C. I. GREER.

PORTABLE BUILDING.

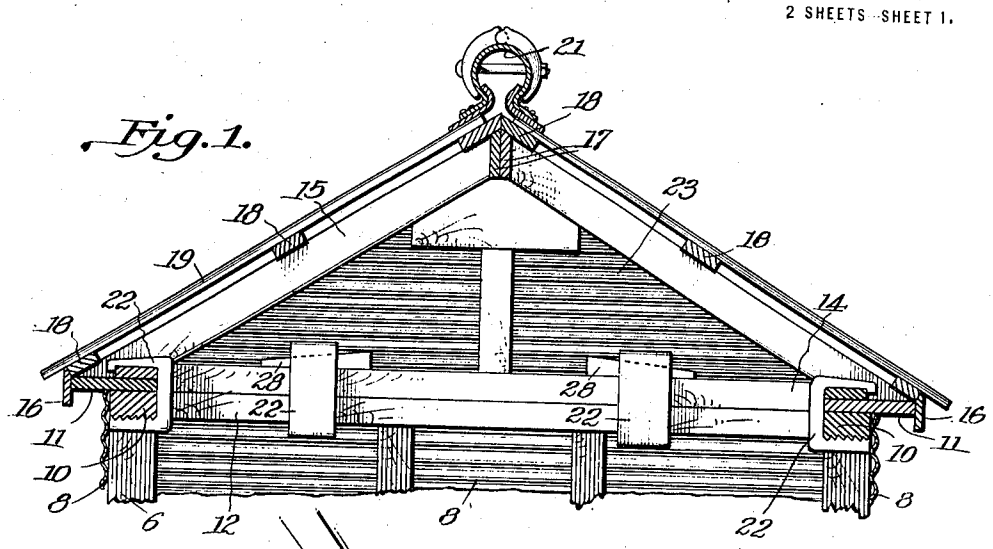
APPLICATION FILED OCT. 21, 1913.

1,143,047.

Patented June 15, 1915.

2 SHEETS—SHEET 1.

Fig. 1.



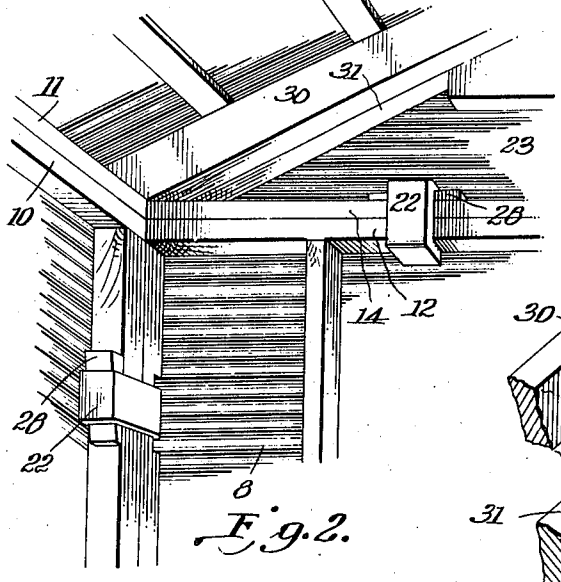
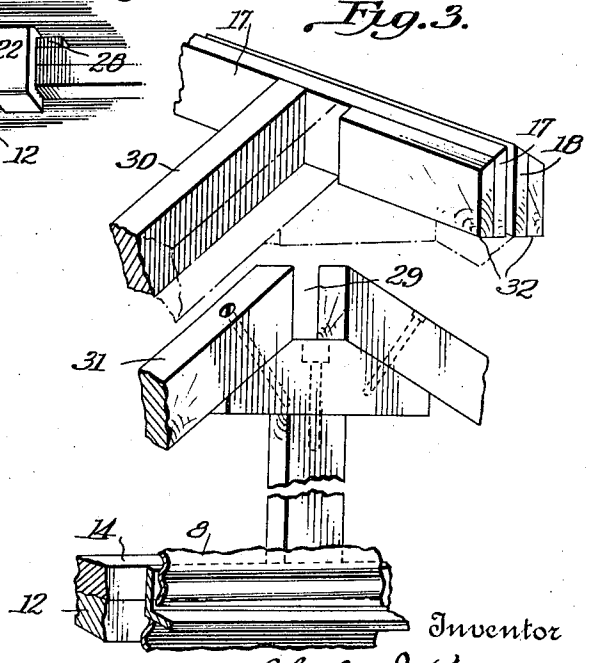


Fig. 2.

Fig. 3.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 4.

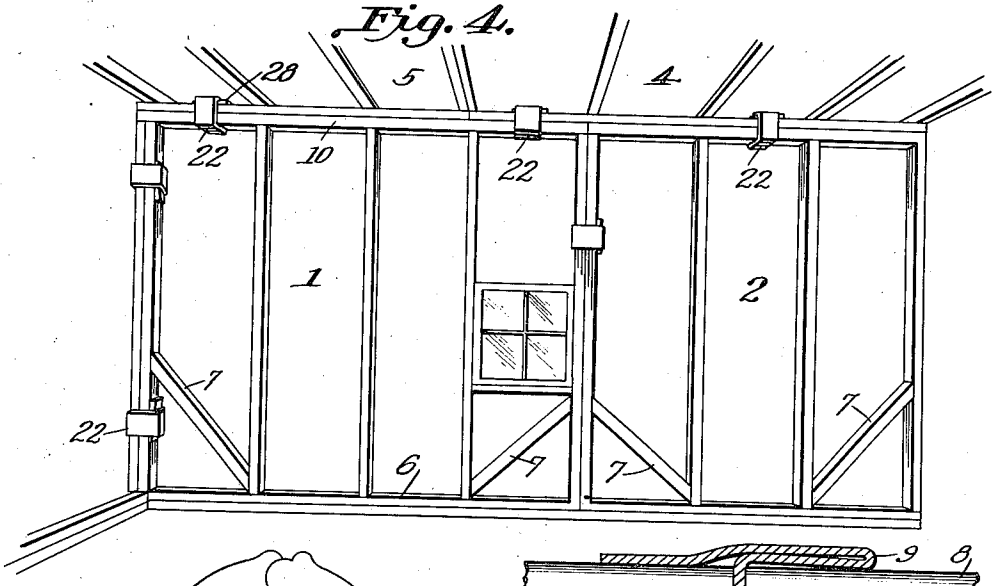


Fig. 9.

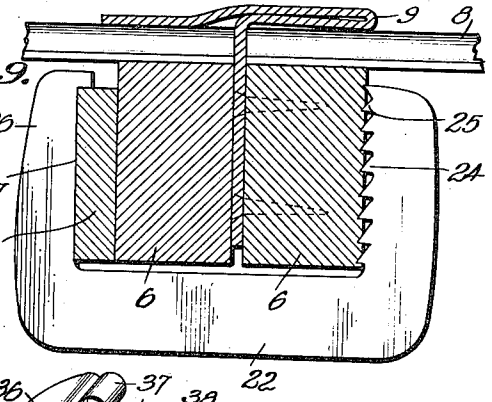


Fig. 5.

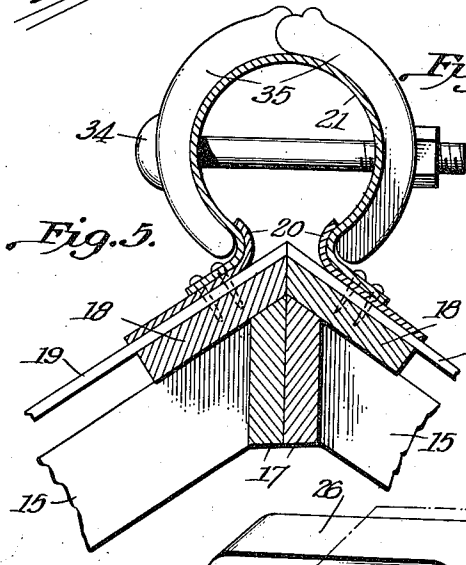


Fig. 6.

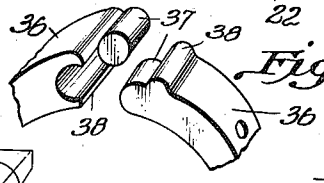


Fig. 8.

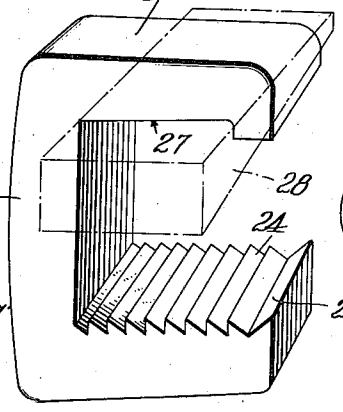
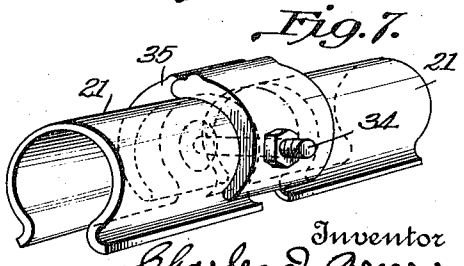


Fig. 7.



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UNITED STATES PATENT OFFICE.

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PORTABLE BUILDING.

1,143,047. Specification of Letters Patent. Patented June 15, 1915.

Application filed October 21, 1913. Serial No. 796,394.

To all whom it may concern:

Be it known that I, CHARLES I. GREER, a citizen of the United States, and a resident of the city of Washington, in the District of Columbia, have invented certain new and useful Improvements in Portable Buildings, of which the following is a specification.

This invention relates generally to portable buildings and more particularly to mechanisms and devices for joining together the various portions and sections of a portable building.

The principal object of this invention is a portable building of the knock down type wherein the joining mechanism for the several sections permits the parts to be rapidly and easily assembled.

Another object of this invention is the production of a portable building wherein the several sections and elements of the building are joined in such manner as to be securely fastened together, and at the same time capable of being readily separated without destructive effort, such as the pulling or cutting of nails, etc.

A further object of this invention is the provision of a clamping device for rigidly securing the framing of the portable building in its assembled relation.

A still further object of this invention is the provision of an external clamping means for securely retaining ridge poles and corner pieces in assembled position.

Still other and further objects of this invention will in part be obvious and in part pointed out in the specification hereinafter following by reference to the accompanying drawings in which like members are represented by like characters throughout the several figures constituting the views thereof.

Figure 1 is a detail view partly in cross section showing the gable end of an assembled building. Fig. 2 is a detail view showing a corner of the building and a portion of a gable end in its assembled relation. Fig. 3 is a detail view showing the construction of the ridge pole and the end rafters at a gable end. Fig. 4 is a detail view showing the interior framing and bracing of one side of a building in assembled relation. Fig. 5 is a detail cross sectional view showing the combing with a comb or corner clamp in position. Fig. 6 is a detail of a comb, or corner clamp hinge. Fig. 7 is a detailed perspective view showing a portion of a corner, or comb clamp. Fig. 8 is a perspective view of one of the framing clamps. Fig. 9 is a detail cross sectional view showing a framing clamp in position on a pair of studding and showing a cross section of one of the T-shaped vertical weather strips covering the vertical joint between sections at the side of the building.

Heretofore in the portable building art it has been the practice to attach the various sections of the building together by definitely located attaching means such as for example, holes bored through the joining members of a section and bolts passed through said holes; or in metal frame buildings, metallic hooks have been provided to engage studs carried on the adjoining section. In all constructions wherein the attaching means of one section must be alined, to coöperate, with the attaching means of an adjoining section, many difficulties arise in the assembling of the building. In the first place, the location of said attaching means must be accurately determined when the parts are made in the shop. In the second place, the transportation of the various sections oftentimes distorts the sections sufficiently to make it difficult to aline the definitely positioned attaching members. Thirdly, portable buildings, as their name implies, indicate structures that may be entirely taken apart and moved from place to place and they belong to a class of more or less temporary buildings. In the erection of portable buildings they are often set directly upon the ground without carefully leveling the same and as a consequence the various sections may not be alined in the same manner they would be if the buildings were assembled on a level floor, as they are in the shop, and consequently the definitely positioned fastening members may not be in such alinement as will enable the builder to easily set up the buildings.

Heretofore in portable buildings it has been difficult to secure the various sections one to another in such manner as to give the building necessary strength and rigidity, and it has been the common custom to attach the sections together in such a way as to permit slight movement between the sections thereby producing a more or less flimsy construction.

As has been stated, as the objects of this invention is to produce a building easily

assembled, readily disassembled, and at the same time very rigid and stable in its construction. Applicant accomplishes these desideratums by having the building framed in sections in such manner that the framing may be clamped together by a special type of wedge clamp and that the ridge pole, or roof comb, and the corners may be protected and clamped together by a hinged contracting clamp. Buildings built in this manner have been found to be very rigid and firm in their construction.

Referring now to the drawings and particularly to Figs. 1, 2 and 4, the sides of the building are preferably made in sections, as is shown for example in Fig. 4, comprising a side wall formed of a large section 1 and a small section 2. Each side of the roof is also preferably formed in sections as for example, in Fig. 4, a large section 4 and a small section 5. The large roof section is preferably placed over the small side section and vice versa, to break joints on the upper plates, as shown in Fig. 4. These sections of the building are preferably formed with a wooden frame made of "two by fours" 6, which are preferably braced at the bottom by the braces 7, and the "two by four" frame is preferably covered by sheet metal siding, for example the corrugated metal siding 8, as is illustrated in Figs. 1, 2 and 4. The "two by fours" at the end of a section are arranged to abut the "two by fours" of the adjoining section. One of the abutting "two by fours" preferably carries a T-shaped, in cross section, vertical weather strip 9 as indicated in Fig. 9. The "two by fours" constituting the upper members of side sections, comprise a top plate 10 (Fig. 1) upon which the wide roof plate 11 is adapted to rest, and the top plate 12 of the end sections forms a support for the gable end plate 14 to rest upon. The roof sections are preferably formed of rafters 15 which carry the roof plate 11, the fascia 16 and the ridge plate 17. This construction seals or entirely closes the space ordinarily left open between the rafters and the roof plate, and thus prevents snow and rain from entering the building at this point. The rafters also carry purlins 18 which support the roof covering which is preferably corrugated sheet metal 19. Each section of the roof near the ridge or comb is provided with hooked edge strips of metal 20, over which the comb, or ridge member 21, is adapted to fit. Each exterior corner of the building is also provided with exactly the same construction, *i. e.*, the hooked edge strips of metal 20 and the tubular member 21.

Referring now particularly to the device for holding the building in assembled relationship, attention is directed particularly to the clamps illustrated in detail in Figs. 8 and 9. These U-shaped clamps 22 are formed of heavy metal, preferably cast, and are provided on one jaw with serrations 24 forming parallel notches having their effective direction toward the back of the clamp, with the exception of the first notch 25, which is beveled outward in order to form sufficient metal for the very edge of the clamp to bite into the wood. The other arm of the clamp 26, is provided with an inclined depression 27, which is adapted to form a seat for the wooden wedge 28.

In assembling the various sections of the building, the U-shaped clamps 22 are placed in position, as is indicated in Figs. 2 and 4, on the side members, and the wedges 28 are slightly tightened. This holds the various parts together sufficiently to retain them in position and at the same time permits the parts to be driven slightly one upon the other by mallet or hammer, thus facilitating adjustment of the parts. The gable end sections 23 are then placed in position and secured by tightly driving the wooden wedges in the U-shaped clamps 22. After the gable end sections are in position the roof is assembled by placing the ridge plates 17 in the notch 29 (see Fig. 3) thereby permitting the end rafters 30 of the roof section to drop into position adjacent the gable end rafters 31, and the blocks 32 carried by the ridge plates 17 fixedly hold this portion of the building together. After the various sections of the building are assembled and the workman has adjusted these sections in the proper position, the wedges 28 are then all driven solid. As the wedges are driven up the notched teeth 24 bite into the framing and the wide surface of the clamps 22 very securely clamps the various sections of the building together. The ridge and corner members 21 are placed in position on the hooked metal strips 20 with a sufficient distance between each section to provide for the bolt 34 of the hinge clamp 35 (see Fig. 7). The hinged clamp 35 is composed of two identical semi-circular jaws 36 each of which is provided with a hinged joint comprising an extension member 37 and a recess 38 to receive this extension member on the adjoining jaw. These hinged clamps perform the double function of covering the joint between various sections of the member 21, and at the same time tightly clamping or binding together the roof at the ridge and the sides at the corners.

In a building constructed as hereinbefore described, it will be noted that the securing members, *i. e.*, the U-shaped clamps, do not require any absolutely definitely fixed position, but may be placed at any convenient point where it is desirable to secure or strengthen the building by clamping the members together, and the clamps are very easily removed by driving out the wooden wedges thereby permitting the building to

be easily knocked down. When the building is reassembled the clamps do not necessarily have to be placed in the same position that they occupied when the building was previously assembled. It will be seen that this type of construction forms a very rigid building capable of adjustment to rough ground; capable of being easily assembled; capable of being easily knocked down; and capable of being reassembled without following the exact arrangements of previous assembling.

Having thus described my invention what I desire to claim is:—

1. In a portable building in combination, side walls and end walls having wall plates at their upper edges, a gable member constructed to be secured upon an end portion, said gable member comprising a triangular frame, a plate forming the lower part of said gable, a T-shaped brace in substantially the vertical middle part of the gable member, the upper part of the side members of the gable being spaced apart to form a notch to receive the ridge boards of the end roof sections.

2. In a portable building the combination of roof sections and a gable end, said gable end being provided with a notch at its upper end to receive ridge boards of the end roof sections, the roof sections including rafters, ridge boards secured to and carried by the rafters at their upper ends, said ridge boards carrying blocks at their outer ends, said blocks being spaced from the end rafters sufficient to provide a notch to receive the framing of said gable end, the construction of parts being such that when said gable end and said end roof sections are assembled the end rafters lie adjacent the framing of the gable end with the ridge boards within the notch in the gable end and retained against longitudinal movement therein by means of the blocks attached to the ridge boards.

3. A portable building comprising sections having marginally exposed cleats on one face in combination with U-shaped clamps, certain of said cleats being cut away to form recesses in their face adjacent to the body of said section and opening parallel with the section, and adapted to receive one arm of said U-shaped clamps in order that two sections may be joined thereby at right angles to each other, as at the corner of a building.

4. A portable house, comprising wall sections having horizontal marginal cleats exposed on one face and constituting a wall plate, and roof sections comprising rafters and eaves cleats constituting roof plates similarly exposed and adapted to rest upon said wall plates in combination with clamps adapted to embrace and clamp said wall plates and roof plates together.

5. A portable house comprising in combination, wall sections having horizontal marginal cleats exposed on one surface and constituting a wall plate, and roof sections comprising rafters and eaves cleats constituting roof plates similarly exposed and adapted to rest upon said wall plate, said roof plates being wider than said wall plate and adapted to project thereover and form a soffit, and clamps adapted to embrace and clamp said wall plate and said roof plates together.

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