Feb. 6, 1945. A. G. NORDEN 2,368,770

BUILDING CONSTRUCTION

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Fig. 1.

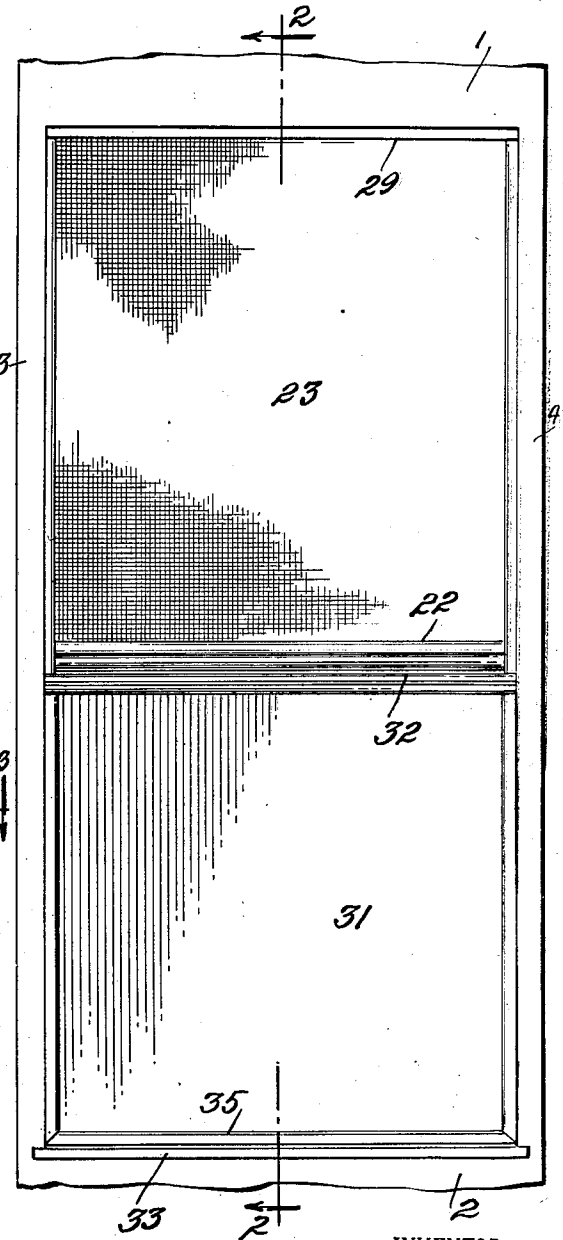
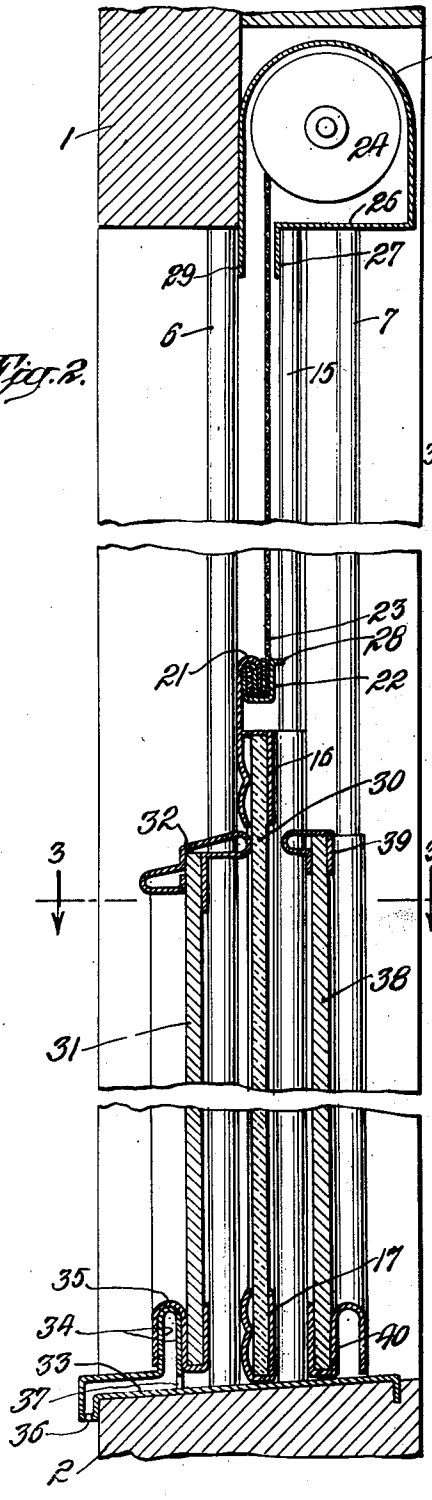


Fig. 2.



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Fig. 3.

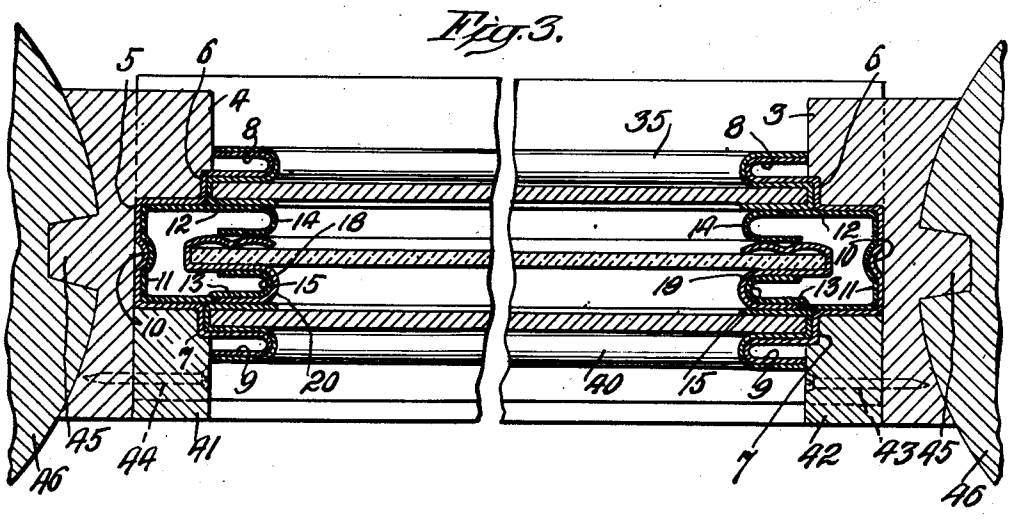


Fig. 4.

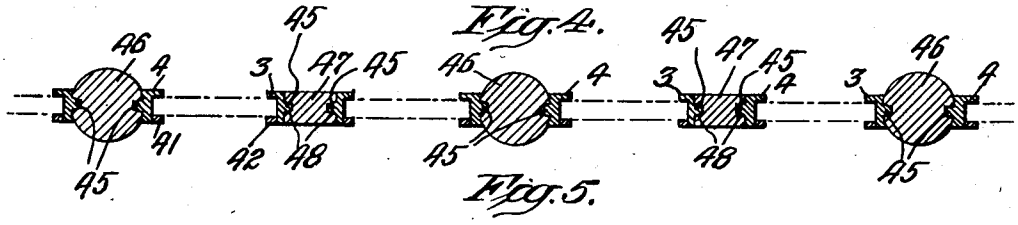


Fig. 5.

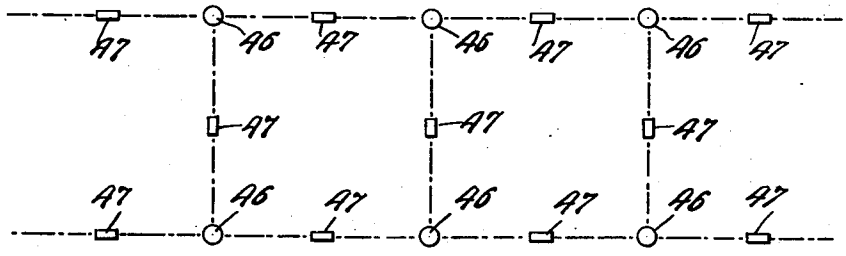


Fig. 6.

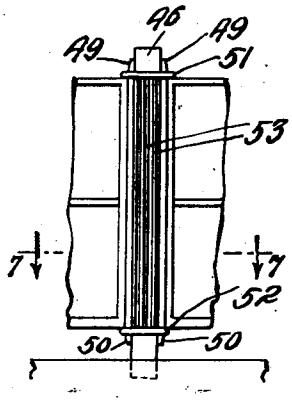


Fig. 7.

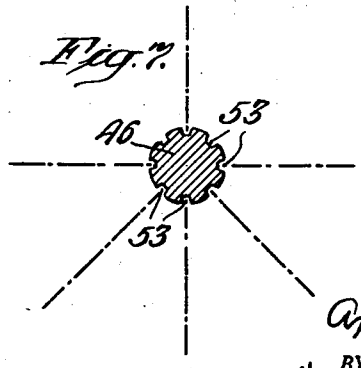
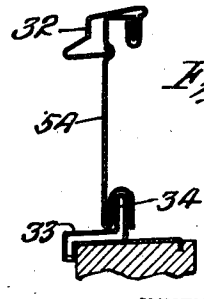


Fig. 8.



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UNITED STATES PATENT OFFICE

2,368,770

BUILDING CONSTRUCTION

Axel G. Norden, Valley Stream, N. Y., assignor to Eben Knowlton, New York, N. Y.

Application July 15, 1942, Serial No. 450,955

6 Claims. (Cl. 20—4)

My invention relates primarily to buildings to be temporarily constructed in the field for the use as hospital and operating rooms.

It is well known that there are two highly important features necessary in such construction as an abundance of fresh air, and to effect means of exclusion of insects which are attracted particularly to patients who have been wounded or who are being operated on for wounds. At the present time this is usually accomplished by raising the sides of the tent and then dropping mosquito netting or similar material from the sides and close the openings thus formed. When rain comes, particularly the torrential rains which occur so frequently in tropical countries, it becomes necessary to drop the sides of the tent and this necessitates going out into the rain and performing the necessary operations to release the elevated side walls and drop them down.

My invention has for its principal object to provide a construction consisting of a plurality of sections which can be quickly and easily erected and with equal facility taken down; each section being provided with means to quickly and easily screen the opening in the section or close it with glass or any other desirable transparent or translucent substance.

A further object of my invention is to provide a construction which will obviate the necessity of having the walls meet right angles so that it becomes possible to construct an octagonal or hexagonal structure as desired.

A further object of my invention is to provide a structure which can be carried from one field to another and yet be able to quickly exclude insects in fair weather and water in foul weather.

A further object of my invention is to provide a construction which will not only effectively prevent the ingress of water, but will drain all water away from the structure by means of rain table which is also demountable.

A further object is to provide such sections to close existing porches or which may be used in new constructions.

A further object of my invention is to accomplish the foregoing objects is a simple and inexpensive manner, producing a structure which can be shipped from place to place with a minimum danger of breakage.

My means of accomplishing the foregoing objects may be more readily understood by having reference to the accompanying drawings which are hereunto annexed and made a part of this specification in which:

Fig. 1 is a front elevation of one of my improved sections the top and bottom being broken away;

Fig. 2 is an enlarged vertical section on the line 2—2 of Fig. 1;

Fig. 3 is an enlarged cross-section on line 3—3 of Fig. 2;

Fig. 4 is a schematic view showing in cross-section an assembly of my portable units;

Fig. 5 is a modification in fragmentary detail of Fig. 4;

Fig. 6 is a fragmentary detail view of my means of attaching my portable unit;

Fig. 7 is a cross-section on the line 7—7 of Fig. 6, and

Fig. 8 is a schematic view of a modified form of rain table and outer panel.

Similar reference numerals refer to similar parts throughout the entire specification.

As shown in the drawings my invention comprises a plurality of sections each of which consists of a frame having top 1, bottom 2, and sides 3 and 4. Each of these sections are duplicates so that it will only be necessary to describe a single one; also as each side frame is a duplicate of the opposite one it will be unnecessary to describe both sides.

In said frame I mount a channel member 5, the arms 6 and 7 of which are bent outwardly and then laterally terminating, when viewed in cross-section, in inverted U shaped portions 8 and 9. It may be found desirable to form a longitudinal corrugation 10 in the bottom of the channel 5, as this permits the use of a lighter gauge metal and lends additional stiffness to the channel. Within the channel 5 I mount a sash support 11, the arms 12 and 13 of which are bent outwardly forming, in cross-section, U shaped portions 14 and 15.

Slidably mounted between the arms 12 and 13 of the sash support is my window sash which consists of top 16, bottom 17, and side channels 18 and 19. One side of the window sash is corrugated as plainly seen in Fig. 3, the other side is plain, the plain side being extended laterally forming a U shape, when viewed in cross-section, the U shaped portion 20, which is fitted to and slidable upon the U shaped portion of the sash support. The corrugated sides slidably engage the free end of the U shaped portion 14 of the sash support.

The top 16 is extended upwardly and terminates in a lock shaped portion 21, which is adapted to be fixedly attached to an edging 22 suitably secured to the lower edge of a screen 23 which may be of any suitable or desired mate-

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terial which will exclude insects but freely admit air.

Preferably this screen is mounted upon a spring roller 24 enclosed in a housing 25 which is mounted in a suitable recess cut or formed in the top 1 of the frame. The bottom 26 of the housing 25 has a downwardly depending portion 27 which is adapted to engage the lip 28 on the edging 22 secured to the screen 23. This forms an effective stop when the window is elevated and the screen rolled up on the roller 24. The rear wall of the housing 25 has an outwardly depending portion 29 which also acts as a stop for the window sash.

In the sash I mount a sheet of glass 30, which is preferably of the so called shatter proof glass, although obviously it can be transparent or translucent plastic, or it may even be of water proof cloth which is translucent.

At the bottom of the frame I mount an outer panel 31, upon which I mount my improved rain table which consists of an upper portion 32 which is inclined outwardly so as to drain the rain away from the panel 31 and the glass 30. I mount my improved drain upon the bottom 2. This drain as shown consists of a bottom wall 33, having an upwardly extending portion 34 to which is fitted a mating portion 35 of a metal edging which is mounted on the bottom of the panel 31. It will be clear that the particular curvature of this upwardly extending portion 35 as shown is not essential as it may be varied to suit conditions. A suitable outlet 36 for the egress of the water is provided, also a plurality of openings 37 are formed in the upwardly extending portion 34 so that any water which may get past the rain table will drain out and away from the enclosure.

It may be found desirable to mount a vertically slidable inner panel 38, opposite the outer panel. The inner panel is provided with suitable metal edging 39 and 40 at the top and bottom respectively. Jambs 41 and 42 which are detachable and secured in place to the side frames 3 and 4 by means of screws 43 and 44 are provided for the suitable installation or removal of the sash and sash support in the frame.

As shown the outer surface of sides 3 and 4 is arcuate and has a central longitudinal tongue 45, which is fitted into a groove formed in a post or stud 46. On the opposite side of the post 46 is a similar groove as clearly seen in Fig. 4, which is adapted to receive the tongue of the next adjoining section. These posts or studs 46 may be mounted intermediate adjoining sections or it may be found desirable to use a rectangular stud 47 which can be provided with longitudinal grooves 48 to accommodate the tongues 45 on abutting sections.

It may be found desirable in other cases to form the section as shown in Fig. 6 in which the frames have an upwardly extending tapering portion 49 at the top, and a downwardly extending tapered portion 50, at the bottom. These extended portions are engaged by a ring 51 which when driven on to the tapered portion will serve to draw the tongues 45 tightly into the grooves formed in the stud or post 46.

If desirable the posts can be driven into the ground when my improvement is to be erected in the capacity of a portable tent for field use by the surgeons in the army. In this form of construction a similar ring 52 is secured to the downwardly depending portion 50.

When it is desired to provide for a variation in the angle of the walls, the posts or studs 46 may be provided with a plurality of grooves 53, as clearly seen in the cross-section in the post so constructed in Fig. 7.

In Fig. 8 I have shown a modification formed of an outer portion, in this case the panel 54 is formed of metal which is bent at the top to conform to the rain table 32, and at the bottom to fit the upwardly extending portion 34 of the drain 33.

It will be apparent from the foregoing specification that my sections can be erected and removed, loaded or unloaded respectively without in any way destroying its usefulness.

Having described my invention what I regard as new and desire to secure by Letters Patent is:

1. A wall structure for a portable building consisting of a plurality of frames with top, bottom, and side members, each frame having a portion which is adapted to be closed by either screen, glass, or both; a longitudinally extending tongue on the side members, a post intermediate adjoining frames which has longitudinal grooves which fit said tongues, projections on the side members of said frame coextensive with said tongues and substantially coplanar with said post, and single detachable securing means common to the projections on adjacent frames to hold the frames and post together.

2. A wall structure for a portable building consisting of a plurality of frames with top, bottom, and side members, each frame having a portion which is adapted to be closed by either screen, glass, or both; a longitudinally extending tongue on the side members, a post intermediate adjoining frames which has longitudinal grooves which fit said tongues, tapering portions on the side members of said frames coextensive with said tongues and aligned with said post, and detachable securing means common to the tapering portions of the side members of adjacent frames and with the intermediate post for binding said frames to said post.

3. A wall structure for a portable building consisting of a plurality of frames with top, bottom, and side members, each frame having a portion which is adapted to be closed by either screen, glass, or both; a longitudinally extending tongue on each side member and posts intermediate adjoining frames which have longitudinal grooves which fit said tongues, tapering portions on the side members at the top and bottom of said frame coextensive with said tongues and longitudinally aligned with said posts and detachable means mounted at each end of said posts and engageable over the tapered portions of the side members of adjacent frames and the intermediate post for maintaining the tongues of said frames in interlocked relation to the longitudinal grooves of said post.

4. A wall structure for a portable building consisting of a plurality of frames with top, bottom, and side members, each frame having a portion which is adapted to be closed by screen, glass, and both; a longitudinal tongue on the side members, which extends beyond the top and bottom members of said frames, posts adapted to be driven into the ground located intermediate adjoining frames, said posts having longitudinal grooves which fit said tongues, said grooves being so disposed as to selectively provide for varying angular dispositions, and single detachable securing means common to adjacent frames which hold said frames and post together.

5. A wall structure for a portable building consisting of a plurality of frames with top, bottom and side members, each frame having a portion which is adapted to be closed by screen, glass and both, and a rain table and drain adjacent the bottom of each frame; a longitudinal tongue which extends beyond the top and bottom members of each frame, posts adapted to be driven into the ground located intermediate adjoining frames, said posts having longitudinal grooves which fit said tongues, said grooves being so disposed as to selectively provide for varying angular dispositions, and single detachable securing means common to adjacent frames, at the top and bottom of said posts which engage the extensions on the frames whereby the frames and post are held together.

6. A wall structure as defined in claim 1 in which the securing means consist of a ring adapted to be driven onto the ends of said post over extensions of said tongues to draw said tongues and posts tightly together.

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