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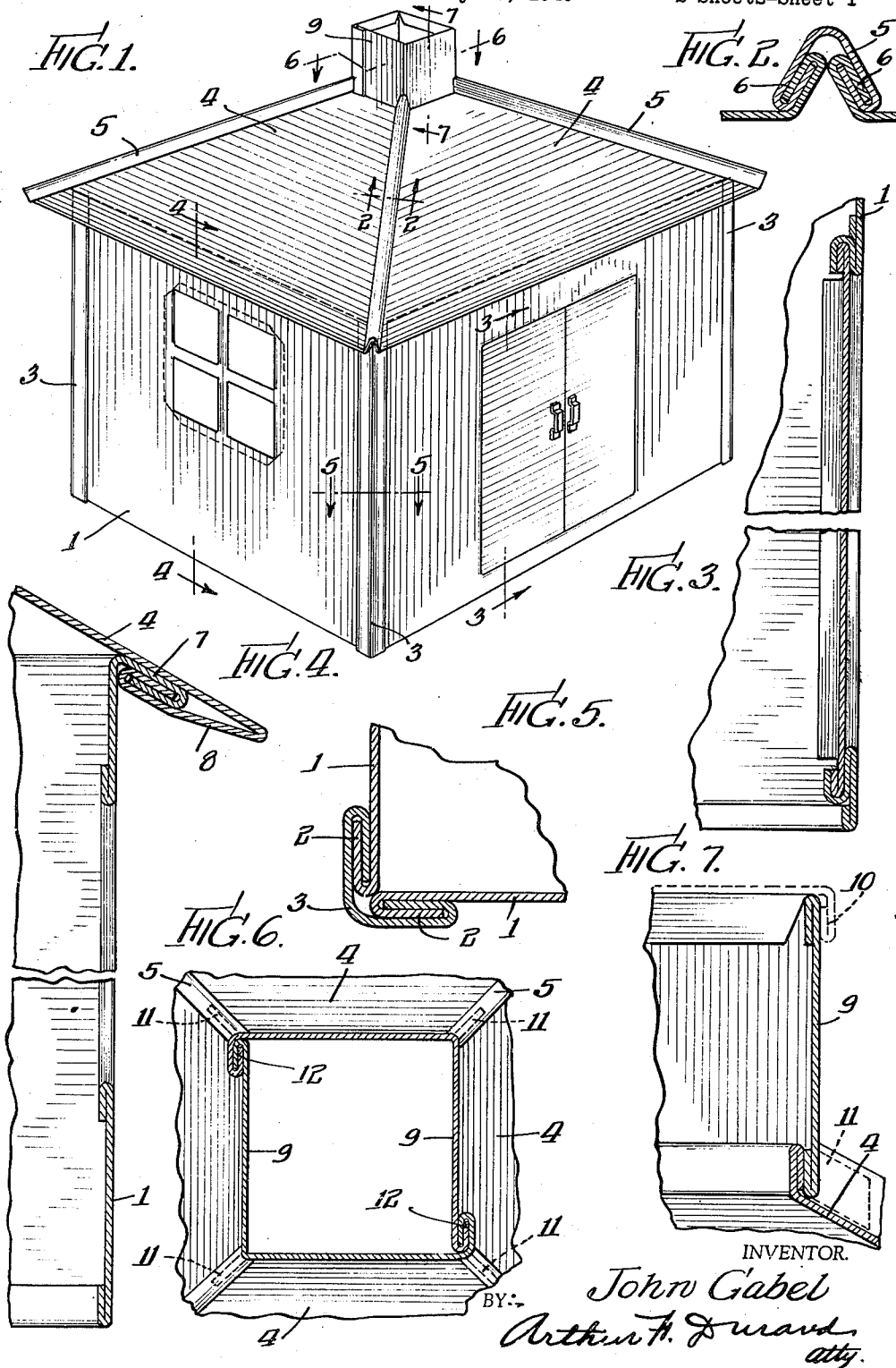
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SECTIONAL METAL BUILDING CONSTRUCTION

Filed July 11, 1940

2 Sheets-Sheet 1



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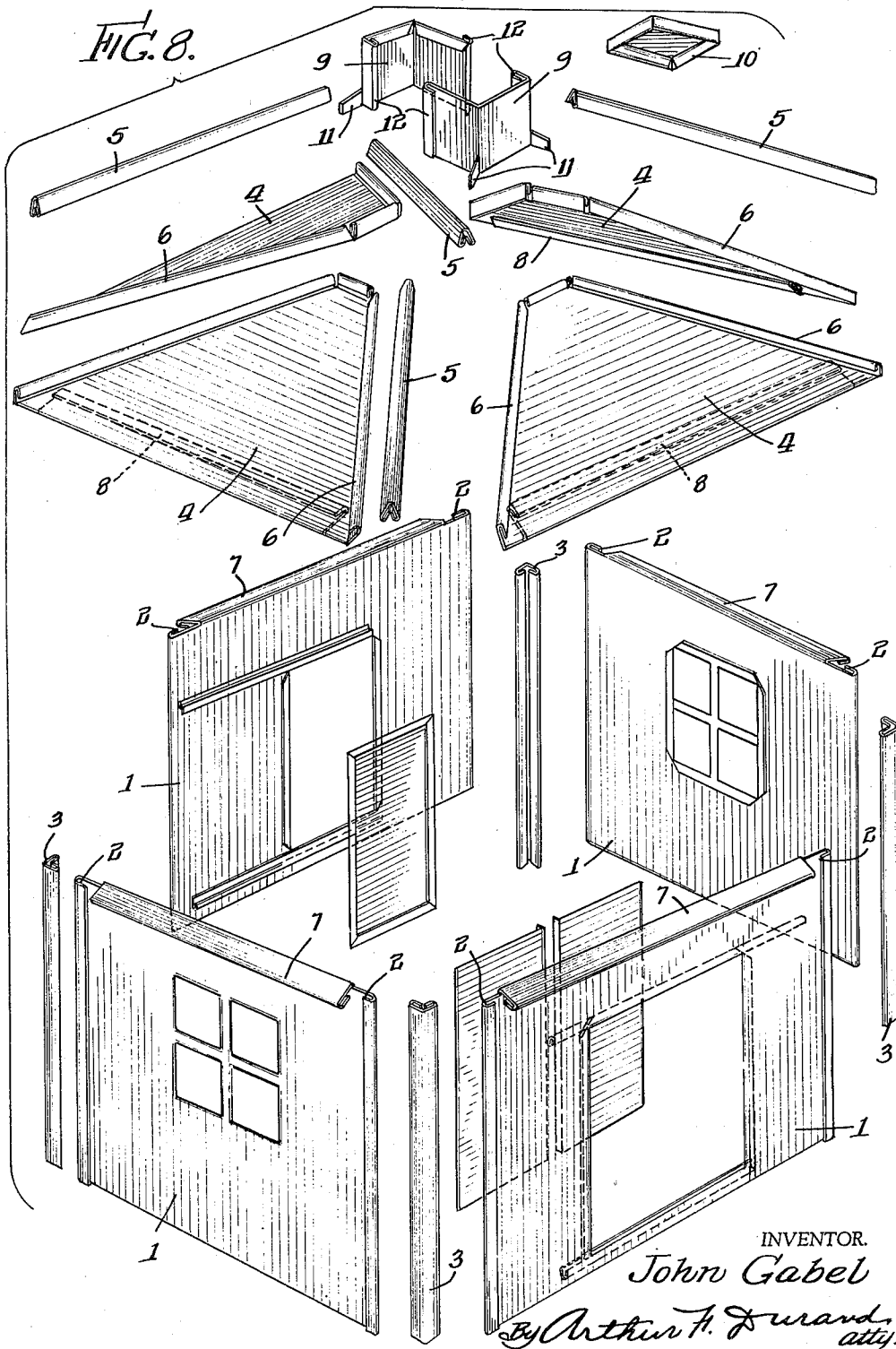
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UNITED STATES PATENT OFFICE

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SECTIONAL METAL BUILDING
CONSTRUCTION

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8 Claims. (Cl. 189-2)

This invention relates to sectional houses, those that are built of pre-formed sections, and more particularly to houses of this kind in which the sections are made of sheet metal.

5 Generally stated, the object of the invention is to provide a novel and improved construction and arrangement whereby a building of this character is composed of side wall and roof sections, and is provided with interlocking strips that engage the
10 wall sections at the vertical edges thereof, and that engage the ridge or ridges of the roof, where the roof sections come together, by means of a simple and comparatively inexpensive construction, thereby providing a building which is prac-
15 tically dust-tight and water-proof where the wall and roof sections come together or meet at their edges.

It is also an object to provide certain details and specific features of construction tending to
20 increase the general efficiency and desirability of a building composed of pre-formed sections of this particular construction.

To the foregoing and other useful ends, the invention consists in matters hereinafter set forth
25 and claimed, and shown in the accompanying drawings, in which—

Fig. 1 is a perspective of a sectional sheet metal house or building embodying the principles of the invention.

30 Fig. 2 is an enlarged detail section on line 2—2 in Fig. 1.

Fig. 3 is an enlarged detail section on line 3—3 in Fig. 1.

35 Fig. 4 is an enlarged detail section on line 4—4 in Fig. 1.

Fig. 5 is an enlarged detail section on line 5—5 in Fig. 1.

Fig. 6 is an enlarged detail section on line 6—6 in Fig. 1.

40 Fig. 7 is an enlarged detail section on line 7—7 in Fig. 1.

Fig. 8 is a so-called exploded perspective of the different sections and parts of the said house or building.

45 As thus illustrated, the invention comprises vertical side wall sections 1, four in number as shown, the building illustrated being square or rectangular in form. These side wall sections have vertical flanges 2 where the vertical edges of
50 the sections come together or meet at the corners of the building. At each corner of the building or house, for the purpose of holding the sections together, and to provide practically dust-tight and water-proof joints between them, vertical
55 strips 3 are applied by endwise sliding movement

thereof to the said flanges 2, the latter and the said strips being relatively formed to provide tight joints as shown in Fig. 5 of the drawings.

The roof of the building, as shown, is composed of four triangular sections 4, and where these
5 roof sections come together or meet at their edges, engaging strips 5 are applied by endwise sliding movement thereof to the flanges 6 formed on the edges of the roof sections, thereby to pro-
10 vide a tight joint for each ridge of the roof, as shown in Fig. 2 of the drawings. In this way the roof is practically dust-tight and water-proof at each and every ridge thereof.

It will also be seen that each vertical wall section 1 is provided at its upper edge with an out-
15 turned flange 7, and that the lower edge of each roof section is formed with a turned-under flange 8 to engage the flange 7, as shown in Fig. 4 of the drawings, thus providing practically dust-
20 tight and water-proof joints between the vertical wall sections and the sloping roof sections of the building.

If desired, a square or rectangular cupola 9 can be provided for the peak of the house, as
25 shown, and this can either be left open to serve as a chimney or stack, or it can be closed by a suitable cap 10, if such is necessary or desirable. This cupola can be formed in two sections, as
30 shown in the drawings, with small portions 11 for insertion underneath the strips 5, in the manner shown in the drawings. Or, obviously, the said cupola can be made in one section if so desired.

Obviously, windows and doors can be provided in any of the vertical sections in any suitable or
35 desired manner.

While the building or house shown is square or rectangular, and is of the hip roof style or type of architecture, it is obvious that houses or build-
40 ings of various forms or shapes or styles of architecture can be constructed in the manner shown and described, without departing from the spirit of the invention, the simple square or rectangular form of building shown being merely illustrative of one form of the invention.

45 It is obvious, of course, that the wall and roof sections can be corrugated, to stiffen them, or can be reinforced in various ways, in order to provide a structure that will have adequate rigidity when completed. A building embodying the invention,
50 therefore, is obviously simple and inexpensive to fabricate, and may involve practically a minimum of labor in putting the parts together and setting up the house, with practically nothing but un-
55 skilled labor. While the walls and various sec-

tions are shown and described as being made of sheet metal, it is obvious that they can be made of wood or various other materials, properly reinforced, without departing from the spirit of the invention.

Inasmuch as the invention can be used for the making of different kinds of structures, such as full-size houses or buildings, and also toy or miniature structures, such as toy railroad trains and toy depots and other toy structures, it will be understood that the term "building" in the claims, as well as the term "structure," mean and cover any structure for any purpose whatever, composed of pre-formed wall sections and retaining strips for holding the sections together, regardless of the use or purpose intended for the structure.

As shown in Fig. 5, four-ply flat and very tight joints are provided between the sections and the vertical angle strips 3, previously mentioned. Also, as shown in Fig. 2, four-ply and flat tight joints are provided between the sheet metal roof sections and the angle strips 5, previously mentioned. In each case, these four-ply joints are formed by endwise sliding movement of the angle strips on the out-turned flanges of the wall sections. In Fig. 4, there is also a four-ply and flat and very tight joint between roof and vertical wall sections. Again, as shown in Fig. 6, there are four-ply and flat and very tight vertical joints at 12 and 12. It is obvious, of course, that the four-ply joints shown at 12 can be used between the roof sections and the vertical wall sections, if desired. Therefore, straight angle strips are used for the joints between vertical wall sections, and for the joints between the roof sections, but the joints between the roof sections and the vertical wall sections do not need any angle strips, although it is obvious that they could be used at the eaves of the building, if desired. In any event, all of said four-ply joints are formed by relative sliding movement of the parts. An important aspect, therefore, of the invention is the fact that the construction shown and described entirely obviates the necessity of using any nails or screws or rivets or similar fastening means for holding the wall sections and the angle strips together.

It will be seen that the angle strips 3 and 5 each terminate at one end in the eaves of the building, and that each strip 3 and one of the strips 5 are in a common vertical plane. In this way a very strong and rigid construction is obtained, even though the side wall sections and the roof sections may be formed of relatively thin metal. In addition each strip 5 terminates at one end in a corner of the cupola 9, and these roof strips are connected by the portions 11 with the said cupola, in the manner shown and described. Thus each four-ply joint in the roof, and the corners of the side walls or body of the building, terminates in the eaves of the building. In addition, each side wall section is flanged at its top to terminate in the four-ply joint formed between the roof sections and the side wall sections. In each case, the four-ply joints are formed by a relative sliding action of the plies, longitudinally of the joint. The vertical joints are formed, and the converging roof joints, together with the eaves thereof, serve to make the building surprisingly strong. Practically, a building of this kind cannot be blown away, and it is practically not subject to damage by fire or seismic action.

Looking at Fig. 4 of the drawings, it will be seen that the wall portion 7 extends outwardly and then backwardly, and that the roof portion 8 extends toward the vertical wall and then back or outwardly in interlocked relation with the portion 7, the wall section and the roof section thus having portions which in effect hook together, so that the roof section is held against sliding downward, while the wall section is held against inward displacement. It will be seen that these two hook portions are assembled by relative endwise sliding movement thereof, in a direction parallel with the edge of the eaves of the roof. Thus no screws or bolts or nails or other fastening devices are used or needed for the assembling together of the roof and wall sections.

Looking at Fig. 4 of the drawings, it will be seen that the multiply joint formed is practically air tight, and that it also forms the overhanging eaves of the roof of the house, so that the vertical side wall of the building is in a vertical plane at the inner edge of said joint, thus facilitating the assembling of sections and obviating the necessity of using any bolts or the like for the fastening of the sheet metal sections together.

What I claim as my invention is:

1. A sheet metal building comprising side wall sections having their vertical edges formed with outside turned-back flanges extending from the upper to the lower edges of the sections, horizontal flanges turned out from the upper edges of the wall sections, stopping short of the upper ends of said vertical flanges, angle strips interlocked with the vertical flanges, the upper ends of said strips extending between the ends of said horizontal flanges, roof sections resting flatwise on the horizontal flanges, formed with underneath turned-back flanges having sub-flanges that tightly engage the underside of said horizontal flanges, and converging angle strips gripping the meeting edges of the roof sections, forming a stiff roof with overhanging eaves, each roof strip being in a common vertical plane with a corresponding wall strip, with each of said angle strips forming the sole means of connecting two sections together.

2. A structure as specified in claim 1, comprising a cupola having corners to which the converging ends of said roof strips are connected.

3. A structure as specified in claim 1, said wall strips each extending continuously from the top to the bottom of the wall sections, and each roof strip extending continuously from the outer edge of the eaves to the inner edge of the roof sections.

4. A structure as specified in claim 1, each roof section being triangular in form, and the building being rectangular in shape, with the vertical wall strips right angle in cross section, and the roof strips acute angle in cross section.

5. A sheet metal building comprising a side wall section having its upper edge bent outwardly and then inwardly to in effect form a hook, a roof section having its eaves portion bent toward the wall section and then outwardly away therefrom, thereby in effect forming another hook, with the two hooks interengaging each other, forming a flat multiply and practically air tight joint, preventing the displacement of the wall section, and also preventing displacement of the roof section, with said side wall section in a vertical plane at the inner edge of said joint, so that the latter forms the overhanging inclined eaves of the roof.

6. A structure as specified in claim 5, said roof section sloping downward, and said hook portions being underneath the roof section and formed parallel therewith.

5 7. A structure as specified in claim 5, said hook portions being engageable by relative end-wise sliding movement thereof.

8. A structure as specified in claim 5, the interengaging hook portions of the roof and wall sections obviating the necessity of using any screws or nails or bolts or the like in said sections for the assembling of the building.

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