June 6, 1961 R. S. WALWORTH 2,987,111

COLLAPSIBLE BACKREST FOR RETRACTABLE BLEACHERS

Filed Jan. 20, 1959 2 Sheets-Sheet 1

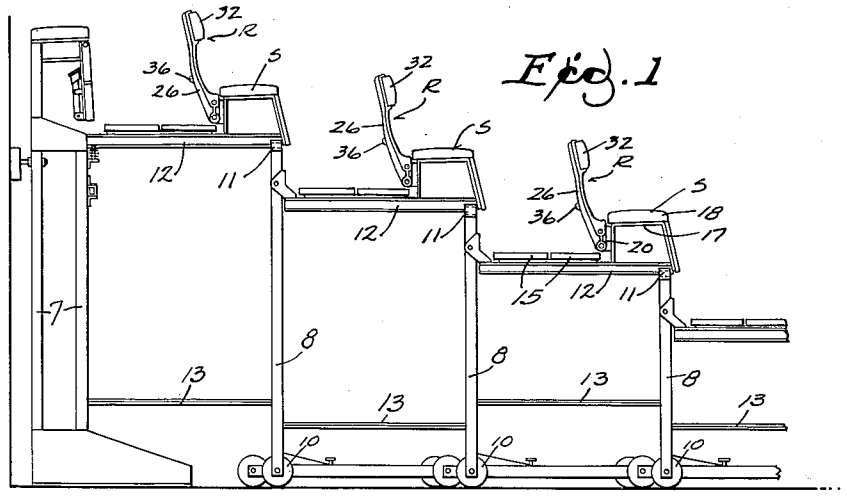


Fig. 1

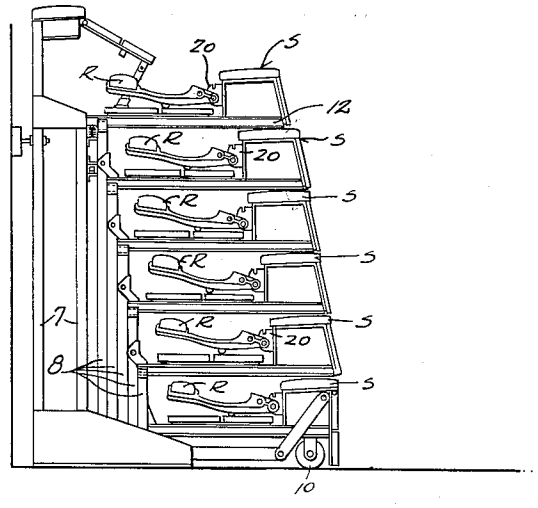


Fig. 2

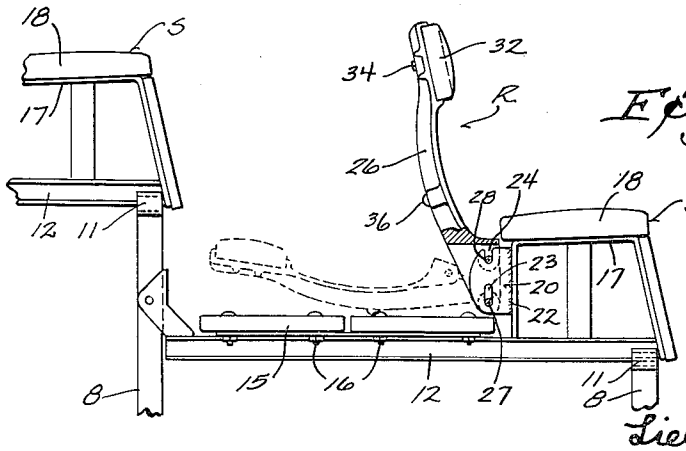


Fig. 3

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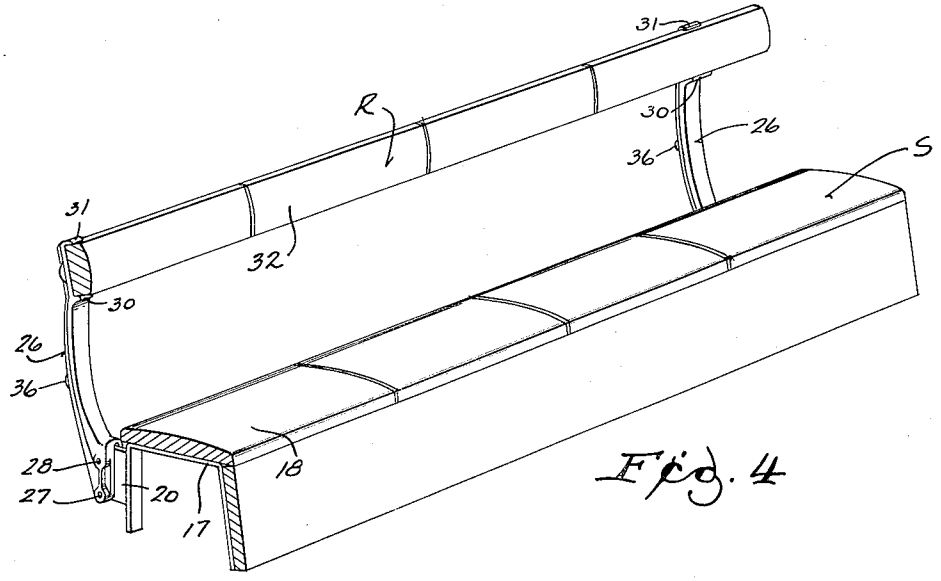


Fig. 4

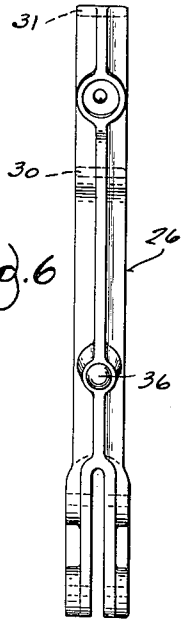


Fig. 6

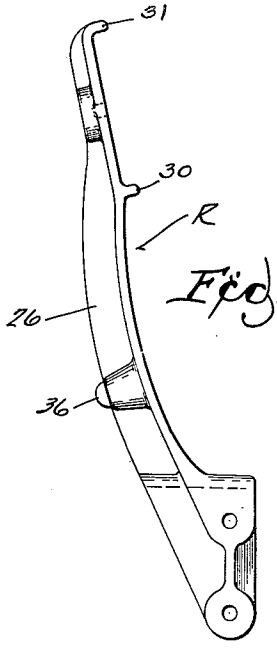
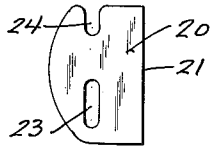


Fig. 5

Fig. 7



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COLLAPSIBLE BACKREST FOR RETRACTABLE BLEACHERS

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The present invention relates generally to retractable bleachers or grandstands of the type which have seating tiers of varying heights that telescope compactly together when in the storage position. More particularly, the invention relates to collapsible backrests for such seating tiers.

It is highly desirable to provide backrests for these retractable bleachers for the sake of comfort of the spectators. These backrests, however, often interfere with the telescoping action of the bleachers and provision must be made for collapsing them to permit retraction into a storage position. It is a considerable task for the attendants or ushers, at the events where these bleachers are used, to raise these backrests into operative position before use and then collapse them prior to moving the bleachers to a telescoped storage position.

The present invention accordingly provides retractable bleachers of the telescoping type which have backrests that may be quickly and easily moved between operative and inoperative positions and when in the latter position occupy no more height than the seat to which they are attached and thereby do not interfere with the telescoping action of the tiers of seats.

The invention furthermore contemplates collapsible backrests for telescoping bleachers of the above type, which backrests are simply raised to free them from a locked operative position, and then may be lowered rearwardly to a position where the tiers of seats can be easily nested together. To subsequently move the backrests back to an operative position, it is only necessary to raise the backrests and drop them into locked engagement with their associated seat.

Another aspect of the invention provides that the above arrangement is such that backrests are constructed into a unit that accommodates several seats which greatly facilitate changing the rests from one position to the other.

It is also an object of the present invention to provide an economically produced collapsible backrest that is easy to maintain, simple to assemble, easily installed and forms a rigid and strong unit.

These and other objects and advantages of the present invention will appear later as this disclosure progresses, reference being had to the accompanying drawings, in which:

FIGURE 1 is a fragmentary side elevational view of a telescoping bleacher arrangement which embodies the present invention and which is shown in the extended position;

FIGURE 2 shows the device of FIGURE 1 in the retracted or telescoped position for storage;

FIGURE 3 is an enlarged fragmentary view of part of the bleachers as shown in FIGURE 1;

FIGURE 4 is a perspective view of a section of the bleachers shown in the other figures;

FIGURES 5 and 6 are enlarged side and rear views, respectively, of the backrest bracket shown in the other figures; and

FIGURE 7 is an enlarged side elevational view of the support bracket shown in FIGURES 1–4.

This invention relates generally to the type of structure shown in my U.S. Patents No. 2,817,122, issued December 24, 1957, for "Folding Chair Seating Assemblage" and

No. 2,846,738, dated August 12, 1958, for "Foldable Seating Assemblage," and reference may be had to those patents, if thought to be necessary or desirable, for a complete description of the structure of and manner in which the rear supports **7**, intermediate upright supports **8** and front supports **9** are carried on the ground-engaging wheels **10** and are guided by means **11** at their upper ends for embracing the rails **12** as they are moved and guided by the lazy tongs **13** into and out of nested relationship shown in FIGURE 2.

However, it is believed sufficient to say for purposes of the present invention, that the platforms **15** provide transverse aisles along which the operators may walk and are adapted to be vertically nested together, as shown in FIGURE 2, when the bleachers are in the storage position. The stationary rear supports **7** of the bleachers may be secured to the wall by the anchor bolt means **16** as illustrated, or the assemblage may be utilized as a mobile unit without such attachment.

A seat S is provided along the front edge of each of the platforms **15** and comprises transversely spaced steel braces **17** welded or otherwise secured to the rails **12**, and a padded seating portion **18**. It will be noted that the height of the seat above its platform is such to permit it to be retracted beneath the next highest platform.

In accordance with the present invention, support brackets **20** are secured at spaced locations along the length of the seat. These brackets are comprised of steel plates having a straight edge **21** by which they are secured to the braces **17** by welding as at **22** or by other suitable means. An elongated slot **23** is formed in each of the brackets intermediate their length and an upwardly opening recess **24** is formed in its upper edge.

The backrest R is comprised of the arms **26** which are generally T-shaped in cross-section for supporting the weight of several people. The arms are bifurcated at their lower end to receive the plate bracket **20** therebetween. Self-locking spring pins **27** and **28** extend through the bifurcated end of arm **26** and are engageable in the slots **23** and **24**, respectively, of the bracket **20**.

Arms **26** are formed preferably from a sand casting alloy and have spaced parallel flanges **30** and **31** along their front side which securely locate the padded backrest member **32**. A lag-screw **34** extends through the arm **26** and thereby secures the member **32** in position.

In practice, these arms **26** may be spaced four to five feet apart, for example, and the joint shown between the arms **26** and their brackets **20** is a particularly rigid one which absorbs lateral thrust on the backrest when it is in the raised position. When in this operative position, the backrest is locked securely in place and cannot be accidently disengaged.

In order to lower the backrests R from their position shown in FIGURE 1, it is only necessary to raise them, causing the pin **28** to be lifted from its open-ended slot **24** and also causing the pin **27** to travel to the upper end of its slot **23**. Thereupon the backrest may be lowered to the dotted line position shown in FIGURE 3, where the rubber bumper **36** rests on the platform.

It is a simple matter for a single attendant to raise or lower a number of these lightweight backrests in a short period of time—the necessity of handling individual rests for each person having been eliminated.

When in the lowered position, the backrest does not protrude above its seat and does not interfere with the retraction and nesting of the bleachers.

Various modes of carrying out the invention are contemplated as being within the scope of the following claims particularly pointing out and distinctly claiming the subject matter which is regarded as the invention.

I claim:

1. A foldable seating assemblage comprising successive

transverse platforms of progressively decreasing height, means for interconnecting said platforms to permit relative movement thereof between a vertically nested relationship and an extended position, a seat fixedly secured by an upright support along the forward portion of each of said platforms and being of a height to fit beneath the next highest platform when in said nested position, a plurality of spaced rearwardly extending plates secured to an intermediate portion of said upright supports of certain of said seats and extending rearwardly therefrom entirely below said seats, said plates each having an upwardly facing recess along its top edge and an elongated aperture below and alined with said recess, and a backrest having spaced arms each secured to one of said plates by a pin held captive and freely rotatable in said aperture, said arms each having a second pin engageable in said recess whereby said backrest is locked in upright position and may be raised and swung from such upright position to a substantially horizontal position wherein it extends over said platform rearwardly of said seat and fits beneath said next highest platform when in said nested position.

2. A foldable seating assemblage comprising successive transverse platforms of progressively decreasing height, means for interconnecting said platforms to permit relative movement thereof between a vertically nested relationship and an extended position, a seat fixedly secured by an upright support along the forward portion of each of said platforms and being of a height to fit beneath the next highest platform when in said nested position, a plurality of spaced rearwardly extending plates secured to an intermediate portion of said upright supports of certain of said seats, said plates each having an upwardly facing recess along its top edge and an elongated aperture below and alined with said recess, and a backrest having spaced arms each having a bifurcated lower end spanning and secured to one of said plates by a pin held captive in said aperture, said arms each having a second pin engageable in said recess whereby said backrest is locked in upright position and may be raised and swung rearwardly from such upright position to a substantially horizontal position beneath the height of its seat wherein it fits beneath said next highest platform when in said nested position.

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