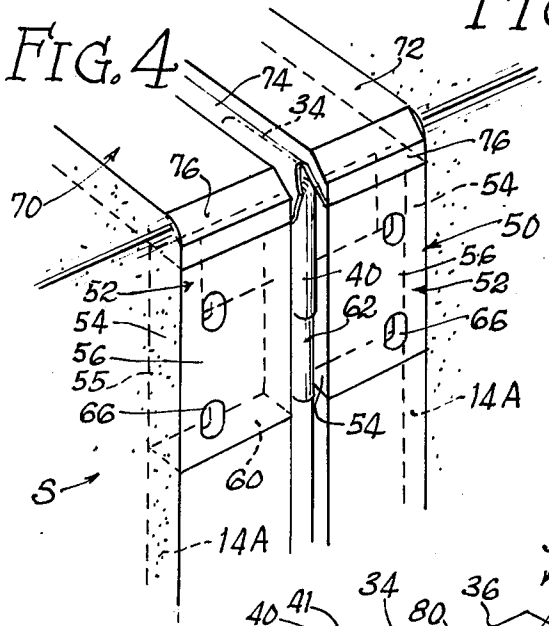


FIG. 4

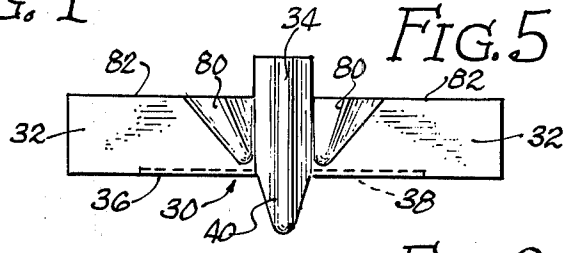


FIG. 5

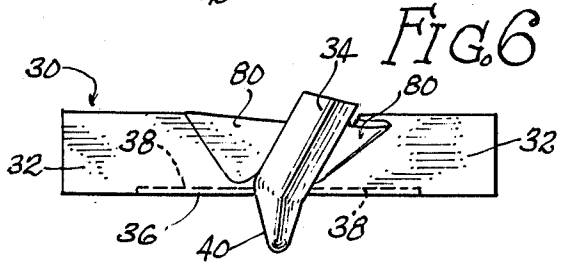


FIG. 6

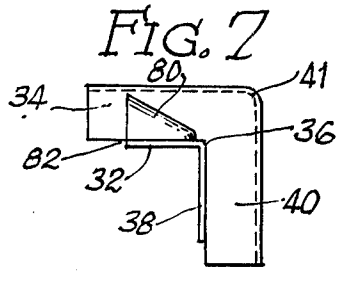


FIG. 7

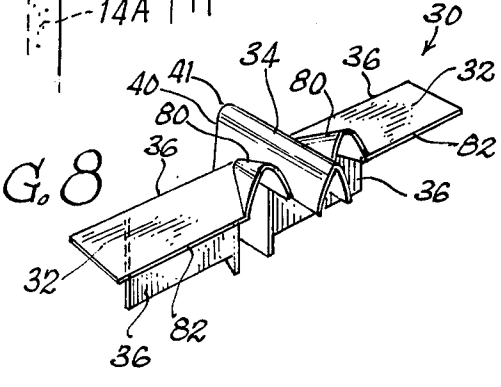


FIG. 8

FIG. 9

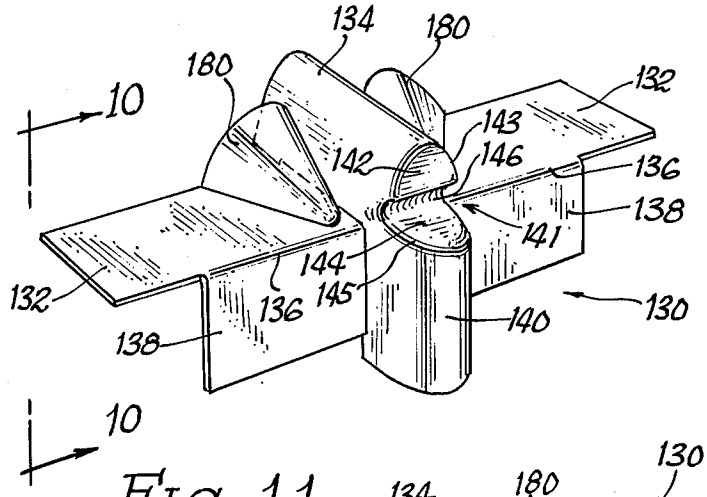


FIG. 10

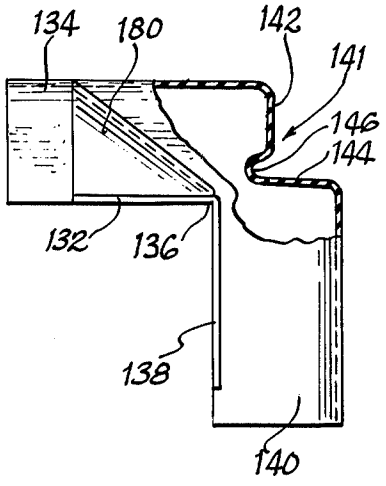


FIG. 11

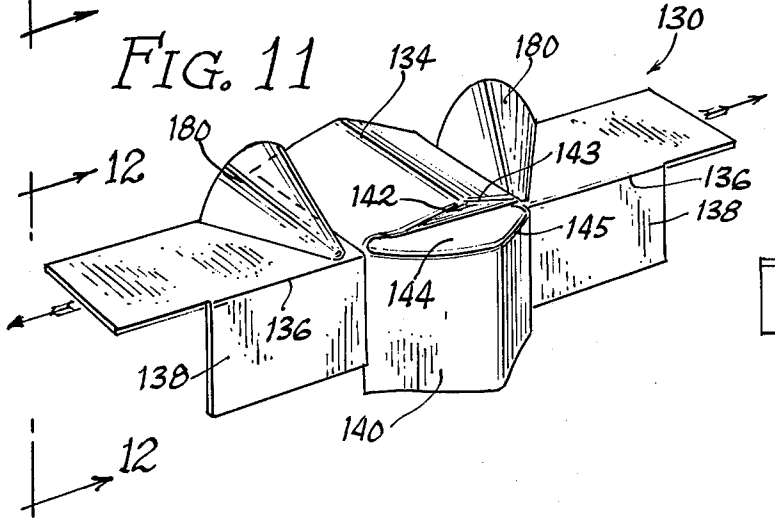


FIG. 12

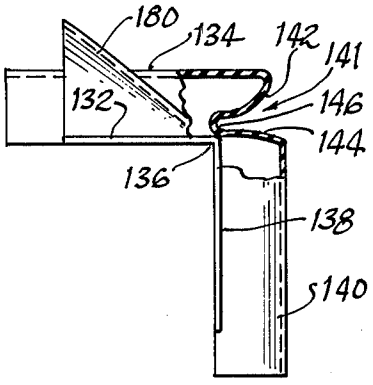


FIG. 13

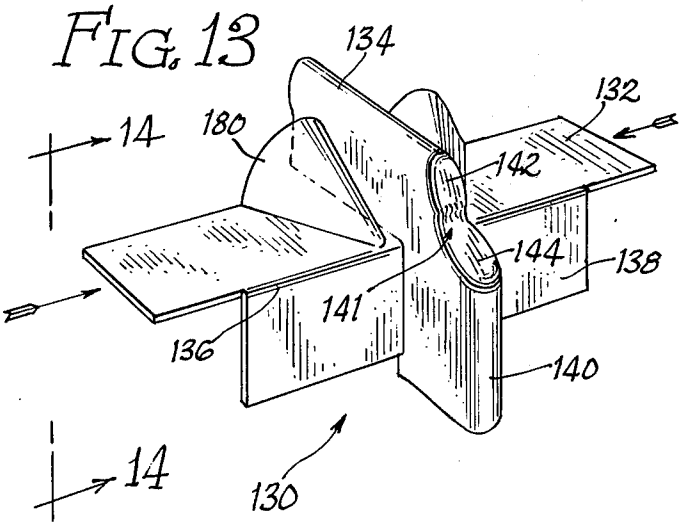
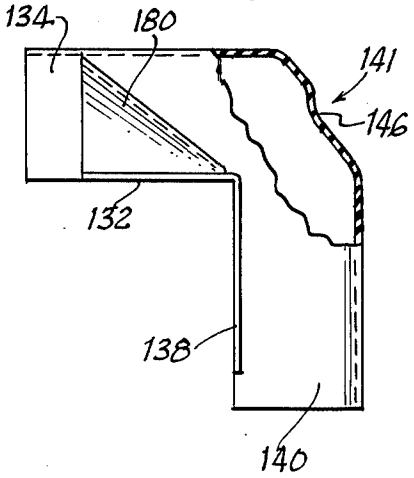


FIG. 14



SIDEWALK-CURB SEALING MEMBER, ASSEMBLY AND METHOD

This invention relates to an improved sealing assembly for sealing a narrow gap between sidewalk and curb portions of adjacent roadway slabs as found, for example, on elevated highways and bridges.

To prevent damage to roadway slabs, and for other known reasons, it is important that the gap between adjacent roadway slabs be sealed against the passage of water and debris thereinto and therethrough. Means effective for this purpose have been disclosed in U.S. Pat. No. 3,713,368 entitled "Road Joint Seal and End Dam Construction." Although devices disclosed in that patent are effective to provide reliable joint seals in the main body of the gap between adjacent roadway slabs, the need remains for providing improved sealing devices for the intersections of sidewalk and curb portions of roadway gaps, and particularly where the sidewalk portion of the gap extends at an angle of other than 90° to the longitudinal direction of the curb portion.

This invention provides an improved sidewalk-curb sealing system for sealing portions of the gap between adjacent roadway slabs. A gap sealing assembly of this invention includes a corner sealing member for sealing the gap between adjacent roadway slabs at the intersection of curb and sidewalk portions thereof. The corner sealing member is formed of a thin flexible elastomeric material and comprises a pair of first generally flat coplanar expansive sealing flaps, one of which extends sidewardly from each side of a first central flexible membrane. The membrane is adapted to overlie a portion of the sidewalk gap. The corner sealing member further includes a pair of generally flat expansive sealing flaps formed with the first flaps at the front edges thereof and extending downwardly and away from the first flaps. One of the second flaps extends sidewardly from each side of a second flexible membrane. The second membrane is adapted to overlie a portion of a curb gap. The first and second membranes are continuous and merge into each other to form a corner. The corner sealing member is adapted to be sealingly secured to roadway slab portions to overlie a portion of a roadway gap adjacent the intersection of curb and sidewalk portions of the adjacent slabs, thereby to provide a seal at that gap portion.

The gap sealing assembly of this invention further comprises a sealing dam section adapted to be secured to the curb portions of adjacent roadway slabs. The sealing dam section comprises a pair of generally parallel spaced apart elongate elastomeric side pads, each of which side pads has longitudinal side edges, an inner surface, an outer surface and a pair of spaced apart upper and lower ends. In use, the side pads are sealingly secured with a thin, elongate flexible joint membrane, the joint membrane being adapted to span a portion of a curb gap and being proportioned to flex and to move without exerting substantial reaction forces on the side pads. The upper ends of the side pads each define a slot extending from one longitudinal side edge toward, and which may stop short of the other longitudinal side edge, and from the upper end toward, but stopping short of, the lower end. These slots open upwardly.

In use, a gap sealing assembly for sealing the gap between adjacent roadway slabs at the intersection of curb and sidewalk portions thereof, is provided by securing a sealing dam section to curb portions of the slabs with the joint membrane of the sealing dam section spanning the curb gap. Thereafter, a corner member is positioned to overlie and to span portions of the curb and sidewalk portions of the roadway, with the second flaps inserted into the slots of the sealing dam section and with the second membrane portion confronting and overlying the joint membrane of the sealing dam section. At that time, the first flaps are positioned to be sealingly secured to sidewalk portion of the adjacent slabs, and the first membrane portion is positioned to overlie and span a portion of the sidewalk gap. Thereafter, a further end dam section having a pair of side pads and a central joint membrane may be secured to the roadway with the side pads overlying the first flaps and with the central joint membrane overlying and confronting the first membrane portion, thereby to provide a joint seal which effectively seals the intersection of the sidewalk-curb gap, and even where relative movement occurs between the adjacent roadway slabs.

Further objects, features and advantages of this invention will become apparent from the following description and drawings, of which:

FIG. 1 is a schematic view of a portion of adjacent roadway slabs illustrating a typical sidewalk-curb intersection which may be sealed in accordance with this invention;

FIG. 2 is an exploded perspective view of a gap sealing assembly in accordance with this invention;

FIG. 3 is a view similar to FIG. 2, in which portions of the gap sealing assembly have been juxtaposed;

FIG. 4 is a view similar to FIG. 2, in which all of the members of the gap sealing assembly have been juxtaposed;

FIG. 5 is a plan view of a corner sealing member in accordance with this invention;

FIG. 6 is a plan view of a corner sealing member of FIG. 5 skewed to the side;

FIG. 7 is a side elevational view of the corner sealing member of FIG. 5;

FIG. 8 is a perspective view of the corner sealing member of FIG. 5;

FIG. 9 is a perspective view of a further corner sealing member in accordance with this invention;

FIG. 10 is a side elevational view (partially broken away) taken substantially along the line 10—10 of FIG. 9;

FIG. 11 is a perspective view of the corner sealing member of FIG. 9 shown in an expanded condition;

FIG. 12 is a side elevational view (partially broken away) taken substantially along the line 12—12 of FIG. 11;

FIG. 13 is a perspective view of the corner sealing member of FIG. 9 shown in a compressed condition; and

FIG. 14 is a side elevational view (partially broken away) taken substantially along the line 14—14 of FIG. 13.

Referring now to the drawings, FIG. 1 discloses a typical roadway defining a gap G between adjacent roadway slabs S. Gap G requires sealing. Slabs S define main roadway portions 12 which terminate at their side edges in gutter portions. The gutter portions terminate in curb portions 14. Curb portions 14 terminate upwardly in generally horizontal portions which may be aprons or sidewalks, and for convenience, the term

"sidewalk" has been used herein to describe and to refer to portions 16. However, it will be understood that the term "sidewalk" is used in this application to describe the portions of roadway slabs which extend sidewardly away from an intersection 20 with the upper edges of curb portions 14. It is the portion of gap G adjacent intersection 20 of curb portions 14 and sidewalk portions 16 which the assembly of this invention is especially adapted to seal.

For reference purposes, the direction of travel on the roadway slabs S is in the direction of the arrow T. The longitudinal direction of the curb portions 14 of the slabs is the same. Gap G in the main roadway and sidewalk gap portion each are shown as extending at an angle of ninety degrees to the longitudinal direction of the curb portions (as is shown in FIG. 16 of U.S. Pat. No. 3,713,368). However, other skew angles, such as those typified by FIG. 17 of that patent, may also be sealed in accordance with this invention.

Referring now to FIGS. 2, 5, 7 and 8, curb and sidewalk portions 14 and 16 have been prepared to receive a sealing member and assembly, preferably so as not to protrude from the roadway surface by providing suitable notching along both sides of gap G. The curb notches 14A and the sidewalk notches 16A may be preformed during the fabrication of the slabs S, or where an existing gapped roadway is to be sealed, roadway material may be removed as necessary to provide the notches.

A corner sealing member 30 according to this invention is thin and is preferably integrally molded of a flexible elastomeric material, such as natural rubber, polychloroprene or nitrile rubber or the like. Corner sealing member 30 provides a pair of generally flat, coplanar expansive first sealing flaps 32, each of which extends sidewardly from one side of a first central flexible membrane 34 which is adapted to overlie a section of sidewalk gap portion 24. Each of the first sealing flaps 32 terminates forwardly in a front edge 36 at which generally flat coplanar expansive second sealing flaps are provided. Each of the second flaps extends downwardly at an angle and away from the first flap to which it is connected. Each of the second flaps extends sidewardly away from a second flexible membrane portion 40 which is adapted to overlie and to span a segment of curb gap portion 22. First and second flexible membrane portions 34 and 40 are continuous and merge into each other to form a closed, watertight corner at 41. Each portion 34 and 40 assumes an upstanding arched configuration in transverse cross section.

In the embodiment illustrated in FIGS. 2-8, the angle at which the second flaps and second membrane portions intersect the first flaps and first membrane portion is about ninety degrees (see FIG. 7). However, it will be appreciated that corner sealing members having first and second portions which intersect at different angles may be made and used depending upon the angle at which the curb portions 14 and sidewalk portions 16 of a particular highway intersect each other in transverse cross section.

The curb or sidewalk sealing assembly further includes an elongate curb gap sealing member which, as seen in the drawings, is a sealing dam section 50. Sealing dam section 50 comprises a pair of generally parallel spaced apart elongate elastomeric side pads 52, each of which has a pair of longitudinal side edges 54, an inner back surface 55, an outer front surface 56 and a pair of spaced apart upper ends 58 and lower ends 60. Side pads 52 are formed integrally with a thin, elongate elastomeric flexible joint membrane 62 which is proportioned to flex and to move, when the sealing dam section is secured to curb portions of a roadway, without exerting substantial reaction forces on the side pads or on the roadway slabs. In transverse cross section, joint membrane 62 assumes an upstanding arched configuration.

The upper end of each of the side pads is provided with a generally rectilinear slot 64 which extends from one longitudinal side edge 54 sidewardly toward, but stopping short of the other longitudinal side edge, and which extends downwardly from the upper end 58 toward, but stopping short of the lower end 60. Slots 64 preferably lie parallel to the outer surfaces 56, and lie closer to the inner surfaces 55 than to the outer surfaces, as is quite clear from FIG. 2. Each of the slots 64 opens inwardly adjacent flexible joint membrane 62. Although a slot 64 stopping short of the other longitudinal side edge has been illustrated, a slot extending between both longitudinal side edges may be used as well.

When a sealing dam section and corner sealing member of this invention are to be used to seal the intersection of curb and sidewalk portions of a pair of adjacent roadway slabs, the side pads 52 of a sealing dam section 50 are secured to curb portions 14 within notches 14A, with membrane 62 spanning the gap. This is preferably effected by a suitable adhesive and by suitable studs and nuts positioned to be received in bolt holes 66 in side pads 52. Side pads 52 may have their outer surfaces 56 generally level with the major surfaces of curb portions 14.

After a sealing dam section 50 has been secured in the manner described (as illustrated in FIG. 2), then a corner sealing member 30 is moved, generally from the position of FIG. 2 to the position of FIG. 3, the second sealing flaps 38 being moved downwardly into slots 64. Because second sealing flaps 38 are relatively long, they will accommodate some vertical misalignment of the upper ends 58 of the side pads 52 with the portions 16 (or surfaces of notches 16A) of the sidewalk against which first sealing flaps 32 are to lie. If the flaps 32 are spaced above the upper ends 58, the space between them is desirably filled with a sealant and mastic. When the sealing flaps 38 are moved into a position typified by FIG. 3, the second flexible membrane portion overlies and confronts the joint membrane 62 and the first sealing flaps 32 are positioned to be directly sealed to sidewalk portions (in this case notch portions 16A) of the slabs S. A suitable adhesive and mastic is provided between flexible membrane portion 40 and joint membrane 62 and between the flaps and the roadway portions, thereby to provide a substantial and permanent seal.

First sealing flaps 32 are then ready to be sealingly secured with a sidewalk sealing member 70. Sidewalk sealing member 70 provides a pair of side pads 72, centrally joined by an elongate joint membrane 74. Sidewalk sealing member 70 may be substantially in accordance with the end dam assemblies of U.S. Pat. No. 3,713,368. Preferably the front faces 76 of the side pads 72 may be chamfered so that when assembled as illustrated in FIG. 4, sharp corners are eliminated. When assembled, as illustrated in FIG. 3, sidewalk sealing member 70 lies with notches 16A, the lower surfaces of the side pads 72 lie against the first sealing

flaps **32** and the joint membrane **74** overlies and confronts the first membrane portion **34,** thereby to provide a seal therewith. Sidewalk sealing member **70** may be secured, as by suitable studs and nuts and adhesive to the sidewalk portions **16,** as in the manner described in U.S. Pat. No. 3,713,368. When assembled, as illustrated in FIG. **4,** a sealing assembly provides a solid, secure, and substantial seal both adjacent the gap G and over the gap via the overlapping and overlying membrane and membrane portions **74, 34** and **40, 62.** It will be noted that the overlapping arrangement provides a shingled effect with each lower membrane portion being overlaid at its upper edge by the next uppermost membrane portion, thereby to minimize potential leakage and seepage problems.

Corner sealing member **30** also provides a pair of bulges, one such bulge being defined by each of the first flaps **32.** Bulges **80** extend from a point of beginning closely adjacent the intersections **36** of first and second sealing flaps rearwardly to a rearmost edge of the first flap. The bulges progressively increase in size toward the rearmost edges **82,** as best seen in FIG. **8.** Each bulge may have the configuration of a longitudinal half of a cone, with the base of the cone coinciding with the flap edge **82.** In such a case, a transverse section would be generally semi-cylindrical. However, the bulge configuration may be of other shapes, such as elliptical, or such as a simple upstanding pleat or fold having a generally triangular transverse cross section or there may be a series of smaller side-by-side bulges of conical or pleat types to provide for skewing.

As seen in FIGS. **5** and **6,** when a roadway gap extends at a skew angle of other than 90°, such as is schematically illustrated by the dotted lines in FIG. **1,** bulges **80** make it possible to skew the first membrane portion to an angle which coincides with the skew angle of the sidewalk gap portion **24,** as by flattening one of the bulges **80.** This in turn causes the other bulge **80** to fold over, as is shown by FIG. **6.** The bulges may be proportioned to permit skewing at angles of about thirty degrees to each side of a central or ninety degree position. If less than the full skew permitted to one side is utilized, then each bulge will have to be folded and flattened somewhat when it is to be sealingly secured to the roadway in preparation for the superimposition of a sidewalk sealing member **70.**

Referring now to the embodiment illustrated in FIGS. **9** to **14,** a further corner sealing member **130** is shown as comprising first sealing flaps **132,** a flexible membrane **134,** second sealing flaps **138** and a flexible membrane portion **140.** Each of the first sealing flaps **132** terminates forwardly in a front edge **136** from which a second sealing flap **138** extends downwardly. Flexible membrane **134** and flexible membrane portion **140** are continuous and terminate and merge forwardly in a closed, watertight corner **141.** Additionally, first sealing flaps **132** may each provide a bulge **180,** which is like and which functions like bulges **80** of corner sealing member **30.**

As seen in the drawings, corner **141** includes a first end face **142** merging peripherally at **143** with the forward edges of flexible membrane **134.** Similarly, end face **144** merges peripherally at **145** with flexible membrane portion **140.** Like the membrane and membrane portion, end faces **142** and **144** are of a thin rubber or rubber-like elastic material which is capable of flexing and stretching. The innermost ends of end faces **142** and **144** terminate in a recess or depression **146** which extends generally in the direction of the intersection or front edge **136** at which sealing flaps **132** and **138** meet.

By providing a corner, such as corner **141,** it has been found that a corner sealing member **130** will be more highly flexible and will more easily expand and compress (see FIGS. **11-14**) than with a corner construction, such as corner **41.** When a corner sealing member **130** is secured, as described and illustrated in connection with the embodiment of FIGS. **2-4,** and when the adjacent roadway slabs to which it is secured contract (as in cold weather), whereby the gap increases in width, the corner sealing member will be pulled outwardly, as illustrated in FIGS. **11** and **12.** That will cause the flexible membrane **134** and the flexible membrane portion **140** to flatten. End faces **142** and **144,** in association with the depression **146,** will promote closing of the corner, as shown by FIGS. **11** and **12,** and with less resistance to such flattening and expansion than tends to result when a corner configuration, such as corner configuration **41** of sealing member **30,** is used.

Further, when the roadway gap closes, as by expansion of the adjacent roadway slabs, a corner sealing member **130** will be compressed, generally to the condition illustrated in FIGS. **13** and **14.**

As seen there, the end faces, together with the depression **146,** tend to promote movement of the corner portion **141** to the condition illustrated. Thus it is seen that the end face construction tends to promote movement of the end faces toward and away from each other, depending upon whether the gap widens or narrows.

End faces **142** and **144** have been illustrated as being generally flat in the unstressed condition illustrated in FIG. **9.** However, end faces **142** and **144** may be convex or bulged outwardly slightly. Further, as seen in FIG. **10,** the planes of the faces **142** and **144** may intersect generally at right angles, each face being substantially removed from the apex of the other membrane or membrane portion **134, 140.** The planes of the end faces **142** and **144** may, however, intersect at angles of other than a right angle. To promote movement as illustrated in FIGS. **11-14,** the end faces **142, 144** should be substantially spaced from the apices of the other membrane and and membrane portion.

The sealing dam section and sidewalk sealing members may be proportioned and sized generally in accordance with the disclosure of U.S. Pat. No. 3,713,368. A corner sealing member may have second front sealing flaps which are approximately 0.125 inch thick, the remainder of the corner sealing member being approximately 0.090 inch thick.

The use of a corner sealing member **30** in accordance with this invention, as with a sealing dam section **50** and with bulges **80** and particularly of a corner sealing member **130,** provides a highly flexible, highly effective gap sealing assembly for the intersection between curb and sidewalk portions of adjacent roadway slabs. Relative movement under dynamic loading of the adjacent roadway slabs, and thus of the sealing flaps respectively associated therewith, is accommodated through the central membrane of the corner sealing member and the joint membranes of the curb and sidewalk sealing members. At the same time, a range of gap skew angles other than ninety degrees is accommodated as easily as

gaps angled at ninety degrees to the longitudinal direction of the curb portions.

It will be apparent to those skilled in the art, from the foregoing description of presently preferred embodiments that modifications may be made without departing from the spirit and scope of this invention and, accordingly, it is intended that the scope of this invention shall be limited only in accordance with the claims.

What is claimed is:

1. A corner sealing member for sealing a portion of a gap between adjacent roadway slabs at the intersection of curb and sidewalk portions thereof, said member being formed of a thin, flexible elastomeric material, and comprising a pair of first, generally flat coplanar expansive sealing flaps, one extending sidewardly from each side of a first central, flexible membrane which is adapted to overlie a portion of a said gap, a pair of second, generally flat expansive sealing flaps, formed with said first flaps at front edges of said first flaps and extending downwardly and away from said first flaps, one of said second flaps extending sidewardly from each side of a second flexible membrane which is adapted to overlie a portion of a said gap, said first and second membranes being continuous and merging into each other to form a corner, each of said membranes terminating forwardly in an end face, the end faces closing the forward ends of the membranes, respectively, and with said membranes forming said corner, said end faces being disposed to promote movement of the end faces toward and away from each other when the gap portion widens and narrows, whereby when a said corner member is sealingly secured to roadway slab portions to overlie a portion of a gap adjacent the intersection of curb and sidewalk portions of said slabs, a seal will be provided at a said gap portion.

2. A corner sealing member for sealing a portion of a gap between adjacent roadway slabs in accordance with claim 1 in which each of said membranes is of an upstanding arched configuration, thereby to accommodate relative movements of their associated sealing flaps with respect to each other.

3. A corner sealing member for sealing a portion of a gap between adjacent roadway slabs in accordance with claim 2 in which said second flaps and second membrane extend downwardly from said first flaps and first membrane at an angle of about 90°.

4. A corner sealing member for sealing a portion of a gap between adjacent roadway slabs in accordance with claim 1 in which at least one of said first flaps defines a bulge extending rearwardly from its front edge to a rearmost edge of said first flap, said bulge progressively increasing in size to said rearmost edge, thereby enabling said first flexible membrane to be adjustably skewed to one side to enable it to overlie a said gap portion within a range of angular directions in which a sidewalk gap extends away from associated roadway curbing.

5. A corner sealing member for sealing a portion of a gap between adjacent roadway slabs in accordance with claim 4 in which each of said membranes is of an upstanding arched configuration, thereby to accommodate relative movement of their associated sealing flaps with respect to each other.

6. A corner sealing member in accordance with claim 1 in which the planes of the end faces intersect each other generally at right angles.

7. A corner sealing member in accordance with claim 1 in which said end faces terminate in a depression which promotes said movement of said end faces.

8. An elongate curb gap sealing member comprising a sealing dam section for securance to adjacent roadway slabs supported for relative movement with respect to each other and for sealing a curb gap therebetween, said sealing dam section being adapted to be sealingly secured to adjacent roadway slabs and comprising a pair of generally parallel, spaced-apart elongate elastomeric side pads, each said side pad having longitudinal side edges, an inner surface, an outer surface and a pair of spaced-apart upper and lower ends, a thin, elongate flexible joint membrane sealingly secured to said side pads for sealingly spanning a said curb gap and being proportioned to flex and to move without exerting substantial reaction forces on said side pads, the upper end of each of said side pads defining a slot between said inner and outer surfaces extending from one longitudinal side edge toward the other longitudinal side edge and from said upper end toward, but stopping short of, the lower end, said slot being spaced inwardly and away from each of said inner and outer surfaces.

9. An elongate curb gap sealing member in accordance with claim 8 in which said joint membrane assumes an upstanding arched configuration in transverse cross section, and in which each said slot terminates in confronting relation to said joint membrane.

10. An elongate curb gap sealing member in accordance with claim 8 in which said side pads and joint membrane are integrally formed of rubber.

11. An elongate curb gap sealing member in accordance with claim 8 in which said slot extend toward, but stops short of said other longitudinal side edge.

12. A gap sealing assembly for sealing the gap between adjacent roadway slabs at the intersection of curb and sidewalk portions thereof, comprising a sealing dam section secured to curb portions of adjacent roadway slabs, said sealing dam section comprising a pair of generally parallel, spaced-apart elongate side pads, each said side pad having longitudinal side edges, an outer surface, an inner surface and spaced lower and upper ends, and a thin elongate flexible joint membrane sealingly secured to said side pads and sealingly spanning the gap between said curb portions, the upper end of each of said pads defining a slot extending from one longitudinal side edge toward the other longitudinal side edge and from said upper end downwardly toward, but stopping short of the lower end, and a corner member sealing the gap at the intersection of curb and sidewalk portions thereof, said member being formed of a thin, flexible elastomeric material, and comprising a pair of first, generally flat coplanar expansive sealing flaps, one extending sidewardly from each side of a central, flexible membrane portion overlying a sidewalk portion of said gap, a pair of second, generally flat expansive sealing flaps, formed with said first flaps at front edges of said first flaps and extending downwardly and away from said first flaps, one of said second flaps extending sidewardly from each side of a flexible membrane portion, which flexible membrane portion overlies said flexible joint membrane, said first and second membrane portions being continuous and merging into each other to form a corner, and said second sealing flaps being disposed within said slots.

13. A gap sealing assembly in accordance with claim 12 in which said joint membrane and membrane por-

tions have an upstanding arched configuration in transverse cross section.

14. A gap sealing assembly in accordance with claim **13** in which said slots each terminate in confronting relation to said joint membrane.

15. A gap sealing assembly in accordance with claim **12** in which said second flaps and second membrane portion extend downwardly from said first flaps and first membrane portion at an angle of about ninety degrees.

16. A gap sealing assembly in accordance with claim **12** in which at least one of said first flaps defines a bulge extending rearwardly from its front edge to a rearmost edge of said first flap, and bulge progressively increasing in size to said rearmost edge, said bulge being flattened toward the plane of the first flaps and said first flexible membrane portion being skewed to one side to overlie a portion of a sidewalk gap, said first flaps and said flattened bulge being sealingly secured to said sidewalk portions.

17. A gap sealing assembly in accordance with claim **12** in which an end dam section comprising a pair of side pads and a central joint membrane is sealingly secured to said sidewalk portions and overlies said first flaps and said first membrane portion.

18. A corner sealing member in accordance with claim **12** in which said membranes each terminate forwardly in an end face, the end faces closing the forward ends of the membranes, respectively, and with said membranes forming said corner, said end faces being disposed to promote movement of the end faces toward and away from each other when the gap portions widens and narrows.

19. A method of sealing the gap between roadway slabs of the intersection of curb and sidewalk portions thereof, the steps comprising providing a sealing dam section comprising a pair of generally parallel, spaced-apart elongate side pads, each said side pad having longitudinal side edges, an outer surface, an inner surface and spaced lower and upper ends, and a thin elongate flexible joint membrane sealingly secured to said side pads, the upper end of each of said side pads defining a slot extending from one longitudinal side edge toward the other longitudinal side edge and from said upper end toward, but stopping short of the lower end, sealingly securing said sealing dam section to curb portions of said slabs with said joint membrane overlying said curb gap, providing a corner member formed of a thin, flexible elastomeric material, said corner member comprising a pair of first, generally flat coplanar expansive sealing flaps, one extending sidewardly from each side of a central, flexible membrane portion, a pair of second, generally flat expansive sealing flaps, formed with said first flaps at front edges of said first flaps and extending downwardly and away from said first flaps, one of said second flaps extending sidewardly from each side of a second flexible membrane portion, said first and second membrane portions being continuous and merging into each other to form a corner, securing said corner member to said roadway slab portions with said second flaps disposed within said slots, with said first membrane portion overlying said sidewalk gap and with said second membrane portion overlying said joint membrane, and sealing said corner member to said slabs and to said sealing dam section, thereby to seal the intersection of said curb and sidewalk portion of said slabs.

20. A method in accordance with claim **17**, further comprising providing an end dam section having a pair of side pads and a central joint membrane, and sealingly securing said end dam section to said sidewalk portions with said central joint membrane overlying said first membrane portion.

* * * * *

UNITED STATES PATENT OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 3,881,835

DATED : May 6, 1975

INVENTOR(S) : John C. Moerk, Jr. and Donald W. Malina

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Column 9, line 32 (Claim 18), "portions" should be -- portion --;

Column 10, line 31 (Claim 20), numeral "17" should be -- 19 --

Signed and Sealed this

nineteenth Day of *August 1975*

[SEAL]

Attest:

RUTH C. MASON
Attesting Officer

C. MARSHALL DANN
Commissioner of Patents and Trademarks