

July 5, 1938.

C. E. BOLLSTROM
FOLDING PORCH CONSTRUCTION

2,122,791

Filed Sept. 17, 1937

3 Sheets-Sheet 1

Fig. 1

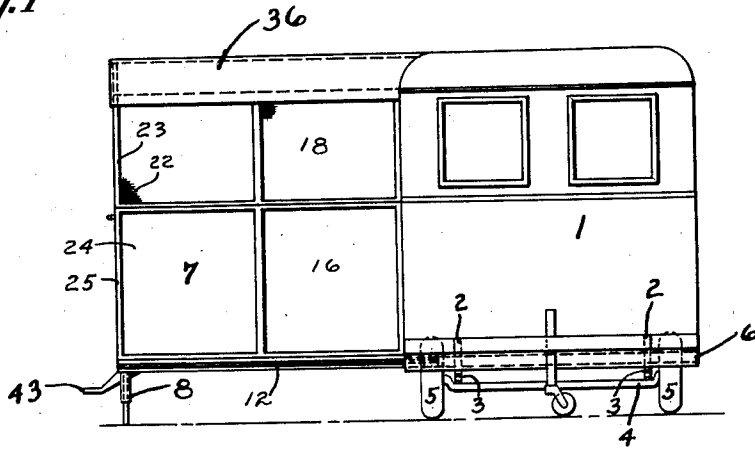
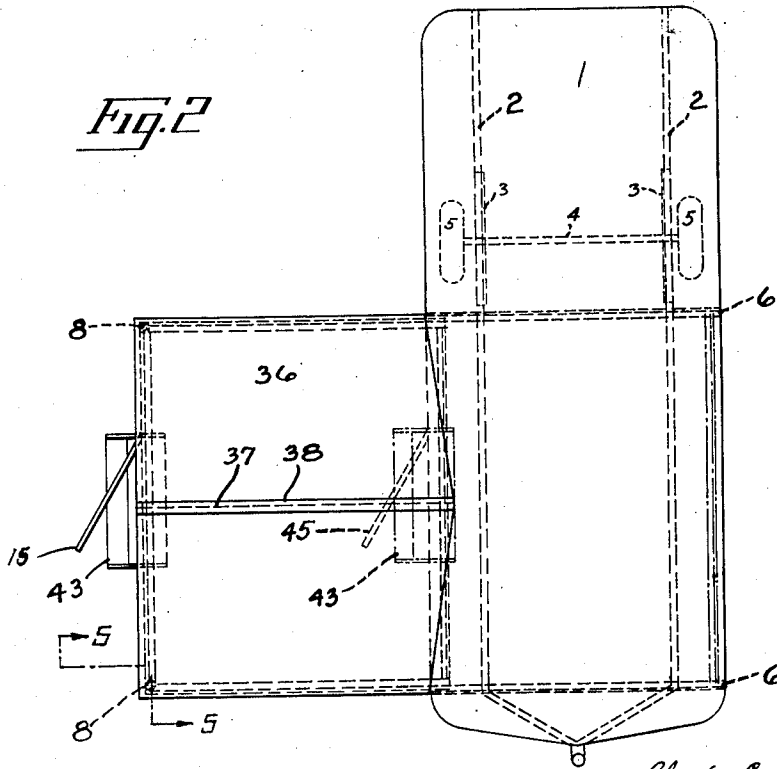


Fig. 2



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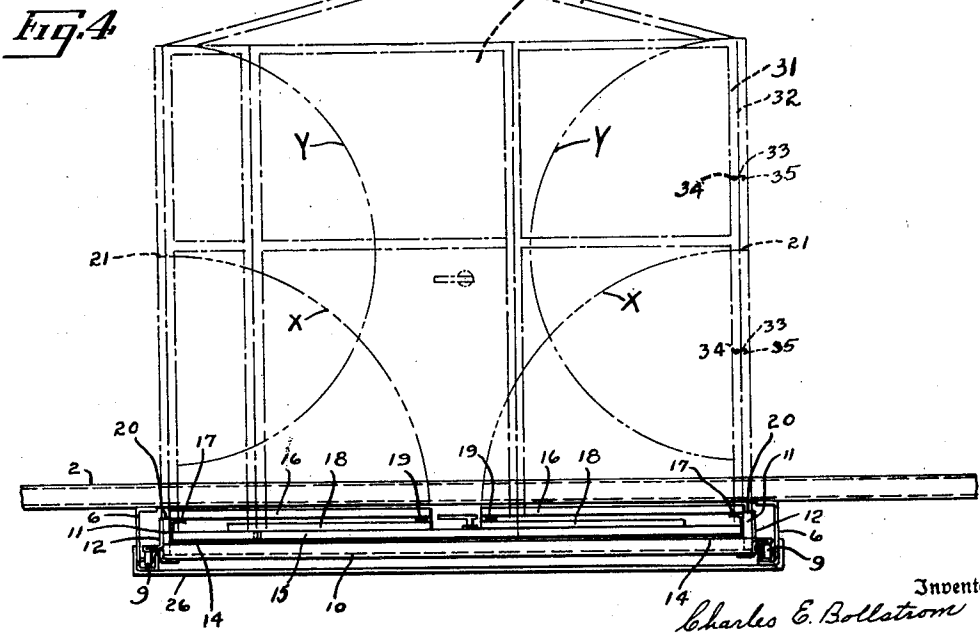
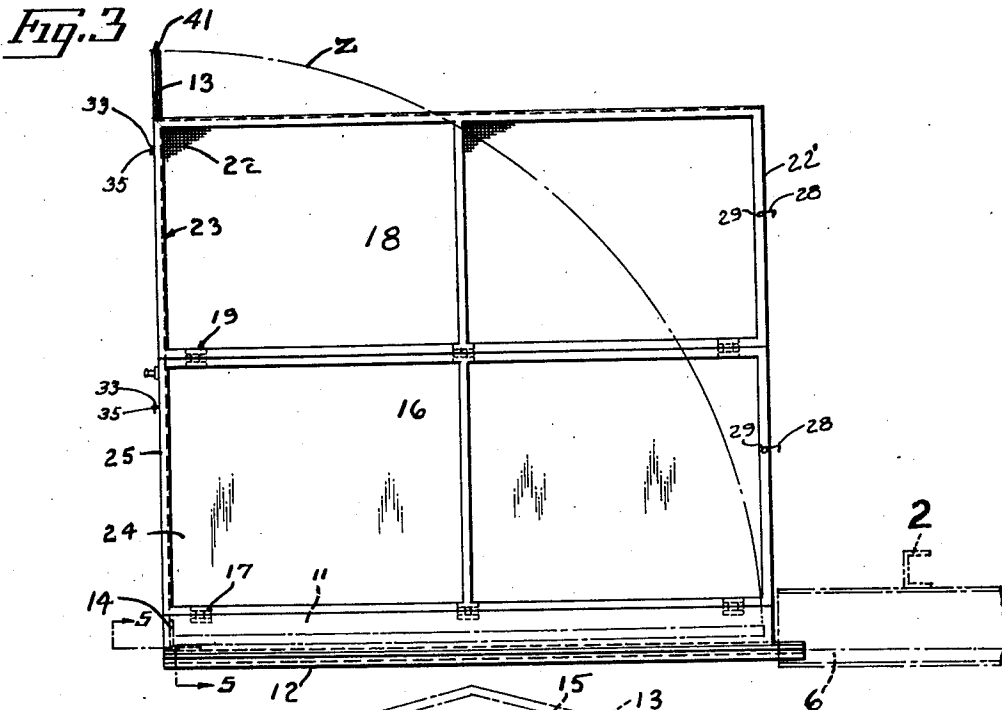
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3 Sheets-Sheet 3

Fig. 5

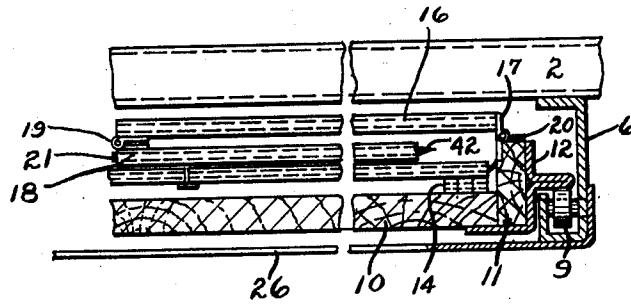
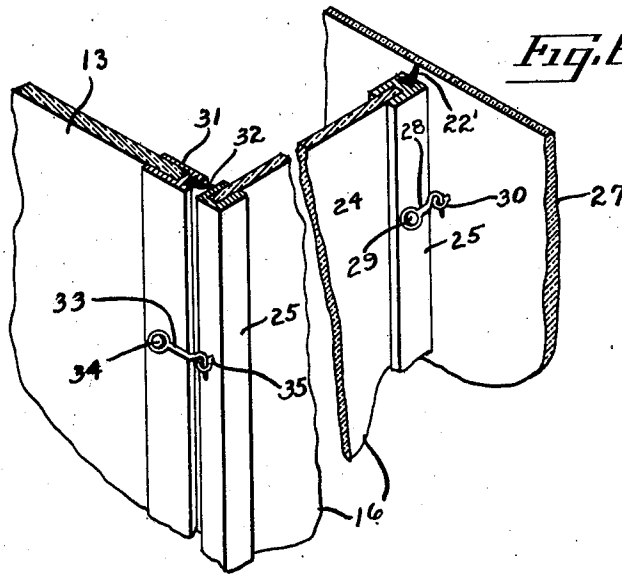


Fig. 6



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UNITED STATES PATENT OFFICE

2,122,791

FOLDING PORCH CONSTRUCTION

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Application September 17, 1937, Serial No. 164,281

14 Claims. (Cl. 296—23)

This invention relates to folding porch or room constructions, and more particularly is directed to a folding unit adapted to form additional living quarters and used in conjunction with house trailers, summer cottages, portable homes and the like.

One of the primary objects of the present invention is to provide means of this type which can be readily folded into a compact unit easily, capable of storage or transportation, and occupying only a small space when folded.

Another object of the present invention is to provide a construction of this class which, when opened up for use, will encompass a space ample for occupancy and/or for sleeping quarters.

Still another advantage of the present invention resides in the provision of means producing certain novel weather proofing features, and which can be erected or folded by simple operations, requiring no great amount of skill or strength on the part of the operator.

In employing the invention for use in connection with house trailers, portable homes and the like, the present construction possesses distinct advantages in that it can be folded into a compact unit and stored beneath the vehicle body or the like for ready transportation, thereby taking up no space within the vehicle when not in use. The means producing the additional living quarters consists of folding sections hingedly connected to a floor portion which is supported for lateral sliding movement beneath the body of the trailer, whereby the mechanism can be instantly moved out from beneath the vehicle to one side thereof and set up for immediate use whenever it is desired to provide extra space for living quarters.

Other objects and advantages of the present invention will appear more fully from the following detailed description, which, taken in conjunction with the accompanying drawings, will disclose to those skilled in the art the particular construction and operation of a preferred form of the present invention.

In the drawings:

Figure 1 is a front elevational view of a house trailer with the folding porch or room attached to and set up in position for occupancy;

Figure 2 is a top plan view of the structure shown in Figure 1;

Figure 3 is an enlarged side elevational view of the folding porch construction;

Figure 4 is a front elevation of the porch in folded position with the relative position of the parts when extended shown in dotted lines;

Figure 5 is a sectional view taken substantially on line 5—5 of Figures 2 and 3; and

Figure 6 is an enlarged perspective view of a portion of the construction showing the means

for locking the same in position, and producing weather proof joints therebetween.

Referring now in detail to the drawings, I have disclosed in Figure 1 a trailer body, indicated generally at 1, which is supported on longitudinal frame members 2 carried by means of the springs 3 upon a transverse axle 4 extending beneath the trailer body, and provided at its opposite ends with wheels 5 preferably of the pneumatic type. The trailer body is only one of a number of various types of trailer bodies which may be employed for use in conjunction with the present invention, and it is to be understood that the invention is not limited in any manner to this particular body construction or supporting frame work.

Extending transversely of the vehicle body beneath the longitudinal channel members 2 are a pair of spaced transverse channel members 6 which are disposed in position facing each other and form the main supporting means for carrying the folding portion construction when it is in folded position. When the porch construction, indicated generally at 7, is in position for use, having been moved outwardly of the channel members 6 to one side of the trailer, the outer end of the porch construction is preferably supported in the desired relation with respect to the floor of the trailer by means of adjustable legs 8 at the forward corners thereof. The end of the porch adjacent the trailer body is supported upon the channels 6, thereby providing a level positive support for the porch in its extended position. It is to be understood, of course, that the term "side" is relative only, and the present invention contemplates sliding the folding unit out endwise of the trailer as well as laterally to one side thereof.

Considering now the detailed construction of the porch which is shown more clearly in Figures 3, 4 and 5, it will be apparent that the channel members 6 may be secured to the longitudinal supporting members 2 in any desired manner, such as by riveting, welding, or the like. The transverse channel members 6 are provided with a plurality of rollers 9 pivotally supported in the lower portion thereof, these rollers serving to reduce the sliding friction when the porch is being moved beneath, or to one side of the vehicle. The floor of the porch is indicated at 10 and may be formed of wood, a light weight steel panel, or of any other desired material, and preferably has vertically extending spacers 11 at opposite sides thereof connected and held in position with respect to the floor 10 by means of the side members 12 which have laterally extending portions adapted to be supported on the rollers 9 and forming a rigid, non-yielding support for the sides of the floor.

A front wall portion 13 is hinged at its lower

end to the forward edge of the floor 10, as by means of the hinges 14, and is adapted to be swung upwardly into vertical position as indicated by the path of the arc Z in Figure 3. This end wall portion carries a door 15 which is pivoted on vertical hinges to a portion of the end wall construction to provide ingress and egress from the porch.

Two side wall portions 16 are provided which are hingedly connected to the spacing members 11 by means of a plurality of hinges 17. To the upper edges of each of the portions 16 are secured top wall portions 18 by means of the hinges 18. Thus, when the side walls are raised in position, the portions 16 rotate on the hinges 17 to positions indicated by the arcs X in Figure 4. The upper wall portions 18 are then rotated on the hinges 19 in accordance with the arcs indicated at Y in Figure 4, thereby forming the complete side wall structure which extends approximately to the top of the front wall section 13.

It is essential that suitable insect and weather proofing be provided for the meeting edges of the various sections of the construction and for this purpose I provide resilient strips 20 secured to the top edges of the spacing members 11 which are compressed into tight sealing engagement with the bottom edges of the side wall portions 16 when these portions are folded into raised position. Similarly, compressible sealing means 21 is provided on the lower edges of the portions 18 so that when they are extended into coplanar relation with respect to the portions 16 this means will be compressed to form a sealed joint between the upper edges of the portions 16 and the lower edges of the portions 18. Thus, both a moisture proof and insect proof seal is provided for the side wall portions. Preferably, the portions 16 of the side walls, as indicated at 24 in the drawings, may consist of panel sections formed of pressed wood, ply wood, metal, glass or the like, filling the lower frame portions 25. The upper frame portions 23 may have set therein screens 22, or this may consist of glass or any other desired panel means for this purpose.

Considering now Figure 6 in detail, the outer portion of the wall of the trailer or other portable vehicle is indicated at 27. Suitable sealing means 22' is provided on the edges 25 and 23 of the wall portions 16 and 18, which sealing means may consist of a resilient strip projecting from the surfaces and adapted to be deflected and compressed when the sections are moved into upright position to form a weather proof and insect proof seal between the sides of the trailer and the side walls of the porch. In order to secure the walls in position a plurality of hook members 28 are provided on the portions of the frames 25 and 23 adjacent the wall 27, these hooks being secured to the frame members by means of suitable screw means 29. The hooks are adapted to be snapped into eyes 30 carried by the side wall 27 of the trailer to lock the members 16 and 18 in extended position, and also to provide for compression of the resilient weather strip 22' forming the joint between the extended side walls and the trailer wall 27.

The frame for the front wall portion 13 is indicated at 31, and the front wall portion itself may be formed of ply wood or any other suitable panel means. At the outer edges of the side frame members 31 I provide suitable strips of weather proofing material 32 which project therefrom and are adapted to be compressed into sealing engagement with the forward frame por-

tions 25 and 23 of the side wall portions 16 and 18. This weather stripping material 32 is further compressed into position to provide a sealed joint by means of the hooks 33 carried as at 34 on the frame 31, and engaging in suitable eyes 35 carried at the front surfaces of the frames 25 and 23. Thus, all sections of the wall defining the folding porch are provided with sealing means to produce a weather tight and insect proof construction. Suitably secured to the bottom surface of the side channel members 6 is a dust proof enclosure member 26 which serves to enclose the bottom portion of the construction when it is rolled in folded position between the side channel members 6. This prevents any accumulation of dust, mud or the like upon the porch construction while it is being transported from place to place.

As shown more clearly in Figures 1 and 2 I provide a roof portion 36 which may be of ply wood, sheet metal, or any other rigid material, or may be made of canvas or the like which has been suitably weather proofed. If canvas is employed it is of course necessary to provide a ridge pole extending from the top of the front wall section 13 to the roof of the trailer. If the roof is formed of any rigid material the two sections are preferably hinged together as shown at 37, and a weather proofing strip 38 extends the entire length of the hinged portion so that when the roof is moved into extended position the hinged joint 37 will be suitably sealed.

Along the upper edges of the top of the front wall section 13, I provide suitable resilient sealing means 41, and corresponding sealing means 42 is provided along the upper edges of the side wall portions 18. The proof members 36 may be suitably secured to the upper portions of the front wall section 13 and the side wall sections 18 in any suitable manner, and when so disposed, the sealing means 41 and 42 is compressed to form a weather proof and insect proof joint therebetween.

Since the folding porch construction is disposed off of the ground by means of the legs 8 and the channels 6, I provide a folding step construction 43 which is secured to the front edge of the floor 10. This may be a folding step of any desired type and will be in such position that when the porch is folded and stowed beneath the vehicle the step 43 will still be in correct relation with respect to the trailer door 45 to provide for easy entrance and exit from the trailer. When the porch is in extended position the step will be in proper position with respect to the hinged door 15 so that the same step may be employed for entering either the porch or the trailer, depending upon whether the porch is in its extended position or is folded and stowed beneath the body of the vehicle.

It will therefore be apparent that I have provided a simple construction for adding additional space to a trailer or the like when it is used as living quarters, which can be readily folded away and stowed beneath the trailer body during transportation. The construction is so designed that it provides space amply sufficient for a cot or divan, or for a table and chairs if it is desired to serve meals or the like on the porch.

While the invention has been described in conjunction with a trailer or similar house vehicle, it is to be understood that it may be equally well applied to summer cottages, portable homes, garages or the like, wherever it may be desired to provide for temporary additional living quar-

ters which can be dispensed with and put away whenever it is not desired to make use of the same.

The present construction is capable of considerable modification in design and details of construction, and I therefore do not intend to be limited to the exact form shown and described herein, but only insofar as defined by the scope and spirit of the appended claims.

I claim:

1. A folding unit adapted to be carried beneath a house trailer or the like and to be extended laterally to one side thereof and opened into an enclosure forming additional living quarters, comprising a floor member and side and end wall sections connected thereto and movable from a flat position on said member into vertical position to form, with the adjacent side wall of said trailer, an enclosed structure projecting from one side of the trailer body.

2. The unit of claim 1 characterized in the provision of insect and weather proofing means compressed between the meeting edges of said sections when in vertical position.

3. The unit of claim 1 characterized in the provision of a door in the side of said trailer, a step secured to the front edge of said floor member and disposed beneath said door when the unit is in folded position beneath the trailer, and a door in said end wall section disposed above said step when the unit is in extended open position.

4. The unit of claim 1 characterized in the provision of sealing means about the upper edges of said wall sections, and a hinged roof structure extending from said trailer thereover and secured to said edges to compress said sealing means therebetween.

5. The unit of claim 1 characterized in the provision of means at the forward end of said floor member for supporting the same upon the ground when the unit is in extended position.

6. A folding porch construction for portable vehicles comprising a floor member having projecting shoulders along the sides thereof, means beneath said vehicle and supported therefrom forming a rolling guide for said shoulders whereby said floor member may be moved laterally beneath and to one side of said vehicle, and means hingedly connected to the edges of said member forming, with the side wall of the vehicle, enclosing wall portions which can be folded into position flat on said floor member when it is rolled beneath said vehicle.

7. A folding porch construction for a house trailer or the like adapted to be supported in folded position beneath the trailer and to be rolled out to one side thereof, comprising a floor member, means on the forward end of said member for supporting the same upon the ground when rolled out laterally of the trailer, wall sections hingedly connected to the edges of said floor member and movable into vertical position to form, with the adjacent side wall of the trailer, enclosing walls, means securing the meeting edges of said sections together in insect proof and weatherproof relationship, and door means hingedly mounted in one of said sections.

8. A folding porch construction for a house trailer or the like, said trailer having two longitudinally spaced channels extending transversely of said trailer beneath the body thereof, said porch construction comprising a rigid floor mem-

ber and end and side wall sections hingedly connected to said member and folding into flat position thereon, means providing for rolling support of said floor member on said channels whereby said unit may be folded and stowed beneath said trailer, and means on said side wall sections for securing them in upright position to the side of said trailer when said floor member is extended laterally.

9. In combination with a portable vehicle having an underframe, a pair of spaced transverse channels beneath said frame, and means slidable laterally on said channels from beneath said vehicle to one side thereof, said means including a floor portion, side and end wall portions and a roof portion hingedly connected together, all of said portions when in folded position being movable as a unit to a position entirely within the peripheral limits of said vehicle.

10. The combination, with a trailer or the like, of means for forming additional living quarters comprising, floor, wall and roof portions hingedly connected together and foldable into planes substantially coplanar with said floor, and means formed in the underframe of said trailer for slidably receiving said first-named means when folded so as to support the same entirely within the peripheral limits of the trailer.

11. Means for forming portable additional living quarters for trailers or the like comprising a floor portion slidable laterally from beneath the trailer to one side thereof, wall portions hinged to the sides and end of said floor portion and adapted to fold flat thereon when the floor portion is slid beneath the trailer, and resilient means at the meeting edges of said portions forming weather proofing therebetween and between certain of said wall portions and the external side walls of said trailer.

12. The combination, with a trailer, of means providing additional space comprising a folding room section adapted in folded position to assume a flat rectangular shape, guide channels beneath said trailer, means in said channels for receiving said room section and adapted to support the same entirely between said channels, and means for securing the side wall portions of said room section to the side walls of said trailer when said section is opened up to form an additional room.

13. The combination, with a trailer, of means providing additional space comprising a folding room section adapted in folded position to assume a flat rectangular shape, guide channels beneath said trailer, means in said channels for receiving said room section and adapted to support the same entirely between said channels, and means for securing the side wall portions of said room section to the side walls of said trailer in weatherproof relationship when said section is opened up to form an additional room.

14. In a folding unit of the class described for a house trailer, resilient sealing strips carried at the opposite vertical edges of the end wall section and on the remote edges of the side wall sections, and means securing the end wall section to the adjacent edges of the side wall sections and securing the remote edges of said side wall sections to the adjacent wall surface of said trailer whereby said strips are compressed between said edges to form insect proof and weatherproof seals therebetween.

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