Aug. 30, 1949. J. W. GALLOWAY 2,480,642

PREFABRICATED SECTION FOR BUILDINGS AND SEALS FOR JOINTS BETWEEN SECTIONS

Filed Nov. 26, 1947 2 Sheets-Sheet 1

Fig. 1.

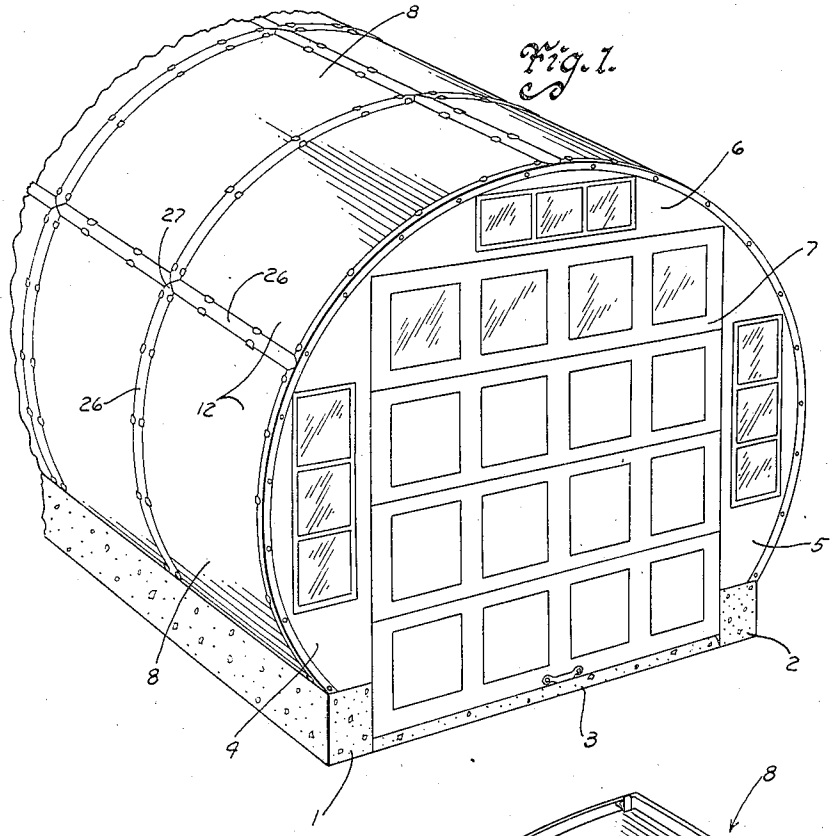
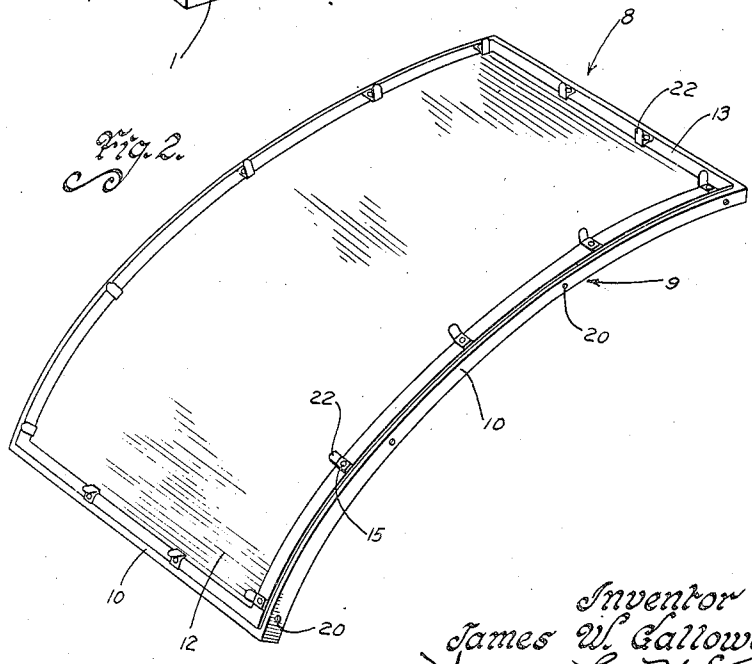


Fig. 2.



Witness
Edward B. Seeley

Inventor
James W. Galloway
By Harry L. Yungen
Attorney

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Fig. 3.

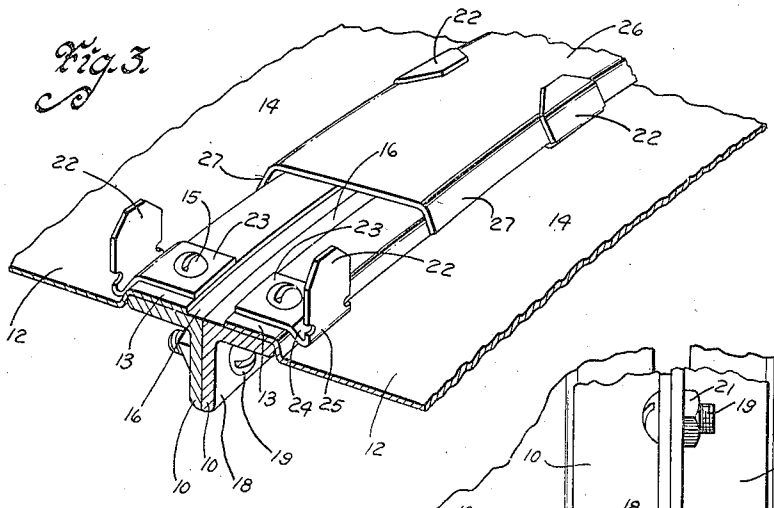


Fig. 4.

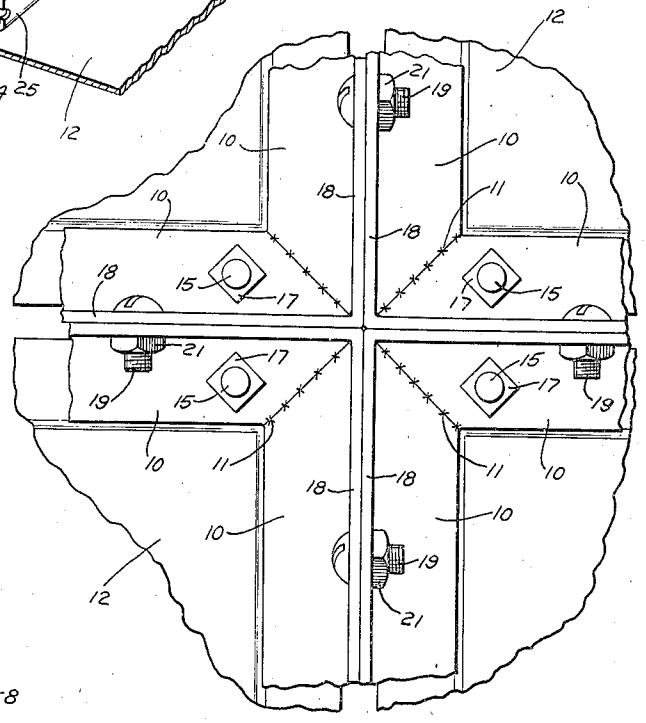
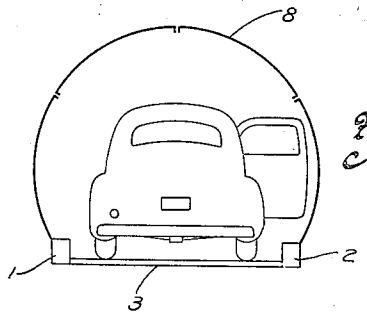


Fig. 5.



Witness
Edward B. Seeley

Inventor
James W. Galloway
by Harry L. Young
Attorney

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PREFABRICATED SECTION FOR BUILDINGS AND A SEAL FOR JOINTS BETWEEN SECTIONS

James W. Galloway, Cedar Falls, Iowa

Application November 26, 1947, Serial No. 788,158

3 Claims. (Cl. 189—2)

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This invention relates to buildings of a circular cross-section and more particularly to a building of circular cross-section made from sections bent into an arc or a circle with the sections connected together to make the finished building and a sealing means associated with the joints formed when the sections are connected together to make the building waterproof.

It is an object of the invention, among others, to provide prefabricated sections that may be assembled at the site of the building into a building structure, with the building structure made waterproof at the joints in the assembling operation.

It is another object of the invention to provide a prefabricated section that is bent into an arc of a circle, which circular sections when assembled give a building of circular cross-section and of any length desired for said building with the building structure made waterproof at the joints in the assembling operation.

It is still another object of the invention to provide prefabricated sections for a building structure that abut and are attached together leaving a joint between the sections which joint may be covered in the assembled building with the covering attached in place by clamping means carried by each section.

It is still a further object of the invention to provide a prefabricated section that is simple in construction, easy to assemble and long lasting and durable when assembled; a prefabricated section that makes a building that is leakproof and requires no special skill on the part of a mechanic to join the sections together into a building and cover the joints with a covering member; and a leakproof building structure that can be furnished at a very low cost.

With the foregoing and other objects in view, the invention will be more fully described herewith and will be particularly pointed out in the claims appended hereto.

In the drawings, wherein like symbols refer to like or corresponding parts throughout the several views:

Figure 1 is an elevational view of a circular building structure made of prefabricated sections with the joints between sections sealed.

Figure 2 is an elevational view of a prefabricated section showing locking tabs attached to the section.

Figure 3 is an elevational end view of two sections joined together showing the sealing strip attached in place by the tabs.

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Figure 4 is an elevational view showing the corner joint made by four sections.

Figure 5 is a diagrammatic view showing an automobile within the building structure.

The building structure shown in Figure 1 is supported on concrete supporting abutment member 1 and 2, which may be level with the ground or may be any distance above the ground desired. A flooring 3 runs the length of the building which also may be of concrete. The building may have a front comprising two side portions 4 and 5 and a top portion 6 seated on the abutment members 1 and 2. An overhead door 7 closes the front of the building so as to be able to use the building as a garage.

The main body of the building is made up of prefabricated sections 8, one section 8 being shown in elevation in Figure 2. Each section has a framework 9 made up of angle irons 10 and connected together at their corners as by welding 11 (see Figure 4). The framework 9 is rectangular in shape and is bent into an arc of a circle as clearly shown in Figure 2, along the parallel sides of the rectangle having the greatest length. A sheet metal cover 12 is preformed as shown in Figure 3 to have a rim portion 13 and a dished portion 14 with the sheet metal cover 12 attached to the framework 9 by a series of bolts 15. The cover 12 is bent to the arc of the framework 9 before it is attached to the framework 9.

The angle irons 10 have a top portion 16 on which the rim portion 13 of the cover 12 seats and through which bolts 15 pass with nuts 17 to attach the cover 12 to the framework 9. The side portion 18 of the angle irons 10 is drilled with holes and in assembling the sections 8 into the building structure, two side portions 18 of abutting sections 8 will abut and bolts 19 attach two sections 8 together.

The building of Figure 1 has been constructed and the following dimensions were found suitable for the building to be used as a garage. From outside to outside of the foundation abutments 1 and 2 was ten feet and from inside to inside of abutments 1 and 2 was a distance of eight feet, thus leaving sufficient width for an automobile to enter the building. The circular portion of the building was made with an eight foot, eleven inch diameter and hence of arc of the circle on each section 8 is of the same diameter. The framework 9 before bending is five feet, ten inches long and two feet wide.

In assembling the building, bolts must be included in the top of foundations 1 and 2 in order that the bolts may enter openings 20 in the side

portion 18 of the angle irons 10 to attach a section 8 to each foundation 1 and 2. After the two sections 8 are attached to foundations 1 and 2 and properly attached to front portions 4, 5 and 6, the top portion of the building is formed by adding two more sections 8. The sections 8 are moved into place and bolts 19 passed through openings 20 in abutting side portions 18. Screws 21 are then tightened to assemble the sections 8 into a two foot advance in length for the building. Another group of four sections 8 are assembled into the building structure and the building advanced another two feet in length. Figure 4 shows the corner joint where four sections come together. When the building is of the desired length, a back portion may be added to close the building.

With the building as above described, there is a joint between abutting sections 8 through which leakage could occur if the joint is not sealed. Further, bolts 15 holding sheet metal cover plate 12 in place are exposed to the weather and would corrode. The present improvement has tab members 22, best shown in Figure 3, which may be separate members and are attached to each section 8 by the same screws 15 that attach the cover member 12 to the framework 9. The tab 22 has a rim portion 23 seated on top the rim portion 13 of the cover 12 and a sloping portion 24 following the preformed sloping portion of the cover 12 with a portion 25 seating on the dished portion 14 of the section 8. A strip of sealing material 26, which may be of metal, runs along the joint between abutting sections 8 and covers the joint to prevent leakage and further to cover bolts 15 and prevent corrosion thereof. The sealing strip 26 has side portions 27, bent downwardly to seat in the portion 25 of the tab and contact the sloping surfaces 24 of each tab. When the sections 8 are assembled into a building, the sealing strips 26 are placed over the joint between the sections 8, the sealing strip 26 being straight and not preformed. The sealing strip 26 has the side portions 27 seated in the portions 25 of the tab 22 and the tabs 22 opposite each other are bent over to hold the sealing strip 26 in place. The workman then bends the sealing strip 26 until it is seated in the next tabs 22 which are bent over.

Figure 1 shows how the sealing strips 26 must be cut for length and 27 shows the joint where four strips come together. It can be seen that placing the sealing strips 26, requires no particular skill on the part of an installator as the sealing strips 26 come in two pre-cut lengths and the only problem involved in installation is getting the sealing strips 26 located properly in the tabs 22 before the clamping portion is bent over by hammering the tab over.

Figure 5 shows diagrammatically the advantage of a garage structure with a circular cross-section. It shows the space that the circular cross-section allows for opening the doors of an automobile.

It will be understood that the invention has been described for purposes of illustration and explanation and that changes and variations are possible without departing from the scope of the invention; all such modifications and changes are intended to be included in the appended claims.

I claim:

1. In a building of substantially circular cross-section made up of a series of sections, the improvement comprising framework structures each made of angle irons having top and side portions with the angle irons secured together at their corners, said framework bent into an arc of a circle by bending one set of parallel sides of the framework, a sheet metal cover having a rim portion to seat on the top portion of the angle irons forming the framework, tab members attached along each edge of the section, the side portions of abutting angle irons in the adjoining frameworks when assembled having attaching means extending through the side portions of the abutting angle irons of the framework to hold the sections assembled into a building, and strip sealing members covering the joint between abutting sections with the tab members folded over to hold the strip sealing members in place.

2. In a building of substantially circular cross-section made up of a series of sections, the improvement comprising framework structures each made of angle irons having top and side portions with the angle irons secured together at their corners, said framework bent into an arc of a circle by bending one set of parallel sides of the framework, a sheet metal cover preformed to have a rim portion to seat on the top portion of the angle irons forming the framework of each section and a dished portion fitting within the framework of each section, said sheet metal cover attached by a series of bolts to the angle irons of each section, tab members attached by each bolt to the section, the side portions of abutting angle irons in the adjoining frameworks of each section when assembled having attaching means extending through the side portions of the abutting angle irons of the framework of each section to hold the sections assembled into a building and strip sealing members covering the joint between abutting sections fitting into the tab members with the tab members folded over to hold the strip sealing members in sealed relation with the sheet metal cover of each section.

3. In a building of substantially circular cross-section made up of a series of sections, the improvement comprising framework structures each made of angle irons having top and side portions with the angle irons secured together at their corners, said framework bent into an arc of a circle by bending one set of parallel sides of the framework, a sheet metal cover preformed to have a rim portion to seat on the top portion of the angle irons forming the framework of each section and a dished portion extending from the rim portion fitting within the framework of each section, said sheet metal cover attached by a series of bolts to the angle irons of each section, tab members attached by each bolt holding the sheet metal cover to the framework of each section with each tab member having a portion thereof contacting the dished portion of the sheet metal cover to form a seat, the side portions of abutting angle irons of each section in the adjoining frameworks of each section when assembled having attaching means extending through the side portions of the abutting angle irons of the framework of each section to hold the sections assembled into a building and strip sealing members to cover the joint between abutting sections having downwardly sloping side portions to fit into the seats in the tab members with the tab members folded over to hold the sealing strip members in sealed relation with the sheet metal cover of each section.

JAMES W. GALLOWAY.

No references cited.