No. 638,494. Patented Dec. 5, 1899.

W. E. BROCK.

PORTABLE BUILDING.

(Application filed July 21, 1897.)

(No Model.) 3 Sheets—Sheet 1.

Fig. I

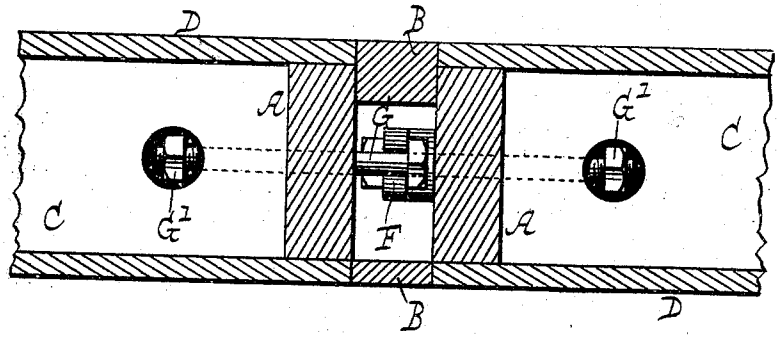


Fig. II

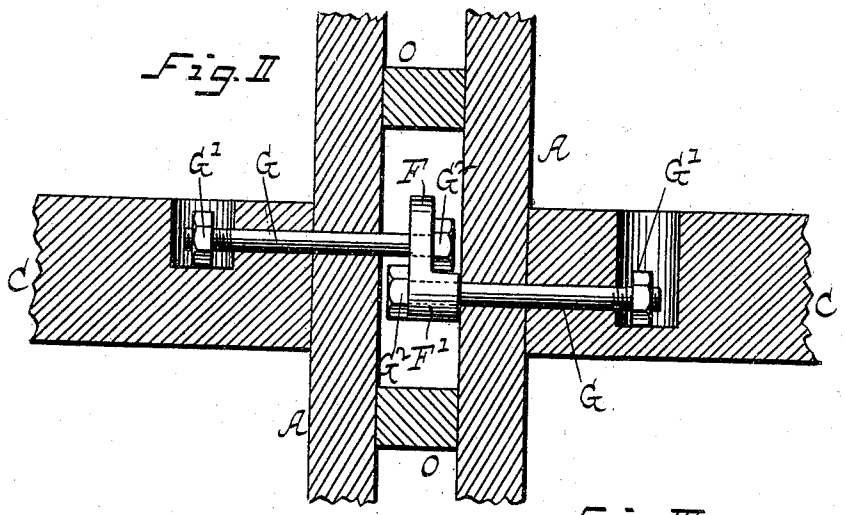
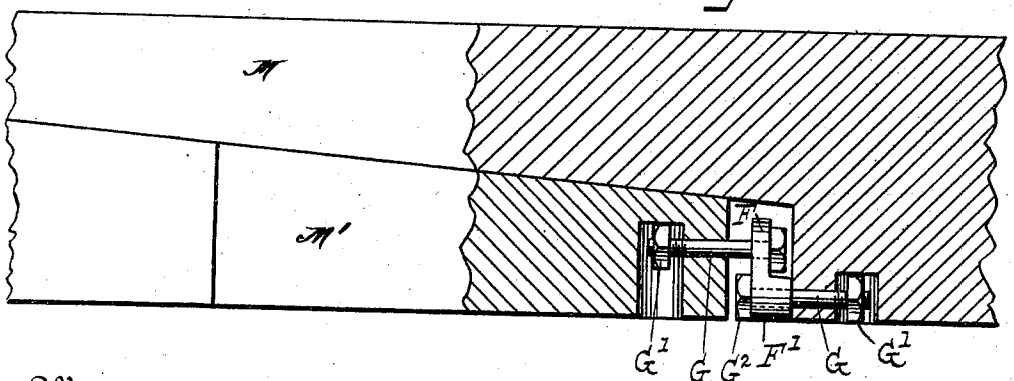


Fig. III



Witnesses
H. J. Hanson.
Serrell & Fox

William E. Brock Inventor
By his Attorney
Chas. Wahlers

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 638,494. Patented Dec. 5, 1899.

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(No Model.) 3 Sheets—Sheet 2.

Fig. IV

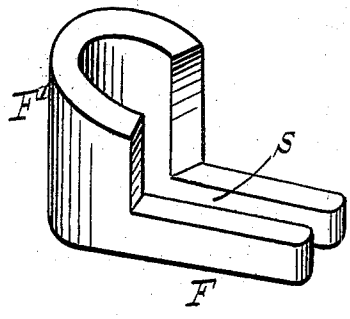


Fig. V

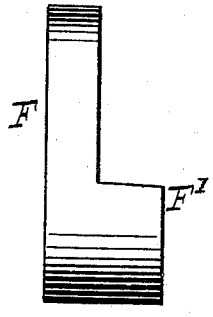
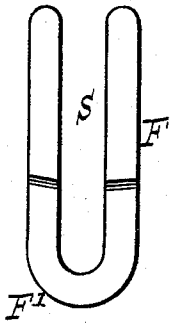


Fig. VI



Witnesses
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No. 638,494. Patented Dec. 5, 1899.

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(No Model.) 3 Sheets—Sheet 3.

Fig. VII

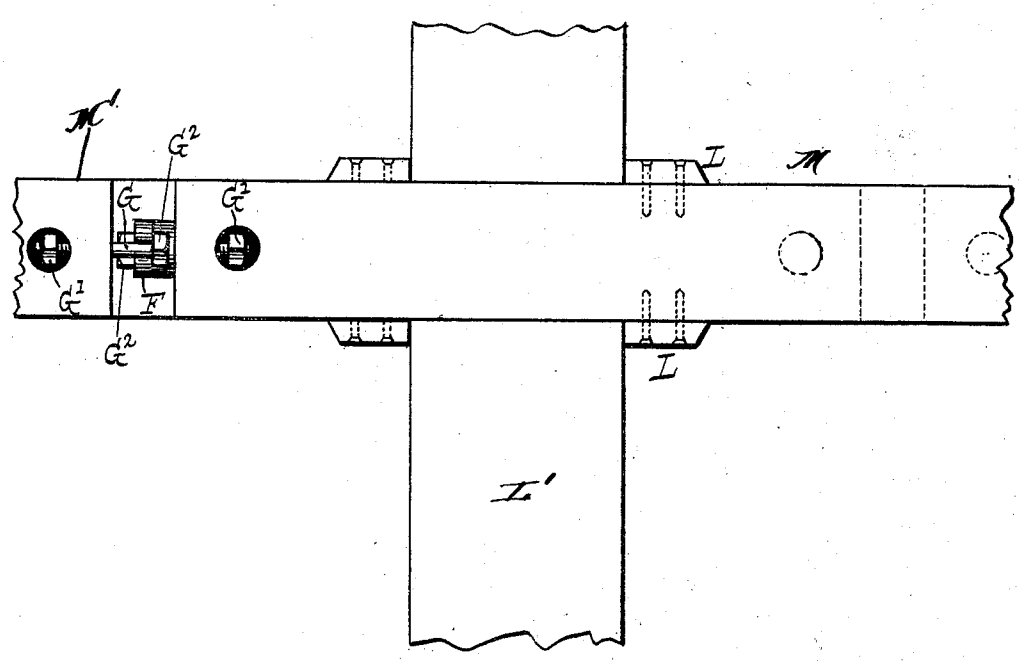
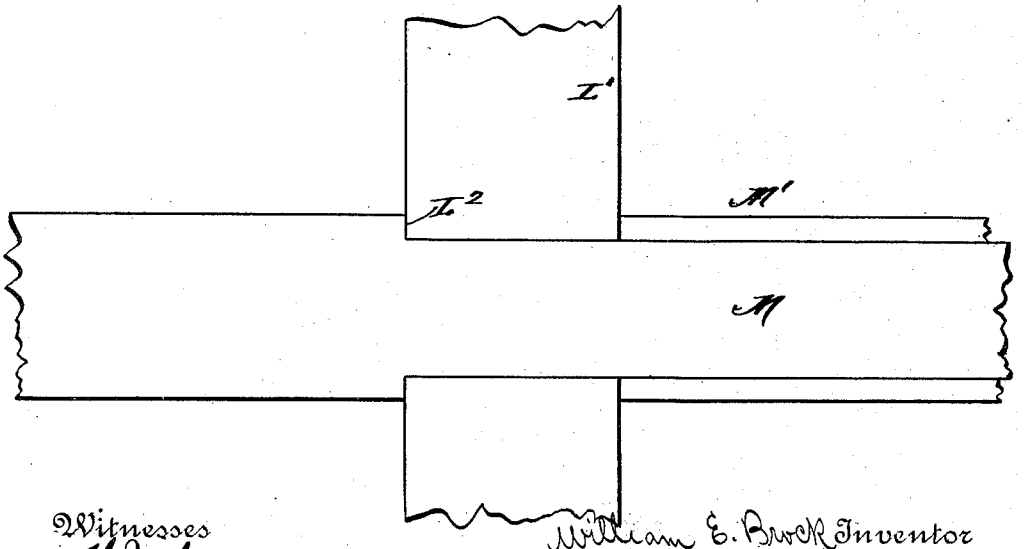


Fig. VIII



Witnesses
H. J. Hanson.
Berales & Coe

William E. Brock Inventor
By his Attorney Chas. Wahlers

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM E. BROCK, OF PLAINFIELD, NEW JERSEY.

PORTABLE BUILDING.

SPECIFICATION forming part of Letters Patent No. 638,494, dated December 5, 1899.

Application filed July 21, 1897. Serial No. 645,353. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. BROCK, a citizen of the United States, and a resident of Plainfield, in the county of Somerset and State of New Jersey, have invented certain new and useful Improvements in Portable Buildings, of which the following is a specification.

The present invention relates to that class of portable buildings for which I have obtained Letters Patent of the United States under date of February 16, 1892, No. 468,785. The bolt-clamp E employed in such patented construction was so made that it necessitated the initial and permanent attachment of the clamp to one of the building-sections in the manufacture thereof for transportation. In such prior construction the adjacent section is provided with a bolt having a projecting head, and it could not with such construction be set in place without lifting it to engage such bolt-head with the clamp, and I have found that such lifting of the section before it could be set in the proper place or secured to the adjacent section involved considerable inconvenience and caused delay in the erection of the building. In practice each section is furnished with eight couplers, and as such sections are ordinarily warped and more or less crooked in form the bolts upon the opposite edges of two sections do not lie in the same straight line, and it is exceedingly difficult and sometimes impossible when one section is lifted to engage the shoulders of its bolts with the various slots of the couplers upon the opposed section. In the present construction I form the bolt-coupler of a U-shaped loop, having its arms notched upon one side, and can transport the same separate and independent from the building-sections and their bolts, so that the sections may be set directly in their appropriate positions and the coupler then applied to the two bolt-heads simultaneously in the recess between the sections. The sections may thus be delivered and set up in their fixed or permanent position before applying any of the clamps. The open slot S in the clamp permits it to slide upon the shoulders or necks of the two adjacent bolts without any obstruction whether the edges of the sections are perfectly straight or not, as the coupling is readily inclined to the right or left if one of the bolts is not directly above the other.

The invention also includes a means for extending beams through the wall of the portable building and clamping them rigidly to the opposite sides of such walls. This is effected by forming the beam with a half-lap joint within the wall, the overlapped ends being provided with shoulders adapted, respectively, to contact with the opposite sides of the wall, and the two parts of the beam being provided with bolts connected by a coupler, so that when drawn together the wall is clamped firmly between such shoulders.

The invention will be understood by reference to the annexed drawings, in which—

Figure I represents in horizontal section a portion of two adjoining building-sections embodying my invention. Fig. II represents a vertical section of corresponding parts of the building. Fig. III represents a partial side view and partial vertical section of a half-lap beam-joint for clamping upon the wall of a portable building. Fig. IV is a perspective view of the bolt-coupler. Fig. V is a side view, and Fig. VI is an edge view, of the coupler. Fig. VII is a plan view of part of a wall of the building with a portion of a beam having the joint extended through the wall and having the shoulders upon the beams formed by cleats L. Fig. VIII represents a modification of the construction shown in Fig. VII with the shoulders formed by reducing the thickness of the beam at the joint.

The parts of the building-sections include vertical joists A, horizontal beams C, inside and outside boards D, and vertical filling-strips B in the space between two sections.

G indicates each of two bolts connecting adjacent sections of the building and projected from the beams C in such sections, so that their heads are adjacent in the recess between the sections when erected. The bolts are provided with nuts G′, fitted into proper sockets of the beams C, and the heads G^2 of the bolts are projected sufficiently from the faces of the sections to apply the coupler F. Such coupler, as shown in Figs. IV to VI, inclusive, consists of the U-shaped loop, having its arms notched or cut away upon one side to form an offset F′ to admit the head G′ of one of the bolts between the coupler and the

face of the opposed section. The U-shaped coupler is entirely detachable from the necks of the bolts and may be applied to both of them simultaneously after the sections are set in their proper positions, the turning of the bolt-heads G^2 then serving to draw the bolts into their nuts G′, so as to clamp the sections together. The space between the sections is open at its opposite edges while tightening the bolts upon the coupler, and a wrench is thus readily applied to the heads of the bolts for such purpose, and the filling-strips B are inserted to inclose such space after the sections are fastened together. The blocks O are preferably made of suitable length to fit between such filling-strips and so adjusted as to set the filling-strips flush with the faces of the boards D. Such clamping strain tends to bend the vertical joints A, and to resist such strain I insert short blocks O between the joists above and below the coupler in the space between the filling-strips B.

In Figs. VII and VIII, L′ designates a wall of the building, with beam having overlapped parts M M′, (shown in Fig. III,) such parts being provided with shoulders to press upon opposite sides of the wall L′ when the parts are drawn together longitudinally by a suitable coupler.

Figs. III and VII show the bolts G and coupler F arranged in the adjacent parts of the beam to draw them together, the nuts G′ being fitted into proper sockets in the beam parts M and M′ and the heads G^2 projected to apply the coupler F F′.

In Figs. III and VIII the shoulders I^2 are shown formed by reducing the thickness of the beam.

In Fig. VII the shoulders are formed by increasing the thickness of the beam by adding cleats L. The cleats at the right-hand side of the wall in Fig. VII are fastened to the upper beam M, while the cleats at the left-hand side are fastened to the lower part M′.

Figs. VII and VIII show the beam inverted or in the opposite position to that represented in Fig. III; but the relation and connection of the parts will be readily understood from the description.

Such construction for the beam-joints operates to frame the building together in a very rigid manner, while the use of the loose U-shaped couplers F secures the utmost despatch in the joining of the building-sections together.

I am aware that the first claim in my prior patent for improvements in portable building, No. 468,785, granted February 16, 1892, includes the "combination with the sections of a portable building" of a "bolt attached to one of the sections, a bolt-clamp attached to the other or adjacent section and constructed with an open slot to receive the shank of the bolt, and a recess to receive the bolt-head or a washer thereunder, substantially as and for the purpose described."

It will be observed that the bolt-clamp which is claimed herein is when in use attached to one of the sections to admit a bolt attached to the opposed section and that my improved coupler is constructed with an open slot S to receive the shank of the bolt and a recess to receive the bolt-head or washer thereunder, and after my improved coupler is secured to the sections its relation to the parts is similar to that of the patented coupler.

My first claim herein is merely for the specific construction of the coupler having the slot S extended the whole length of the loop, as is clearly shown in Fig. VI of the drawings, and I therefore disclaim the aforesaid patent and acknowledge that the present invention is an improvement upon and tributary to such patent.

Having thus described the invention, what I claim, and desire to secure by Letters Patent, is—

1. In a portable building having adjacent sections separated by an intervening space or recess, and bolts with heads projected from the edges of all the sections into such recesses, the combination, with each pair of opposed bolt-heads, of the independent coupler comprising the U-shaped loop F with its arms notched upon one side to form the offset F′, and having the slot S extended throughout its length to admit both of such bolt-heads, whereby the coupler may be applied to both of the bolt-heads simultaneously.

2. The combination, with the wall of a portable building, of the beam having lapped ends M, M′, extended through the wall from opposite sides, such ends being provided respectively with shoulders adapted to contact with the opposite sides of the wall, and the two beam ends being provided with the bolts G and with a coupler for drawing the lapped ends together longitudinally, to clamp the shoulders upon the wall, substantially as herein set forth.

Signed at New York city, in the county of New York and State of New York this 20th day of July, A. D. 1897.

WILLIAM E. BROCK.

Witnesses:
CHAS. WAHLERS,
H. J. HANSEN.