PROTECTIVE DEVICE FOR PLAYING FIELDS

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The invention relates to a protective device or fence particularly designed for use in connection with playing fields such as a baseball diamond or the like which is surrounded by a rigid wall, the protective device being designed to prevent players from crashing into the wall in the course of the game and thereby sustaining injury.

The present application is a continuation-in-part of my application Serial No. 241,118, filed August 9, 1951, now abandoned.

The primary object of the invention is to provide a protective device in the form of a fence including a flexible screen portion tightly but yieldingly supported from above and at its ends and serving as a buffer to protect a player from coming in contact therewith from injury as a result of such impact.

A further object of the invention is to provide improved supporting means for the protective screen adjacent the corners of the wall.

Another object is to provide means for returning to the playing field any balls which may have passed under and beyond the protective screen.

Other objects will be apparent from a consideration of the accompanying drawings and the following detailed description:

In the drawings:

Fig. 1 is a plan view of a playing field equipped with my improved protective device;

Fig. 2 is a detail perspective view of an end portion of the protective screen or fence;

Fig. 3 is a perspective view of one of the corners of the protective screen or fence which may be employed at right angle, center field or left field;

Fig. 4 is an elevation of one of the upright supports for preventing the screen or fence from sagging;

Fig. 5 is a plan view showing one of the corner supports for the fence or screen;

Fig. 6 is a detail sectional view of one of the enclosed springs preferably used in connection with my fence or screen to prevent sagging;

Fig. 7 is a plan view of one of the ends of the screen showing the fastening means therefor which may be used at the right of first base and at the left of third base;

Fig. 8 is a view similar to Fig. 1 but showing a modified form of playing field including an inset or inwardly extending angular portion requiring additional supporting means;

Fig. 9 is a detailed view on an enlarged scale showing the special protecting means at the inset corner of Fig. 8;

Fig. 10 is a detailed plan view on an enlarged scale showing the protecting means at the inset corner of Fig. 8; and

Fig. 11 is a detailed view of the end spring spacing collars shown on a smaller scale in Fig. 2.

Referring to the drawings, reference numeral 10 denotes generally a baseball playing field which may include a diamond proper designated by the numeral 11 and including home plate 12, first base 13, second base 14 and third base 15. The field is normally separated from the spectators by means of a low, rigid wall extending around the field, this wall being designated by the numeral 16.

During the course of the game players in the outfield frequently have to run for a ball and may sustain injury by crashing against the wall, particularly the portion of the wall surrounding first, second and third bases. There is little or no danger of damage from the wall surrounding the remainder of the field.

In accordance with my invention a suitable anti-crash fence 17 is provided extending around the inside of the wall from a position adjacent first base and extending to a position beyond third base. The fence 17 is flexibly but securely anchored adjacent its ends 18, 18 and three corners 19, 19, 19.

Preferably the fence comprises two flexible screen portions 20 and 21 suitably supported from above at different levels and at different distances from the outer wall, the upper and inner screen 20 being adapted to protect a player running after a high ball, and the lower and outer screen 21 being adapted to protect a player in stopeed-over position attempting to catch a low hit or grounded baseball. The screens 20 and 21 are preferably formed of relatively strong wire of reasonably fine mesh and may be suitably padded if desired. In accordance with my invention each screen may be continuous and is resiliently but firmly supported both at the two ends 18, 18 and at the three intermediate corners 19, 19, 19 of the fence by means of a series of cables secured thereto, which cables are connected to suitable springs anchored to upright posts located at the two ends and three corners of the fence. Sagging of the screens is prevented by resilient means engaging the top edge of each screen at suitable intervals and supported by curved overhanging arms attached to suitable upright posts.

As shown, the horizontal cables carrying upper screen 20 are designated by the reference numeral 22, and those supporting the lower screen are designated 23, and all may be of the same general construction. These horizontal supporting cables are preferably arranged in groups, one group extending from one end 18 of the fence to the adjacent corner 19, the next group extending from the first corner to the second, and the next group extending from the second corner to the third, and the last group extending from the third corner to the remote end 18 of the fence. Each group of cables passes over pulleys carried by upright posts located near the ends of the cables and the end portions of each cable are secured to coil springs anchored to an upright metal post located either at one of the ends or at one of the corners of the fence. Thus, the end portions of the first group of cables 22 pass about pulleys 24 carried by an upright metal post 200 and are preferably embedded in slots in an upright concrete post 25 adjacent post 200 and spaced outwardly a suitable distance from the wall 16, and are connected to end springs 26 which are carried by an upright metal post 27 embedded in the ground and preferably secured at its upper end to the wall 16. Similarly, the ends of the first group of cables 23 supporting the lower screen 21 pass around pulleys 29 carried by metal post 202 adjacent concrete post 30 and are connected to end springs 31 also carried by the post 27. Supporting collars 201 shown in detail in Fig. 11 may be mounted on post 27 to suitably space the end springs 26 and the end springs 31.

At each of the corners 19 the individual cables of each group of cables 22 supporting the upper screen 20 pass around pulleys 35 carried by an upright metal post 36. Similarly, the individual cables of each group of cables 23 supporting the lower screen 21 pass about pulleys 37 carried by post 38. At these corners 19 the end portions 40 of each of the cables 22 supporting the upper screen
20 are connected to coil springs 41, which in turn are secured to upright end posts 42, which posts are embedded in the ground and at their upper ends are secured to the wall 16. Similarly, the end portions 43 of cables 23 supporting the lower screen 21 are secured to coil springs 44 which are also carried by the posts 42. Supporting collars 203 similar to the collars 201 on post 27 may be employed on rods 42 to space springs 41 and 42, and like collars 204 and 205 may be employed on posts or rods 36 and 38 to space pulleys 35 and 37 respectively.

In addition to the resilient end and corner supports the screens 20 and 21 are provided at spaced intervals with upright supports which serve to prevent sagging. As shown, upright metal posts 50 are provided at suitable intervals along the inside of the outer wall and located slightly away from such wall. Each upright post 50 is provided with a horizontally extending curved or arched arm 51, these arms serving to support the screen 20 from above and prevent the same from sagging. Similarly, shorter arched arms 52 are provided at spaced intervals by the uprights 50 and serve to support the lower fence or screen 21. As shown, connecting means are provided between the arm 51 and the screen or fence comprising an enclosed spring unit 53 consisting of a short flexible connecting portion 54 with the curved arm 51, and a lower eye connection 63 with the upper cable 22 which supports the upper screen 20.

Similarly, an enclosed spring member 64 similar to the spring member 60 is provided with an upper eye connection 65 secured to the curved arm 52 and is provided with a lower eye connection 66 connected with the upper cable 23 of the lower screen member 21.

As shown, the lower screen 21 terminates a few inches from the surface of the ground, which is sufficient to allow a ball to pass thereunder. Between the screen 21 and the outer wall 16 an inclined ball-return member 70 is provided which causes any balls passing beyond both screens to roll back onto the playing field.

Additional supporting cables 81 and 82 are provided which are adapted to pass through the eye connections 62 and 65 carried by the spring members 60 and 64, respectively, these cables being anchored at their ends to secure members 83 carried by the outer wall. These additional cables are anchored at the corners 19 to upright posts 90 having upper and lower tie rods 91 and 92 connected with the cables 81 and 82, respectively.

Fig. 8 illustrates a modified form of playing field designated 10' herein shown as of generally rectangular shape similar to the playing field 10 in Fig. 1, except that it includes an inset or inwardly directed sharp corner portion 100 requiring additional protection. The field 10' is equipped with a protecting fence similar to that shown in Fig. 1 except for the inwardly directed portions designed to protect the sharp corner 100, and except for these inwardly directed portions the parts of the fence and the supporting elements therefore may be designated by the same reference numerals designating corresponding parts in Figs. 1 to 7.

As shown, the upper screen portion 20 of the fence and the cables 22 supporting the same extend inwardly at 21 and 23' and then pass in front of a yieldingly supported flat plate 101 equipped with a plurality of rows of cable holding means 102 detachably secured to the plate by means of nuts 103 or the like at the rear of the plate. The plate 101 may be of any suitable size and material. A plate 24' wide and 36' long has been found suitable for the plate is yieldingly supported in spaced relation to the corner 100 by means of a series of enclosed compression spring members 104 secured to the center of the plate by a series of fastening devices 105 in vertical alignment, and secured at their opposite ends to an upright post 106, T-shape in cross section and embedded in concrete, the post being erected adjacent the corner 100.

Similarly, the lower screen portion 21 of the fence and the supporting cables 23 therefor are inset at the corner, as indicated at 21' and 23' and are then passed over and secured to a plate 110 similar to the plate 101, which plate 110 is yieldingly supported in a manner similar to the plate 101.

The invention has been described in detail for the purpose of illustration, but it will be obvious that numerous modifications and variations may be resorted to without departing from the spirit of the invention.

I claim:

1. In combination with a wall, a protecting fence extending parallel to but spaced from the wall comprising a longitudinally extending flexible screen portion having end means resiliently and tautly supporting the same in spaced relation to said wall, and supplemental means intermediate the end supports comprising a series of rigid bracket arms extending outwardly from the wall and having resiliently downwardly extending means connected at intervals to the fence.

2. In combination with a wall surrounding a playing field, a device for protecting players from injury in crashing against said wall, comprising a fence extending parallel to but spaced from the wall and having resilient end means for supporting the same in taut but flexible connection to the wall, and overhead means for flexibly supporting the fence intermediate its ends at a fixed distance from the wall comprising a series of rigid arms extending outwardly from the wall each having downwardly extending spring means connected to the fence.

3. In combination with a wall surrounding a playing field, a device for protecting players from injury in crashing against said wall, comprising a fence extending parallel to but spaced from the wall, said fence including a screen portion, a series of spaced horizontal cables separate from but supporting the screen portion and extending the full length of the playing field, the cables being arranged at spaced intervals from top to bottom of said screen, means for resiliently but firmly supporting the cables individually at their ends, whereby the fence is held taut at all times, and means for resiliently supporting the fence intermediate its ends from an overhead position in spaced relation to the wall, and at a predetermined distance above the ground level, comprising a series of rigid overhanging supports having downwardly directed spring means connected at intervals to the uppermost of the horizontal cables.

4. In combination with a ball playing field having a rigid wall surrounding the same, means for protecting players from injury in crashing against the wall comprising a fence extending parallel to but spaced from the wall and yieldingly but firmly supported at its ends and corners in spaced relation to the wall, said fence comprising a screen portion, a series of spaced horizontal cables supporting said screen portion, resilient connecting devices at the ends of the cable, and means yieldingly supporting the fence from above at spaced intervals, comprising a series of overhanging supports having downwardly directed spring means connected to the uppermost of the horizontal cables.

5. In combination with a ball playing field having a rigid wall surrounding the same, means for protecting players from injury in crashing against the wall comprising a fence extending parallel to but spaced from the wall and yieldingly but firmly supported at its ends and corners in spaced relation to the wall, said fence comprising a screen portion, a series of spaced horizontal cables supporting said screen portion, resilient connecting devices at the ends of the cable, and means yieldingly supporting the fence from above at spaced intervals, comprising a series of overhanging supports having downwardly di-
rected spring means connected to the uppermost of the horizontal cables, said wall being provided with an inset portion, and means for resiliently spacing the fence from the inside corner, said means including a plate over one face of which the fence passes, and a plurality of compression spring devices reacting against the opposite face of the plate.

6. In combination with a wall surrounding a playing field, a device for protecting players from injury in crashing against said wall, comprising a fence extending adjacent and parallel to the wall and having corners and end portions, said fence comprising a screen portion, a series of spaced horizontal cables supporting the screen portion, resilient means supporting the cables taut and in spaced relation to said wall at the ends and corners of the fence, and means yieldingly supporting the fence from above in spaced relation to said wall comprising a series of supports having rigid overhanging arms, and downwardly directed spring means connecting the outer ends of said arms with said fence.

7. A player protecting device as set forth in claim 6, wherein the fence includes spaced inner and outer screens yieldingly supported at varying heights from the ground.

8. In combination with a wall surrounding a playing field, a protective fence extending parallel to but spaced from the wall and having horizontal supporting cables secured thereto at spaced intervals, upright end supports for said cables having coil springs connected to the cable ends, and intermediate supports for the fence comprising rigid arms extending outwardly from the wall and having resilient downwardly extending means connected at intervals to the fence.

9. A player protecting device as set forth in claim 8, wherein the fence comprises a pair of spaced resilient screens supported at different heights and at different distances from the wall.

10. In combination with a wall surrounding a ball playing field, a protective fence extending parallel to but spaced from the wall and comprising a resilient screen spaced from the wall, the lower portion of said screen terminating short of the bottom of the wall, and inclined means interposed between the wall and the adjacent screen for returning to the field any balls passing beyond the screen.

11. In combination with a wall surrounding a playing field, a protective fence extending parallel to but spaced from the wall and comprising a flexible screen, supporting end posts for said screen, means connecting said screen to the posts, spaced horizontal supporting cables extending lengthwise of the screen and connected thereto, coil springs carried by said end posts and connected to the ends of the cables, and collars carried by said posts and spacing said coil springs.

12. In combination with a wall surrounding a playing field, a device for protecting players from injury in crashing against said wall, comprising a fence extending parallel to but spaced from the wall and including a flexible screen having resilient end means for supporting the same in a taut but flexible condition, and overhead means for flexibly supporting the fence intermediate its ends at a fixed distance from said wall with its lower edge spaced above the ground, said overhead supporting means comprising a series of rigid arms extending outwardly from said wall each having downwardly extending spring means connected to the fence.

13. In combination with a wall, a protecting fence extending parallel to but spaced from said wall and comprising a longitudinally extending flexible screen portion having end means resiliently and tautly supporting the screen in spaced relation to said wall, and supplemental supporting means intermediate the end supports comprising a series of rigid laterally extending bracket arms having resilient downwardly extending means connected at intervals to the fence for holding the screen at a fixed distance from said wall and with its lower edge spaced above the ground level.

14. In combination with a wall surrounding a playing field, a device for protecting players from injury in crashing against said wall, comprising a protective fence extending parallel to but spaced from said wall, said fence including a flexible screen portion, a series of spaced horizontal cables separate from but supporting the screen portion and extending the full length of the screen portion, said cables being arranged at spaced intervals from top to bottom of said screen, means for resiliently but firmly supporting the cables individually at their ends, whereby the fence is held taut at all times, and means for resiliently supporting the fence intermediate its ends from an overhead position in spaced relation to said wall, and at a predetermined distance above the ground level, comprising a series of rigid overhanging supports projecting outwardly from said wall and having downwardly directed spring means connected at intervals to the uppermost of the horizontal cables, and inclined means interposed between said wall and the adjacent screen for returning to the field any balls passing beyond the screens.

15. In combination with a rigid wall surrounding a ball playing field, said wall having a plurality of angular corners, a protective fence extending parallel to but spaced from the wall and yieldingly but firmly supported at its ends and corners in spaced relation to said wall, said fence comprising a screen portion sufficiently flexible to prevent injury of a player crashing against the same, a series of spaced horizontal cables supporting the screen portion, resilient connecting devices secured to the cables adjacent the ends and corners of the fence, and means yieldingly supporting the screen from above at spaced intervals comprising a series of rigid overhanging supporting arms extending outwardly from said wall and having downwardly directed spring means connected to the screen.

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