May 31, 1966 A. R. DAVIDSON 3,253,415

GUTTERING

Filed June 26, 1963 3 Sheets-Sheet 1

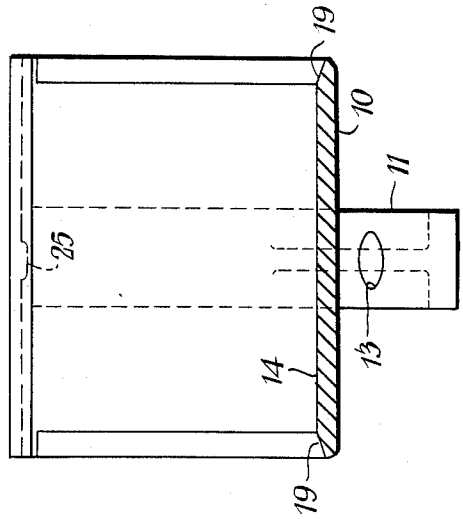


FIG.2.

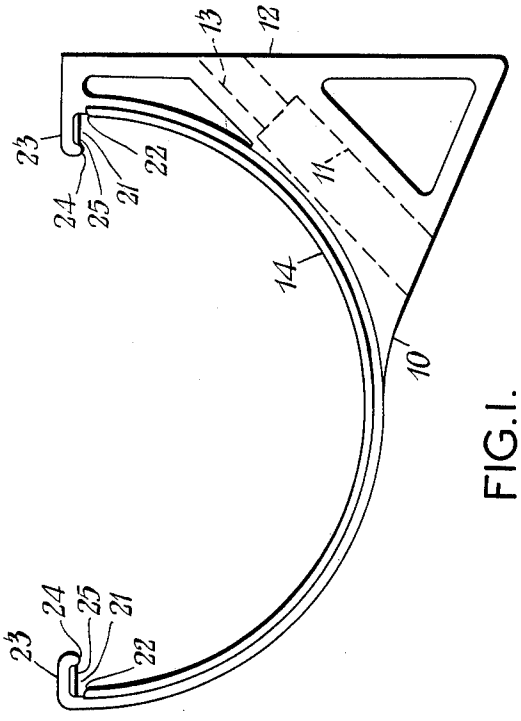


FIG.1.

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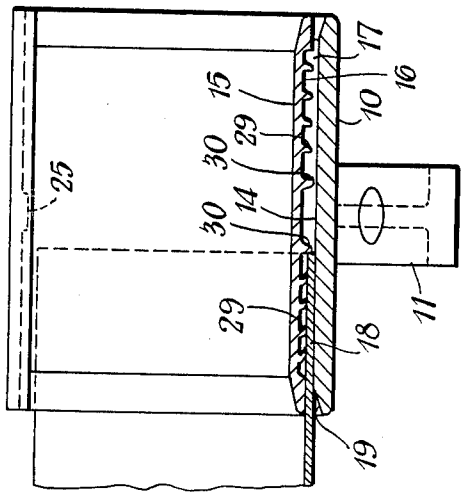


FIG. 5.

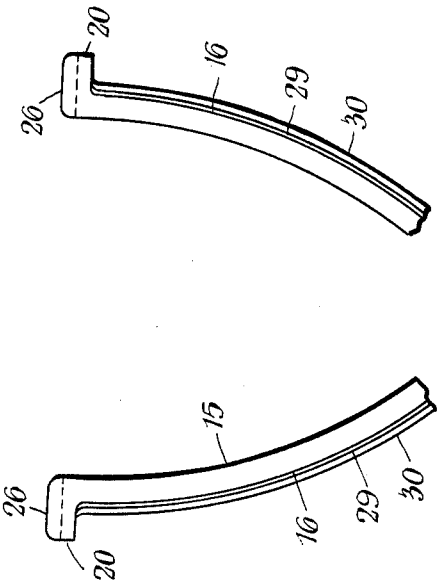


FIG. 3.

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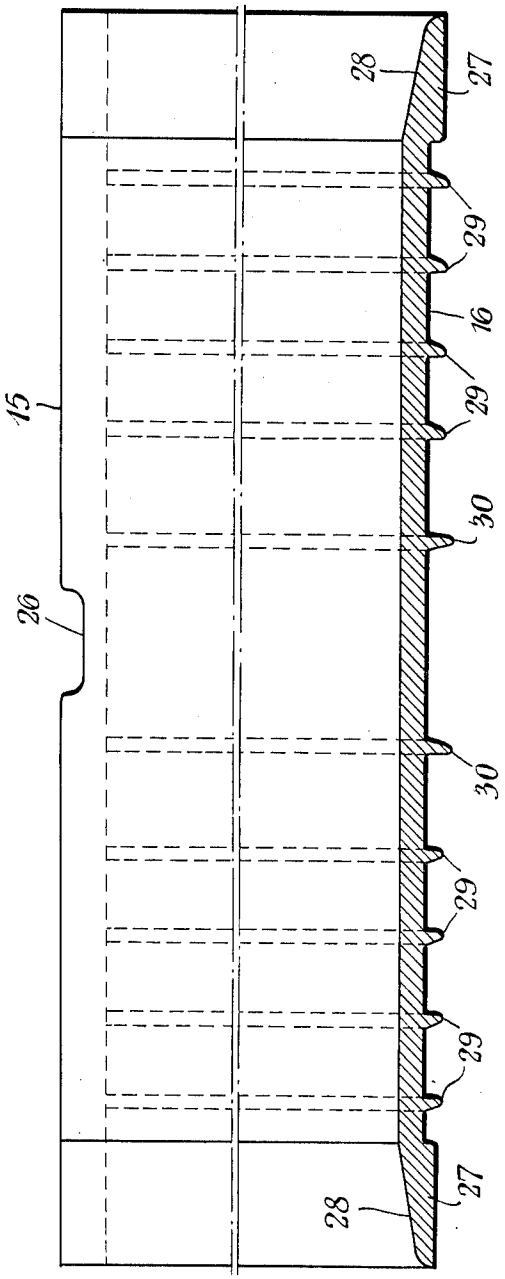


FIG. 4.

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GUTTERING

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Claims priority, application Great Britain, June 28, 1962, 24,924/62
1 Claim. (Cl. 61—15)

This invention concerns improvements relating to guttering and more specifically to brackets for supporting the same.

It is known to provide a slot in such a bracket for reception of an end of a length of gutter. The clearance between and hence the dimensions of the slot and gutter need to be held to fairly close tolerances to prevent leakage when merely a dry joint is made between them. The holding of such tolerances makes manufacture costly.

An object of the invention is to devise a construction allowing greater latitude in such tolerances and yet providing leak-free joints between bracket and gutter.

Accordingly the present invention provides a bracket device having a through-slot for reception of opposed ends of two lengths of gutter, wherein the slot is formed between a formation of trough section in a bracket portion of the device and a resilient liner of synthetic plastics material held in the bracket portion, the liner presenting to the slot a series of sealing ribs, the ribs being spaced in the through direction of the slot and each rib extending transversely of the said direction so that the ribs form a seal by contact with the inside of the said lengths of gutter when in position in the slot.

One or more stops may be arranged to limit entry of the gutter lengths into the slot.

A bracket device according to the invention, will now be described in more detail, by way of example, reference being made to the accompanying drawings, wherein:

FIGURES 1 and 2 are end elevation and longitudinal section respectively of a bracket portion;

FIGURES 3 and 4 are corresponding enlarged fragmentary views of a liner, the fragments being displaced; and

FIGURE 5 is a longitudinal section of the assembled bracket device, a gutter end being shown inserted in the left-hand end.

Referring to FIGURE 1, the bracket portion **10**, which may be of synthetic plastics material, has a base **11** with a vertical face **12** for contact with an eaves board. The base **11** is formed with a countersunk bore **13** inclined to the vertical so that the point of a securing screw, conveniently a captive screw, in the bore **13** is directed upwardly into the eaves board.

An open-ended trough formation **14** of semi-circular section is supported by the base **11**. The trough **14** extends beyond either side of the base **11** as can be seen in FIGURE 2. The semi-circular section mentioned corresponds with the outside of gutter lengths to be supported.

A resilient liner **15**, shown in detail in FIGURES 3 and 4, of arcuate cross-section, is held with its outer curved surface **16** in spaced relation to the trough **14** as appears from FIGURE 5. A through-slot **17** having its through-direction extending longitudinally of the trough **14** is thereby defined. The s'ot **17** can accommodate opposed ends of two gutter lengths, one such end **18** being shown in position in FIGURE 5.

Each end of the trough **14** has a bevel **19** on the inside to facilitate entry of the gutter lengths into the through-slot **17**.

In this example, the liner **15** is held in the aforementioned spaced relation by a projection or toe **20** on the longitudinal edges of the liner **15**. The extremity of the projection or toe **20** is accommodated in a recess **21** in the bracket portion and supported by a small rounded ledge **22** at the lower side of the recess **21**. The upper side of the recess **21** is formed by a lip **23** with a downward extremity **24** which, together with the projection or toe **20**, restrains the liner **15** from vertical movement.

Also, the liner **15** is held at either side at its top from relative longitudinal movement in the bracket portion **10**, namely in the through-direction of the slot **17**, by interengagement of a tongue **25** and a co-operating slot **26**. The slot **26** in the present example is formed in the liner **15** and the tongue **25** in the bracket portion **10**, but alternatively the slot could be on the bracket portion and the co-operating tongue in the liner. The tongue **25** is shown formed on the underside of the projection or toe **20** whereas the co-operating slot **26** is in the longitudinal edge of the liner **15**.

The liner **15** has a thickened portion **27** at each end on the inside of which is a bevel **28**. The bevels **28** reduce resistance to flow between adjacent gutter lengths when held by the bracket.

The outside of the liner **15** presents to the through-slot **17** a series of ribs **29**, the series being spaced in the through-direction of the slot **17** and each rib **29** extending transversely to this direction. This series is disposed between the thickened portions **27**. The ribs **29** effectively narrow the slot **17** locally to somewhat less than the wall thickness of the gutter ends. The liner **15** is made of polyethylene or other synthetic plastics materials such that the ribs **29** are resilient and form a seal by contact with the inside of the gutter ends in the manner indicated in FIGURE 5. It will be observed that the ribs **29** in the left hand group are deformed by contact with the gutter **18**. Thus a dry joint can be made, that is to say without the aid of a cement.

The series conveniently consists of eight ribs **29**. These are preferably arranged in two groups of four as shown, the spacing between the inside rib of each group exceeding the spacing between member ribs of each group, which latter spacing can be equal.

Between the two groups of ribs, two rib-like stops **30** are provided. The stops **30** limit entry of gutter ends during insertion by hand in the slot **17** but yield readily to thermal expansion forces before the latter can cause damage or distortion of the guttering. The spacing between the stops **30** is adequate to allow for expansion of the gutter lengths with avoidance of abutting of the gutter ends, one on the other.

The construction described permits latitude in manufacuring tolerances to be maintained in the slot and the gutter ends and thus keeps manufacturing costs correspondingly down. Yet a leak-free joint between the slot and gutter ends can be made without the aid of a cement.

I claim:

A bracket support for reception of opposed ends of two lengths of gutter, comprising an open-ended trough having projections along its upper edges, said projections extending towards each other, a trough-shaped resilient liner disposed in said trough with its upper edges located beneath said projections preventing said liner lifting out of said trough, said liner having a series of spaced sealing ribs projecting from its under side, each said sealing rib extending continuously between the upper edges of said liner, and at least one stop rib projecting from the under side of said liner a greater distance than said sealing ribs and located mid-way of said series of sealing ribs, and means on said liner and said trough forming a slot and

a tongue in position to enter said slot and engage said slot forming means for holding said liner against movement along said trough.

References Cited by the Examiner

UNITED STATES PATENTS

168,934	10/1875	Stearns	248—48.2 X
3,156,099	11/1964	Dailey	61—14

FOREIGN PATENTS

594,864	11/1947	Great Britain.
696,211	8/1953	Great Britain.
841,369	7/1960	Great Britain.
914,903	1/1963	Great Britain.
1,278,316	10/1961	France.

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