G. HADDEN.

GRANDSTAND.

APPLICATION FILED APR. 8, 1921.

1,433,547.

Patented Oct. 31, 1922.

3 SHEETS—SHEET 1.

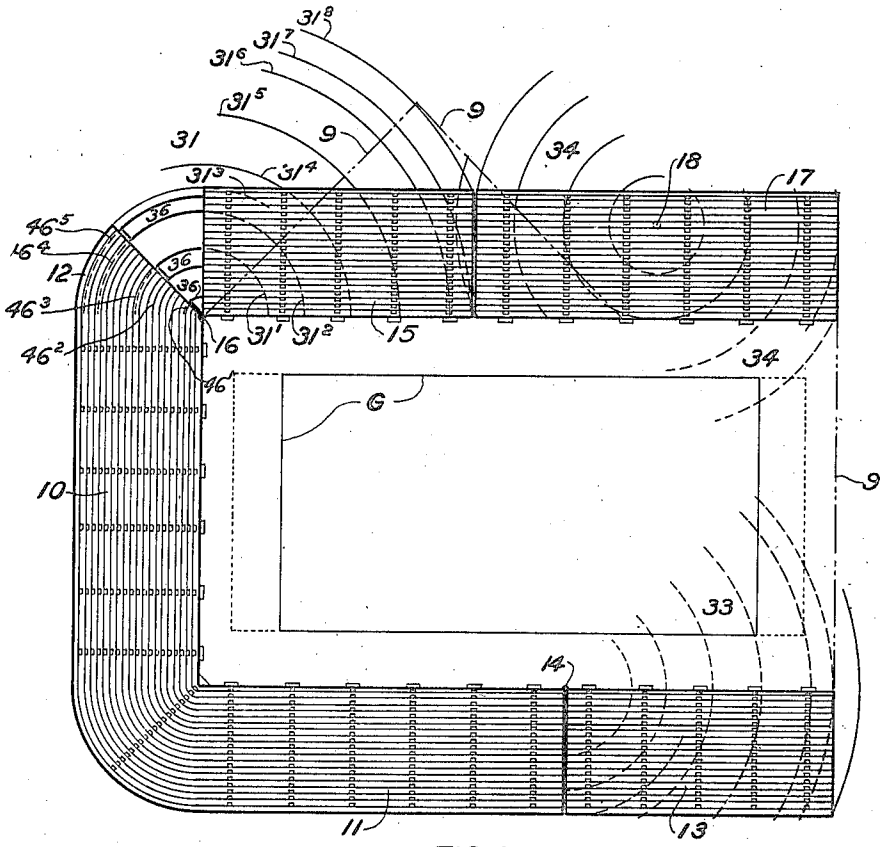


FIG. 1

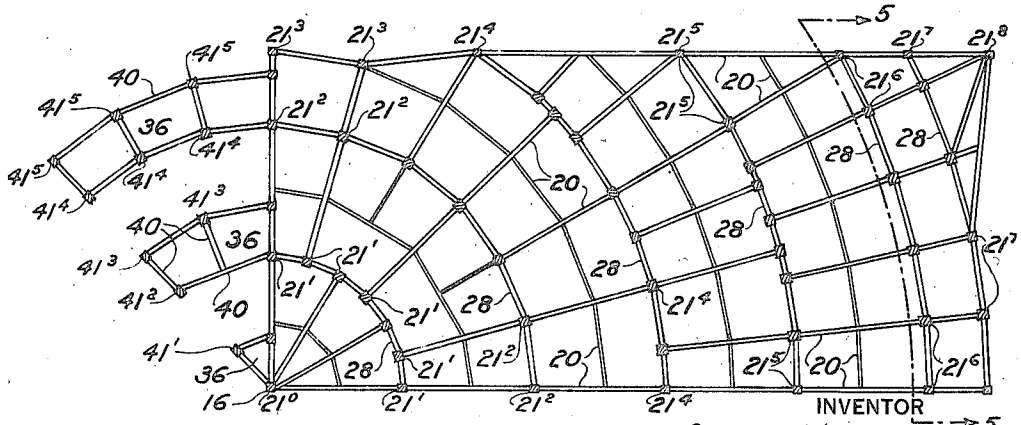


FIG. 3

Gavin Hadden

BY

Robert W Byerly

his ATTORNEY

G. HADDEN.

GRANDSTAND.

APPLICATION FILED APR. 8, 1921.

1,433,547.

Patented Oct. 31, 1922.

3 SHEETS—SHEET 2.

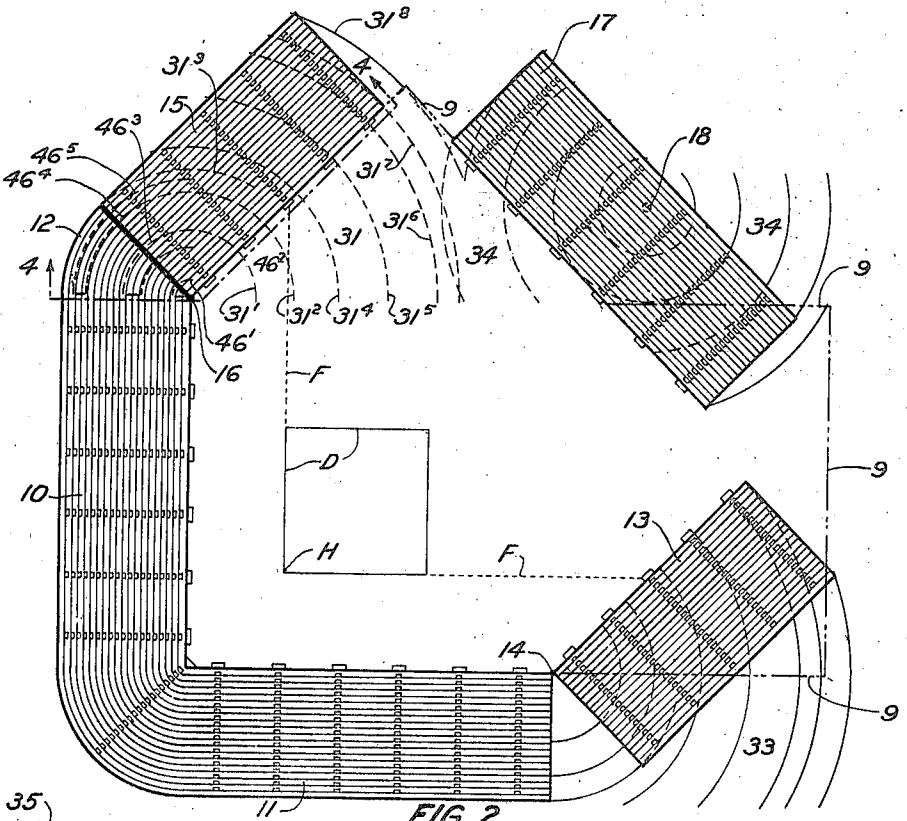


FIG. 2

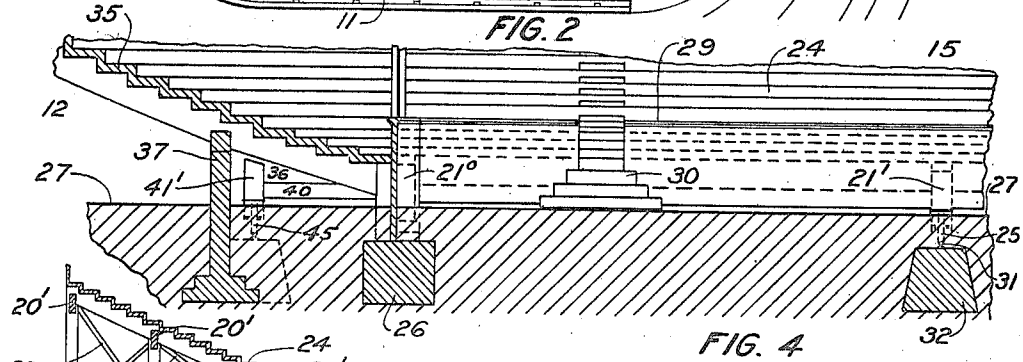


FIG. 4

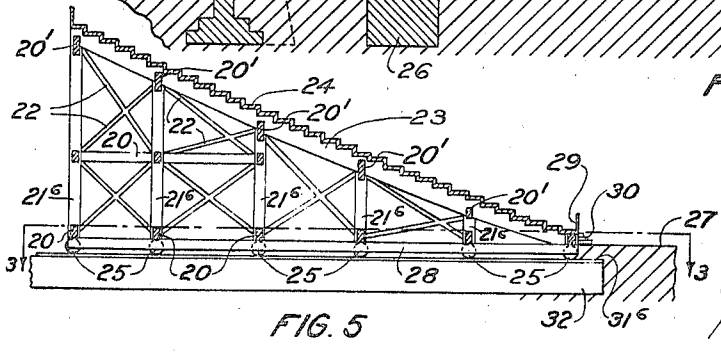


FIG. 5

INVENTOR

Gavin Hadden

BY

Robert W. Byerly

his ATTORNEY

G. HADDEN.

GRANDSTAND.

APPLICATION FILED APR. 8, 1921.

1,433,547.

Patented Oct. 31, 1922.

3 SHEETS—SHEET 3.

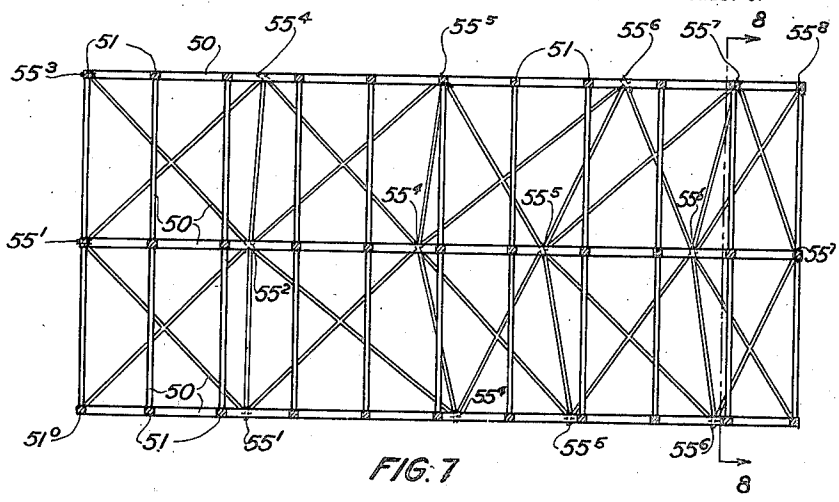


FIG. 7

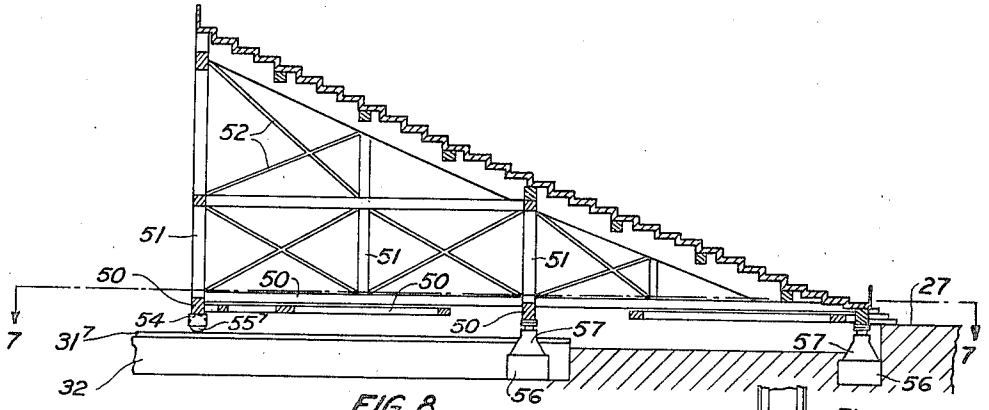


FIG. 8

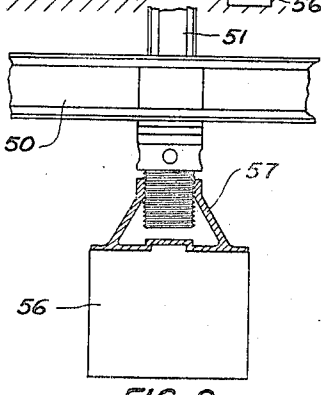


FIG. 9

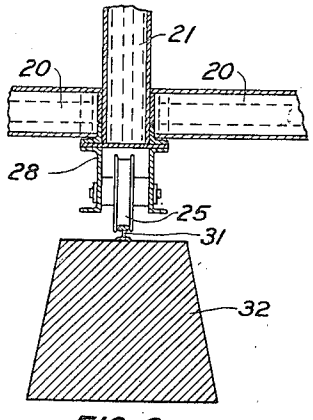


FIG. 6

INVENTOR

Gavin Hadden

BY

Robert W Byerly

his ATTORNEY

Patented Oct. 31, 1922. 1,433,547

UNITED STATES PATENT OFFICE.

GAVIN HADDEN, OF NEW YORK, N. Y.

GRANDSTAND.

Application filed April 8, 1921. Serial No. 459,724.

To all whom it may concern:

Be it known that I, GAVIN HADDEN, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Grandstands, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to grandstands for athletic fields and the like and is directed particularly to a construction which permits the whole or parts of the grandstand to be moved.

Different athletic sports and contests require playing surfaces of different areas and different shapes, and to permit the spectators to view each contest or sport as closely as possible without interfering with the play, the grandstand for seating the spectators must be located at the edge of the playing surface required for that particular contest or sport. The games of football and baseball, for example, require playing surfaces of different areas and shapes, so that, if a grandstand surrounding or partially surrounding an athletic field is located so as to give the spectators a proper view of a football game, the area within the grandstand does not afford sufficient playing surface for a baseball game. On the other hand, if the grandstand is located about the edges of the playing surface required in a baseball game it does not afford the spectators a proper view of a football game played upon the same field. Consequently, it has heretofore been necessary to provide separate athletic fields for football games and baseball games, or if they are played upon the same field, to provide for one or both games temporary grandstands which are demolished and removed when the other game is to be played.

By means of my invention all or part of a permanent grandstand may be moved towards or away from the center of the field about which the grandstand is located, and the means for supporting the grand stand in advanced position and while being moved is so constructed and located that while it remains permanently in position, it does not interfere with the extended playing surface provided when the grandstand is in retracted position. By means of the invention, therefore, it is possible to change the area and shape of the playing surface of an athletic field while providing a permanent grandstand which may be located at the edge of a playing surface of any desired area or shape. This result has so far as I am aware never been accomplished heretofore.

Other objects and advantages of the invention are hereinafter pointed out.

While the invention may be used to adapt the area and shape of the playing surface of a single field to any desired form of sport or contest, I have for the sake of illustration shown, in the accompanying drawings, an embodiment of the invention which permits the use of the same field for both football games and baseball games by providing means enabling the spectators to obtain a close view of either game. In the drawings:—

Fig. 1 is a plan view of the grandstand and the playing surface arranged for a football game;

Fig. 2 is a plan view of the grandstand and playing surface arranged for a baseball game;

Fig. 3 is a diagrammatic horizontal section taken upon the line 3—3 of Fig. 5 showing the construction of the framework of one of the movable stands of the grandstand;

Fig. 4 is a fragmentary sectional elevation on the line 4—4 of Fig. 2 showing a part of one of the movable stands and a part of one of the fixed stands together with their foundations;

Fig. 5 is a diagrammatic developed section on the line 5—5 of Fig. 3;

Fig. 6 is an enlarged sectional elevation showing in detail one of the wheels of one of the movable stands and the support upon which the wheel moves;

Fig. 7 is a diagrammatic horizontal section of one of the movable stands of the grandstand taken on the line 7—7 of Fig. 8 and showing a modified construction;

Fig. 8 is a diagrammatic vertical section on the line 8—8 of Fig. 7; and

Fig. 9 is an enlarged elevation partly in section showing one of the jacks for supporting the movable stand shown in Figs. 7 and 8.

The grandstand illustrated in the drawings is located upon a field which provides a playing surface sufficient in extent for

both football and baseball games. The boundary of this combined playing surface is indicated by the dot and dash line 9 in Figs. 1 and 2. For a reason hereinafter explained, the level of the combined playing surface within the line 9 is preferably somewhat higher than the level of the surrounding ground.

As shown in Figs. 1 and 2, the grandstand consists of two fixed stands 10 and 11 which are of the same length and extend at right angles to each other along adjacent edges of the combined playing surface. As the fixed stands may have their outer edges curved where they meet as indicated in the drawing, it should be noted that in referring to the length of these stands and all the other stands throughout this application the expression "length" should be understood to mean the length measured along the inner edges of the stands. These two fixed stands are located upon fixed foundations and may be constructed in any preferred known manner. The construction of these fixed stands is, therefore, not described in detail, with the exception of the arc-shaped extension 12 at the outer end of the fixed stand 10, the construction of which is hereinafter described.

At the outer end of the fixed stand 11 is located a movable stand 13 which is constructed and supported in such manner that it may be swung about a pivot point 14 from a position in line with the stand 11 (Fig. 1) to a position at an angle of 135° to the stand 11 (Fig. 2). The length of the movable stand 13 is such that when it is extended in line with the stand 11 the combined length of the stands 11 and 13 is equal to the length of one side of the playing surface provided for a football game.

At the outer end of the fixed stand 10 is a movable stand 15 which is so constructed and supported that it may be moved about a pivot point 16 from a position at right angles to the stand 10 (Fig. 1) to a position at an angle of 135° to the stand 10 (Fig. 2). The length of the stand 15 is the same as that of the stand 13.

The movable stand 17 is of the same length as the fixed stands 10 and 11 and is constructed and arranged so that it may be swung about a pivot point 18 from a position parallel to the fixed stand 11 and perpendicular to the fixed stand 10 (Fig. 1) to a position at an angle of 45° with each of the fixed stands 10 and 11 (Fig. 2). The pivot point 18 is located midway between the ends of the movable stand 17. This pivot point 18 is also located upon a line bisecting the right angle formed by the fixed stands 10 and 11.

It should be noted that when the movable stands are in the position indicated in Fig. 1 the grandstand forms a "stadium" located about the edges of a playing surface of the area and shape required for a football game. The position of the football "gridiron" is indicated by the full lines G in Fig. 1. The space between the gridiron and the inner edge of the stands is necessary to the carrying on of the contest and is in consequence referred to herein as part of the playing surface which must be provided for a football game.

When the movable stands occupy the position shown in Fig. 2 the grandstand is located at the edge of a playing surface of suitable shape and area for a baseball game. The full lines D in Fig. 2 represent a baseball diamond, the home plate being at H, and the dotted lines F indicate the foul lines. It is apparent, however, that substantially the whole space included within the inner edge of the grandstand is necessary for the carrying on of a baseball game and is in consequence referred to herein as the baseball playing surface. The stands of the grandstand arranged for a baseball game as shown in Fig. 2 are symmetrically placed. The fixed stands 10 and 11 provide the usual seats behind the home plate, while the movable stands 13 and 15 provide first base and third base stands respectively, and the movable stand 17 provides an outfield stand at a safe distance from the diamond.

Means are provided for supporting each of the movable stands in both football and baseball positions and in their movements from one position to the other. The supporting means most desirably include permanent foundations. It should be noted, however, that the foundations for supporting part of the movable stand 13 and part of the movable stand 17 in baseball position are necessarily within the playing surface which must be provided when the stands are in football position, and that the foundations for supporting part of the movable stand 15 and part of the movable stand 17 in football position are within the playing surface which must be provided when the stands are in baseball position.

The supporting means which are provided include foundations of sufficient strength to support movable stands constructed in a permanent manner of steel and concrete and at the same time they are so arranged that they do not interfere with the playing surfaces within which they are located.

In order to make clear the arrangement of the means for supporting the movable stands it is necessary to describe the construction of these stands as illustrated in the drawing. It should be clearly understood, however, that the construction illustrated may be varied without departing from the scope of the invention.

The construction of the movable stand 15 is shown in Figs. 3 and 5. The framework of the stand consists of horizontal beams 20, 20′, 28, vertical posts 21^0, 21′, 21^2, 21^3, 21^4, 21^5, 21^6, 21^7, 21^8 (and referred to collectively by the numeral 21), and inclined braces 22. The beams, braces and posts may be made of steel, wood, or any other suitable material, and, if desired, horizontal diagonal braces may be used in addition to the horizontal beams shown in the drawings. As seen in the plan view Fig. 3, the post 21^0 is located at the corner of the stand 15 which is at the pivot point 16, and the posts 21′ 21^2, 21^3, 21^4, 21^5, 21^6, 21^7 are located in arcs of concentric circles having their centers at the pivot point 16, while the post 21^8 is located at the corner of the stand farthest from the pivot point 16. The posts 21 vary in height so that inclined beams 23 may be supported upon the horizontal beams 20′ which connect the upper ends of the posts. Upon the inclined beams 23 is supported a tier of seats 24 which may be molded of concrete or constructed in any usual manner. In order to produce a desirable architectural effect, the stand may be provided with an interrupted wall 29 at the bottom of the tier of seats and with steps 30 (Figs. 4 and 5) at the openings in the wall 29, and, if desired, the back and also the sides of the framework of the stand may be enclosed by walls of concrete or other material.

The post 21^0 extends downwardly below the bottom of the stand as indicated in Fig. 4.

Secured across the bottom ends of the posts 21′, 21^2, 21^3, 21^4, 21^5, 21^6, 21^7 are the substantially arc-shaped horizontal beams 28 which project below the bottom of the stand. The sections of each beam 28 between adjacent posts 21 are for convenience in construction made straight, but each beam 28 considered as a whole is substantially arc-shaped. In the beams 28 are mounted flanged wheels 25, one wheel being directly under each of the posts 21′, 21^2, 21^3, 21^4, 21^5, 21^6, 21^7 (Figs. 5 and 6). A similar flanged wheel 25 is mounted in a frame or short section of a beam secured to the bottom of the post 21^8. The lowest point of each wheel 25 is at a considerable distance below the bottom of the stand. The axle of each wheel is short and lies in a line passing through the post 21^0 at the pivot point 16. The beams 28 and the wheels 25 thus form narrow downward projections from the bottom of the stand extending in arcs about the pivot point 16.

A fixed support 26 located below the level 27 of the playing surface is provided at the pivot point 16 to support the lower end of the post 21^0 (Fig. 4). The support 26 may consist of a block of concrete.

Horizontal tracks 31′, 31^2, 31^3, 31^4, 31^5, 31^6, 31^7 and 31^8 (referred to collectively by the numeral 31) are provided for the wheels secured below the posts 21′, 21^2, 21^3, 21^4, 21^5, 21^6, 21^7 and 21^8, respectively. The tracks 31 each lie in an arc having the pivot point 16 as its center. The track 31′ is of sufficient length to support all the wheels secured below the posts 21′ when the stand 15 is in football position (Fig. 1) and when the stand 15 is in baseball position (Fig. 2). The other tracks 31 are of sufficient length to support all the wheels which are upon them in both positions of the movable stand 15. While the tracks 31 must correspond in number and position to the arcs upon which the wheels 25 are located, it is, of course, apparent that it is not essential to use the precise number and arrangement of wheels and tracks illustrated and described.

Each of the tracks 31 is supported by a foundation 32 (Figs. 4, 5, 6). The foundations 32 are so located that the upper surfaces of the tracks 31 are a considerable distance below the level 27 of the playing surface. The distance of the tracks below the level 27 is not greater than the distance from the lowest point of each wheel 25 to the bottom of the stand, and is most desirably made substantially equal to this distance. Consequently, the lower edge of the stand is not below the level 27 of the playing surface and is most desirably substantially at the level 27 so that from the field the movable stands appear to rest directly upon the soil of the playing surface so that they present an appearance similar to that of the fixed stands 10, 11.

It should be noted that all the tracks 31 except the track 31^3 extend across the line 9 and are thus located partly within and partly without the combined playing surface. The portions of the tracks 31 which lie outside the combined playing surface may be permanently exposed. If the level of the ground outside the combined playing surface is the same as the level of the playing surface this result may be accomplished by permanent trenches dug in this ground over the portions of the tracks 31 outside the combined playing surface, and of sufficient width to permit clearance for the downwardly projecting beams 28 when the wheels are moved along the tracks. A more desirable arrangement, however, is to have the level of the combined playing surface above the level of the surrounding ground so that while the level of the combined playing surface is above the upper surfaces of the tracks 31, the level of the surrounding ground is below the level of the tracks 31. If this arrangement is adopted, the portions of the tracks 31 outside the combined surface are permanently exposed

without the necessity of providing any trenches over this portion of the tracks. This arrangement has the additional advantage of providing adequate drainage for the playing surface.

The movable stand 13 has a framework similar to that of the stand 15 as described, and is provided with similar narrow arc-shaped projections below the bottom of the stand including flanged wheels located under each post.

The construction of the movable stand 17 is in general similar to that of the stands 13 and 15. There is a post extending below the bottom of the stand at the pivot point 18 which is located midway between the ends of the stand, and the other posts are arranged in concentric circles about the pivot point 18 and the wheel bearing projections below the bottom of the stand are located substantially in arcs about the pivot point 18.

Supports similar to the support 26 are provided at the pivot points 14 and 18 for the posts of the stands 13 and 17 located at the pivot points. Arc-shaped tracks 33 concentric with the pivot point 14 and supported and arranged similarly to the tracks 31 are provided for the flanged wheels of the movable stand 13. Arc-shaped tracks 34 concentric with the pivot point 18 are provided for the wheels of the movable stand 17.

Like the tracks 31, the tracks 33 and 34 are partly within and partly without the combined playing surface and are located below the level 27 of the playing surface, and the portions of these tracks without the combined playing surface may be permanently exposed.

The operation of the device described is as follows:—When a football game is to be played upon the field, the stands occupy the positions indicated in Fig. 1 and the portions of the tracks 33 and 34 within the football playing surface are covered with soil. When it is desired to adapt the field to a baseball game, trenches are dug to expose the portions of the tracks 33 and 34 which lie within the football playing surface. Only narrow trenches need be dug as it is sufficient if their width allows clearance for the downward projections formed by the beams 28, which are narrow and extend substantially in line with the direction in which they are moved when the stand is moved about its pivot point. The movable stands 13, 15 and 17 are then moved along the tracks 31, 33, 34 from the position illustrated in Fig. 1 to the position illustrated in Fig. 2. The stand 15 is moved before the stand 17, to avoid interference. As each stand is mounted upon wheels which move upon horizontal tracks, and as the bottom of the stand is high to clear the playing surface, the movement may be effected with little difficulty. Any desired hauling means may be provided for effecting the movement. When the stands have reached the position indicated in Fig. 2, the trenches above the portions of the tracks 31 and 34 which lie within the baseball playing surface are filled in with soil so that the entire baseball playing surface is level and unobstructed. Furthermore, the movable stands being supported at such a height that their bottoms are substantially at the leved of the playing surface present from the field an appearance similar to that of the fixed stands 10, 11.

When it is desired to re-adapt the field for football games, trenches are dug to expose the portions of the tracks 31 and 34 which lie within the baseball playing surface. The movable stands 13, 15, 17 are then moved back along their tracks to the position indicated in Fig. 1, the stand 17 being moved before the stand 15 to avoid interference. The trenches which were dug to expose portions of the tracks 33 and 34 to make possible the moving of the stands 13 and 17 into baseball position are then filled in so that the entire football playing surface is level and unobstructed. Furthermore, the movable stands having their bottoms located substantially at the level of the playing surface will present an appearance from the field similar to that of the fixed stands 10, 11, so that the entire grandstand will present from the field the appearance of a complete stadium.

When the stands are moved from football to baseball position, it is usually desirable to remove the turf from the portion of the football playing surface which is not used as part of the baseball playing surface before the stands are moved, and, after the movement has been effected, to place this sod upon the portion of the baseball playing surface which is not used as part of the football playing surface. When the grandstand is to be rearranged for football games this sod may be returned to its former position. As the area of the part of the combined playing surface used for football and not for baseball is substantially equal to the area of the part of the combined playing surface used for baseball and not for football, it is unnecessary to provide any material amount of additional sod when the gandstand is moved from one position to the other.

It will be noted that the construction of the stands thus far described will leave a gap between the outer end of the extension 12 of the fixed stand 10 and the inner end of the movable stand 15 when the grandstand is in football position. It is desirable to utilize the space thus provided for the seating of spectators. This may be accomplished by the erection of a temporary stand in the space for football games. The material from which this temporary stand is constructed may be utilized for constructing a temporary stand between the outer

end of the fixed stand 11 and the inner end of the movable stand 13 when the grandstand is in baseball position. A more desirable arrangement for the utilization of the space between the ends of the fixed and movable stands constitutes a part of my invention and is illustrated in the drawings.

According to this part of my invention, the framework of the movable stand 15 is provided at its inner end with spaced arc-shaped concentric extensions 36 formed by horizontal beams 40 and vertical posts $41'$, 41^2, 41^3, 41^4, 41^5 (and referred to collectively by the numeral 41) which lie in concentric circles about the post 21^0 at the pivot point 16. The posts 41 located upon the same circle are of the same height and those upon the inner circles are of less height than those upon the outer circles. Flanged wheels 45 similar to the wheels 25 are secured to the bottom of the extensions 36, one wheel being located below the lower end of each of the posts 41. Tracks $46'$, 46^2, 46^3, 46^4, 46^5 (and referred to collectively by the numeral 46) are provided for the wheels below the posts $41'$, 41^2, 41^3, 41^4, 41^5, respectively. The tracks 46 are located in arcs about the pivot point 16 and extend substantially to the outer end of the fixed stand 10. It happens that in the embodiment illustrated, the track 46^3 is an extension of the track 31^2, a portion of the combined track serving both to support the wheels under certain of the posts 21^2 in baseball position and to support the wheels under certain of the posts 41^3 in football position. Similarly the track 46^4 forms an extension of the track 31^3.

The extension 12 of the fixed stand 10 has a tier of seats 35 which extend in concentric arcs about the pivot point 16 and vertical supports 37 for these seats. The supports 37 which may consist of columns or walls are located so as to leave an open space above each of the tracks 46 and between the pivot point 16 and the track $46'$, between the tracks 46^2 and 46^3, and between the tracks 46^4 and 46^5, while the extensions 36 of the stand 15 are lower than the bottoms of the seats 35 located at corresponding distances from the pivot point.

When the movable stand 15 is moved into baseball position (Fig. 2), the extensions 36 move along the tracks 46 and pass below the seats 35 of the extension 12 and between the supports 37 of the extension 12 as shown in Fig. 4. When the movable stand 15 is in football position (Fig. 1), extensions 36 extend between the inner end of the stand 15 and the outer end of the extension 12 and provide a convenient framework upon which temporary seats may be supported during football games.

A modified construction of the framework of the movable stand 15 and a modified form of support for the stand are illustrated in Figs. 7, 8 and 9. This modification may be applied also to the movable stands 13 and 17.

In the form shown in Figs. 7 and 8 the framework of the stand comprises horizontal beams 50 and vertical posts 51 and inclined braces 52 which correspond in general with the beams 20, posts 21 and braces 22 shown in Fig. 3. In the form shown in Figs. 7 and 8, however, the posts 21 are not located in concentric circles, as in Fig. 3, and there are no beams projecting below the stand and corresponding to the beams 28 of Figs. 3 and 5. The stand is provided with wheels $55'$, 55^2, 55^3, 55^4, 55^5, 55^6, 55^7, 55^8 (and referred to collectively by the numeral 55) similar to the wheels 25. Each wheel is located in an individual wheel frame 54 extending downwardly from the bottom of the stand. The wheels $55'$, 55^2, 55^3, 55^4, 55^5, 55^6, 55^7, 55^8 are arranged in concentric circles about the post 51^0 which is located at the pivot point 16, and the axes of the wheels lie on lines passing through the pivot point so that the wheels are adapted to run on the tracks $31'$, 31^2, 31^3, 31^4, 31^5, 31^6, 31^7, 31^8, respectively. Some of the wheels 55 are located below certain of the posts 51 and in frames 54 secured to the lower ends of these posts, while the wheel frames 54 of others of the wheels 55 are secured to the horizontal beams 50 which form the bottom of the framework. As in this construction the wheels 55 are utilized for the sole support of the stand only during the movement of the stand and consequently when there is no load upon the stand, they may be much less numerous than the wheels 25 in the construction first described. The wheels 55 may, if desired, be so located as to require a less number of tracks than those indicated in the drawings.

The tracks 31 and the wheels 55 upon these tracks serve to support the section while it is being moved from one of its extreme positions to the other, but additional supporting means are provided for the section in each of its extreme positions. These means comprise foundations 56 and jacks 57 removably secured to the foundations 56. The foundations 56 may be formed of concrete, while the jacks 57 may be of any usual construction and may be either wedge jacks or screw jacks as illustrated. Two sets of foundations 56 are provided, those of one set being located one below each of the posts 51 when the stand is in football position, and those of the other set being located one below each of the posts 51 when the stand is in baseball position, except that no foundations 56 are provided under those of the posts 51 under which the wheels 55 are located. It is thus apparent that some of the foundations 56 are located within the com-

bined playing surface. The foundations 56 are so placed that their upper surfaces are at a considerable distance below the level 27 of the playing surface. When one set of the foundations 56 is to be used as additional supporting means for the stand, jacks 57 are placed upon each foundation 56 of this set and are screwed up so that one of them supports each of the posts 51 under which a wheel 55 is not located and a large part of the weight of the stands is thereby taken off the wheels 55. When the stand is moved to its other extreme position, the jacks 57 upon which it has been supported are screwed down, removed from the foundations 56 upon which they have been placed, and placed upon the other set of foundations 56. Soil is filled in above those of the foundations 56 of the set from which the jacks have been removed which lie within the combined playing surface, so that the foundations 56 do not interfere with the playing surface.

If the supporting means indicated in Figs. 8 and 9 are used for the movable stand 17, the tracks 34 for this stand may be dispensed with and the stand may be supported during its movement by a drum, such as is used for the support of rotatable draw bridges, located about the pivot point 18. In this case the pivot point 18 is located preferably at or near the center of gravity of the stand.

It should be clearly understood that the invention is by no means limited to the specific embodiment of it which has been described. Thus, the general form and arrangement of the movable stands may be changed so as to adapt the grandstand to sports other than the two mentioned, or to adapt it to these two sports in a different way from that illustrated, and for this purpose the entire grandstand or any section of it may be mounted upon straight tracks so that it is moved bodily instead of being swung about a pivot. Furthermore, many of the specific features of the arrangement which permits movements of the stand may be used regardless of the purpose for which such movement may be desired.

What is claimed is:

1. A grandstand adapted for both football and baseball games, comprising two fixed stands located at right angles to each other, and two movable stands each adapted to swing about a pivot at the outer end of one of the fixed stands.

2. A grandstand adapted for both football and baseball games, comprising two fixed stands of the same length located at right angles to each other, two movable stands of the same length each adapted to swing about a pivot at the outer end of one of the fixed stands, and a third movable stand of the same length as one of the fixed stands and adapted to swing about a pivot midway between its ends and on a line bisecting the angle formed by the fixed stand.

3. A grandstand adapted for use for both football and baseball games, comprising a first fixed stand, a second fixed stand extending at right angles from the inner end of the first fixed stand, a first movable stand adapted to swing about a pivot at one end of the first fixed stand from a position in line with said fixed stand to a position at an angle of 135° to said fixed stand, and a third movable stand adapted to swing about a pivot at the outer end of the second fixed stand from a position perpendicular to said fixed stand to a position at an angle of 135° thereto.

4. A grandstand adapted for use for both football and baseball games, comprising a first fixed stand, a second fixed stand of the same length as the first fixed stand and extending at right angles from the inner end of the first fixed stand, a first movable stand adapted to swing about a pivot at one end of the first fixed stand from a position in line with said fixed stand to a position at an angle of 135° to said fixed stand, a second movable stand of the same length as the first movable stand and adapted to swing about a pivot at the outer end of the second fixed stand from a position perpendicular to said fixed stand to a position at an angle of 135° thereto, and a third movable stand of the same length as one of the fixed stands and adapted to swing about a pivot point midway between its ends and located on a line bisecting the angle formed by the fixed stands, from a position parallel to the second fixed stand to a position at 45° to each of the fixed stands.

5. A grandstand, comprising movable stands adapted to be placed at the edge of the playing surface required for a football game and at the edge of the playing surface required for a baseball game, and supports adapted to support said stands in both said positions and during movement from one position to the other, said supports being located with their upper surfaces spaced below the level of the playing surface.

6. A movable stand on a playing field, and fixed supports for said stand adapted to support it in different positions upon said field, certain of said supports being located within the playing surface of the field and with their upper surfaces spaced below the level of the playing surface.

7. A movable stand on a playing field having downward projections from its bottom, and fixed supports adapted to support the stand in different positions upon said field by engagement with said downward projections, certain of said supports being located within the playing surface of the field and with their upper surfaces spaced

at a distance below the level of the playing surface substantially equal to the length of said downward projections.

8. The combination with a playing field having a playing surface, of horizontal tracks extending within the playing surface of the field and located with their upper surfaces spaced below the level of the playing surface, and a movable stand having wheels upon said tracks.

9. The combination with a playing field having a playing surface, of permanent foundations located within the playing surface of the field and with their upper surfaces spaced below the level of the playing surface, and a movable stand having downward projections from its bottom movably supported upon said foundations, the length of said downward projections being such that the stand is supported with its bottom substantially at the level of the playing surface.

10. The combination with a playing field having a playing surface, of a movable stand having downward projections secured to its bottom and wheels mounted in said projections, and tracks supporting said wheels located within the playing surface of said field, and with their upper surfaces spaced so far below the level of the playing surface that the bottom of said stand is substantially at the level of the playing surface.

11. The combination with a playing field having a playing surface, of a movable stand having a framework including horizontal beams projecting below the bottom of the stand and each extending substantially parallel to the direction in which the portion of the stand to which it is secured is to be moved and wheels mounted on said beams with their axes transverse to said beams, and tracks supporting said wheels located within the playing surface of the field and with their upper surfaces so far below the level of the playing surface that the bottom of said stand is substantially at the level of the playing surface.

12. The combination with a playing field having a playing surface, of a stand adapted to be moved about a fixed pivot point and having a framework including horizontal beams extending below the bottom of the stand and arranged substantially in concentric arcs about said pivot point and wheels mounted on said beams with their axes in lines extending through said pivot point, and horizontal tracks supporting said wheels extending in concentric arcs about said pivot point and located partly within said playing surface and with their upper surfaces so far below the level of the playing surface that the bottom of said stand is substantially at the level of the playing surface.

13. The combination with a playing field having a playing surface, the level of which is above the level of the surrounding ground, of horizontal tracks positioned with their upper surfaces above the level of the surrounding ground and below the level of the playing surface and extending within and without the playing surface, and a movable stand having wheels upon said tracks and adapted to be supported at the edge of the playing surface by the portion of said tracks without the playing surface and to be moved within the playing surface along the portions of said tracks within the playing surface when the soil covering the portions of said tracks within the playing surface is removed.

14. A movable stand, comprising a framework including a plurality of vertical posts, a tier of seats supported upon said framework, and wheels secured to said framework below the lower ends of said posts.

15. The combination of a movable stand, comprising a framework including a plurality of vertical posts, a tier of seats supported upon said framework, wheels secured to said framework below the lower ends of said posts, and a plurality of tracks supporting said wheels.

16. A movable stand, having a framework including a plurality of posts, one of said posts being located at the point about which the stand is to pivot and the others of said posts being located in concentric circles about said pivot point, a tier of seats supported by said framework, and wheels secured to said framework under the posts which are located in concentric circles, each wheel having its axis radial to the circle upon which the posts under which it is placed is located.

17. The combination with a movable stand as defined in claim 16, of a fixed support for the post located at the pivot point, and a plurality of tracks located in arcs concentric with said pivot point and adapted to support the wheels of the stand.

18. The combination with a movable stand having a frame work including a plurality of posts, a tier of seats supported by said framework and a plurality of wheels secured to the bottom of said framework, of a set of foundations so located as to support posts of the framework when the stand is in one position, a second set of foundations so located as to support posts of the framework when the stand is in another position, and a plurality of tracks adapted to support the wheels of the stand while the stand is moved from one of said positions to the other.

19. The combination with a movable stand having a framework including a plurality of posts, a tier of seats supported by said framework and a plurality of wheels secured to the bottom of said framework, of a set of foundations so located as to be in alignment with posts of said framework

when the stand is in one position, a second set of foundations so located as to be in alignment with posts of the framework when the stand is in another position, and a plurality of removable jacks adapted to be placed upon the foundations of either set and to support posts of the framework when the stand is in alignment with the foundations of that set, and a plurality of tracks adapted to support the wheels of the stand while the stand is moved from one of said positions to the other.

20. The combination of a first stand provided with a tier of seats, a second stand provided with a tier of seats corresponding in height and arrangement to the tier of seats of the first stand, said stands being mounted so as to provide for a relative movement between them for bringing adjacent ends of the two stands together and for separating these ends, one of said stands being provided at its end with spaced projections, and the other of said stands being provided at its end with openings into which said spaced projections extend when the ends of the stands are brought together, said spaced projections being adapted to support temporary seats between the adjacent ends of the stands when these ends are separated.

21. The combination of a movable stand adapted to swing about a pivot point located at one of its corners, another stand having an arc-shaped extension concentric with said pivot point and provided with horizontal openings located in arcs of concentric circles about said pivot point and spaced arc-shaped projections at the end of said movable stand concentric with said pivot point and adapted to enter said concentric openings.

22. The combination of a movable stand adapted to swing about a pivot point located at one of its corners, another stand having an arc-shaped extension concentric with said pivot point and comprising a tier of seats, each concentric with said pivot point and supports located in arcs of concentric circles about said pivot point, and spaced arc-shaped projections at the end of said movable stand concentric with said pivot point and adapted to pass under said concentric seats and between said supports.

23. The combination of a stand having an extension provided with a tier of seats located in arcs of concentric circles about one of the corners of said stand and supports for said seats located in arcs of concentric circles about said corner, arc-shaped tracks extending below said seats and between said supports, and a movable stand adapted to swing about said corner as a pivot point and provided on its inner end with spaced arc-shaped projections having wheels supported upon said tracks and adapted to enter under said seats and between said supports.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

GAVIN HADDEN.

Witnesses:
A. JARECKY,
MAISIE MAURUS.