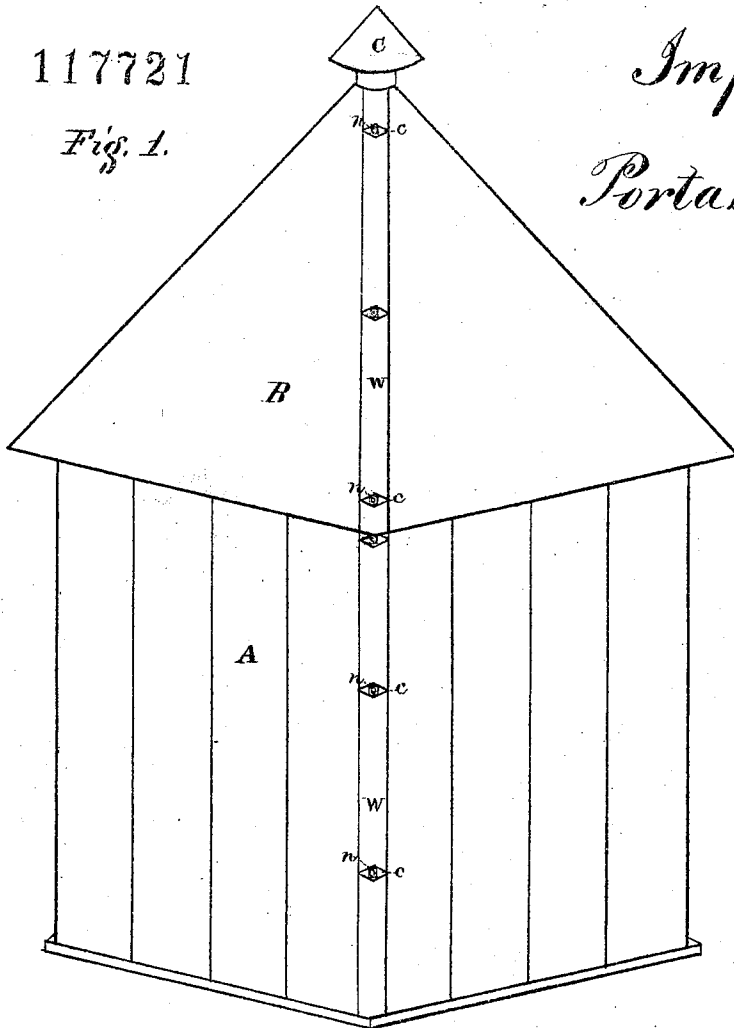


Francis M. Bain.

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Fig. 1.



PATENTED AUG 8 1871

Improvement in

Portable Buildings.

Fig. 2.

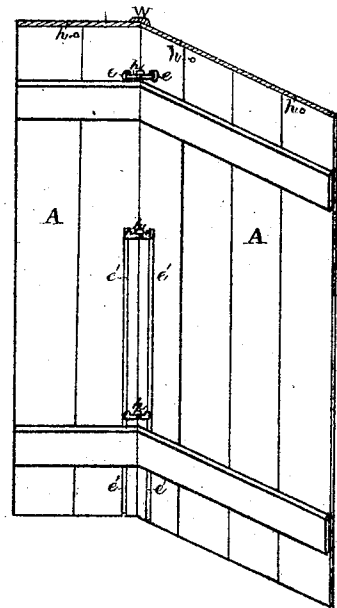


Fig. 4.

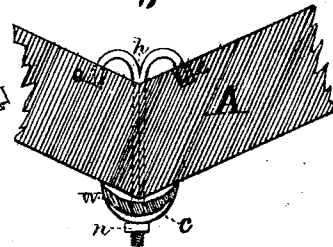


Fig. 3.

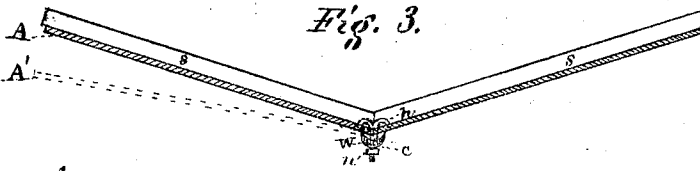
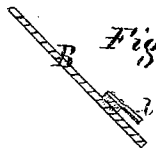


Fig. 5.



Fig. 6.



Attest.

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UNITED STATES PATENT OFFICE.

FRANCIS M. BAIN, OF DELAWARE, OHIO.

IMPROVEMENT IN PORTABLE BUILDINGS.

Specification forming part of Letters Patent No. 117,721, dated August 8, 1871.

To all whom it may concern:

Be it known that I, FRANCIS M. BAIN, of the town of Delaware, in the county of Delaware and State of Ohio, have made certain Improvements in Portable Buildings, of which the following is a specification:

My invention relates to the construction of portable buildings of boards or plank in side and roof-sections, of any desired number to suit the size of the building required. These sections are joined together to form the proper angles, and fastened in such manner as to obviate the necessity of frame-work or corner-posts. The fastenings used are the same in a building of greater or lesser dimensions, and allow the angles formed by the joined sections to be increased or decreased so that a section of the side and a corresponding roof-section may be added to or taken from the building without impairing its efficiency or affecting the strength of the fastenings. A part of my invention consists in the application, to the outer portion of the angles, of a curved weather-strip, its shape permitting its adjustment to the angle in altering the size of the building, while it completely excludes the wind and rain from the joint, and also operates, in connection with the peculiar-shaped bolts which fasten it to the building, as a binder to strengthen and support the same.

The roof-sections may be carried to a point, or a cone of sheet-metal may be fitted at the summit, as shown. This cone may be used as a ventilator or flue, and should be made with a circular shaft in order to more readily fit the roof-section to it, their points being rounded out for the purpose.

Figure 1 is an elevation of a section of my improved portable building, showing roof and side sections. Fig. 2 is an inside view of the side section. Fig. 3 is a plan view of side section shown in Fig. 1, showing also a sill or stringer to which the siding may be nailed at the bottom or bolted at that part; also enlargement of building by moving side section A on the left to A'. Fig. 4 is an enlarged plan view of angle of side section, showing the hook-bolt as attaching the side sections with its washer and nut clamping the weather-strip on the outside. Fig. 5 is a view of one of the washers. Fig. 6 is a view of a sub-section of roof, showing the lug-bolt and its fastenings, which

pierces the holes in top of siding inside, its object being to prevent the roof from being raised up off the siding by wind.

A is the side section of the building; B, roof-section of same; C, the cone. Both roof and sides are made of boards or plank of any thickness required, with battens nailed across to keep them together. On the inside of the plank of each section which forms the angle are holes *e*, or a groove, *e'*, Fig. 2, near its edge, into which the ends of the hooks of bolt *h* pass, it being thrust through the angle (holes being made for the purpose) from the inside, and secured by the curved washer *c* and nut *n* on the outside. The washer is diamond-shaped, and curved to fit the rounded form of the strip *W*, which latter is hollowed on the inside to accommodate it to any required angle, and is made thick in the middle to give it strength, and thinned down at the edges to make a tight joint. (See Fig. 4.) The hooks on bolt *h* have sufficient play (when the bolts are slightly loosened by unscrewing the nut *n*) to allow them to operate in the manner of a hinge to some extent, as seen in the dotted lines of *e*, Fig. 4, showing the holes larger than the ends of the hooks. The lower battens of the roof-sections B prevent their slipping outward. They are further secured to the side sections by the lug-bolts *l*, which pierce the top ends of the side sections far enough to secure the whole together. The hook-bolts *h* may be put any desired distance apart necessary to accomplish the purpose for which they are intended; but, in construction of buildings in this manner, I put a bolt through as near to the end of each section, where the roof and sides join, as I can with safety, to keep that portion of the building firmly united.

The building can be set upon any ordinary kind of foundation, care being taken, as in all others, to have it level. To secure it further at the bottom, if deemed necessary, a sill or rail, *S*, or its equivalent, can be used.

The roof can be covered, if desired, with canvas or other material; but I prefer to strip the joints with tarred or painted canvas.

The advantages claimed for my invention are: Cheapness of construction, portability, (the pieces being light and few,) and the ease and facility with which it can be put together or taken down in the shortest possible time; also, its capability

of enlargement or diminution; its construction not necessitating anything more than duplicating the sections.

Having thus described my invention, what I claim as new is—

1. Hook-bolts *h*, substantially as and for the purpose hereinbefore set forth.

2. Hook-bolts *h*, in combination with holes *e*

or grooves *e'*, strip *W*, washer *c*, and nut *n* or its equivalent, substantially as and for the purpose hereinbefore set forth.

FRANCIS M. BAIN.

Witnesses:

GEO. C. RAWLINS,

B. C. CONVERSE.