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Koopman et al.

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[54] **GLAZING SYSTEM**

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[73] Assignee: **E. J. Products Corporation,** St. Louis, Mo.

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[52] **U.S. Cl.** **52/200;** 52/13

[51] **Int. Cl.²** **E06B 3/62;** E06B 7/14

[58] **Field of Search** 52/302, 200, 209, 308, 52/400, 95, 42, 58, 80, 13, 97

[56] **References Cited**

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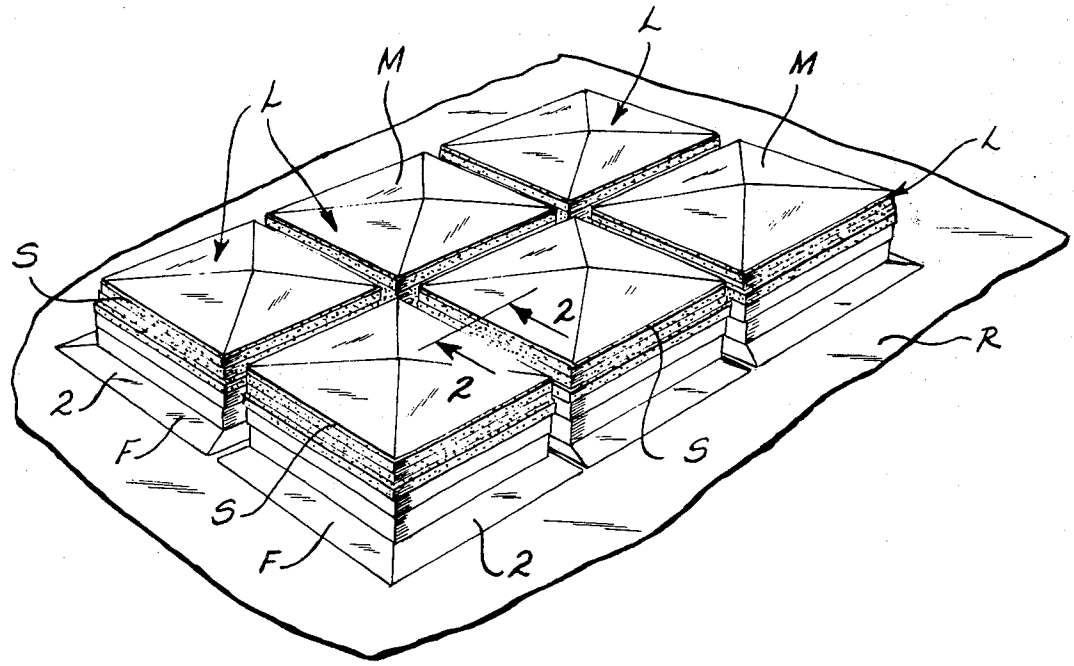
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Primary Examiner—Henry C. Sutherland
Assistant Examiner—Robert Farber
Attorney, Agent, or Firm—Gravely, Lieder & Woodruff

[57] **ABSTRACT**

A glazing seal includes a base which attaches to a supporting structure and a glazing receiver which engages a glazing material to form a seal therewith and is supported on the base such that it can move backwardly and forwardly relative to the base without changing its angle of inclination with respect to the glazing material. This enables the glazing receiver to move with expansions and contractions of the glazing material without impairing the effectiveness of the sealed joint. The seal also contains an internal drainage channel which collects condensation on the glazing material and leakage through the seal and discharges the water so collected to the exterior of the seal. The glazing seal may be used in conjunction with a gutter arrangement including a pair of overlapping gutter members which are elastomeric extrusions capable of being doubled back upon themselves to compensate for a pitch in the gutter or variances in height of the members to which the gutter arrangement is attached.

20 Claims, 8 Drawing Figures



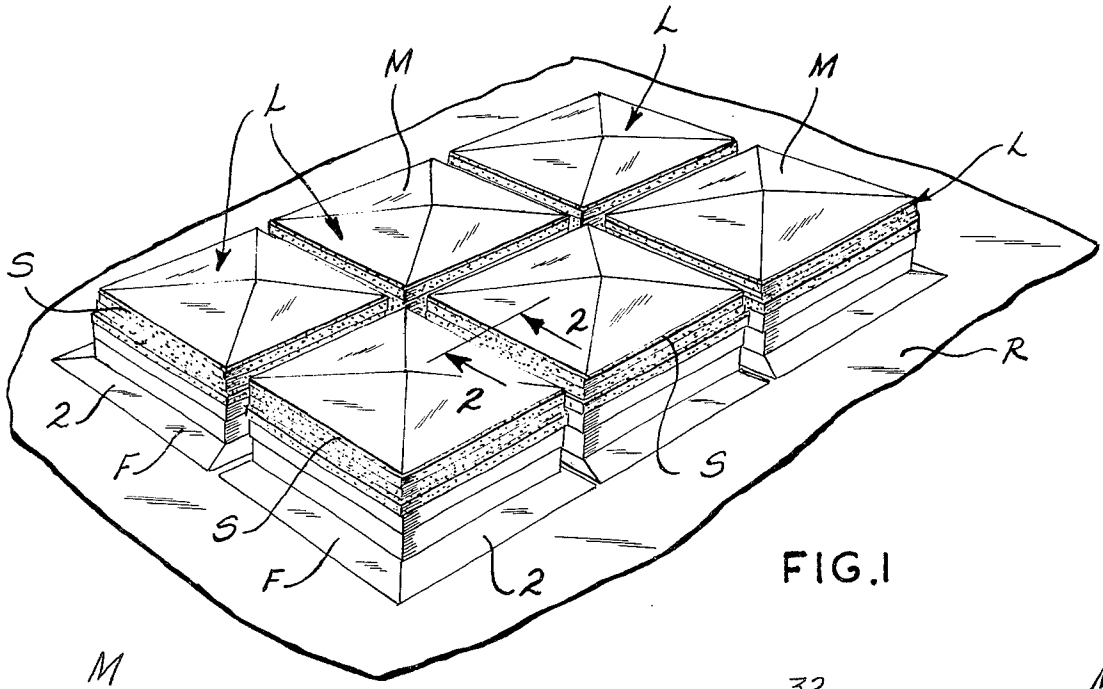

L
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M
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L
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F
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F
2

FIG.1

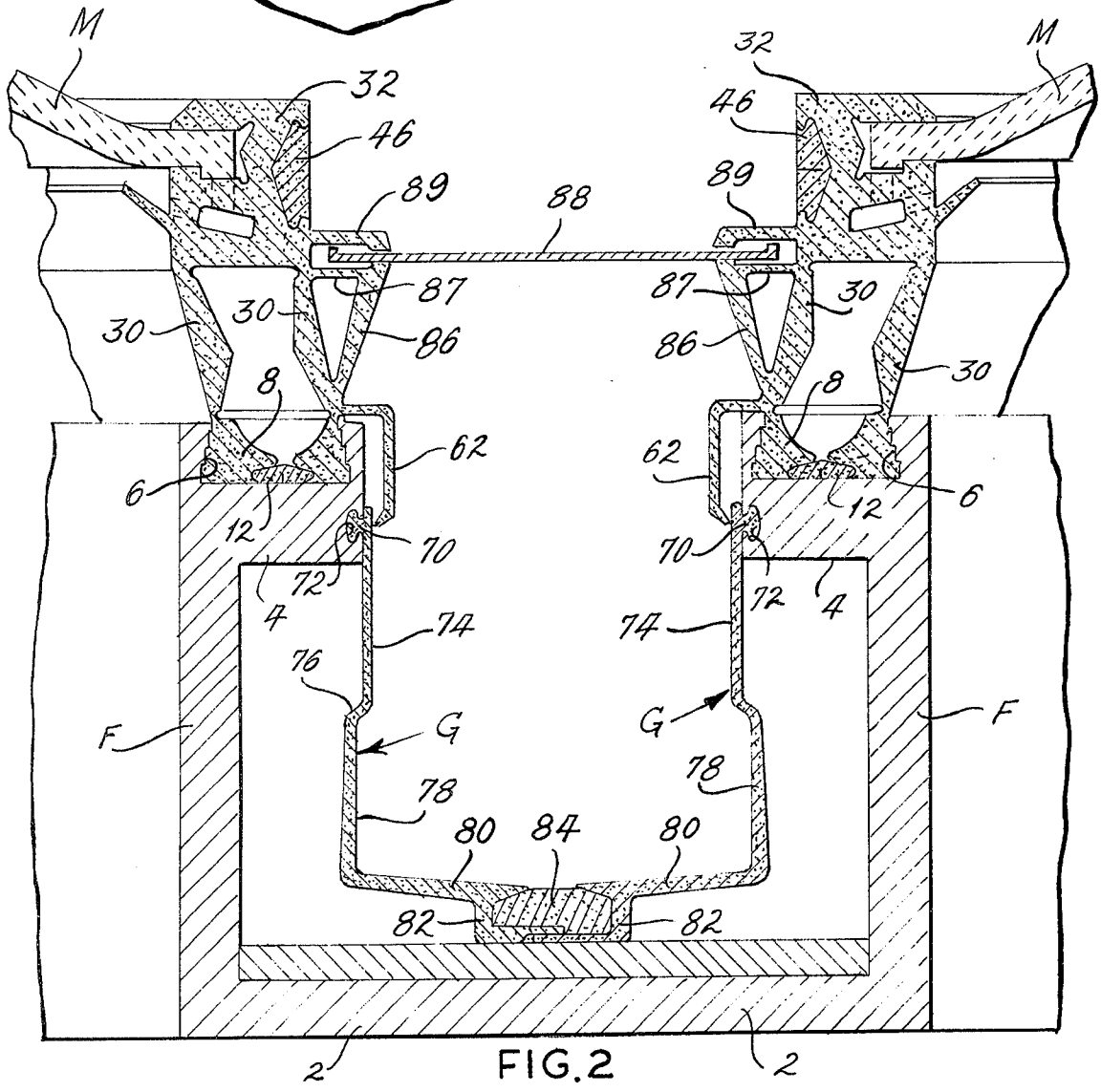

M
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88
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30
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6
6
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72
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FIG.2

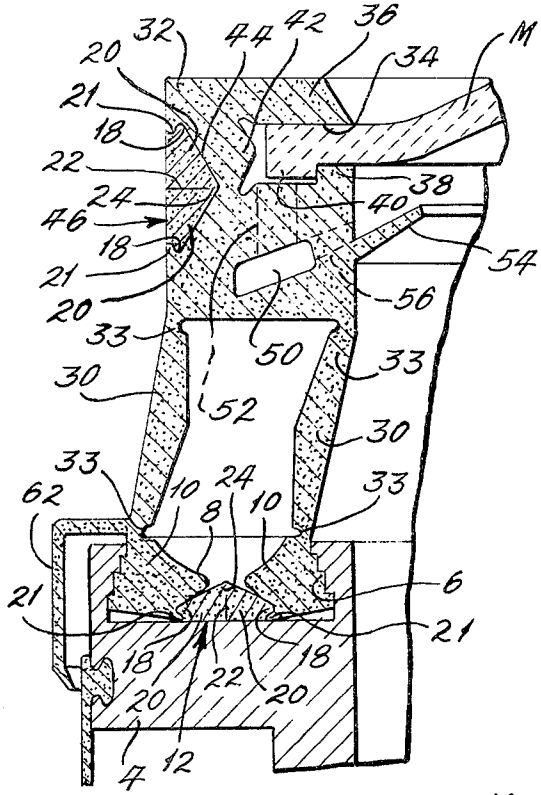


FIG. 3

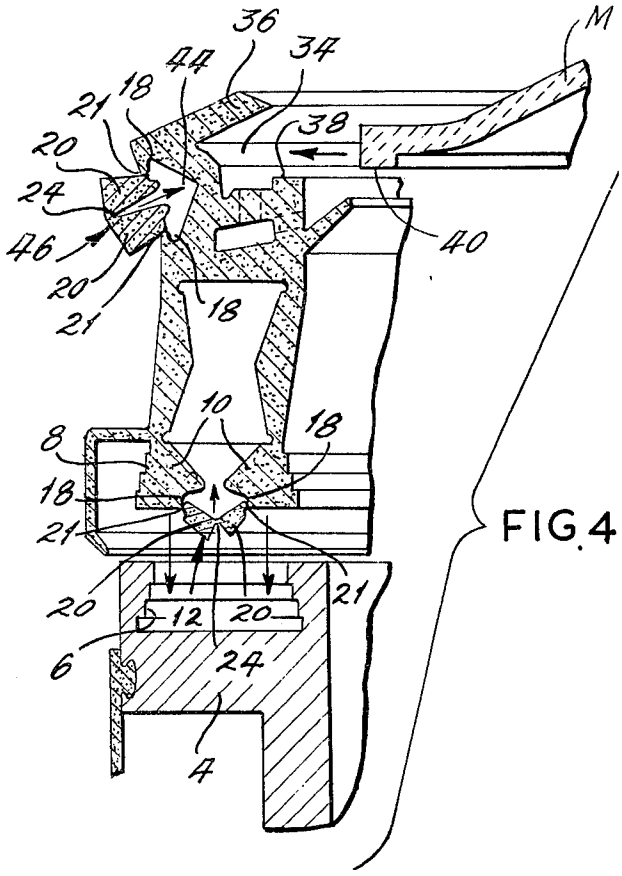


FIG. 4

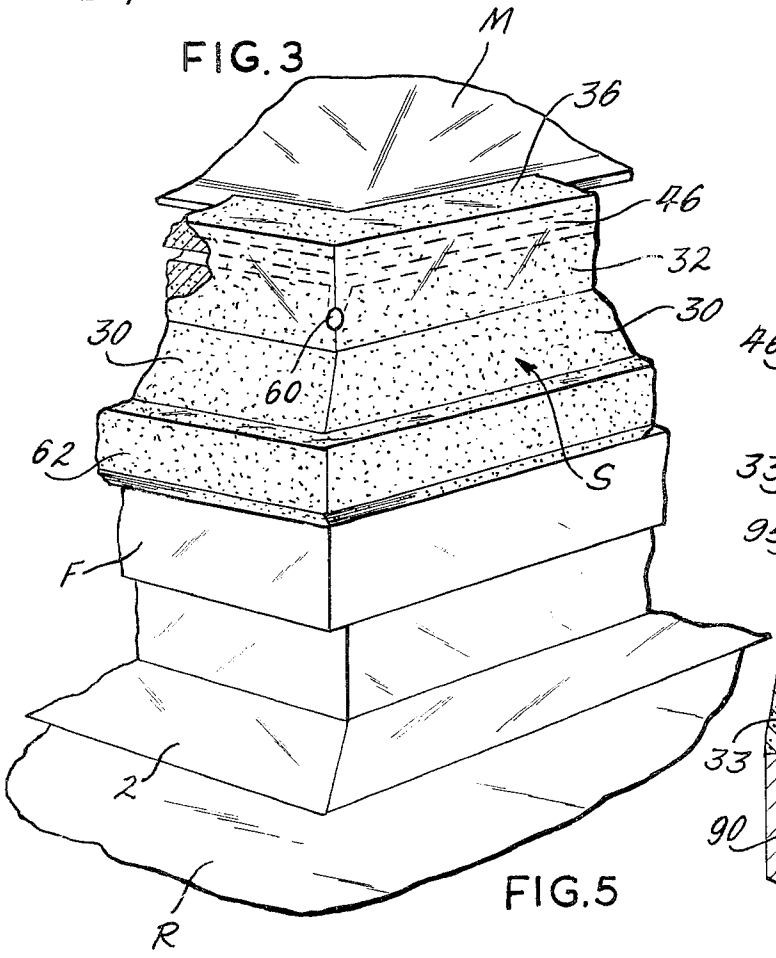


FIG. 5

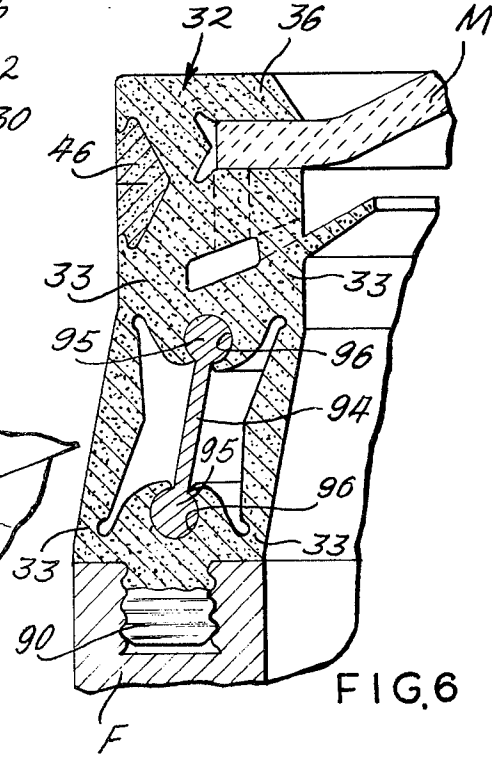


FIG. 6

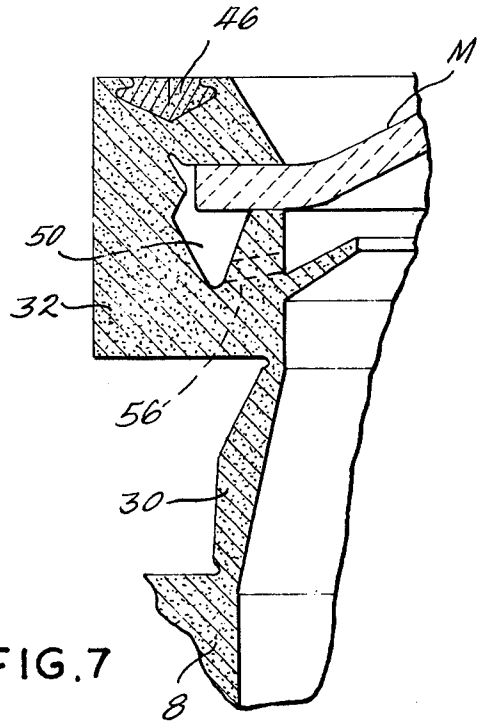


FIG. 7

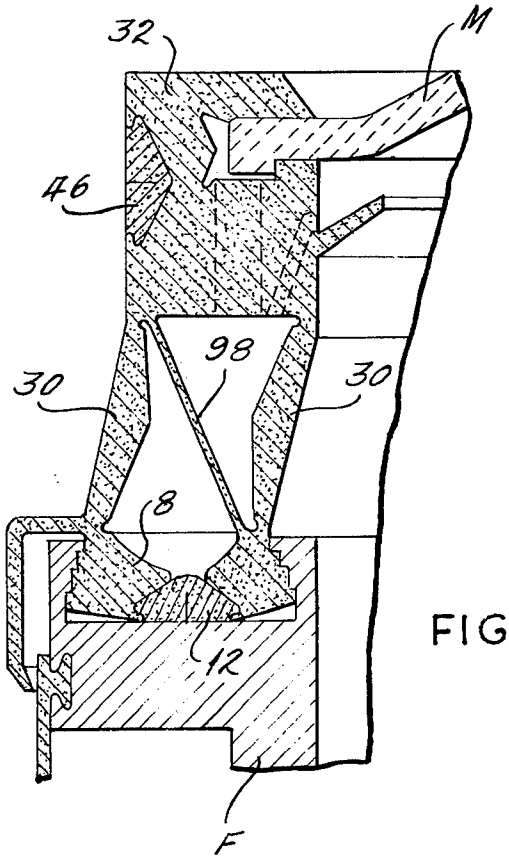


FIG. 8

GLAZING SYSTEM

BACKGROUND OF THE INVENTION

This invention relates to glazing systems and more particularly to a glazing seal and a gutter arrangement used in conjunction with a pair of upstanding members on a roof.

The increased use of large sheets of polymethyl methacrylate, which is sold under the trademark PLEXIGLAS, and other plastics as a glazing material has created problems not encountered with relatively small and even large panes of glass. One of the major problems results from the relatively high coefficients of expansion possessed by these materials. This expansion is on the order of 1/6 inch per ft. per 100° F and is usually compensated for by setting the edge of the plastic glazing material in an aluminum channel which is deep enough to accommodate the expansion and contraction. Normally an elastomeric seal is fitted between the edge portion of the plastic sheet and the aluminum channel to prevent leakage. The expansion and contraction with changes in temperature in time works the elastomeric seal loose and as a result leaks develop.

The problem is particularly acute with skylights where plastic glazing finds its principal use, because skylights are subjected to the greatest extremes in temperature, and are often disposed horizontally, the position in which they will receive the greatest amount of rain and snow.

Moreover, existing glazing systems do not provide adequate means for removing condensation and leakage without having that water drip into the room below.

SUMMARY OF THE INVENTION

One of the principal objects of the present invention is to provide a glazing seal which accommodates for expansion and contraction of a glazing material. Another object is to provide a glazing seal which is less susceptable to leakage than existing glazing seals. A further object is to provide a glazing seal which collects condensation and leakage and discharges the water so collected externally. An additional object is to provide a glazing seal which is ideally suited for use with polymethylmethacrylate and other glazing materials having relatively high coefficients of expansion. Still another object is to provide a glazing seal which is ideally suited for use in skylights. Yet another object is to provide a gutter arrangement which is ideally suited for use between skylight frames. These and other objects and advantages will become apparent hereinafter.

The present invention is embodied in a glazing seal having a base which is attached to a supporting structure, a glazing receiver which receives the glazing material, and a leg connected between the receiver and base to permit the receiver to move relative to the base without changing its angular disposition relative to glazing material. The invention also resides in a glazing seal having a cavity for collecting water which enters the seal and for discharging that water to the exterior of the seal. The invention further includes a gutter arrangement having two extended elastomeric gutter members which overlap and are sealed to each other. The invention also consists in the parts and in the arrangements and combinations of parts hereinafter described and claimed.

DESCRIPTION OF THE DRAWINGS

In the accompanying drawings which form part of the sepcification and wherein like numerals and letters refer to like parts wherever they occur:

FIG. **1** is a perspective view of a roof provided with a glazing system seal and gutter arrangement constructed in accordance with and embodying the present invention;

FIG. **2** is a sectional view taken along line **2—2** of FIG. **1**;

FIG. **3** is an enlarged sectional view of the glazing seal showing it fitted tightly into a rigid frame and supporting a glazing material;

FIG. **4** is an exploded sectional view of the glazing seal and the frame and glazing material to which it is fitted with the lock strips of the seal being in their contracted positions;

FIG. **5** is a fragmentary perspective view showing the corner of the glazing seal;

FIG. **6** is a sectional view of a modified glazing seal;

FIG. **7** is a sectional view of a modified seal having only one supporting leg; and

FIG. **8** is a sectional view of a modified seal with a diagonal tension member to provide added spring load to maintain the seal in contact with the glazing material and to return the seal to a neutral position.

DETAILED DESCRIPTION

Referring now to the drawings (FIG. **1**), R designates a roof having several rectangular frames F projecting upwardly from it. These frames are covered by a closure material or plastic glazing material M such as polymethyl methacrylate which is sold by Rohm and Haas under the trademark PLEXIGLAS, and this material is connected to the frames F by elastomeric glazing seals S. Each frame F and its corresponding glazing material M and seal S forms a skylight L in the roof R.

The roof R is usually flat or has a very slight pitch to it, and the frame F is mounted thereon. At its lower end the frame F is provided with an outwardly directed flange **2** (FIG. **2**) which rests on the roof R, while at its upper end it is provided with a smaller flange **4** having an upwardly opening groove **6** therein. The groove **6** is wider at its bottom than at its top and along its sidewalls is provided with serrations. The seal S fits snugly in the groove **6** and projects upwardly from the upper end of the frame F, extending completely around the frame F.

The seal S constitutes four elastomeric extrusions joined together in a rectangular configuration by corner moldings which are vulcanized to the ends of the extrusions to form an integral seal structure. Since the seal S is for the most part an extrusion it possesses substantially the same cross-sectional configuration throughout. The seal S includes (FIG. **3**) a base **8** composed of a pair of retainers **10** and a lock strip **12** between the retainers **10.** Each retainer **10** has a serrated outside surface **3,** which conforms to the serrations along the sides of lthe groove **6** in the frame F. Each retainer **10** on its inwardly presented surface has a longitudinal recess **18** which opens toward the recess **18** in the opposite retainer **10,** and fitted into these recesses **18** are the side edges of the lock strip **12.**

The lock strip **12** is composed of a wedge-like halves **20** positioned back-to-back and with their narrow outer edges being in the grooves **18** (FIG. **3**). Preferably the halves **20** are connected to the retainers **10** at hinge segments **21** located immediately below the recesses

18. The halves 20 are separated at a parting line 22 and are joined together by a small hinge segment 24 at the upper end of the parting line 22. The angles of the two abutting surfaces at the parting line 22 are such that the opposed forces applied to the halves at the narrow outer edges thereof will cause the halves 20 to be forced tightly together along the parting line 22. When the halves 20 are so positioned the lock strip 12 is in its expanded condition, and in that condition, the bottom of the lock strip 12 is flush with the bottom of the retainers 10 and the width of the lock strip 12 is such that the lock strip 12 forces the two retainers 10 between which it is fitted snugly against the serrated side walls of the groove 6 in the frame F, thereby holding the seal S snugly in that groove 6. On the other hand, when the lock strip 12 is folded downwardly along its hinge segment 24 (FIG. 4), it is in its contracted condition, and in that condition it projects below the retainers 10. Its width is somewhat less in that condition to enable the retainers 10 to move together so that the base 8 can be fitted into the groove 6. The lock strip 12 operates on the over center principle, that is, as it is folded from its contracted to its expanded position it passes a position in which the inwardly directed forces applied at the narrow edges of its wedge-shaped halves 20 no longer tend to urge it to its contracted condition, but instead hold it in its expanded condition with hinge segment 24 between the halves 20 being in tension. The lock strip 12 need not be joined to the retainers 10 at hinge segments 21 but instead may be formed separate.

Connected to each retainer 10 and projected upwardly therefrom is a load bearing leg or wall 30 (FIG. 3), and the two walls 30 are parallel and equal in length. The upper ends of the walls 30 are attached to a glazing receiver 32. The walls 30 are reduced in thickness at their ends, that is where they join the retainers 10 and the glazing receiver 32, and these reduced portions constitute flexible joints or hinge segments 33 at which the walls 30 flex. This ability to flex at the hinge segments 33 permits the glazing receiver 32 to move backwardly and forwardly with respect to the base 8, and since the walls 30 are parallel and equal in length, the receiver 32 will remain oriented at the same angle with respect to the glazing material M irrespective of its position relative to the base 8. The glazing seal S is extruded with the walls 30 inclined at an oblique angle with respect to the glazing receiver 32 and the retainers 10 so that the glazing receiver 32 is located slightly ahead of the base 8. Consequently, when the glazing receiver 32 is displaced from this position, the natural resiliency of the legs 30 will tend to restore it to that position.

The glazing receiver 32 has a forwardly opening glazing channel 34 (FIG. 3) which snugly receives the side edge of the glazing material M, and a sealing lip 36 which overlies the channel 34 and bears tightly against the upper surface of the glazing material M, forming a water tight seal therewith. Beneath the lip 36, the receiver 32 is further provided with an upwardly projecting retainer lug 38 which engages the underside of the glazing material M. The retainer lug 38 forms a seal along the underside of the glazing material M and furthermore interlocks with a downwardly projecting rib 40 extended along the periphery of the glazing material M so that the glazing material M cannot under normal circumstances be withdrawn from the glazing channel 34. Along the backside of the glazing channel 34 the glazing receiver 32 is further provided with a convex bumper 42 which abuts against the peripheral edge of the glazing material M and prevents the glazing material from cutting the elastomeric glazing receiver 32.

Thus, the glazing receiver engages and forms a seal along both principal surfaces of the glazing material M, that is both along the upper and lower surfaces. The primary or more secure seal is along the undersurface of the material M. Opening out of the rearwardly presented face of the glazing receiver 30 is a groove 44 (FIG. 3) which accommodates another lock strip 46 similar to the lock strip 12. Like the lock strip 12, the lock strip 46 has wedge-shaped halves 20, the narrow ends of which fit into longitudinal recesses 18 along the upper and lower portions of the groove 44. The wedge-shaped halves 20 are preferably connected to the receiver 32 along hinge segments 21 located immediately rearwardly from the recesses 18 but they may also be formed separate from the glazing receiver. The halves 20 abut along a parting line 22 when the lock strip 46 is in its expanded condition, and are attached together at the inner end of the parting line by a hinge segment 24. When the lock strip 46 is in its expanded condition it fully occupies the groove 44 and thereby rigidifies the sealing lip 36, so that the lip 36 remains tightly engaged with the upper surface of the glazing material M and cannot be easily displaced therefrom. In this position the wedge-shaped halves 20 are over center and the natural resiliency of the glazing receiver 32 exerts opposed forces on the narrow edges of the wedge-shaped halves 20 which causes those halves to remain in snug abutment along the parting line 22. This in turn maintains the lock strip 46 in its expanded condition. The groove 44 may alternatively be positioned such that it opens out of the top surface of the glazing receiver 32 (FIG. 7).

However, when the lock strip 46 is in its contracted condition (FIG. 4), it projects rearwardly away from the groove 44, and the groove 44 is for the most part unoccupied. The absence of the lock strip 46 from the groove 44 permits the entire upper portion of the glazing receiver 32 to swing backwardly along the thin portion of material between the back faces of the groove 44 and the glazing channel 34 so that the sealing lip 36 moves upwardly away from the retainer lug 38. This in turn opens the glazing channel 34 so that the glazing material M can be installed in or removed from it.

Directly below the glazing channel 34, the glazing receiver 32 is provided an internal drainage channel 50 (FIG. 3), and this channel is connected with the bottom of the glazing channel 34 at spaced intervals by connecting holes 52. The connecting holes 52 permit water to drain from the glazing channel 34 to the drainage channel 50. They further equalize the pressure between the channels 34 and 50. The void between the legs 30 may serve as the drainage channel 50 (FIG. 8), in which case a separate channel is not necessary. Likewise, the channel 50 may merely be a downward continuation of the glazing channel 34 (FIG. 7).

Projected forwardly from the front face of the glazing receiver 32 below the glazing channel 34 therein is a condensate gutter 54 (FIG. 3) which collects condensation dripping off the underside of the glazing material M. In this connection, it should be noted that most skylights are not flat, but instead are crowned or pyramidal in configuration. Consequently, water which condenses on the underside of the glazing material M tends to run to the edges where it will drip into the room below unless collected. The water collected in the gutter 54 is

conveyed to the internal drainage channel **50** through weep holes **56** which are spaced at equal intervals along the glazing receiver **32.**

The major portion of the glazing seal S is an extrusion with the exception of the corners which are molded. To form a corner, two extruded lengths of the seal S are fitted into a mold cavity having substantially the same cross sectional configuration as the extruded lengths. Then a compatible elastomer is injected into the mold cavity under sufficient pressure and at a high enough temperature to enable it to fill the cavity and also bond or vulcanize to the ends of the extruded lengths. The corners are molded with outwardly opening vent apertures **60** (FIG. **5**) which communicate with the internal drainage channel **50** and allow any water collected therein to drain to the exterior of the skylight L.

The rear wall **30** next to the base **8** has a flashing member **62** (FIGS. **2** and **3**) projecting rearwardly from it over the surface of the upper flange **4** on the frame F and then downwardly along the outwardly presented side face of the frame F.

Where two skylight L are located next to each other (FIG. **1**), extruded gutter members G (FIG. **2**) may be used to form a gutter between the two skylights. Each gutter member G is an elastomeric extrusion and includes an attachment lug **70** which fits snugly into a laterally opening channel **72** in the upper flange **4** of the frame F. The configuration of the lug **70** and the channel **72** are such that the former interlocks with the latter and is not easily withdrawn thereform. The gutter member G has a depending portion **74** which extends downwardly from the attachment lug **70** toward the base flange **2** on the frame F, and is of relatively thin cross sections so that it flexes easily. At its lower end the depending portion **74** is provided with an offset **76** which enables the gutter member G to double back upon itself in the configuration of the letter S, if necessary. The depending portion **74** merges into an upstanding wall **78** which is thicker than the depending portion **74** above it. The upstanding wall **78** in turn merges into a base **80** which overlies the base flange **2** on the frame F, and at its outer end is provided a splice receiver **82** which either underlies or overlies the splice receiver **82** on the gutter member G for the adjacent skylight L. The splice receivers **82** on the two gutter members G form a trough into which a liquid sealing material **84** is poured to seal the juncture between the two gutter members G and form a water-tight gutter therebetween. The gutters formed by the gutter members G have molded corners at the corners of the skylight L, those corners being former similar to the molded corners on the seal S.

The offset portion **76** enables each gutter member G to double back upon itself to accommodate skilight frames F of different height and to accommodate a pitch in the gutter between the skylights L.

The depending portion **74** of the gutter member G may be attached to and indeed formed integral with the base **8** of the glazng seal S, in which case no attachment lug **70** or integral flashing member **62** would be necessary. In other words, the depending portion **74** and integral flashing member **62** would be combined so that the depending portion **74** would be suspended from the seal S and not the frame F.

Also, where two seals **6** are used with gutter members G between them, the seals S may be provided with supporting legs **86** (FIG. **2**) behind the rear walls **30** thereof. The lower end of the supporting leg **86** for each seal S is connected directly to the seal base **8** adjacent the hinge segment **33** at the lower end of the rear wall **30** and is prevented from swinging away from the rear wall **30** by a restraining web **87** which is attached to both the upper end of the supporting leg **86** and the glazing receiver **32** adjacent the hinge segment **33** at the upper end of the rear wall **30.** The supporting legs **86** of the two glazing seals S support a gutter screen **88** which bridges the space between the supporting legs **86** and rests on the upper ends of those legs. The glazing receiver **32** of each seal S furthermore has a retention flange **89** which overlies the side edges of the gutter screen **88** and prevents the screen **88** from being displaced. The screen prevents leaves, snow, sleet, and the like from collecting in the gutter formed by the two gutter members G so that the gutter will not be blocked.

To install the skylight L on the roof R, the frame F is first secured to the roof R around a suitable opening therein. The built-up roofing material is applied over the base flange **2** on the frame F and up along the side walls of the frame F. If the skylight L is adjacent another skylight L, gutter members are attached to the frames F of the two adjacent skylight L, and the liquid roofing material is poured into the trough formed by the splice receivers **82** of the two gutter members G.

Once the frame F is secured to the roof R, the glazing seal S is installed on the frame F. This is achieved with the lock strip **12** initially in its contracted condition (FIG. **4**), in which case it will project below the retainers **10,** and bring the retainers **10** together so that the width of the seal S at the retainers **10** is less than the width of the upwardly opening groove **6** in the frame F. The seal base **8** is forced into the groove **6** in that condition. As the base **8** passes through the groove **6,** the open lock strip **12** will engage the bottom of the groove **6** so that continued downward movement of the base **8** causes the lock strip **12** to move to its expanded condition, and this in turn causes the retainers **10** to spread apart and tightly engage the serrated sides of the groove **6.** Near the point of full insertion, the wedge-shaped halves **20** of the lock strip **12** pass over center and the lock strip **12** assumes its expanded condition, in which case the wedge-shape halves **20** abut along the parting line **22** between them (FIG. **3**). The retainers **10,** moreover, are compressed between the lock strip **12** and the serrated walls of the groove **6,** and this creates opposed forces on the narrow edges of the lock strip **12** to maintain the lock strip **12** in its expanded condition.

Thereafter, the glazing material M is maneuvered into the glazing channel **34** of glazing receiver **32,** and to facilitate entry the sealing lip **36** is peeled back to widen the channel **34** (FIG. **4**). After the edge of the glazing material is properly located in the channel **34,** the lock strip **46** is closed by running a roller or some other suitable implement along the back of it. The lock strip **46** when closed completely occupies the groove **44** and prevents the glazing receiver **32** from hinging between the groove **44** and the channel **34.** As a result the sealing lip **36** lies tightly against the upper surface of the glazing material M, forming a water tight seal therewith (FIG. **3**).

In use, the glazing material M of the skylight L will expand and contract with variations in temperature. As it does the glazing receiver **32** will move inwardly and outwardly since it is secured to the edge of the glazing material M. In other words, the glazing receiver **32** moves with the glazing material M, instead of remain-

ing fixed in position and the glazing material M sliding into and out of it as is true of conventional glazing systems. Since there is no slipping between the glazing receiver **32** and the glazing material M, the seal S along the sealing lip **36** remains secure and the tendency to leak is greatly reduced.

The parallel walls **30**, of course, permit the glazing receiver **32** to move relative to the base **8**, and further maintain the receiver **32** in the same orientation with respect to the horizontal. Stated differently, the parallel walls **30** function as a parallel linkage arrangement or pantograph which prevents the glazing receiver **32** from tilting as it moves over the base **8**. Thus, the angular disposition of the glazing channel **34** with respect to the engaged portion of the glazing material M does not change.

Condensation which collects on the underside of the glazing material M flows downwardly to the glazing receiver **32** and then along the front face of the receiver **32** to the condensate gutter **54** where it collects. The weep holes **56** discharge this condensate into the internal drainage channel **50** from which it is discharged to the exterior through the vent apertures **60** in the corners of the glazing seal S. Any water which enters the interior of glazing receiver **32** beneath the sealing lip **36** is directed to the internal drainage channel **50** by the connecting holes **52** and consequently it does not enter the room below, but is instead discharged to the outside of the skylight L through the corner vent apertures **60**.

Finally, the interconnected corner apertures **60**, drainage channel **50**, and connecting holes **52** place the glazing channel **34** at the same pressure as the outside atmosphere so even when the building is under a negative pressure, which is a common occurance in structures, there is no tendency for the water on top of the glazing material M to be drawn into the building.

MODIFICATIONS

The glazing seal may be provided with a plug type retainer **90** (FIG. **6**) having undulated walls instead of the pair of retainers **10** which are spread by the over center lock strip **12**. The retainer **90** is merely pushed into a groove **92** having complementary undulated walls.

Where extremely heavy glazing materials are used, some of the weight of the glazing material M may be carried by an internal structural member **94** (FIG. **6**) interposed between the parallel legs **30**. The structural member **94** is preferably an extrusion of a suitable metal or rigid plastic material and has cylindrical pivot portions **95** along its upper and lower ends. These pivot portions fit into complementary sockets **96** in the base **8** and the glazing receiver **32** to enable the structural member **94** to move with the legs **30** without tilting the glazing receiver **32**.

Also, the glazing seal S may be extruded with an elastomeric band **98** (FIG. **8**) extended through the cavity between the walls **30** and in particular from the hinge segment **33** at the upper end of the rear wall **30** to the hinge segment **33** at the lower end of the front wall **30**. The band **98** should be substantially thinner than the leg **30** and its length should be such that it is normally under tension. As a result the band **98** urges the glazing receiver **32** toward the peripheral edge of the glazing material M, causing the bumper **42** to snugly abut that edge. Thus, no slippage occurs between the glazing material M and the glazing receiver **32** as the glazing material expands and contracts.

For glazing materials which are relatively light and experience only moderate thermal expansion, one wall **30** instead of two may be sufficient (FIG. **7**). In such a case the glazing material M maintains the glazing receiver **32** in the proper angular disposition, while the single wall **30** and the glazing receiver **32** support the glazing material M.

The terms closure material or glazing material as used herein mean not only panels made from transparent or translucent materials, but also opaque panels which may be formed from metal.

This invention is intended to cover all changes and modifications of example of the invention herein chosen for purposes of the disclosure which do not constitute departures from the spirit and scope of the invention.

What is claimed is:

1. A glazing seal for securing a glazing material to a supporting structure having a groove therein, said seal comprising: a base sized to fit into the groove in the supporting structure and including a pair of retainers which are engageable with the sides of the groove to firmly retain the base in the groove and a lock strip which moves from a contracted condition wherein the retainers are relatively close together to an expanded condition wherein the retainers are spread further apart and tightly engage the sides of the groove; a glazing receiver having a glazing channel in which the edge of the glazing material is received; and at least two substantially parallel legs of substantially equal length interconnecting the base and the receiver and being presented at an angle with respect to the lateral direction of the glazing channel and that portion of the glazing material in the glazing channel, the legs being flexible adjacent to the base and receiver so that the legs together with the base and receiver from a parallel linkage arrangement which enables the receiver to move relative to the base and still maintain substantially the same angular disposition with respect to the glazing material.

2. A seal for attaching a thin closure material such as a glazing material to a supporting structure having an opening therein such that the closure material closes the opening, said seal comprising: a base capable of being attached to the supporting structure and extending generally around the opening in the supporting structure; receiving means extending around the closure material for gripping the closure material at the edge thereof, the receiving means being offset from the base in a direction generally perpendicular to the opening so that the receiving means neither surrounds nor is encircled by the base, and connecting means interconnecting the base and the receiving means for enabling the receving means to move laterally with respect to the base with expansions and contractions of the closure material to prevent slippage between the closure material and the receiving means, the connecting means including flexible joints at which the connecting means is connected to the base and receiving means to enable the connecting means to easily move relative to the base and receiving means.

3. A glazing seal according to claim **1** wherein the lock strip projects beyond the retainers when in its contracted condition and operates on the over center principle, passing over center as it moves from its contracted condition to its expanded condition; and wherein the retainers exert compressive forces on the side edges of the lock strip when the lock strip is in its

expanded condition and thereby holds the lock strip in the over center expanded condition.

4. A seal according to claim **2** wherein the connecting means comprises at least one leg pivotally connected to both the receiving means and the base to enable the receiving means to maintain approximately the same angular orientation with respect to the closure material even though the receiving means moves laterally with respect to the base.

5. A seal according to claim **4** wherein the base, receiving means, and leg are all constituted of an elastomeric material and are formed as an integral unit.

6. A seal according to claim **4** wherein the receiving means is an elastomeric material receiver having a glazing channel which opens inwardly and receives the edge of the closure material.

7. A seal according to claim **6** wherein the receiver is generally horizontal and further includes an inwardly projecting lip located below the glazing channel and spaced from the undersurface of the closure material for catching condensation which may drip from the closure material near the edge thereof.

8. A seal according to claim **4** wherein the receiving means is provided with means which interlock with the closure material for preventing the closure material from slipping substantially with respect to the glazing channel.

9. A seal according to claim **6** wherein the receiver includes a sealing lip which overlies the closure material at its edge and means for releasing the sealing lip so that the sealing lip can be bent back to widen the channel and facilitate installation of the closure material therein.

10. A seal according to claim **9** wherein the means for releasing the sealing lip includes a groove positioned in the material receiver to reduce the thickness of the receiver adjacent to the channel so that it is easily bent back, and a lock strip capable of being fitted into the groove to hold the walls thereof apart to prevent the sealing lip from being easily bent back.

11. A seal according to claim **10** wherein the lock strip is hinged intermediate its side edges to enable it to move from a contracted to an expanded condition; and wherein the lock strip projects out of the groove when in its contracted position and fits into and occupies the groove when in its expanded condition.

12. A seal according to claim **11** wherein the lock strip operates on the over center principle and passes over center as it moves from its contracted to its expanded condition; and wherein the receiver exerts a compressive force on the side edges of lock strip when the lock strip is in its expanded condition and thereby holds the lock strip in the over center expanded condition.

13. A seal according to claim **7** wherein the receiver is provided with a longitudinally extending drainage channel located in the interior thereof and weep holes connecting the channel with the lip.

14. A seal according to claim **13** wherein the receiver is provided with connecting holes which interconnect to glazing channel and the drainage channel to drain any water which may leak into the glazing channel.

15. A seal according to claim **2** wherein the connecting means comprises at least two substantaillly parallel legs of substantially equal length connected to both the receiving means and the base at the flexible joints such that the legs swing relative to the receiving means and base, whereby the legs together with the base and receiving means form a parallel linkage arrangement which enables the receiving means to maintain the same angular disposition with respect to the base despite changes in the lateral disposition occasioned by expansion and contraction of the closure material.

16. A seal according to claim **15** wherein the base, receiving means, and legs are all formed from an elastomeric material as an integral unit and the joints are portions of reduced thickness in the legs.

17. A seal according to claim **15** and further comprising a rigid structural member pivotally connected to the receiving means and base intermediate the legs and parallel thereto to prevent the legs from collapsing under heavy loads.

18. In a glazing system including a framing structure forming the periphery of an opening, and a glazing material extended across and closing the opening, an improved seal for attaching the glazing material to the framing structure, said seal comprising: a base attached firmly to the framing structure and extending around the opening; a glazing receiver surrounding the glazing material at the edge thereof and being sealed thereto, the glazing receiver being offset from the base in a direction generally perpendicular to the opening; and connecting means attached to the base and to the receiver at flexible joints for supporting the receiver on the base, the connecting means being capable of pivoting at the joints with respect to the glazing receiver and base to thereby accommodate movement between the receiver and the base without substantial change in the angular orientation of the receiver with respect to the base, whereby the receiver will move outwardly and inwardly with expansions and contractions of the glazing material without affecting the seal between the receiver and the glazing material.

19. The structure according to claim **18** wherein the connecting means comprises at least two substantially parallel legs of substantially equal length, the legs being pivotally connected to the base and to the receiver at the joints so as to form a parallel linkage arrangement which keeps the receiver in the same angular orientation with respect to the base notwithstanding changes in the lateral position of the receiver.

20. The structure according to claim **19** wherein the receiver, the base, and the legs are all formed from an elastomeric material as an integral unit and the joints are portions of reduced thickness in the legs.

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