March 2, 1954 H. E. PRESNELL 2,670,986

EXPANSIBLE HOUSE TRAILER AND BUILDING

Filed Jan. 12, 1951

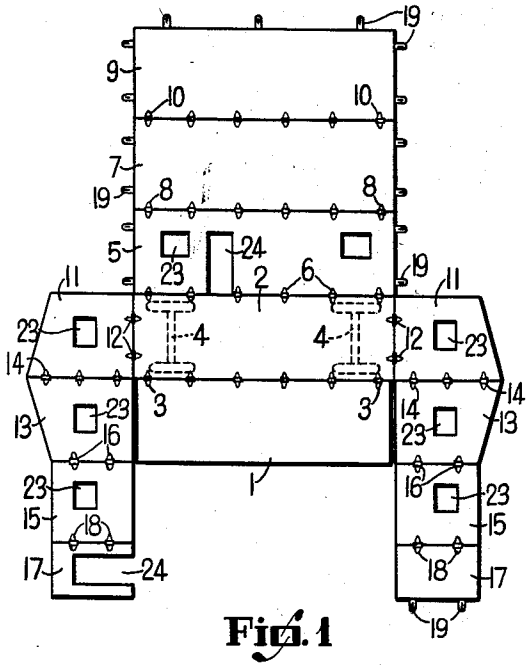

Fig. 1

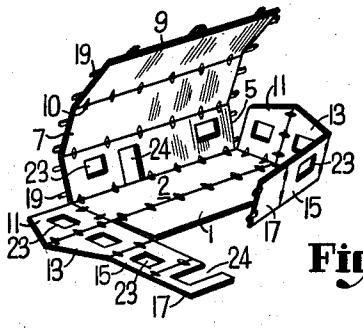

Fig. 2

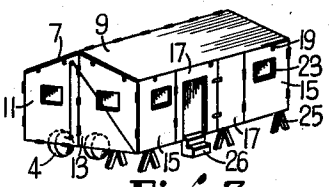

Fig. 3

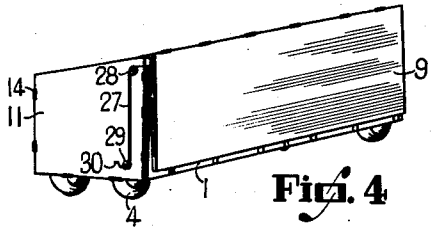

Fig. 4

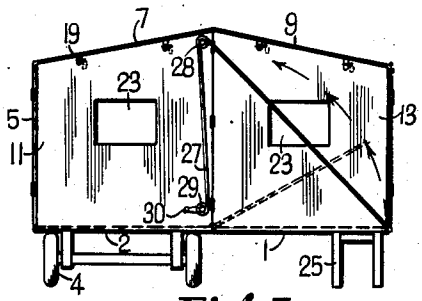

Fig. 5

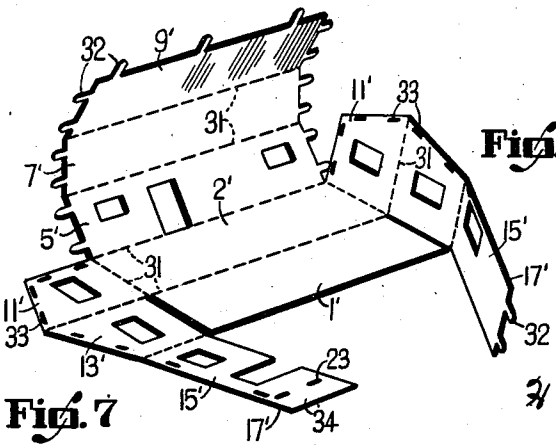

Fig. 7

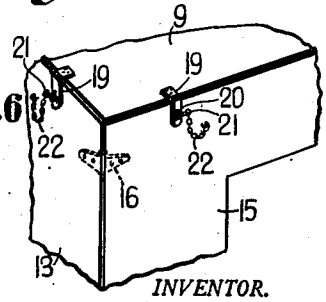

Fig. 6

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EXPANSIBLE HOUSE TRAILER AND BUILDING

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3 Claims. (Cl. 296—23)

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My invention relates to expandable house trailers and buildings and to a packaged toy building.

The object of my invention is to produce a portable trailer building which in expanded condition is a structure of sufficient size to furnish comfortable quarters, but which may be easily contracted to have a width of not over eight feet. This makes it conform to the traffic regulations limiting the extreme width of loads which can use the highways.

Another object of the invention is to produce such a structure which when made on a reduced scale and of appropriate material forms an attractive toy.

These and other objects are accomplished by the means shown in the accompanying drawings, fully set forth in the following description and more particularly pointed out in the claims.

In the drawings:

Fig. 1 is a view of my building with the different parts assembled but lying in one plane prior to erection.

Fig. 2 shows in perspective an intermediate stage in the erection of the building.

Fig. 3 is a perspective view of the building when erected.

Fig. 4 shows the building when folded for transportation.

Fig. 5 is an end view on a larger scale of the building when set up for use.

Fig. 6 is a perspective of a top corner of the building, showing on a larger scale the hinged connection of the wall sections and also the means for fastening the meeting edges of the roof and wall sections.

Fig. 7 is a perspective view of the building on a small scale as a toy, showing it in course of erection.

Fig. 1 shows clearly the assemblage of the parts, there being two similar floor members 1 and 2 hingedly connected as shown by hinges 3, six being shown, but this number may be varied as required. The length of these floor sections may be as desired, but the width of each must be kept a little under eight feet so that the folded structure may not take up more of the highway in transit than traffic regulations permit.

The section 2 has attached at each end by means well known in the art similar wheel and axle arrangements 4 as shown in dotted lines, these being for transportation purposes. The usual hitch arrangement is also provided for attachment to a towing vehicle, this being so obvious and well known that it has not been illustrated. To one longitudinal edge of the floor

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member 2 is attached a well member 5 by means of hinges 6, and to this wall member is attached by means of hinges 8 one roof member 7 to which is connected by hinges 10 a similar roof member 9.

Considering again the floor section 2, it will be seen that at each end, hinges 12 connect to it one half 11 of an end wall, each of these halves being hinge connected by hinges 14 to another half 13 having connected to it by hinges 16 a portion 15 of a longitudinal wall. To each portion 15 is attached another portion 17 by means of hinges 18. It will be seen from Fig. 1 that all the hinges are on what is the upper surface of the sections in this figure, but which will be the interior of the building when erected, the hinges 3, 6, 8 and 12 being of the ordinary form permitting swinging in only one direction, but the hinges 14 and 16 being a well known form of double or triple-acting hinge permitting a swing in either direction for a purpose to be explained later. It will also be seen that the roof member 9 carries a number of ordinary hasps 19 along both its ends and longitudinal edge, while the other roof member 7 and the wall member 5 have such hasps along their ends, and the hinged member 17 has them along its longitudinal side. As seen in Fig. 6 each hasp 19 engages a staple 20 on a mating member and is locked by a pin 21 attached to a safety chain 22 secured to the adjacent structure. Similarly located windows 23 are provided in predetermined positions in wall sections 5, 11, 13 and 15, while doors 24 are located in predetermined positions in wall sections 5 and 17. As seen in Figs. 3 and 5 the floor section 1 is carried by supports 25 similar to the ordinary carpenter's horse or trestle.

Supposing now that the structure is in the flat condition shown by Fig. 1 with the floor sections 1 and 2 supported by the trestles 25 and the wheel members 4 respectively, erection is done as follows: The end wall sections 11 and 13 are brought to vertical position, taking with them attached sections 15 and 17. The latter are then turned inwardly along the outer edge of the floor section 1, and their abutting ends connected by means of the hasps 19, staples 20 and pins 21 forming one longitudinal wall. Then the wall section 5 is raised to vertical position to form the other longitudinal wall. By means of the latch and staple arrangement this wall is secured to end members 11. Then the roof sections 7 and 9 are folded up over the gable ends of the end wall sections 11 and 13 and secured thereto by means of the hasp and staple connections. In like manner the roof section 9 is secured along

its longitudinal edge to wall sections 15 and 17. A step 26 is then placed at each door opening 24.

It will be seen from Figs. 4 and 5 that the floor section 1 has at each end on its outer edge a cable 27 leading over an idler pulley 28 at the upper right hand corner of end wall section 11 and then down to a winding drum 29 at the lower right hand corner of the same section, this drum being provided with a crank handle 30, the arrangements at each end of the structure being the same.

When it is desired to arrange the structure for transportation, the latch connections securing together roof section 9 to the end wall members 13 and to longitudinal wall members 15 and 17 are released, permitting this roof member to be raised and supported temporarily by any appropriate prop means. The latch connection between the abutting wall members 17 is then also released and end wall members 13 are folded back over corresponding end wall members 11, the double hinges 14 permitting this. Then the members 15 and 17 at each end are folded around the corners formed by the meeting of longitudinal wall section 5 and end wall sections 11, the sections 15 and 17 overlying the wall section 5, the double hinges 16 permitting this movement. The sections 17 again abut and may be secured by the latching arrangement formed by parts 19, 20 and 21. Then the temporarily supported roof section 9 is allowed to drop over the floor section 1 which has been swung up to vertical position by means of the drums 29 and cables 27, the parts finally taking the position shown in Fig. 4 when the structure is in condition for travel on its wheels 4. It is important to note that the windows 23 and the doors 24 are so positioned in the members 5, 11, 13, 15 and 17 that when the unit is in folded up condition, Figure 4, the windows and doors will register with each other. Thus the doors 24 will permit access to the trailer when in traveling position and the windows will allow light to enter so that the trailer is usable even in folded condition.

The above portable building may be constructed of wood, metal or plastic. Also details of the structure may be varied without departing from the spirit of the invention.

The toy structure shown in Fig. 7 is composed of similarly arranged members which are designated by corresponding primed numerals. In this case the material is cardboard which may be attractively ornamented to represent a house. Here folded lines 31 replace the hinge connections. Also in place of the latching arrangement, tongues 32 which enter corresponding slits 33 are used to secure the parts together. To do this it is necessary to provide for an extension 34 from one wall member 17' so that a slit 33 can be formed. Also no wheels 4 or supports 25 are necessary. The steps of erection are the same, except that a tongue 32 is inserted into a slot 33 instead of a securing latch. To form a compact package for shipment, floor section 1' may be turned under floor section 2', sections 15' and 17' together with extension 34 may be folded together upon each half end section 15' and the assemblage folded upon each end half section 13'. The assemblage at each end is then turned inwardly to lie upon the upper surface of floor section 2'. The wall section 5' and roof sections 7' and 9' are then turned down upon the underlying sections.

Having thus described my invention, I claim:

1. An expandable house trailer comprising a first rectangular floor member, supported on running gear, a first side wall member hinged at its bottom edge to one of the longitudinal edges of said floor member, a second floor member hinged to the other longitudinal edge of said floor member, a first one half end wall hinged to each end of said first floor member, a second one half end wall member hinged to the sides of said first one half end walls adjacent the hinged connection of said second floor member with said first floor member, a pair of second one half side wall members hinged to the outer side edges of said second one half end wall members, a first half roof member hinged to the outer longitudinal edge of said first side wall member, and a second half roof member hinged to the outer longitudinal edge of said first half roof member.

2. An expandable house trailer comprising a first rectangular floor member, supported on running gear, a first side wall member hinged at its bottom edge to one of the longitudinal edges of said floor member, a second floor member hinged to the other longitudinal edge of said floor member, a first one half end wall hinged to each end edge of said first floor member, a second one half end wall member hinged to the sides of said first one half end walls adjacent the hinged connection of said second floor member with said first floor member, a pair of second one half side wall members hinged to the outer side edges of said second one half end wall members, a first half roof member hinged to the outer longitudinal edge of said first side wall member, a second half roof member hinged to the outer longitudinal edge of said first half roof member, windows and doors in said side wall members and said wall members arranged in a predetermined position for registery thereof when said house trailer is in folded condition.

3. An expandable house trailer comprising a first rectangular floor member, supported on running gear, a first side wall member hinged at its bottom edge to one of the longitudinal edges of said floor member, a second floor member hinged to the other longitudinal edge of said floor member, a first one half end wall hinged to each end edge of said first floor member, a second one half end wall member hinged to the sides of said first one half end walls adjacent the hinged connection of said second floor member with said first floor member, a pair of second one half side wall members hinged to the outer side edges of said second one half end wall members, a first half roof member hinged to the other longitudinal edge of said first side wall member, a second half roof member hinged to the outer longitudinal edge of said first half roof member, windows in the side wall and end wall members, a door in one of said pair of second one half side wall members, and a door in said first side wall member arranged to register with the door in said one of said pair of second one half side wall members.

HARRY E. PRESNELL.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
1,130,818	Herman	Mar. 9, 1915
1,258,788	Koch	Mar. 12, 1918
1,417,736	Heygate	May 30, 1922
2,259,783	Sparling	Oct. 21, 1941
2,395,691	Smith	Feb. 26, 1946