Feb. 13, 1945. A. V. DITTY ET AL 2,369,340

FOLDABLE STAGE STRUCTURE

Filed April 27, 1942 3 Sheets-Sheet 1

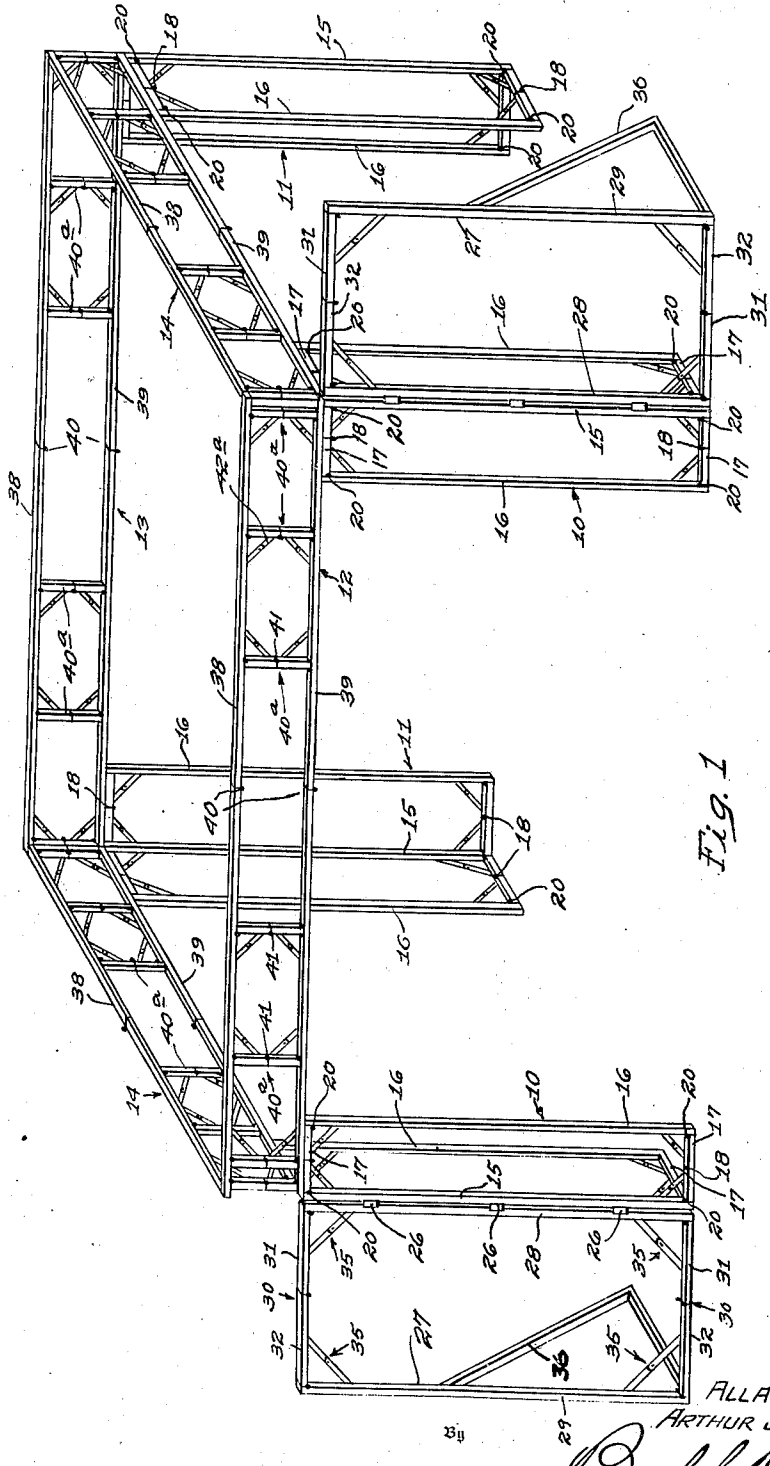


Fig. 1

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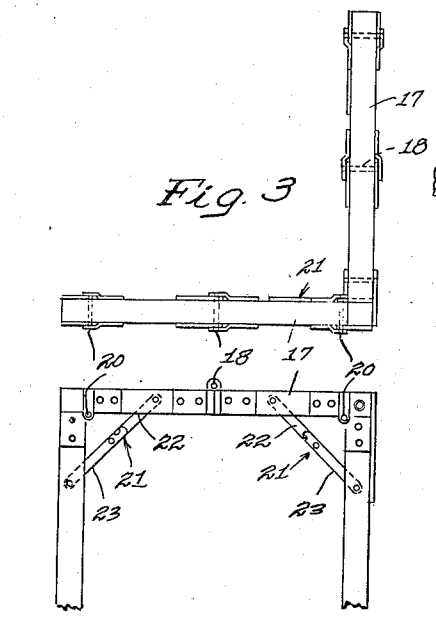


Fig. 3

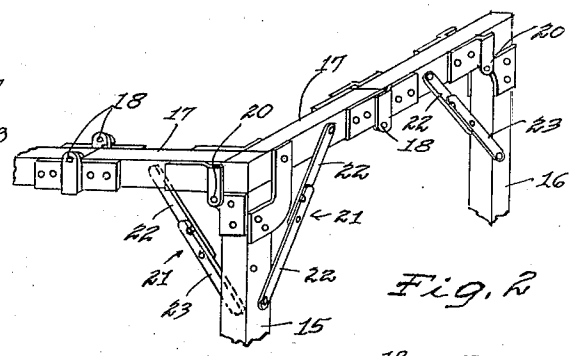


Fig. 2

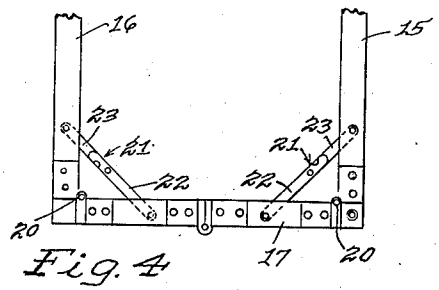


Fig. 4

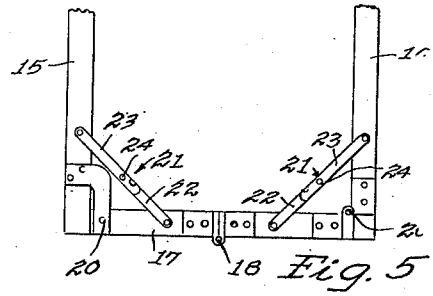


Fig. 5

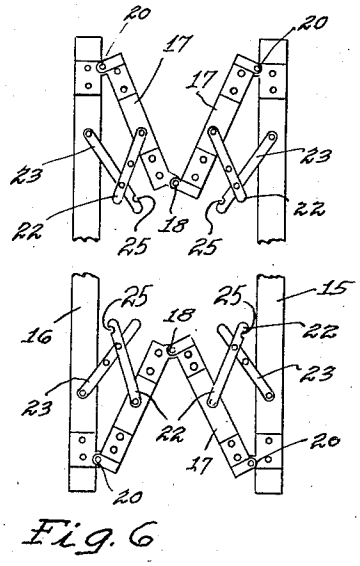


Fig. 6

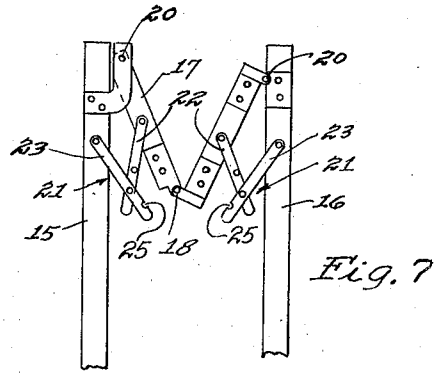


Fig. 7

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FOLDABLE STAGE STRUCTURE

Filed April 27, 1942 3 Sheets-Sheet 3

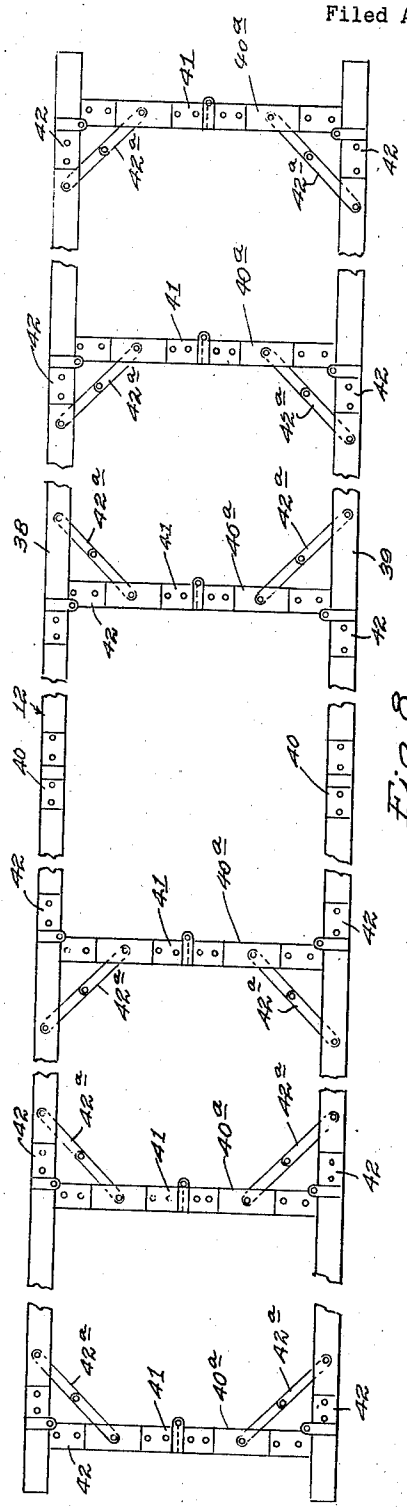


Fig. 8

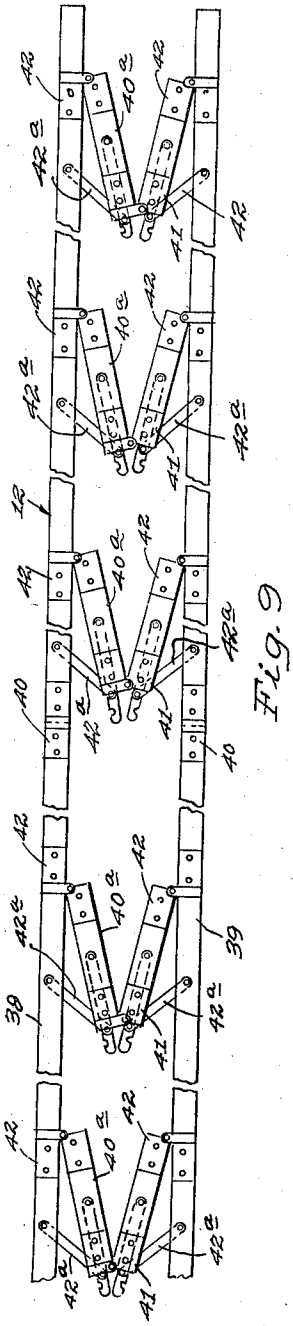


Fig. 9

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Patented Feb. 13, 1945 2,369,340

UNITED STATES PATENT OFFICE

2,369,340

FOLDABLE STAGE STRUCTURE

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Application April 27, 1942, Serial No. 440,710

3 Claims. (Cl. 272—22)

This invention relates generally to stage structures and more particularly to foldable stage structure.

It is an object of the present invention to provide a new and improved foldable stage structure which may be quickly and easily erected and one which when folded may be conveniently shipped.

Another object of the invention is to provide a foldable stage structure which is strong and rigid and one having a minimum number of foldable unit structures to provide for ease of handling and to facilitate erection of the stage structure.

Other objects of the invention will become apparent from the following detailed description taken in connection with the accompanying drawings in which:

Fig. 1 is a perspective view of the foldable stage structure;

Fig. 2 is an enlarged fragmentary view of one corner of the frame structure shown in perspective;

Fig. 3 is a top plan view of an upright corner section or unit structure of the stage structure;

Fig. 4 is a front view of the corner section of Fig. 3;

Fig. 5 is a side view of the corner section of Fig. 3;

Fig. 6 is a view similar to Fig. 4 but illustrating how the front frame of the corner section folds;

Fig. 7 is a fragmentary side view of the corner section of Fig. 3 illustrating how this side frame folds;

Fig. 8 is a side view of upper front or side unit structures which connect the upright corner sections together; and

Fig. 9 shows the structure of Fig. 8 illustrating how said structure folds.

Referring to the drawings by characters of reference, the stage structure shown in Fig. 1 includes a pair of spaced, front upright corner sections or unit structures 10 and a pair of spaced, rear, upright corner sections or unit structures 11, which units are alike, interchangeable and removable. The corner sections 10 are connected together by a front unit section 12 and the rear corner sections 11 are connected together by a similar rear unit section 13, the corresponding front and rear corner sections being connected together by side unit structures or sections 14.

Each of the front corner sections 10 includes an upright frame member 15 which is common to a pair of foldable or articulated frame members, one of which may be termed the front frame member and the other of which may be termed the rear frame member, these frames of each corner section being angularly disposed and preferably at right angles to each other to form a corner of the stage structure. Each of the corner section frames comprises an upright 16 which is parallel with and is connected at the top and bottom thereof to the common upright frame member 15 by top and bottom cross members 17 thus providing rectangular frames having the common corner frame member 15. The frame cross members 17 are each made in two parts which are hinged together at their inner ends, as at 18, and at their outer ends are hinged respectively to the uprights 15 and 16, as at 20. The hinges 18 and 20 are arranged such that the inner ends of the cross members 17 may swing inwardly, as illustrated in Fig. 6 which permits the upright frame members 16 to move toward and position against or in close proximity to the common upright 15 thus providing a compact unit structure which may be easily handled and shipped in its folded state.

In order to hold the frames of the corner sections extended or in unfolded positions, braces 21 are provided at the corners of each frame. The braces 21 each comprise two arms 22, 23 which are pivoted together intermediate their ends, as at 24, and have their outer ends pivoted to the hinged cross members 17 and to the upright frame members 15 and 16. The arm 22 of each of the braces 21 is provided with a transversely extending pin which engages in a notch 25 in the corresponding arm 23 to limit outward movement of the brace arms 22 and 23, the pins and notches being arranged to permit the pivot 24 of the braces to move slightly overcenter.

To each of the front corner uprights 10 is hinged, as at 26, a rectangular frame 27 which extends outwardly from the sides of the stage structure to provide stage wings. Each of the wing frames 27 includes spaced upright members 28 and 29 of which the upright side members 28 are attached by the hinges 26 to the common upright 15 of respective corner uprights 10. The uprights of the wing frames are each connected together at top and bottom thereof by foldable cross members 30 each of which comprises two arm members 31 and 32. The arms 31 and 32 have their inner ends connected together by hinges 33 and their outer ends are connected by hinges 34 to the upright 29 and the upright 28 whereby the wing frames may be folded up against the common upright 15 of respective corner uprights 10. As shown in Fig. 1, the arms 31

and 32 are connected to the uprights 28 and 29 by corner braces 35 which hold the wing frames extended or unfolded. Preferably, a rearwardly extending angle brace 36 is provided for each wing and is connected to the outer upright frame members 29 to give rigidity to the structure.

The front, rear and side cross members 12, 13 and 14 respectively are alike and each comprises a pair of upper and lower frame members 38 and 39 each of which is made in two parts which are connected together by hinges 40 to provide for folding the structures longitudinally thereof. When the structural units 12, 13 and 14 are unfolded, the upper and lower longitudinal frame members 38 and 39 thereof are held spaced apart by upright members 40 which are in two parts, hinged together at their inner ends by hinges 41. At their outer ends, the upright members 40 are connected by hinges 42 respectively to the top and bottom frame members 38 and 39 to provide for folding of the structure such that the longitudinal members 38 and 39 may be brought together. After the longitudinal members 38 and 39 are brought together, the frame may be folded about the hinges 40 thus reducing the structure to a compact folded unit which may be easily handled and shipped and will occupy less space than when unfolded. Preferably, the upright members 40 are hinged to the upper and lower frame members 38, 39 by braces 42 which may be the same as the braces used on the corner members 10, 11 and on the wing frames. The front, rear and side frame structures seat on the upper cross members of the corner structures 10, 11 and may be secured together and to said corner sections by bolts and nuts or by any other suitable attachment means. It will be appreciated that we have only described the stage frame structure and that said structure supports curtains and back drops and may include a platform.

From the foregoing description it will now be appreciated that we have provided a new and improved portable stage comprising a number of removable unit foldable structures which may be easily and quickly disassembled, shipped as a compact structure and readily reassembled at another location.

What we claim is:

1. In a foldable stage structure, a foldable unit structure comprising an upright corner member having a pair of rectangular frames angularly disposed and foldable against a common upright member of said frames, and a foldable rectangular frame wing member hinged to said common upright member adapted to fold against and in the same plane with one of said rectangular frames of said corner members and in parallelsim therewith.

2. In a foldable stage structure, a foldable unit structure comprising upright vertical frame members, a rectangular horizontal frame structure supported at its corners by said upright vertical members, hinged together upright and cross members hinged to said first-named upright members to provide a foldable supporting frame whereby said cross members may fold inwardly to allow the hinged upright members to move together in parallelism, and hinged together upright and cross members hinged to said first-named upright member and providing a second foldable supporting frame with the cross members folding inwardly to allow the hinged upright members to collapse in contiguous relationship with the upright vertical members extending at an angle to said first-named frame.

3. In a foldable stage structure, a foldable unit structure comprising upright vertical frame members, a rectangular horizontal frame structure supported at its corners by said upright vertical members, hinged together upright and cross members hinged to said first-named upright members to provide a foldable supporting frame with the cross members infolding to collapse said supporting frame, hinged together upright and cross members hinged to said first-named upright member with the cross members infolding to allow the upright members to collapse and providing a second foldable supporting frame extending at an angle to and hinged to said first-named supporting frame, and a rectangular wing of hinged together upright and cross members hinged to said first-named upright member with its cross members infolding to allow collapse of the upright members whereby all of said upright members may be folded in parallelism.

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