Feb. 7, 1956 J. D. KNIGHT 2,733,485

NON-ADJUSTABLE SHUTTER AWNING

Filed Dec. 3, 1954 4 Sheets-Sheet 1

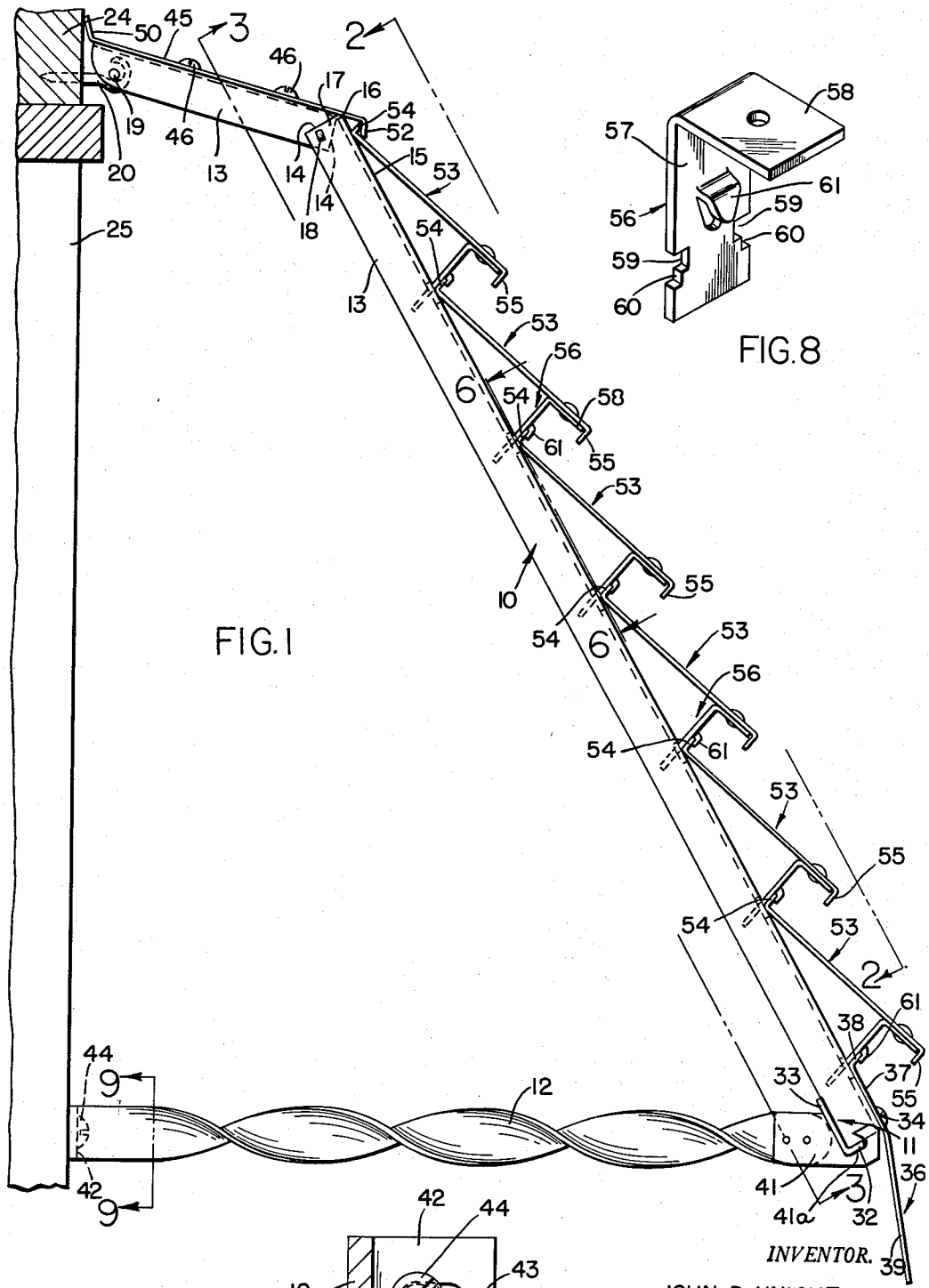


FIG. 1

FIG. 8

FIG. 9

INVENTOR.
JOHN D. KNIGHT
BY
Frease & Bishop
ATTORNEYS

Feb. 7, 1956 J. D. KNIGHT 2,733,485

NON-ADJUSTABLE SHUTTER AWNING

Filed Dec. 3, 1954 4 Sheets-Sheet 2

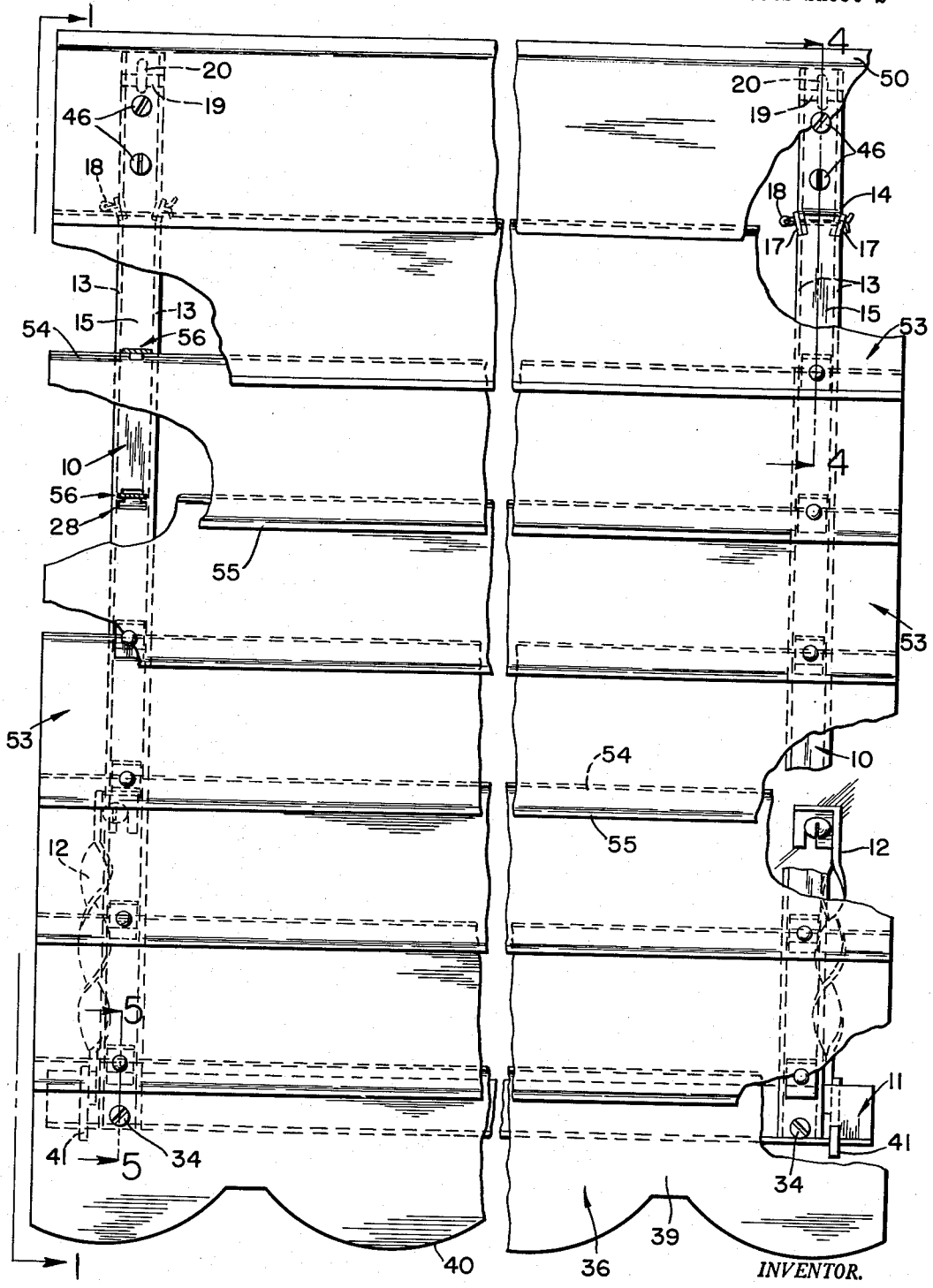


FIG. 2

INVENTOR.
JOHN D. KNIGHT
BY Frease & Bishop
ATTORNEYS

Feb. 7, 1956 J. D. KNIGHT 2,733,485

NON-ADJUSTABLE SHUTTER AWNING

Filed Dec. 3, 1954

4 Sheets-Sheet 3

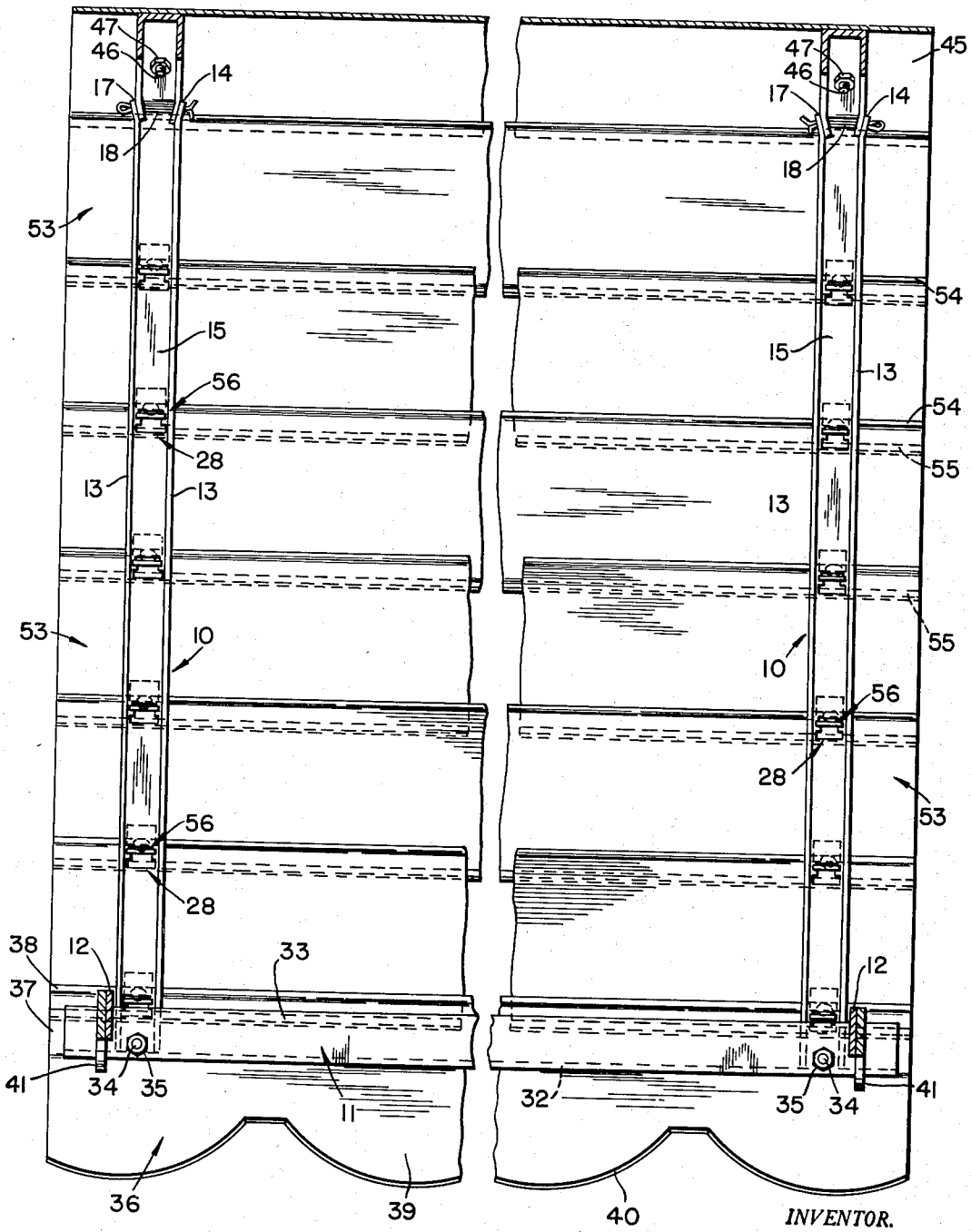


FIG. 3

INVENTOR.

JOHN D. KNIGHT

BY

Frease & Bishop

ATTORNEYS

Feb. 7, 1956 J. D. KNIGHT 2,733,485

NON-ADJUSTABLE SHUTTER AWNING

Filed Dec. 3, 1954 4 Sheets-Sheet 4

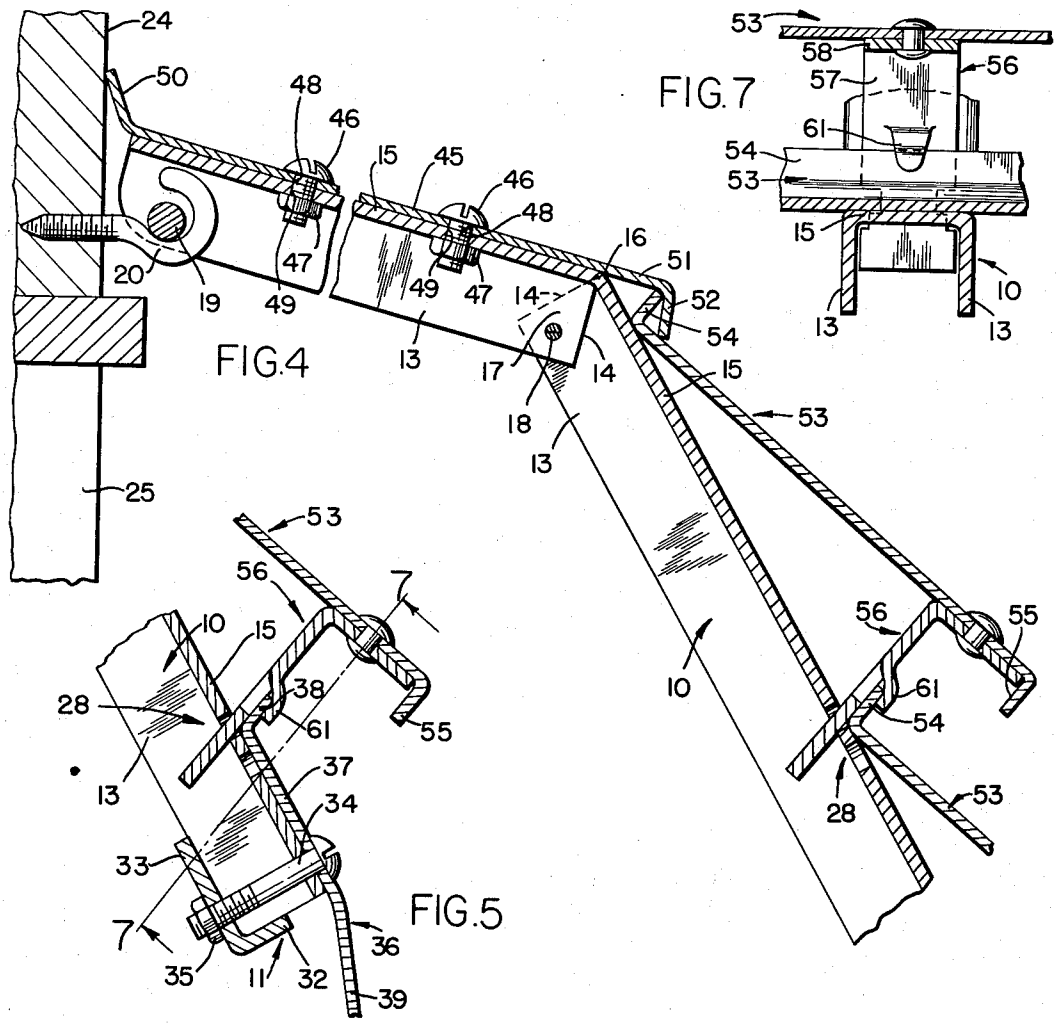


FIG. 4

FIG. 5

FIG. 7

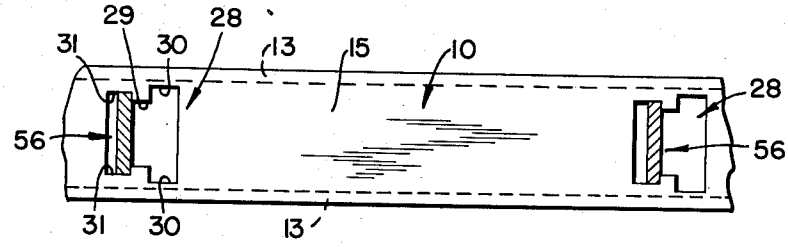


FIG. 6

INVENTOR.

JOHN D. KNIGHT

BY

Frease & Bishop

ATTORNEYS

United States Patent Office 2,733,485 Patented Feb. 7, 1956

2,733,485

NON-ADJUSTABLE SHUTTER AWNING

John D. Knight, Mantua, Ohio, assignor to The Astrup Company, Cleveland, Ohio, a corporation of Ohio

Application December 3, 1954, Serial No. 472,946

14 Claims. (Cl. 20—57.5)

The invention relates to sheet metal awnings, and more particularly to a non-adjustable shutter awning adapted for use over windows or doors.

It is an object of the invention to provide a rigid, durable, sheet metal shutter awning which is simple in construction and economical to produce.

Another object is to provide an awning of this type which may be easily and readily assembled.

A further object is to provide an awning of the character referred to which is so constructed that it will shade the window or door opening from direct rays of the sun, while at the same time admitting diffused light so as not to make the window or door opening unduly dark or gloomy.

A still further object is to provide such an awning, which protects the window or door opening against rain or snow, while permitting a circulation of air to pass between adjacent louvers, so that no hot air will be trapped beneath the awning.

Another object of the invention is to provide an awning of this type including a frame comprising channel rafters adapted to be attached, at their upper ends, to the wall above a window or door opening, and inclined downwardly and outwardly therefrom, horizontal twisted ornamental side arms being interposed between the lower ends of the rafters and the wall, and an angle front bar connecting the lower ends of the rafters.

Still another object is to provide such an awning construction in which the horizontal side arms are provided with attaching clips for connection to the angle iron front bar, these clips being notched to engage over the angular front bar.

Another object is to provide an awning of the character referred to in which the attaching clips upon the side arms are so constructed that they will readily slide laterally upon the front bar, so that the side arms may be easily positioned to the left or right of the channel rafters of the awning frame, as may be necessary to line the side arms up with a window casing.

A further object is to provide an awning having such a frame, and a plurality of horizontally disposed, overlapping sheet metal louvers attached thereto in such manner that the forward or lower edge of each louver is spaced above the rear or upper edge of the next adjacent, lower louver.

A still further object is to provide such an awning, in which the louvers are attached to the rafters by clips of novel design, which permanently hold the louvers in assembled position.

It is also an object of the invention to provide an awning of this type, in which novel means is provided for attaching the front bar to the rafters and side arms.

Still another object of the invention is the provision of sheet metal louvers of novel construction and design.

The above and other objects, apparent from the drawings and following description, may be attained, the above described difficulties overcome and the advantages and results obtained, by the apparatus, construction, arrangement and combinations, subcombinations and parts which comprise the present invention, a preferred embodiment of which, illustrative of the best mode in which applicant has contemplated applying the principle, being set forth in detail in the following description and illustrated in the accompanying drawings.

In general terms, the invention may be stated as comprising a permanent shutter, sheet metal awning, including a frame formed of a pair of channel section rafters with means for attaching the upper ends thereof to a wall above a window or door opening, and inclined downwardly and outwardly from the wall, an angular front bar attached to the lower ends of the rafters and substantially horizontal twisted ornamental side arms attached to the front bar and to the wall as by attaching clips fixed to the outer ends of the side arms and notched to engage the front bar.

Each of the rafters has a series of equally spaced key hole type openings therein, and a series of clips, having notched lower end portions, are inserted into these key hole openings and permanently attached to the rafters, transversely disposed sheet metal louvers being attached to the clips, each louver having a depending flange at its front edge and an upstanding flange at its rear edge for engagement under a struck-out tongue upon the adjacent clip, whereby the louvers and clips are rigidly held together as a unit upon the rafters, and a sheet metal valance attached to the lower ends of the rafters and having an upturned flange at its upper end engaging the struck-out tongue of the lowermost clip.

The improved non-adjustable shutter awning thus set forth in general terms is illustrated in the accompanying drawings, in which:

Fig. 1 is a side elevation of an awning embodying the invention showing the same attached to a wall over a window or door opening, viewed as on the line 1—1, Fig. 2;

Fig. 2 a front elevation of the awning shown in Fig. 1;

Fig. 3 a section on the line 3—3, Fig. 1 showing the underside of the awning;

Fig. 4 an enlarged, fragmentary, sectional view of the upper portion of the awning, taken as on the line 4—4, Fig. 2;

Fig. 5 a fragmentary, detail section through the lower portion of the awning, on an enlarged scale, taken as on the line 5—5, Fig. 2;

Fig. 6 a fragmentary, sectional elevation, on an enlarged scale, taken as on the line 6—6, Fig. 1;

Fig. 7 a fragmentary, sectional view, taken as on the line 7—7, Fig. 5;

Fig. 8 a perspective view of one of the clips by means of which the louvers are attached to the rafters of the frame; and,

Fig. 9 an enlarged, fragmentary, sectional view through one of the side arms of the frame showing the means for attaching the same to a wall, taken as on the line 9—9, Fig. 1.

Reference is now made to the embodiment of the invention illustrated in the drawings, in which similar numerals refer to similar parts throughout.

The awning includes a frame, comprising a pair of downwardly and outwardly inclined, inverted channel section rafters indicated generally at 10, an angular front bar indicated generally at 11, and a pair of substantially horizontal twisted ornamental side arms 12.

The depending flanges 13 of the rafters 10 are slit at a point spaced from the upper end thereof, as indicated at 14, and the web portion 15 of the rafter is angularly bent at this point, as shown at 16, the adjacent end portions of the flanges 13 being overlapped, as indicated at 17, and perforated to receive a cotter pin or the like 18

which holds the rafter in a bent position, as best shown in Fig. 4.

A transversely disposed stud 19 is located within the upper end of each rafter 10, being attached at its ends to the flanges 13 of the rafter in any usual and well known manner, as best shown in Figs. 1 and 4, for detachably connecting the rafters to a wall 24 above a window opening 25, by any suitable attaching means, such as the screw eye or hook 20, which may be specially designed for this purpose.

The web portion 15 of each rafter is provided, at equally spaced points throughout its length, with substantially key-hole shaped slots, indicated generally at 28, these slots being best shown in Fig. 6. Each slot 28 has the central, restricted portion 29 and is enlarged at one end by the lateral cut-out portions 30, and enlarged to a less degree at the other end by the lateral cut-out portions 31.

The front bar 11 is of angle cross section and is located horizontally and connected to the lower ends of the rafters 10, which, as shown in the drawings, are inclined downwardly and outwardly from the supporting wall.

The relatively narrow flange 32 of the front bar is of considerably less width than the depth of the channel shape rafters, and is butted against the terminal ends of the web 15 and flanges 13 of the rafters, as best shown in Fig. 5, the relatively wide flange 33 of said front bar contacting the lower or inner edges of the flanges 13 of the channel rafters.

The front bar 11 is rigidly attached to the lower ends of the rafters 10, as by the bolts 34 and nuts 35, which also attach the valance 36 to the awning frame. The valance is formed of sheet metal having the upwardly and rearwardly bent portion 37 lying flat upon the top of the rafters and terminating at its upper end in the upturned terminal flange 38, for a purpose to be later described. The depending lower portion 39 of the valance may be provided with the scalloped edge 40 as best shown in Figs. 2 and 3.

The side arms 12 may be twisted ornamental metal bars, to the forward or outer ends of which are attached the clips 41 which are angularly notched at 41*a* to receive the relatively wide flange 33 and engage over the edges of the relatively narrow flange 32 of the front bar, thus locking the side arms 12 to the front bar 11, as shown in Fig. 1.

The rear or inner end of each side arm 12 terminates in an angular flange 42, having a bayonet slot 43 therein, whereby the same may be detachably connected to a screw or other stud 44 secured to the supporting wall 24. With this construction the entire awning as a unit may be easily and readily attached to or detached from the supporting wall without requiring the use of a screw driver, wrench or other tool.

A single sheet metal louver 45 is permanently attached to the bent upper portions of the rafters 10, as by bolts 46 and nuts 47 located through suitable perforations 48 and 49 in the louver 45 and web portions 15 of the channel rafters.

An upwardly and inwardly inclined terminal flange 50 is formed at the upper or rear edge of the louver 45, the terminal edge thereof contacting the supporting wall 24, as best shown in Fig. 4. The forward or outer edge portion of the uppermost louver 45 extends forwardly, beyond the bends 16 in the rafters, as indicated at 51, and terminates in the down-turned angular flange 52.

All of the other louvers, which are connected to the downwardly and outwardly inclined portions of the rafters and extend from the bends 16 in the rafters to the lower ends thereof, are preferably substantially narrower than the uppermost louver 45, and each of these louvers, indicated generally at 53, is provided with an upturned, angular flange 54 at its upper edge and a down-turned, angular flange 55 at its lower edge.

The louvers 53 are attached to the rafters 10 by means of clips, indicated generally at 56 and shown in detail in Fig. 8. These clips are preferably formed of heavier guage metal than the louvers, and each clip comprises generally the upright portion 57 and the forwardly disposed flange 58 at its upper end.

Stepped notches are formed in opposite edges of the upright portion 57 of each clip, near its lower end, each notch comprising the relatively deep upper portion 59 and the outwardly stepped lower portion 60.

To attach the louvers 53 to the rafters 10, the clips 56 are inserted into the key-hole slots 28 in the web portions of the rafters, the lower end of each clip being first inserted through the widest portion 30-30 of the corresponding slot 28, to a sufficient depth so that the clip may be moved upwardly and rearwardly in the slot, the narrowest notched portion 59-59 of the clip passing through the narrower portion 29 of the slot, the clip being moved upwardly and rearwardly into the cut-out portion 31-31 at the rear end of the slot 28, and then pulled upward, so that the stepped notches 60-60 in the clip contact the cut-out portions 31-31 of the notch.

The upper or rear terminal flange 54 of the louver 53 is then inserted under the struck-out tongue 61 of the clip 56, this flange 54 of the louver thus holding the clip in this position. The lower or forward end portion of the louver 53 is then riveted or otherwise permanently attached to the top flange 58 of the next lower clip and this action is repeated as each louver and clip is assembled.

The upturned flange 54 at the upper end of the uppermost louver 53 is received under the down-turned flange 52 of the top louver 45. The upturned flange 38 at the upper edge of the valance 36 is received under the struck-out tongue 61 of the lowermost clip 56.

From the above it will be obvious that a simple, economical and durable sheet metal awning, of the permanent or non-adjustable shutter type is provided, in which the frame members may be easily and readily assembled, and the louvers may be quickly and easily attached to the frame, and permanently held in position thereon by means of novel clips.

It will also be seen that the entire assembly of awning and frame may be easily and readily attached to a supporting wall, over a window or door opening, or detached therefrom, without requiring the use of tools.

In the foregoing description, certain terms have been used for brevity, clearness and understanding, but no unnecessary limitations are to be implied therefrom beyond the requirements of the prior art, because such words are used for descriptive purposes herein and are intended to be broadly construed.

Moreover, the embodiments of the improved construction illustrated and described herein are by way of example, and the scope of the present invention is not limited to the exact details of construction.

Having now described the invention or discovery, the construction, the operation, and use of preferred embodiments thereof, and the advantageous new and useful results obtained thereby; the new and useful construction, and reasonable mechanical equivalents thereof obvious to those skilled in the art, are set forth in the appended claims.

I claim:

1. A metal awning structure comprising spaced forwardly and downwardly inclined rafters having spaced key-hole type slots therein, attaching clips having notched lower portions received in said slots, a spaced ear on each clip, sheet metal louvers located laterally across said rafters in overlapped relation, an upturned flange at the rear edge of each louver engaged under the ear of the adjacent clip, and means connecting the forward portion of each louver to the top of the next adjacent clip.

2. A metal awning structure comprising spaced forwardly and downwardly inclined rafters having spaced key-hole type slots therein, attaching clips having notched lower portions received in said slots, a spaced ear on each clip, sheet metal louvers located laterally across said rafters in overlapped relation, an upturned flange at the rear edge of each louver engaged under the ear of the adjacent clip, means connecting the forward portion of each louver to the top of the next adjacent clip, and a downturned flange at the forward edge of each louver.

3. A metal awning structure comprising spaced forwardly and downwardly inclined rafters having spaced key-hole type slots therein, attaching clips having notched lower portions received in said slots, an angular flange at the top of each clip, a spaced ear on each clip, sheet metal louvers located laterally across said rafters in overlapped relation, an upturned flange at the rear edge of each louver engaged under the ear of the adjacent clip, and means connecting the forward portion of each louver to the top flange of the next adjacent clip.

4. A metal awning structure comprising spaced forwardly and downwardly inclined rafters having spaced key-hole type slots therein, attaching clips having notched lower portions received in said slots, an angular flange at the top of each clip, a spaced ear on each clip, sheet metal louvers located laterally across said rafters in overlapped relation, an upturned flange at the rear edge of each louver engaged under the ear of the adjacent clip, means connecting the forward portion of each louver to the top flange of the next adjacent clip, and a downturned flange at the forward edge of each louver.

5. A metal awning structure comprising spaced forwardly and downwardly inclined rafters having spaced key-hole type slots therein, attaching clips having notched lower portions received in said slots, a spaced ear on each clip, sheet metal louvers located laterally across said rafters in overlapped relation, an upturned flange at the rear edge of each louver engaged under the ear of the adjacent clip, said upturned flange holding said adjacent clip locked in the corresponding key-hole type slot, and means connecting the forward portion of each louver to the top of the next adjacent clip.

6. A metal awning structure comprising spaced forwardly and downwardly inclined rafters having spaced key-hole type slots therein, attaching clips having notched lower portions received in said slots, an angular flange at the top of each clip, a spaced ear on each clip, sheet metal louvers located laterally across said rafters in overlapped relation, an upturned flange at the rear edge of each louver engaged under the ear of the adjacent clip, said upturned flange holding said adjacent clip locked in the corresponding key-hole type slot, and means connecting the forward portion of each louver to the top flange of the next adjacent clip.

7. A metal awning structure comprising spaced forwardly and downwardly inclined rafters having spaced key-hole type slots therein, attaching clips having notched lower portions received in said slots, an angular flange at the top of each clip, a spaced ear on each clip, sheet metal louvers located laterally across said rafters in overlapped relation, an upturned flange at the rear edge of each louver engaged under the ear of the adjacent clip, said upturned flange holding said adjacent clip locked in the corresponding key-hole type slot, means connecting the forward portion of each louver to the top flange of the next adjacent clip and a downturned flange at the forward edge of each louver.

8. A metal awning structure comprising spaced forwardly and downwardly inclined rafters having spaced key-hole type slots therein, attaching clips having notched lower portions received in said slots, a spaced ear on each clip, sheet metal louvers located laterally across said rafters in overlapped relation, an upturned flange at the rear edge of each louver engaged under the ear of the adjacent clip, means connecting the forward portion of each louver to the top of the next adjacent clip, a sheet metal valance located laterally across the lower end portions of said rafters, means connecting said valance to said rafters, and an upturned flange at the rear edge of said valance engaged under the ear of the lowermost clip.

9. A metal awning structure comprising spaced forwardly and downwardly inclined rafters having spaced key-hole type slots therein, a front bar located laterally across the lower ends of said rafters, substantially horizontal side arms, means connecting the forward ends of said side arms to said front bar, means for connecting the rear ends of said side arms to a supporting wall, and means for connecting the upper ends of said rafters to the supporting wall, attaching clips having notched lower portions received in said slots, a spaced ear on each clip, sheet metal louvers located laterally across said rafters in overlapped relation, an upturned flange at the rear edge of each louver engaged under the ear of the adjacent clip, and means connecting the forward portion of each louver to the top of the next adjacent clip.

10. A metal awning structure comprising spaced forwardly and downwardly inclined rafters having spaced key-hole type slots therein, a front bar located laterally across the lower ends of said rafters, substantially horizontal side arms, means connecting the forward ends of said side arms to said front bar, means for detachably connecting the rear ends of said side arms to a supporting wall, and means for detachably connecting the upper ends of said rafters to the supporting wall, attaching clips having notched lower portions received in said slots, a spaced ear on each clip, sheet metal louvers located laterally across said rafters in overlapped relation, an upturned flange at the rear edge of each louver engaged under the ear of the adjacent clip, and means connecting the forward portion of each louver to the top of the next adjacent clip.

11. A metal awning structure comprising spaced forwardly and downwardly inclined rafters having spaced key-hole type slots therein, an angle front bar located laterally across the lower ends of said rafters and having an upwardly and rearwardly disposed flange contacting the inner edge of the flanges upon the rafters, substantially horizontal side arms having angular slots in their forward ends receiving said front bar, means for connecting the rear ends of said side arms to a supporting wall and means for connecting the upper ends of said rafters to the supporting wall, attaching clips having notched lower portions received in said slots, a spaced ear on each clip, sheet metal louvers located laterally across said rafters in overlapped relation, an upturned flange at the rear edge of each louver engaged under the ear of the adjacent clip, and means connecting the forward portion of each louver to the top of the next adjacent clip.

12. A metal awning structure comprising spaced forwardly and downwardly inclined rafters having spaced key-hole type slots therein, a front bar located laterally across the lower ends of said rafters, substantially horizontal side arms, means connecting the forward ends of said side arms to said front bar, angular flanges at the rear ends of said side bars having bayonet slots therein, supporting studs for engaging said bayonet slots, the upper ends of the flanges of said rafters having transverse studs therein, and supporting hooks for engaging said studs, attaching clips having notched lower portions received in said key-hole slots, a spaced ear on each clip, sheet metal louvers located laterally across said rafters in overlapped relation, an upturned flange at the rear edge of each louver engaged under the ear of the adjacent clip, and means connecting the forward portion of each louver to the top of the next adjacent clip.

13. A metal awning structure comprising spaced rafters having spaced key-hole type slots therein, each slot having an intermediate restricted portion, a slightly enlarged rear portion and a relatively greatly enlarged forward portion, attaching clips received in said key-hole

slots and being of a width substantially the width of said greatly enlarged portions of the slots, the lower portion of each clip having stepped notches in its side edges, the width of the clip at the deepest notches being substantially the width of the restricted portion of the slot, and the width of the clip at the stepped portion of the notches being substantially the width of the slightly enlarged portion of the slot, a spaced ear on each clip, sheet metal louvers located laterally across said rafters in overlapped relation, an upturned flange at the rear edge of each louver engaged under the ear of the adjacent clip, and means connecting the forward portion of each louver to the top of the next adjacent clip.

14. A metal awning structure comprising spaced rafters having spaced key-hole type slots therein, each slot having an intermediate restricted portion, a slightly enlarged rear portion and a relatively greatly enlarged forward portion, attaching clips received in said key-hole slots and being of a width substantially the width of said greatly enlarged portions of the slots, the lower portion of each clip having stepped notches in its side edges, the width of the clip at the deepest notches being substantially the width of the restricted portion of the slot, and the width of the clip at the stepped portion of the notches being substantially the width of the slightly enlarged portion of the slot, a spaced ear on each clip, an angular flange at the top of each clip, sheet metal louvers located laterally across said rafters in overlapped relation, an upturned flange at the rear edge of each louver engaged under the ear of the adjacent clip, and means connecting the forward portion of each louver to the top flange of the next adjacent clip.

References Cited in the file of this patent

UNITED STATES PATENTS

2,551,558	Friend et al.	May 1, 1951
2,577,482	Ray	Dec. 4, 1951
2,655,697	Albany	Oct. 20, 1953
2,657,437	Moser	Nov. 3, 1953