Aug. 25, 1959 N. BECKER 2,900,681

AWNING STRUCTURE

Filed May 22, 1956 2 Sheets-Sheet 1

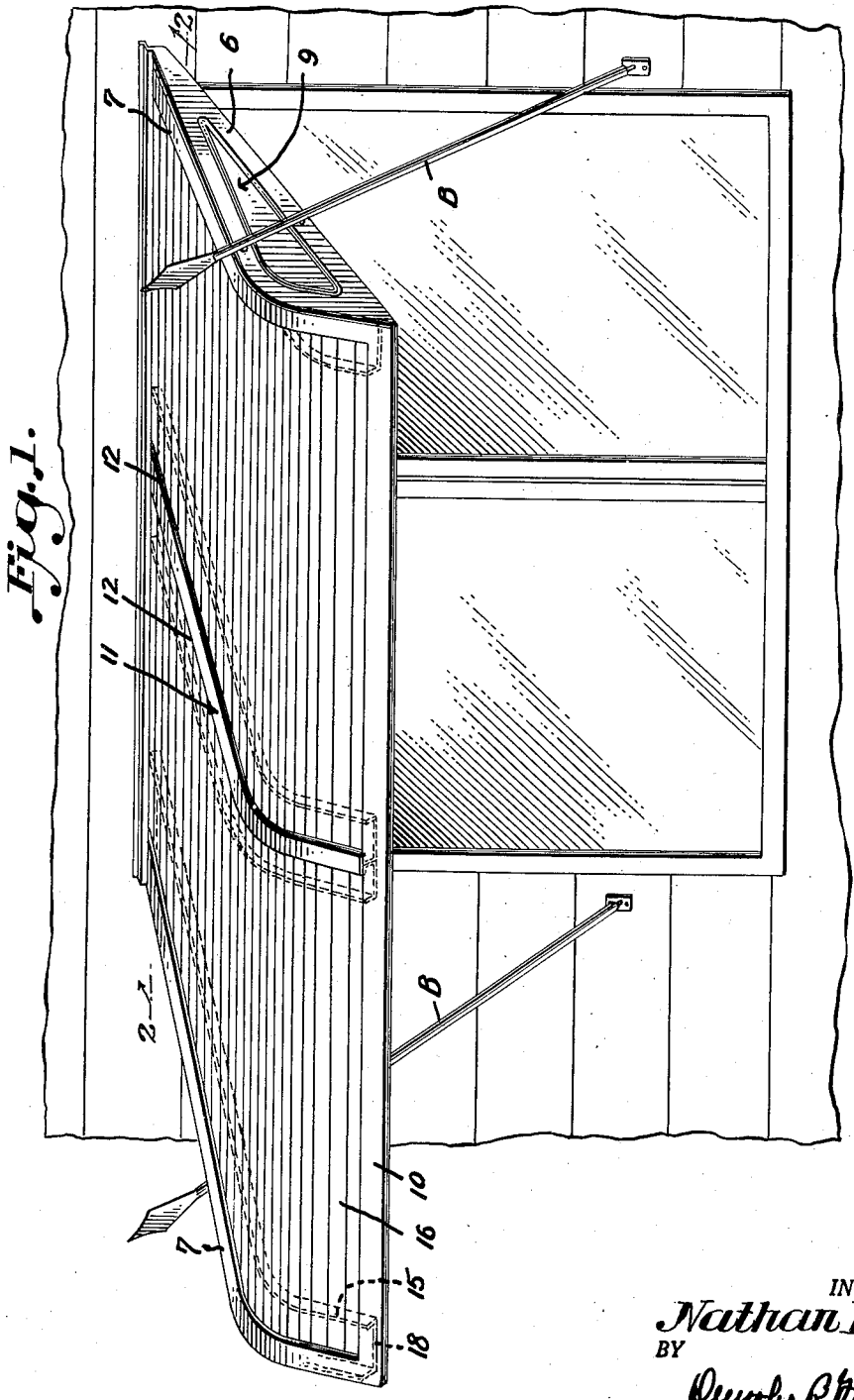


Fig. 1.

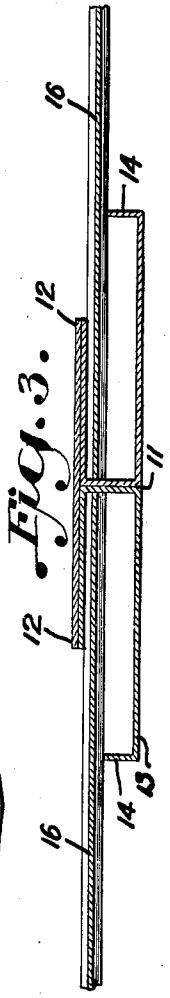


Fig. 3.

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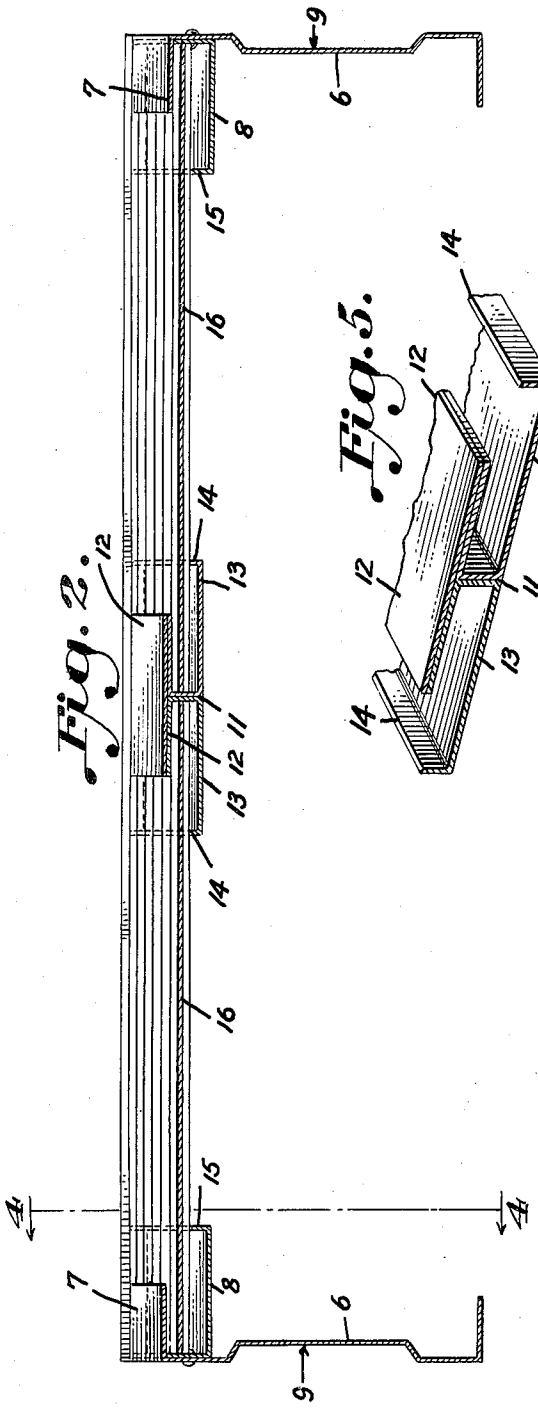


Fig. 2.

Fig. 5.

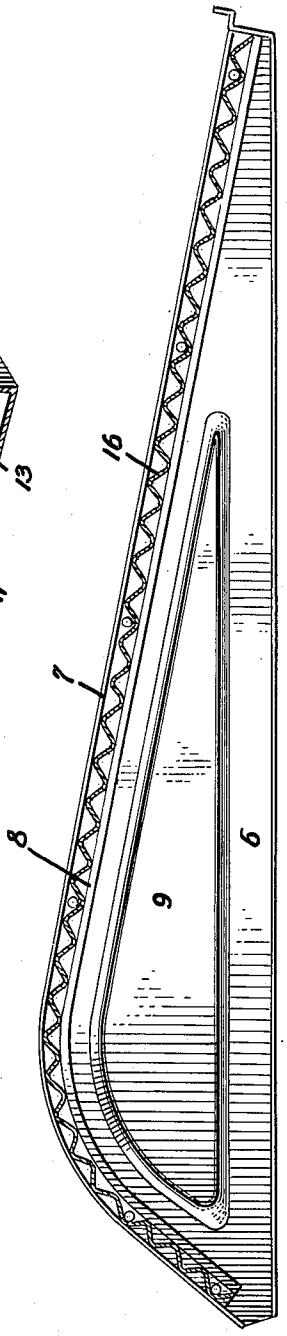


Fig. 4.

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United States Patent Office 2,900,681
Patented Aug. 25, 1959

2,900,681

AWNING STRUCTURE

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Application May 22, 1956, Serial No. 586,606

1 Claim. (Cl. 20—57.5)

This invention is an awning structure and pertains specifically to awnings providing metallic frames.

The primary object of the invention is to provide an awning to project laterally from a building over a window, door or other opening, to be either rigid with the building or hingedly connected thereto, and which provides means whereby water accumulating upon the top surface of the awning may be conveyed by simple and efficient means to the outer end of the awning.

A further object of the invention is to provide an awning structure of the character generally stated which includes means whereby the roof panels may be so assembled with the awning frame as to be securely positioned or supported therein and in such tight manner as to preclude movement of the panels with respect to the supporting frame, thus eliminating the possibility of annoying rattling or vibrations which have heretofore been present in proposed awning structures.

A still further object of the invention is to provide an awning structure which includes a frame constructed of thin metal and assembled in such manner as to produce a rigid structure for the accommodation of the roof panels and which is capable of attachment to a building either rigidly or immovable with respect thereto or for swinging movement as desired.

A still further object is to provide an awning frame of the character generally stated which is capable of supporting top panels either of metal or of plastic or other synthetic materials and which will rigidly support these panels at all times.

With the foregoing objects in view, together with others which will appear as the description proceeds, the invention resides in the novel construction, combination and arrangement of parts, all as will be described more fully hereinafter, illustrated in the drawing, and particularly pointed out in the claim.

In the drawings:

Fig. 1 is a perspective view of an awning constructed in accordance with the invention and illustrating the same as it will appear when applied over the window opening of a building,

Fig. 2 is a sectional view taken transversely of the awning substantially upon the line 2—2 of Fig. 1,

Fig. 3 is an enlarged fragmentary sectional view taken through the mid-rib or dividing channel of the awning structure,

Fig. 4 is a sectional view taken substantially upon the line 4—4 of Fig. 2, looking in the direction indicated by the arrows, and

Fig. 5 is a detail fragmentary sectional view showing the construction of the mid-rib or dividing channel.

Referring now more particularly to the drawing, Fig. 1 discloses the awning of my invention as applied to the wall of a building above a window opening. In this form of the invention the awning is to be hinged in any desired manner at its inner end to the building wall and is maintained in raised or open position by struts or braces indicated at B. These struts or supports may be

of any desired type or may operate in any desired manner, and it will be understood that they may operate so as to permit the awning to be lowered over the window when desired. On the other hand, the awning of the present invention may be of the type wherein its rear end is fixedly connected with the building and is permanently maintained in raised or operative position.

The frame for this awning structure includes end plates 6 formed of suitable thin metal, such as steel or aluminum. These plates are provided at their upper edges with inwardly projecting flanges 7 coterminous with the plates and these flanges project toward one another as illustrated more particularly in Fig. 2. Secured to the inner face of each of the plates 6 is an inwardly projecting gutter plate 8, the said plates being spaced below the flanges 7, in parallelism therewith and extending approximately from one extremity of the end plate to the other. It will be noted that they also project beyond their end plates a substantial distance beyond the end of the flanges 7. The gutter plates and flanges 7 are in parallelism throughout the length of the frame, as shown more particularly in Fig. 4 of the drawing.

Each end plate 6 may be recessed in its side as indicated at 9, to lend strength to the plate as well as for ornamental purposes, and an inwardly directed base flange is provided along the lower straight edge of each plate 10 for strengthening as well as ornamental purposes.

The outer extremities of the end plates 6 are connected by a cross bar 10 which may be formed integral with the end plates or may be a separate member rigidly attached at its ends to the outer extremities of the end plates.

Interposed between the spaced parallel end plates is a dividing channel or mid-rib indicated at 11. This rib is coterminous with the end plates and abuts at its outer end the cross bar 10. This mid-rib is provided at its upper edges with laterally directed flanges 12 which are in the same plane with the flanges 7 of the end plates. The mid-rib also includes laterally directed gutter plates 13 projecting laterally from the lower edges of the rib a distance greater than the flanges 12. The outer extremities of each of these gutter plates are upturned to provide a lip 14 which is disposed in the same plane with a corresponding lip 15 projecting upwardly from the inner ends of the gutter plates 8. Inasmuch as the mid-rib or dividing channel is rigidly secured to the frame, it will always be maintained in spaced parallelism with the end plates 6 and will form a rigid part of the frame.

The roof members for the awning are indicated at 16 and comprise plates of either light metal, such as steel or aluminum, or may be formed of plastic or other synthetic material. These plates fit between the mid-rib or dividing channel and the end plates, and are preferably corrugated transversely as shown more particularly in Fig. 4 of the drawings. The lower portions of the corrugations rest upon the upstanding lips 14—15, while the upper edges of the corrugations engage the undersurfaces of the inwardly directed flanges 7 of the end plates and the flanges 12 of the mid-rib or dividing channel.

When the roof plates are applied to the frame in the manner described, it is at once apparent that a clamping engagement is applied to the end portions of the roof plates between the flanges 7 and lips 15 of the end plates and the flanges 12 and lips 14 of the mid-rib. Inasmuch as the channels of the corrugations are disposed laterally, any moisture accumulating on the upper surfaces of the plates will flow in the valleys of the corrugations to the ends thereof to fall into the gutters 8 and 13 and be carried thereby to the outer or free end of the awning for discharge. In this manner, water accumulations will

be carried off at the free end of the awning beyond the wall of the building to which the awning is applied.

The construction of the awning frame is such as to lend itself to production in quantity at low costs and involves an assembly requiring simple operations. The clamping engagement at the edges of the roof panels with their supporting structures is such as to rigidly maintain the roof panels against any possibility of movement within the frame, thus insuring a rigid structure as well as one which cannot become loose and susceptible of rattling due to wind pressures.

I claim:

In an awning structure, spaced parallel end plates, a mid-rib parallel and coextensive with said end plates and interposed between the latter, flanges projecting inwardly from the upper edges of said end plates, flanges projecting laterally from the upper edges of said mid-rib and disposed in the same plane with said end plate flanges, gutter plates projecting inwardly from said end plates below said flanges and in parallelism therewith, gutters projecting laterally from said mid-rib in the same plane with said end gutter plates, gutter lips projecting upwardly from the outer edges of said end plate gutter plates and

said mid-rib gutters, the upper edges of said ribs being in a common plane above said gutters and gutter plates, and roof panels having laterally disposed corrugations disposed between said end plates and mid-rib with their edge portions slidably resting upon and overlapping said gutter lips, the distance between the crowns and valleys of said corrugations being equal to the distance between said end plate and mid-rib flanges and the upper edges of said gutter lips, whereby water accumulating upon the upper surfaces of said roof panels will flow laterally thereof and pass into said end plate and mid-rib gutters.

References Cited in the file of this patent

UNITED STATES PATENTS

1,524,237	Grammas	Jan. 27, 1925
2,225,011	Jones	Dec. 17, 1940
2,474,713	Auble	June 28, 1949
2,526,168	Spear	Oct. 17, 1950
2,618,820	Struben et al.	Nov. 25, 1952
2,680,887	Rimmeir	June 15, 1954
2,741,810	Moreno	Apr. 17, 1956
2,785,445	Phillips	Mar. 19, 1957