July 30, 1940. C. R. BROWN 2,209,596

APPARATUS FOR SETTING STAGES

Filed Jan. 23, 1939 3 Sheets-Sheet 1

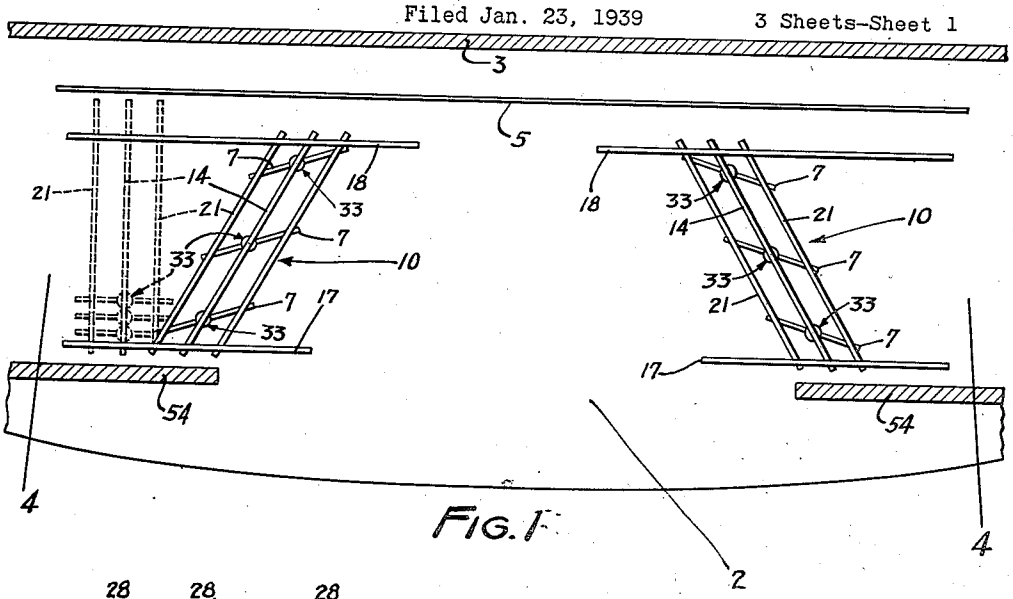


FIG. 1

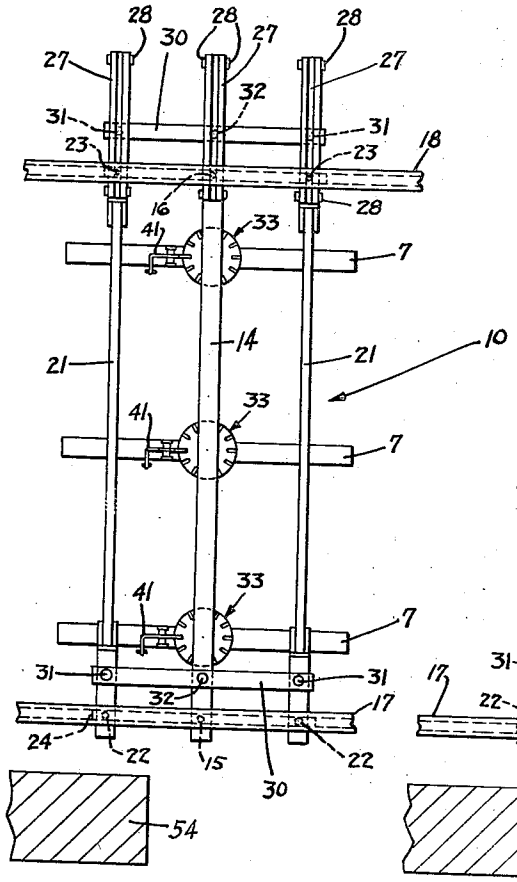


FIG. 2

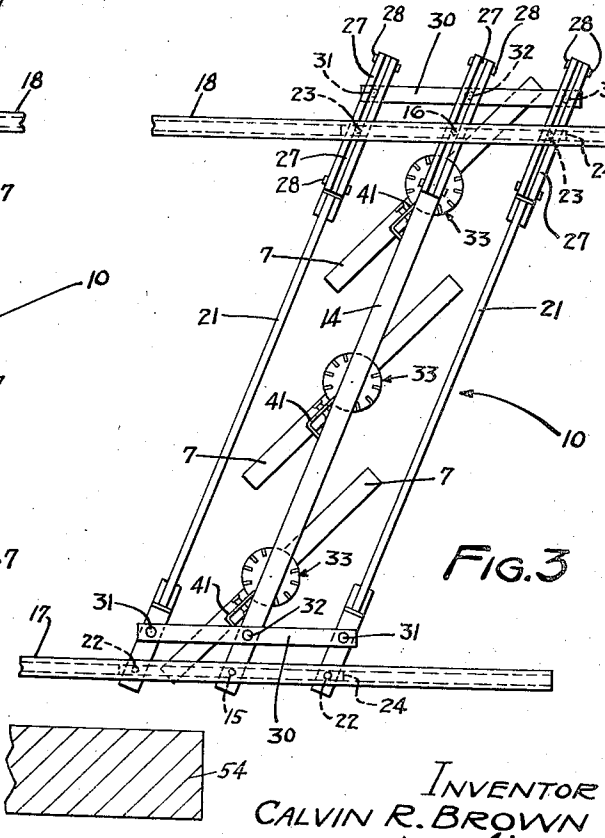


FIG. 3

INVENTOR
CALVIN R. BROWN
By Paul Paul Woon Keim
ATTORNEYS

July 30, 1940. C. R. BROWN 2,209,596

APPARATUS FOR SETTING STAGES

Filed Jan. 23, 1939 3 Sheets-Sheet 2

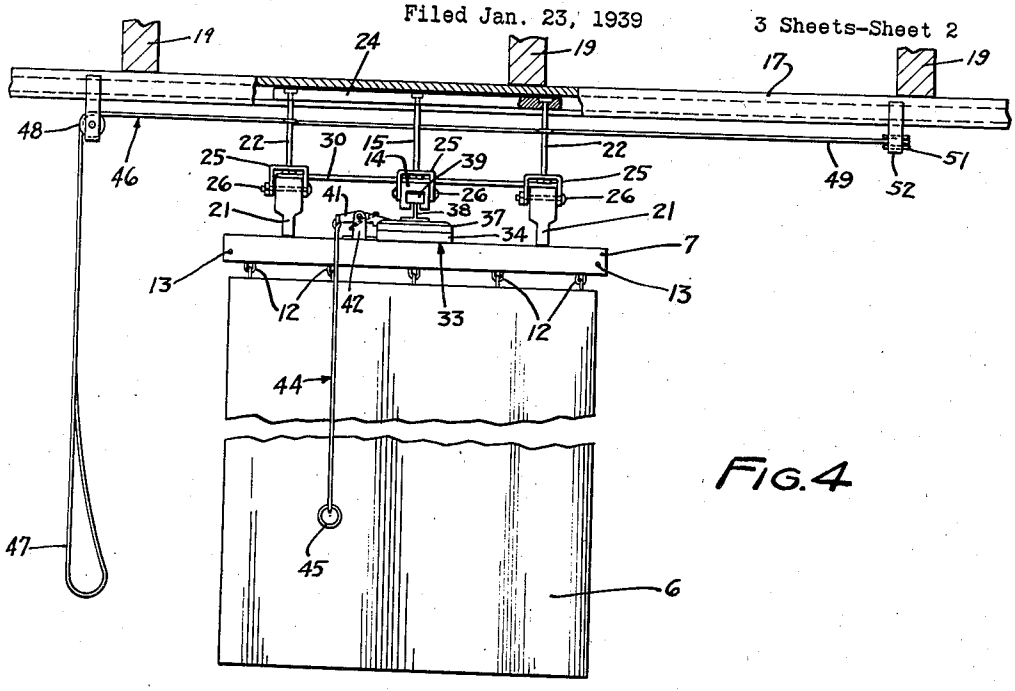


FIG. 4

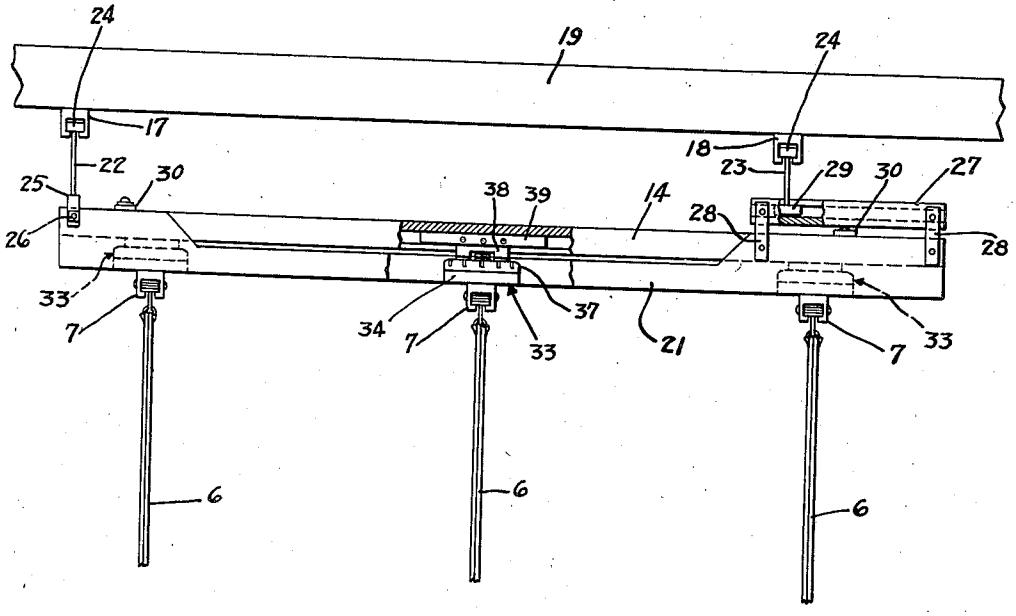


FIG. 5

INVENTOR
CALVIN R. BROWN
By Paul, Paul Woon & Hirs
ATTORNEYS

July 30, 1940. C. R. BROWN 2,209,596

APPARATUS FOR SETTING STAGES

Filed Jan. 23, 1939 3 Sheets-Sheet 3

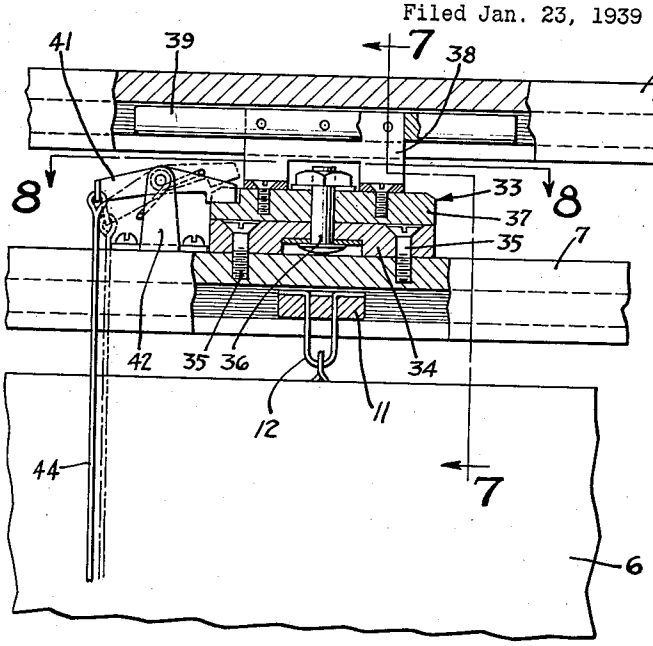


FIG. 6

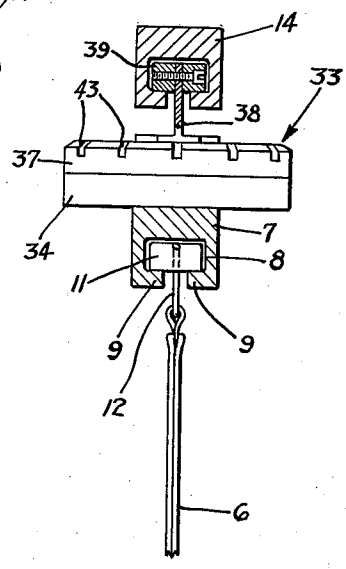


FIG. 7

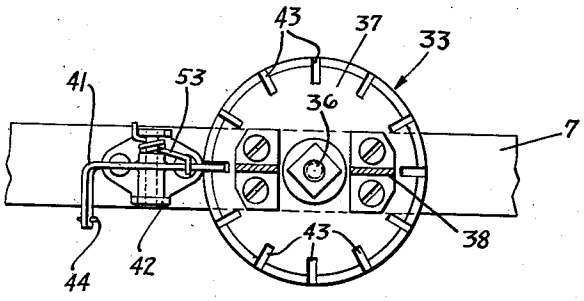


FIG. 8

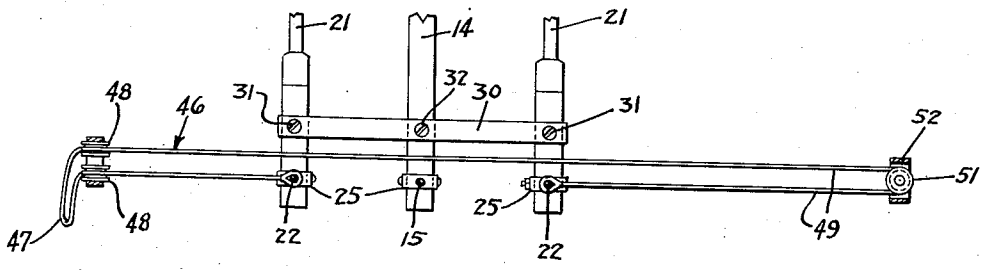


FIG. 9

INVENTOR
CALVIN R. BROWN
By Paul, Paul Moore & Sims
ATTORNEYS

Patented July 30, 1940 2,209,596

UNITED STATES PATENT OFFICE

2,209,596

APPARATUS FOR SETTING STAGES

Calvin R. Brown, Minneapolis, Minn.

Application January 23, 1939, Serial No. 252,371

10 Claims. (Cl. 272—22)

This invention relates to new and useful improvements in apparatus for setting stages and more particularly to a novel means for supporting the side curtains, commonly known as cycloramas.

During the course of a dramatic production or other stage play, it is often necessary to effect a number of complete changes in scenery on the stage, to represent different scenes of action. This sometimes requires a complete change or shifting of the movable scene-supporting devices of the stage, such as the cycloramas and back curtain. The back curtain may extend the full width of the stage and is usually supported from a suitable overhead support. Two or more back curtains may be employed, and these have means whereby they may be selectively lowered into position to effect the desired change in scenery.

The cycloramas usually require more frequent changing and shifting about from place to place on the stage, and it is therefore desirable that they be supported in such a manner that they may readily and quickly be shifted from one position to another, or to an entirely different position on the stage, when the occasion requires it, as when changing the scenes between acts, as is frequently necessary.

The present invention pertains more particularly to a novel supporting means for the cycloramas, whereby they may readily and conveniently be shifted or changed from one position to another to effect different scenes, in a comparatively short period of time, and without removing the cycloramas from their supporting means.

An object of the present invention therefore, is to provide an overhead support for the cycloramas providing universal adjustment thereof, whereby they may readily be adjusted or shifted in an up or down stage direction, or crosswise of the stage, and also whereby they may be angularly disposed with respect to the back curtain so as to effect any desired setting which may be required for the particular production being shown.

A further object is to provide a supporting means for a plurality of cycloramas, comprising a longitudinally extending track having outriggers arranged in spaced relation thereto and operatively connected together and to the track, whereby the track and outriggers are always maintained in parallel relation, regardless of their angular position with respect to the stage.

A further object is to provide an overhead supporting means for a plurality of cycloramas or other such devices which may be used for setting a stage, comprising a longitudinal track having a plurality of relatively shorter or auxiliary tracks mounted thereon for rotary adjustment in a horizontal plane, and each of said shorter tracks having means for pendently supporting a panel or cyclorama curtain, and means being provided for conveniently adjusting the auxiliary tracks upon the longitudinal track both rotatively and longitudinally thereof, whereby the cycloramas depending from the auxiliary tracks may be positioned in any desired manner, dependent upon the particular setting required for the production.

A further object is to provide an overhead support for the usual cycloramas of a stage which is so constructed that the cycloramas may readily and conveniently be moved up or down stage, or crosswise thereof, and whereby when the cycloramas are not in use, they may be nested together in a comparatively small space in the side wings of the stage, whereby they may be hidden from view from the front of the stage, and whereby they will take up very little floor space of the stage, which is highly desirable, particularly when the stage is to be used for athletic events.

Other objects of the invention reside in the novel construction of the supporting means for the cycloramas, whereby they are adapted for universal adjustment, and also whereby the cycloramas may be reversed with respect to the front of the stage to present different scenes, without removing the cycloramas from their supports; in the novel arrangement of the control means for the main supporting tracks, whereby they may be conveniently shifted from one position to another by attendants stationed at the ends or wings of the stage, thereby to effect quick shifts or changes in the scenery; and, in the simple and inexpensive construction of the apparatus, whereby it may be manufactured at small cost and whereby it readily lends itself for installation on all conventional stages, regardless of size or shape.

Other objects of the invention will appear from the following description and accompanying drawings and will be pointed out in the annexed claims.

In the accompanying drawings there has been disclosed a structure designed to carry out the various objects of the invention, but it is to be understood that the invention is not confined to the exact features shown as various changes may be made within the scope of the claims which follow.

In the drawings:

Figure 1 is a plan view of a stage showing the cycloramas angularly positioned thereon:

Figure 2 is a plan view of one of the sup-

porting structures for the cycloramas, provided at each end of the stage;

Figure 3 is a similar view showing the parts in a different position;

Figure 4 is an end view of Figure 2, showing the operating means;

Figure 5 is a side view of Figure 4;

Figure 6 is an enlarged detail sectional view showing the means for rotatably supporting the relatively shorter or auxiliary tracks on the main supporting track;

Figure 7 is a detail sectional view substantially on the line 7—7 of Figure 6;

Figure 8 is a sectional plan view on the line 8—8 of Figure 6; and

Figure 9 is a detail view showing one end of the main tracks of the supporting structures, and the outriggers connected thereto, and also showing one of the cables for shifting the position of the supporting structure to change the positions of the cycloramas.

In the selected embodiment of the invention here shown, there is illustrated in Figure 1, for purposes of disclosure, a stage, generally indicated by the numeral 2, and having a back wall 3 and provided with the usual wings, generally indicated by the numeral 4. The usual back curtain 5 is shown positioned forwardly of the back wall 3, and is supported from a suitable overhead support, such as is well known in the art.

An important feature of the present invention resides in the construction of the means for supporting the usual cyclorama curtains or panels as the ends of the stage. These cycloramas are generally indicated by the numeral 6, and each is shown suspended from a suitable cross member 7. For convenience, these members will hereinafter be referred to as auxiliary tracks. Each constitutes a part of a novel overhead supporting structure, generally indicated by the numeral 10. Two such supporting structures are employed, one at each end of the stage, as best shown in Figure 1. Each member or auxiliary track 7 has a longitudinally extending groove or channel 8, as best shown in Figure 7. These channels have inwardly projecting ledges 9 which cooperate to provide tracks for a plurality of blocks 11 each having an eye 12. The cyclorama curtains or panels 6 are suspended from the eyes 12 of the blocks 11, as clearly illustrated in Figures 4 and 7. The blocks 11 are slidable lengthwise of the auxiliary tracks 7, whereby the cyclorama curtains 6 may be slid to one end of said tracks, when desired. Suitable limit stops 13 are provided at the ends of the auxiliary tracks 7 to prevent detachment of the blocks 11 therefrom.

For a conventional stage setting, two or more cyclorama curtains are employed at each end of the stage. In the present instance, a group of three are shown at each end of the stage. As the supporting structures 10 at the ends of the stage are alike in construction, but one such structure will be described in detail.

The auxiliary tracks 7 from which the cycloramas are suspended, are supported from a main track 14 extending the full length of the supporting structure 10, as best illustrated in Figures 2 and 3. The main supporting track 14 is supported by hangers 15 and 16. The upper ends of the hangers 15 and 16 are slidably supported in suitable fixed rails 17 and 18 secured to the usual overhead beams 19 of the stage. The rails 17 and 18 are arranged in spaced parallel relation and the rails 18 are preferably longer than the rails 17, whereby the supporting structure 10 may be disposed at an angle with respect to the stage, as shown in full lines in Figure 1.

Suitable outriggers, generally indicated by the numeral 21, are arranged at opposite sides of the main track 14, and are disposed in parallel relation thereto, as best illustrated in Figure 2. The outriggers 21 may be supported from the fixed tracks 17 and 18 by suitable hangers 22 and 23. The upper ends of the hangers 22 and 23 are secured to longitudinally extending members 24, mounted for sliding movement in the rails 17 and 18, as will readily be understood by reference to Figure 4. The lower ends of the hangers 22 and also the lower end of the hanger 15 of the main track 14, are provided with suitable yokes 25 which straddle the outriggers 21 and main track 14, and may be secured thereto by suitable bolts 26.

The opposite ends of the outriggers 21 and the main track 14 are shown provided with relatively short track sections 27, secured to the main track 14 and outriggers 21 by suitable strap members 28. Blocks 29 are slidable in the track sections 27, and the blocks 29 are secured to the hangers 15 and 23 of the main track 14 and outriggers 21, respectively.

The outriggers 21 and main track 14 are maintained in spaced parallel relation by suitable tie members 30, having their ends pivotally connected to the outriggers, as shown at 31 in Figures 2 and 3. The main track 14 is also pivotally connected to the tie members 30, as indicated at 32. By thus connecting together the outriggers 21 and main track 14, they may readily be adjusted to any desired position with respect to the back curtains 5, as shown in Figure 1.

Means is also provided whereby the cycloramas may be rotatably adjusted about vertical axes, thereby to facilitate positioning them to obtain the desired effects. To thus rotatably adjust the cycloramas, each auxiliary track 7 is shown supported from the main track 14 by a suitable turntable, generally indicated by the numeral 33. As these turn-tables are alike in construction, but one will be described in detail.

Each turn table 33 comprises a lower member 34 and an upper member 37. The lower member 34 is suitably secured to its complemental auxiliary rail 7 by such means as bolts or screws 35, shown in Figure 6. A pivot bolt 36 is mounted in the member 34 and supports the upper member 37 of the turn-table. The upper member 37 is secured to a hanger or bracket 38 having a bar 39 secured to its upper end which is slidable in the main track 14, as will readily be understood by reference to Figures 6 and 7.

To retain the auxiliary track 7 in adjusted position, a suitable latch member, generally indicated by the numeral 41, is pivotally supported on a bracket 42 secured to the top of the auxiliary track 7 adjacent to the turn-table 33. One end of the latch 41 is adapted to selectively engage a plurality of notches 43, provided in the upper member 37 of the turn-table. The opposite end of the latch 41 may have one end of a cable 44 secured thereto, the lower end of which is conveniently positioned with respect to the floor so that an operator standing on the floor may readily grasp the lower end portion 45 thereof and manipulate the latch 41, as will be clearly understood by reference to Figure 4. When the latch 41 is in the dotted line position shown in Figure 6, its respective cyclorama may readily be rotated about the axis of the pivot bolt 36 to any desired angle with respect to the main

supporting rail 14. If desired, the cyclorama may be rotated a half revolution to present the opposite side thereof to the front of the stage.

The entire supporting structure 10 may be relatively moved along the tracks 17 and 18 by manipulation of suitable operating cables 46. One such cable is provided at each end of the supporting structure to facilitate adjusting the apparatus upon the rails 17 and 18. Each operating cable 46 may be in the form of a single length having its ends secured to the ends of the outriggers 21, as best shown in Figure 9. The two runs of the looped end 47 of the cable may pass over suitable sheaves 48, mounted on a fixed support of the stage frame work, not shown. The runs of the opposite looped end 49 of the cable has a running connection with a sheave 51 supported in a bracket 52 secured to the usual frame work of the stage.

By means of the operating cables 46, the supporting structure for each set of cycloramas, including the main track 14, outriggers 21, and auxiliary tracks 7, may be conveniently moved along the fixed tracks 17 and 18, to any desired position with respect to the center of the stage. The cycloramas are then rotatably adjusted about their vertical axes to properly position them with respect to the back curtain and the stage, and to obtain the desired scenic effects. The rotary adjustment of the cycloramas is effected by manipulation on the cords or cables 45, which release the latch members 41 to permit turn-tables 33 to be operated, after which each cyclorama may readily be rotated about its vertical axis to position it in the desired position. Each latch member 41 is provided with a suitable spring 53 which constantly tends to urge it into locking engagement with the upper member of the turntable 33. The track sections 27 provided at the up-stage ends of the supporting structures 10 permit the supporting structures to be moved to angular positions, as shown in Figures 1 and 3, without any danger of the parts binding. The outriggers 21 serve to retain the auxiliary tracks 7 in a horizontal position, regardless of how the weight of the cyclorama curtains are distributed thereon. By referring to Figure 4, it will be noted that the upper faces of the auxiliary tracks 7 engage the lower edges of the outriggers 21, which lower edges are disposed in substantially the same plane.

Another important feature of the invention resides in the novel manner in which the supporting structures for the cycloramas are supported on the stage. As best shown in Figure 1, the fixed tracks 17 and 18 extend into the wings 4 of the stage, whereby when the entire stage is to be cleared as, for example, when it is to be used for sporting events, the cyclorama curtains may be moved into the wings of the stage and nested together adjacent to the wall sections 54 at the sides of the stage, as shown in dotted lines in Figure 1. When the cycloramas are thus nested together, they will be out of the way and will take up very little floor space of the stage. This is a very desirable feature in that it eliminates the necessity of having to remove the cycloramas from their supporting means as is now more or less customary.

When the stage is again to be set for a certain production, the cycloramas may be quickly moved into position with respect to the back curtain 5 or center of the stage, by manipulation of the operating cables 44 and 46, shown in Figure 4.

I claim as my invention:

1. In combination with a stage, a group of cycloramas at each end of the stage, a single supporting structure for each group of cycloramas, said supporting structures being mounted for traveling movement in a direction crosswise of the stage and also whereby they are capable of angular adjustment with respect to one another and to the center of the stage, means permitting lengthwise and crosswise adjustment of the cycloramas on said structures, and means for moving said structures on said supporting means.

2. In combination with a stage, a group of cycloramas at each end of the stage, a separate supporting structure for each group of cycloramas, overhead rails upon which said structures are mounted for traveling movement in a direction crosswise of the stage, means on said structures permitting the cycloramas to be moved in an up or down stage direction or crosswise of the stage, and means whereby the cycloramas may be nested into compact relation at the ends of the stage without removing them from the supporting structures, when not in use.

3. In combination with a stage, a supporting structure comprising a main track, auxiliary tracks mounted for rotary and lengthwise adjustment on the main track, outriggers associated with the main track and adapted to engage the ends of the auxiliary tracks to retain them in horizontal positions, and a plurality of cycloramas suspended from the auxiliary tracks.

4. In combination with a stage, a supporting structure, comprising a main track, auxiliary tracks mounted for rotary and lengthwise adjustment on the main track, outriggers associated with the main track and adapted to engage the ends of the auxiliary tracks to retain them in horizontal positions, a plurality of cycloramas suspended from the auxiliary tracks, and means whereby the cycloramas may be nested into compact relation on said support, when not in use.

5. In an apparatus for pendently supporting a curtain or panel, a pair of fixed rails, a supporting structure mounted for traveling movement on said rails and comprising a main track, a plurality of auxiliary tracks mounted for longitudinal adjustment on said main track and each supporting a panel or curtain, and means whereby the auxiliary tracks may be rotatably adjusted on the main track to facilitate positioning the curtains with respect to a fixed object.

6. In an apparatus for pendently supporting a curtain or panel, a pair of fixed rails, a supporting structure mounted for traveling movement on said rails and comprising a main track, a plurality of auxiliary tracks mounted for longitudinal adjustment on said main track and each supporting a panel or curtain, means whereby the auxiliary tracks may be rotatably adjusted on the main track to facilitate positioning the curtains with respect to a fixed object, and an operating member connected to each end of the supporting structure, whereby the position of the supporting structure on said rails may readily be adjusted, as desired.

7. In combination with a stage having wings at the ends thereof, a plurality of overhead rails extending crosswise of the stage, supporting structures mounted for traveling movement on said rails and each comprising a plurality of elongated members disposed in parallel relation, a group of cycloramas suspended from each supporting structure and adjustable thereon, means whereby said supporting structures may be moved along

said rails towards the center of the stage in parallel or angular relation, whereby the cycloramas suspended therefrom may be positioned to produce the desired scenic effect for a given production, and means whereby when said supporting structures are moved into said wings, the cycloramas suspended therefrom may be moved into compact relation at the up-stage ends of the supporting structures, whereby they may be concealed from the front of the stage and also, whereby they will take up a minimum of space on the stage.

8. In combination with a stage, a pair of overhead rails, a supporting structure mounted for traveling movement thereon, said supporting structure comprising a main track having a plurality of auxiliary tracks mounted thereon and adapted for longitudinal and rotary adjustments thereon, a cyclorama slidably supported on each auxiliary track, an outrigger at each side of said main track, means for connecting together the main track and outriggers, whereby they are disposed in parallel relation. said outriggers being adapted to engage the outer ends of the auxiliary tracks to retain said tracks in horizontal position, and means whereby one end of the supporting structure may be moved inwardly towards the center of the stage, thereby to angularly position the cycloramas with respect to the center of the stage, so that the desired scenic effect may be obtained.

9. In combination with a stage, a pair of overhead rails, a supporting structure mounted for traveling movement thereon, said supporting structure comprising a main track having a plurality of auxiliary tracks mounted thereon and adapted for longitudinal and rotary adjustments thereon, a cyclorama slidably supported on each auxiliary track, an outrigger at each side of said main rack, means for connecting together the main track and outriggers, whereby they are disposed in parallel relation, said outriggers being adapted to engage the outer ends of the auxiliary tracks to retain said tracks in horizontal position, means whereby one end of the supporting structure may be moved inwardly towards the center of the stage, thereby to angularly position the cycloramas with respect to the center of the stage so that the desired scenic effect may be obtained, and means whereby said supporting structure may readily be moved to an inoperative position at the end of the stage with the cycloramas nested into compact relation at one end thereof.

10. In combination with a stage, a pair of spaced parallel rails at each end of the stage, a supporting structure mounted on each pair of tracks and movable lengthwise thereof, each supporting structure comprising a main track, a pair of outriggers, a plurality of auxiliary tracks pivotally connected to their respective main tracks, whereby the auxiliary tracks of each supporting structure may be relatively rotated with respect to their respective main tracks, said main tracks and outriggers being supported at one end by hangers having their upper ends slidably connected with one of said rails, and the opposite ends of said main tracks and outriggers being supported by similar hangers having slidable connections with their respective main tracks and outriggers, a cyclorama suspended from each auxiliary track, and means for independently operating the ends of said supporting structures to position the cycloramas so as to produce the desired scenic effect.

CALVIN R. BROWN.