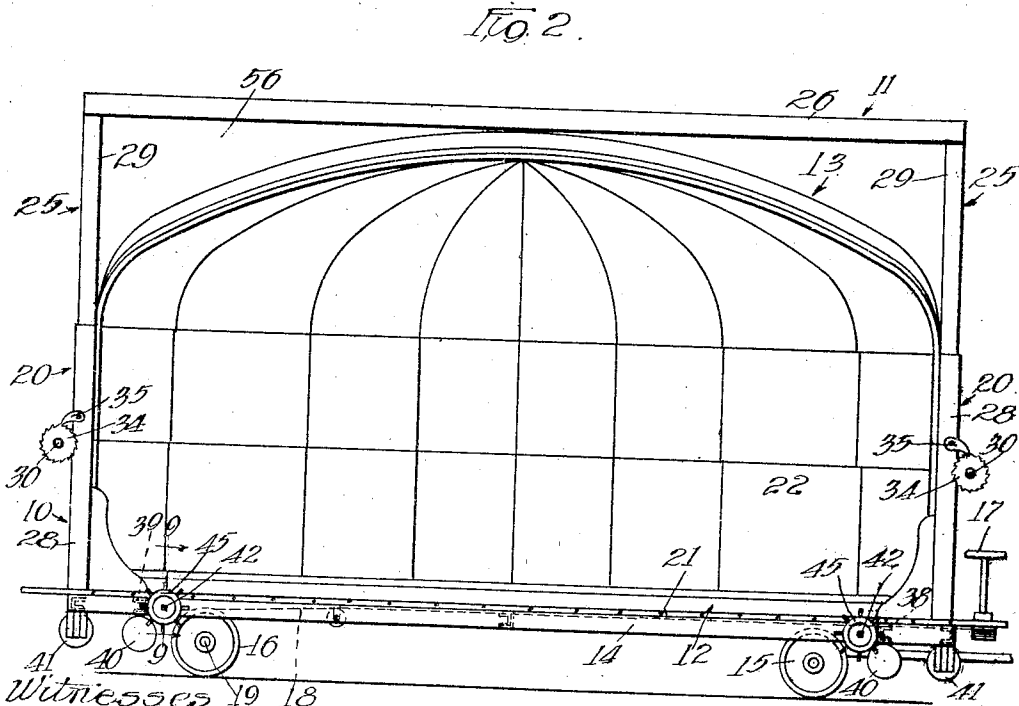
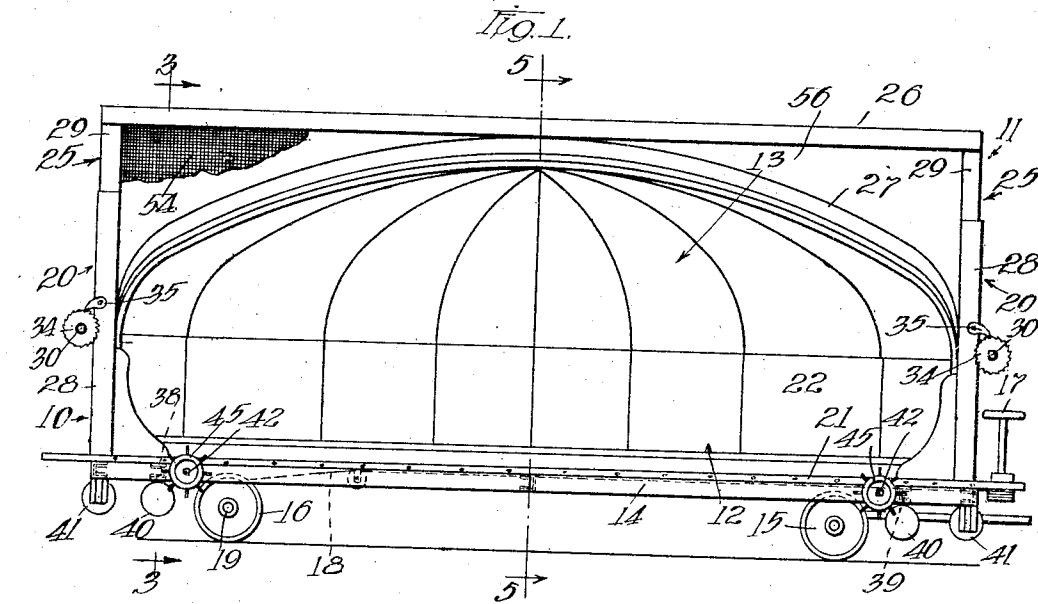


W. WEIL.
PORTABLE TELESCOPIC STAGE STRUCTURE.
APPLICATION FILED DEC. 11, 1916.

1,238,228.

Patented Aug. 28, 1917.
3 SHEETS—SHEET 1.



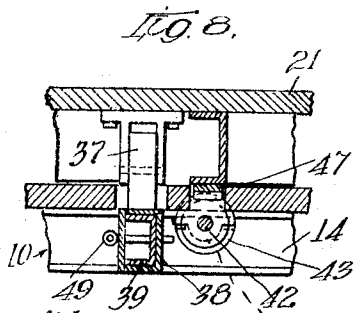
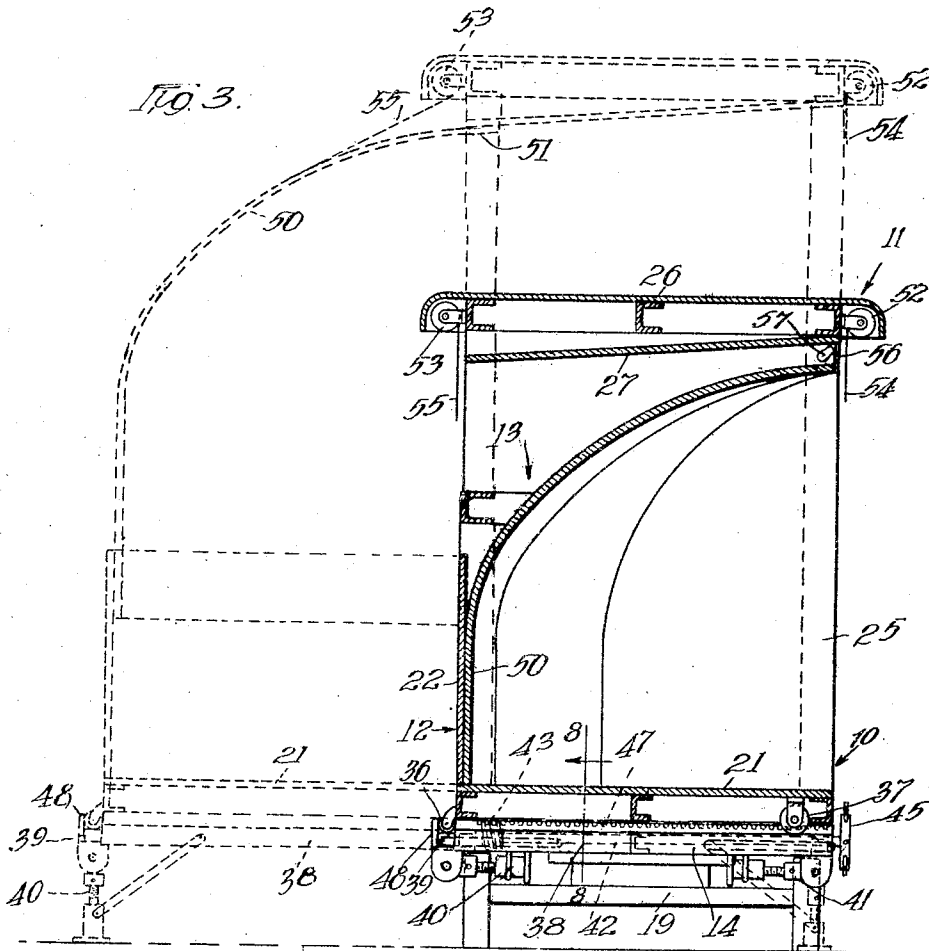
Witnesses
Harry R. White
W. Kilroy

Inventor
William Weil
By Edward Jay Wilson, Atty.

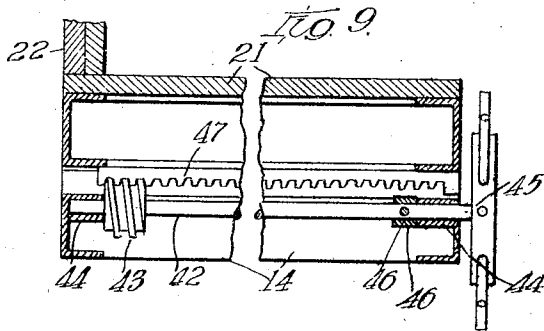
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3 SHEETS—SHEET 2.



Witnesses:
Harry R. L. White
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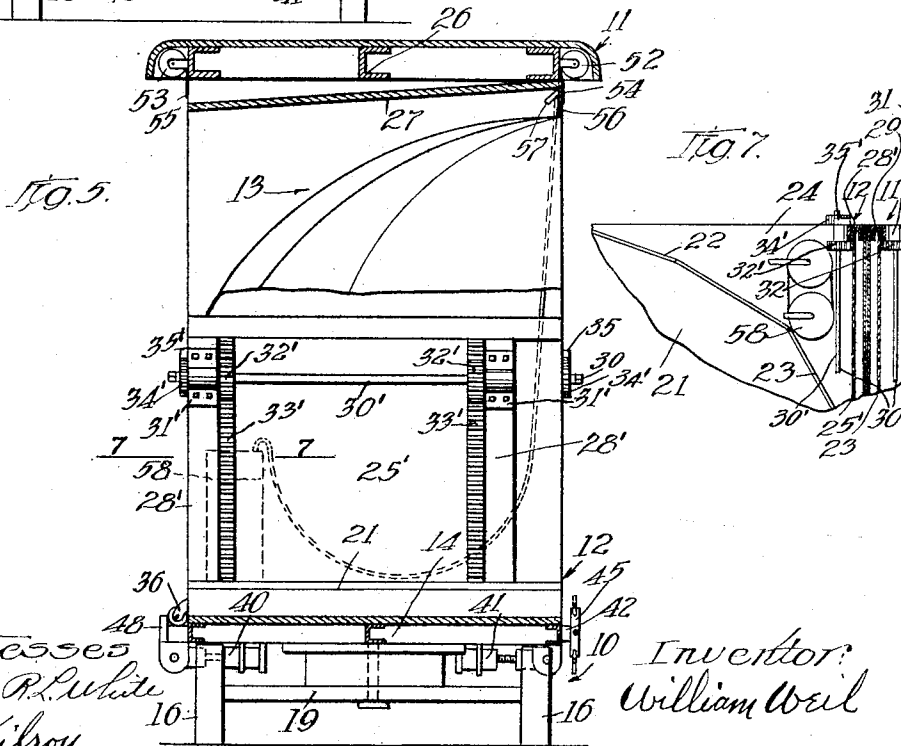
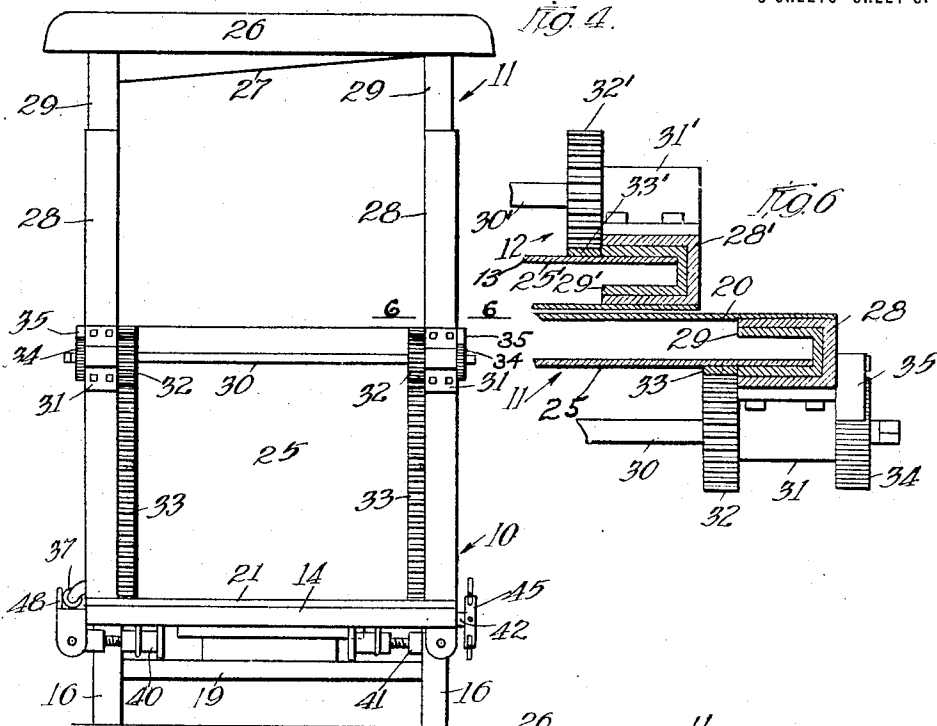
Inventor:
William Weil
By Edward Fay Wilson Attor.

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3 SHEETS—SHEET 3.



Witnesses
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Inventor:
William Weil

By Edward Fay Wilson Att'y.

UNITED STATES PATENT OFFICE.

WILLIAM WEIL, OF CHICAGO, ILLINOIS.

PORTABLE TELESCOPIC STAGE STRUCTURE.

1,238,228.

Specification of Letters Patent.

Patented Aug. 28, 1917.

Application filed December 11, 1916. Serial No. 136,326.

To all whom it may concern:

Be it known that I, WILLIAM WEIL, a citizen of the United States, and a resident of Chicago, county of Cook, and State of Illinois, have invented a certain new and useful Portable Telescopic Stage Structure, of which the following is a specification.

My invention relates to improvements in portable, collapsible structures and has particular reference to an improved band stand.

The object of my invention is to provide a structure of relatively light weight adapted, when in closed or non-extended form, to be readily moved from place to place for exhibition purposes, and adapted to be extended both transversely and vertically to produce an extended covered area suitable for exhibition purposes.

A further object of my invention is to provide such a structure which shall be particularly adapted for use in the open air for housing a band comprising a large number of players and of properly and effectively directing the sound waves to an out door audience.

My invention consists in a portable structure particularly adapted to house a band and comprising sections movable relatively to each other and adapted to be extended transversely to form a deep stage or floor and to be extended vertically to provide sufficient height beneath the roof for properly projecting the music of the band to a large out door audience.

My invention also comprises a band stand of relatively large dimensions having a suitably curved rigid roof and capable of being collapsed both transversely and vertically to such cross sectional dimensions as to be easily transported through the streets of a city.

My invention also contemplates the use of suitable mechanical operating devices and mechanisms to facilitate the operations of extending and collapsing the structure.

My invention also consists in the combinations and arrangements of devices, mechanisms, structures and parts and in the several features of construction by means of which I am enabled to attain the above mentioned and other objects and all as herein-after described and particularly pointed out in the appended claims.

My invention will be more readily understood by reference to the accompanying

drawings forming part of this specification and in which I have illustrated a structure embodying my invention in a form particularly suitable for use as a portable band stand.

In said drawings:—

Figure 1, is a front elevation of a structure embodying my invention in a preferred form and showing the structure in closed or collapsed condition;

Fig. 2, is a view similar to Fig. 1, showing the structure in open condition;

Fig. 3, is a vertical cross section on the line 3—3 of Fig. 1, in full lines, and showing the several relatively movable sections in open or extended positions in dotted lines;

Fig. 4, is an end elevation of the structure in closed or collapsed condition, showing the mechanism for raising the front upper section;

Fig. 5, is a fragmentary vertical section on the line 5—5 of Fig. 1, particularly illustrating the mechanism for raising the rear upper section;

Fig. 6, is a fragmentary horizontal section on the line 6—6 of Fig. 4;

Fig. 7 is a fragmentary horizontal section on the line 7—7 of Fig. 5 showing the storage space in the lower transversely movable section;

Fig. 8 is a fragmentary vertical longitudinal section on the line 8—8 of Fig. 3; and

Fig. 9 is a fragmentary vertical transverse section on the line 9—9 of Fig. 2.

In the modern development of ideas relative to civic improvement, music for the public generally is playing an important part, and one of the great difficulties encountered is to find suitable conditions or facilities under which to produce music on a large scale and have the public or a large out door audience really obtain the benefit. Usually more or less temporary platforms without roofs are built in the parks or in suitable situations, and at considerable expense, but these are not effective for properly directing the music to an out door audience.

These band concerts always cost the community considerable money and then, because suitable and proper sound reflecting roofs or boards are not provided the tones from the various instruments are not properly blended and the best effect is lost.

There are instances of course where a large permanent shell for the use of a band is provided, but this is fixed, and to obtain the most effective distribution of the music over a large closely populated city it is necessary to move the band from place to place, and my invention has been particularly devised to fulfil these needs. That is, to provide an effective band stand having a sound reflecting roof, or in other words a band shell, which shall be large enough, when extended, to properly house a large band, and which shall be so constructed that it can be closed down to such minimum dimensions that it can be readily moved, as a large wagon or car, through the city streets and will not be so high but that it can pass beneath the usual bridges and below the street-car trolley wires.

In the form of my device illustrated in the drawings I show a structure of four sections 10, 11, 12 and 13. 10 is the relatively fixed main or base section and is provided with a strong rigid floor 14 which is mounted upon suitable wheels 15 and 16 for convenience in moving the structure from place to place. In other words the structure is in a form of a large wagon permanently mounted upon wheels for convenient transportation. The wheels 16 are mounted for guiding movement and I provide a steering wheel 17 mounted upon the forward end of the section 10 and suitably connected by a cable 18 to the axle 19 upon which wheels 16 are mounted for controlling the steering movements thereof. The structure is adapted to be moved about by any convenient tractive power.

The section 10 has end walls 20 secured rigidly to the floor of the section and rising therefrom. The section 11 is mounted upon the end walls 20 to move up and down and is adapted to form the roof of the stage over the section 10.

The section 12 is the lower rear section. It is substantially as long as the front section 10 and is adapted to be moved transversely out of and into said front section 10. The section 12 has a rigid floor 21 and a curved rear wall 22 which curves forwardly at the ends within the end walls 23 thereof thus forming hidden storage spaces 24 at the rear thereof. The end walls 23 and the curved rear wall 22 are mounted rigidly on the floor 21.

The section 13 is carried by the rear lower section 12 in the same manner as the section 11 is carried by the main section 10 and is movable vertically relatively thereto to provide, in combination with the upper part of the forward vertically movable section 11, a stage space of suitable height. The closed relation of the several sections is clearly shown in Fig. 3 in full lines and the extended or open positions of the several sec-

tions are clearly shown in said figure in dotted lines. As shown in full lines in Fig. 3 sections 11, 12 and 13 are capable of being telescopically moved into the main section and when thus placed the structure, as a whole, is reduced in cross sectional area to a minimum width and height and of such an area, although of relatively large dimensions, that the structure can be readily moved through the streets of a city from place to place.

The forward vertical movable section 11 consists of a frame work having end walls 25 and a connecting roof structure 26. Within this frame work is carried a continuous curved ceiling 27 which extends between end walls 20 of the base section and is carried by the roof structure 26. As shown in Fig. 3 this ceiling 27 extends from the front to the rear edge of the base section and forms a roof therefor. I provide convenient means for moving the section 11 up and down on the base section and I provide channel guides 28 rigid with the end walls 20 of the base section, and I provide vertical guide members 29 rigid with upper section 11 and movable in said channel guides.

For conveniently moving the section 11 up and down on the base section 10, I provide horizontal shafts 30 one at each end of the base section and in suitable bearings 31 rigidly mounted on the upper ends of the vertical guides 28. These shafts are adapted to be rotated by hand and are provided with squared forward ends for receiving ordinary cranks with which to turn them. I secure gears 32, on these shafts one near each end of each shaft and I provide vertical racks 33 secured to the end walls 25 of the upper section 11 and with which the gears 32 mesh, so that when the shafts 30 are rotated the section 11 is moved vertically. To hold the section 11 in lifted position I provide ratchet wheels 34 also rigidly mounted on the shafts 30 adapted to be engaged by dogs 35 to prevent the rotation of the shafts. By rotating the shafts 30 in unison the section 11 can readily be raised or lowered as desired.

The lower transversely movable section 12 is mounted upon anti friction rollers 36 at its rear edge and 37 at its forward edge and these rollers are adapted to move on suitable rails for easily moving this section out of and into the main section. To provide rails for the rear rollers 36 I provide channel guides 38 carried by the floor of the main section and rails 39 adapted to be drawn out from the rear ends thereof and transversely to the main section a sufficient distance to permit the necessary outward movement of the section 12. The rear end of each rail 39 carries a screw jack 40 which is pivotally mounted on the lower side of

the outer end of the rail and is adapted to be swung down into vertical position beneath the rail, as shown in dotted lines in Fig. 3, to properly support the rail in horizontal position. These jacks are adapted to be adjusted in height to allow for the possible unevenness of the surface where the structure is located.

I also provide similar jacks 41 pivotally mounted beneath the four corners of the floor of the main section 10, for leveling the structure, when arranging it for exhibition purposes.

While it might be possible to mount the transversely movable sections so that they would move so easily that it would not be necessary to apply mechanical power to accomplish this movement, yet to make certain of being able to move them I prefer to provide some simple means for applying power for this purpose. For this purpose I provide horizontal transversely extending shafts 42 beneath the floor of the main section 10. Each shaft carries a short worm screw 43 rigid therewith, and is mounted for rotation in suitable bearings 44. For convenient rotation by hand each shaft is provided, at its forward end, with a hand wheel 45 rigidly mounted thereon. The short worm screws 43 hold the shafts 42 against movement in one direction and I provide fixed collars 46 for holding them in the other direction. Meshing with each short screw is a transversely arranged screw rack 47 secured to the underside of the floor structure 21 of the rear section 12, and adapted, as the shafts 42 are rotated to forcibly move the rear section 12 out of or into the main section.

For raising and lowering the rear upper section 13 I provide mechanism which is substantially a duplicate of that already described for operating the front ceiling section. I provide channel guides 28' rigid with the end walls of the lower rear section and vertical guide members 29' rigid with the upper section 13 and movable in said channel guides 28'. I also provide horizontal shafts 30' one at each end of the rear lower section mounted in suitable bearings 31' rigidly carried on the vertical guides 28'. These shafts are adapted to be rotated by hand and are provided with squared rear ends for receiving cranks with which to turn them. I secure gears 32' on these shafts, one near each end of each shaft and I provide vertical racks 33' secured to the end walls 25' of the upper section 13 and with which the gears 32' mesh, so that when the shafts 30' are rotated the section 13 is moved vertically. To hold the section in elevated position I provide ratchet wheels 34' also rigidly mounted on the shafts 30' adapted to be engaged by dogs 35' to prevent the rotation of the shafts 30'. By ro-

tating the shafts 30' in unison the section 13 can readily be raised or lower as desired.

As I provide ways in which the upper sections are guided in their up and down movement it is quite essential that the structure be supported firmly in horizontal or level condition, for although I have provided racks and gears with which to raise and lower the upper sections, should the structure not be in level condition the friction on the guides might prevent the proper operation and especially the lowering of the upper sections.

I arrange to limit the rearward movement of the rear sections when opening the structure so that the forward edges of the rear parts remain within the forward part, as shown in dotted lines in Fig. 3, to form an overlapping joint therebetween, and for this purpose I provide upwardly extending projections 48 at the rear ends of the rails 39, to prevent the rollers 36 running off of the rails. The rails may be limited in their outward movement in any convenient manner, as by pins 49 to be placed in suitable holes provided in the rails 39 and guides 38.

The rear wall 50 of the section 13 is curved longitudinally to correspond with the rear wall 22 of the section 12, and the upper part thereof is curved forwardly, as best shown in Fig. 3 to provide a suitably shaped sound reflecting and projecting surface. The forward edge 51 of this wall is positioned immediately below the rear edge of the curved ceiling 27 of the forward section 11, when the structure is open.

For closing the forward and rear sides of the structure, when in closed or collapsed condition, I provide forward and rear hooded rollers 52 and 53 mounted on the upper part of the upper movable section 11, and extending the full length thereof. These rollers carry curtains 54 and 55 adapted to be wound upon the rollers when not needed, and to be drawn down and secured by suitable fastening devices to close the front and the rear of the structure when the same is in closed condition.

The rear curtain 55 may also be used to draw down over the rear sections, when the structure is in open condition, as best shown in dotted lines in Fig. 3, to protect the joint between the forward edge 51 of the roof 50 and the rear edge of the ceiling 27 of the section 11.

As the structure may be used at night for band concerts or other purposes, I provide means for lighting the stage. For this purpose I provide a short depending wall or curtain 56 along the forward edge of the curved ceiling 27 behind which I provide suitable lamps 57. While any suitable lights may be used I prefer to make the structure complete and self-contained and for this purpose I provide a lighting plant 58 ar-

ranged in one of the hidden storage spaces 24 and adapted to be connected by suitable means to the lamps 57 to light the stage.

As many modifications of my invention will readily suggest themselves to one skilled in the art, I do not limit or confine my invention to the specific structures herein shown and described.

I claim:—

10 1. A stage structure of the kind described comprising a plurality of sections of substantially equal length and cross section, some thereof having floors and ends and
15 others having ceilings and ends, and relatively movable transversely and vertically to form an open sided stage having a roof, when open, and forming a compact structure of cross section substantially equal to the cross section of a single section when
20 closed.

2. A stage structure of the kind described comprising a plurality of sections of substantially equal length and cross section, means for moving some of the sections transversely to form a deep stage and means for
25 moving some of the sections vertically for forming a stage having a high ceiling, means for guiding the several sections in their relative movements and means for holding the adjusted sections in open position, said
30 several sections being adapted to be moved to a compact closed relation forming a structure having a cross section equal to the cross section of a single section.

35 3. A stage structure of the kind described comprising a plurality of sections of substantially equal length and cross section, means for moving some of the sections transversely to form a deep stage and means for
40 moving some of the sections vertically for forming a stage having a high ceiling and means for holding the adjusted sections in open position, said several sections being adapted to be moved to a compact closed relation forming a structure having a cross
45 section substantially equal to the cross section of a single section.

4. In a structure of the kind described a main section having a floor and ends and
50 supported on wheels for transportation, means for rigidly supporting said section in level position for exhibition purposes, a plurality of sections of substantially the same length carried by said main section and movable transversely and vertically relatively thereto to form a deep stage having a
55 high roof, means for guiding the several sections in their relative movements, transversely movable rails carried by the main section adapted to serve as supports for the transversely movable sections when they are
60 moved out of the main section and means carried by said rails for setting and supporting them in horizontal position, and said sections being adapted to be moved into com-

compact relation forming a closed structure having a cross section substantially equal to the cross section of a single section.

5. In a structure of the kind described a main section having a floor and ends and
70 supported on wheels for transportation, means for rigidly supporting said section in level position for exhibition purposes, a plurality of sections of substantially the same length carried by said main section and movable transversely and vertically relative thereto to form a deep stage having a high
75 roof, movable rails carried by the main section for providing extended supports for the transversely movable sections when same are moved out of the main sections, rollers mounted on the lower rear section adapted to ride on said rails, means for supporting
80 said rails horizontally, said sections being adapted to be moved into compact relation forming a closed structure having a cross section substantially equal to the cross section of a single section and a curtain carried by the front vertically movable section for closing the front of the main section when
85 the structure is in closed condition.

6. In a structure of the kind described a main section having a floor and ends and
90 supported on wheels for transportation, means for rigidly supporting said section in level position for exhibition purposes, a plurality of sections of substantially the same length carried by said main section and movable transversely and vertically relative thereto to form a deep stage having a high
95 roof, movable rails carried by the main section for providing extended supports for the transversely movable sections when same are moved out of the main sections, rollers mounted on the lower rear section adapted to ride on said rails, means for supporting
100 said rails horizontally, said section being adapted to be moved into compact relation forming a closed structure having a cross section substantially equal to the cross section of a single section and a roller curtain on the forward and rear upper edges of the forward vertically movable section for closing the front and rear sides of the main section when the structure is in closed condition.
105

7. A stage structure of the kind described comprising a plurality of interfitting sections of substantially equal length and cross
120 section, means for relatively moving the several sections to form a deep stage having a roof, means for retaining the sections in open position, said sections being adapted to be moved to closed position forming a compact structure of cross section substantially equal to the cross-sectional area of a single section and roller curtains carried by the upper front section for closing the front and rear of the structure when in closed condition the rear curtain being adapted to
125 130

protect the rear part of the roof of the structure when in open condition.

8. A band stand of the kind described having a main floor section, an auxiliary
5 floor section movable into and out of the main section for forming a stage having a deep floor, upper or roof sections carried by each of said floor sections and movable vertically relative thereto to form a stage having
10 ing a high ceiling, means for lifting the roof sections and retaining them in elevated position, the several sections being capable of being moved into the main structure to form a closed or collapsed structure of
15 minimum cross sectional area for transportation from place to place.

9. A band stand of the kind described comprising an elongated rectangular main section having a floor and ends, a rear section having a floor ends and back and movable transversely into and out of the main
20 section, the back of the rear section being curved and forming hidden storage spaces at the ends thereof, an upper roofed section carried by each of said first mentioned sections, means for raising and lowering the upper sections, the rear upper section having a forwardly curved roof, and the whole forming a stage closed at its ends back and
25 top and open at its front when in open condition, and having a cross sectional area substantially equal to that of the main section when in closed condition for transportation purposes.

10. In a structure of the kind described a
35 main section having a floor and ends and supported on wheels for transportation, means for rigidly supporting said section in level position for exhibition purposes, a plu-

40 rality of sections of substantially the same length carried by said main section and movable transversely and vertically relative thereto to form a deep stage having a high roof, movable rails carried by the main section for providing extended supports for
45 the transversely movable sections when same are moved out of the main section, rollers mounted on the lower rear section adapted to ride on said rails, and means for supporting said rails horizontally, said sections being adapted to be moved into compact relation forming a closed structure having a cross section substantially equal to the cross
50 section of a single section.

11. A band stand of the kind described
55 comprising an elongated rectangular main section having a floor and ends, a rear section having a floor ends and back and movable transversely into and out of the main section, the back of the rear section being
60 curved and forming hidden storage spaces at the ends thereof, an upper roofed section carried by each of said first mentioned sections, means for raising and lowering the upper sections, and the whole forming a
65 stage closed at its ends back and top and open at its front when in open condition, and having a cross sectional area substantially equal to that of the main section when in closed condition for transportation
70 purposes.

In testimony whereof, I have hereunto set my hand this 6th day of December 1916, in the presence of one subscribing witness.

WILLIAM WEIL.

Witness:

EDWARD FAY WILSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."