Sept. 8, 1942. R. A. UECKER ET AL 2,295,311

PORTABLE GRANDSTAND OR BLEACHER

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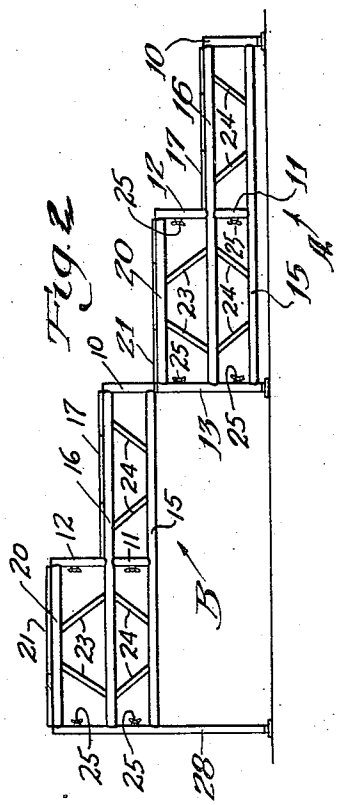


Fig. 2

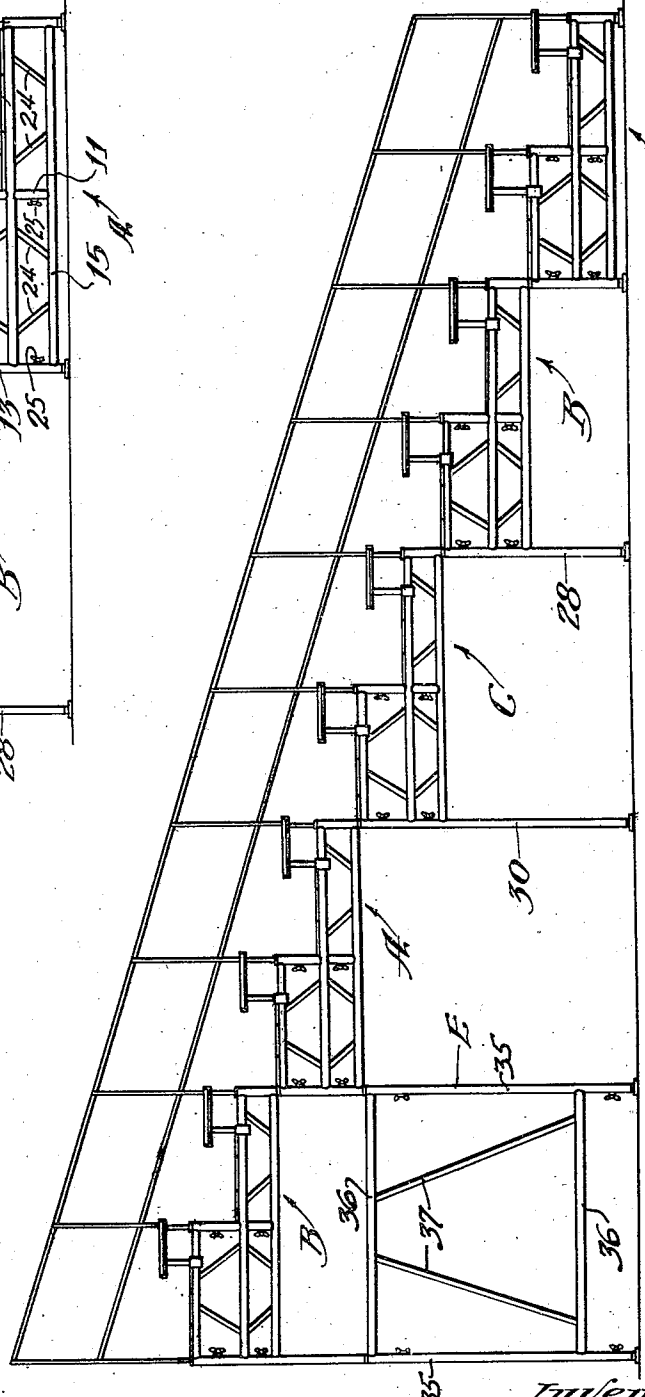


Fig. 1

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PORTABLE GRANDSTAND OR BLEACHER

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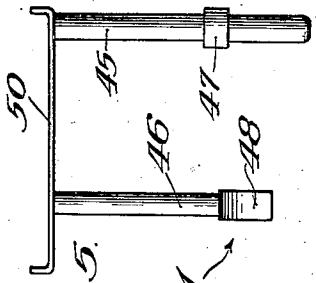


Fig. 5.

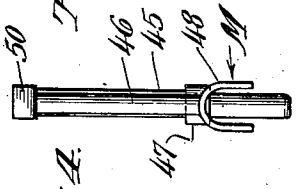


Fig. 4.

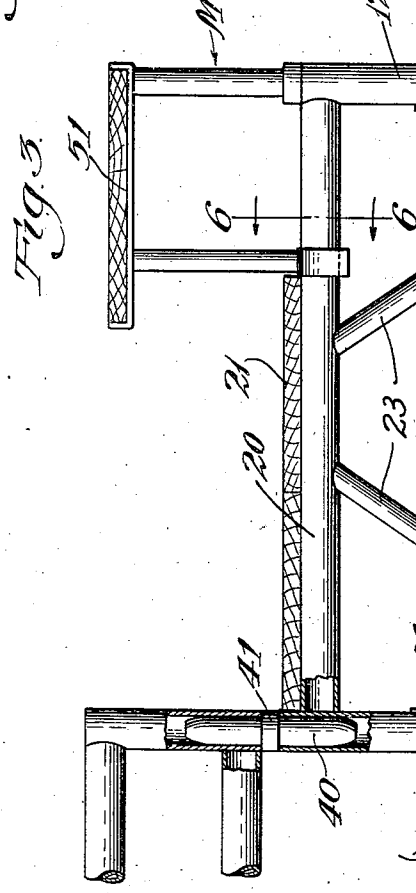


Fig. 3.

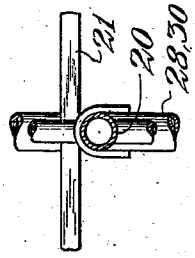


Fig. 6.

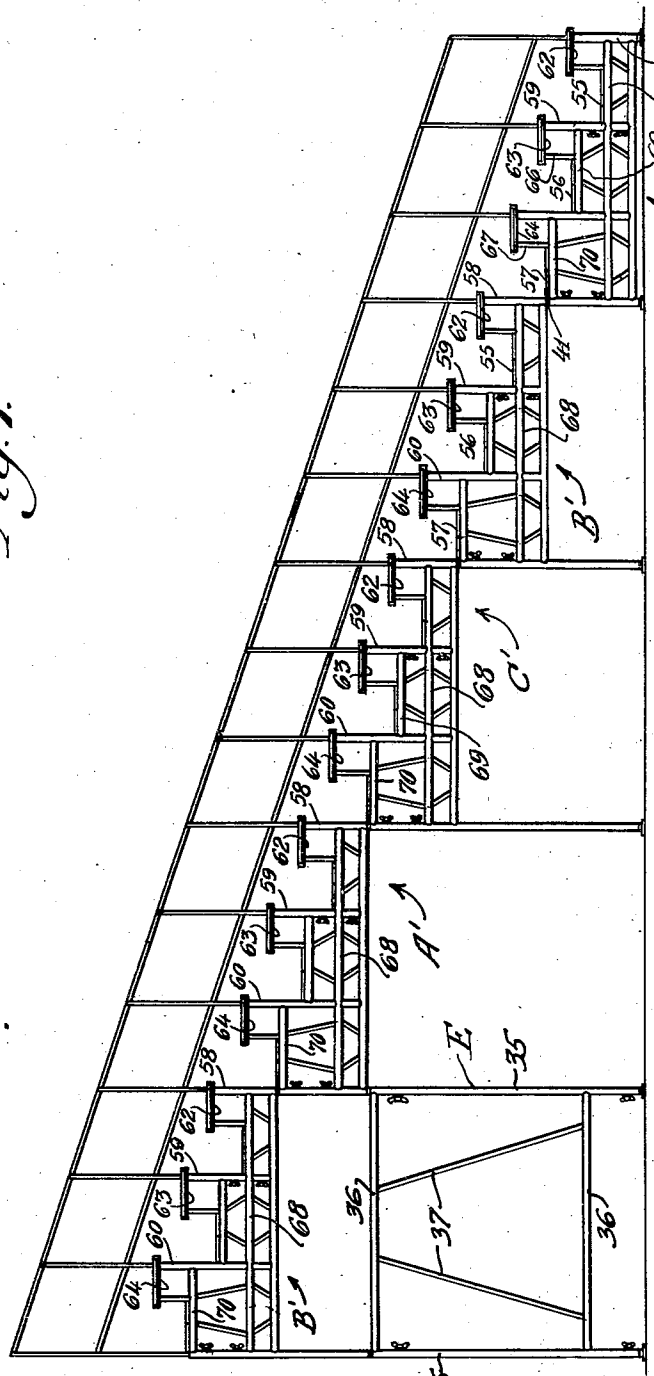
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PORTABLE GRANDSTAND OR BLEACHER

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Fig. 1.



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PORTABLE GRANDSTAND OR BLEACHER

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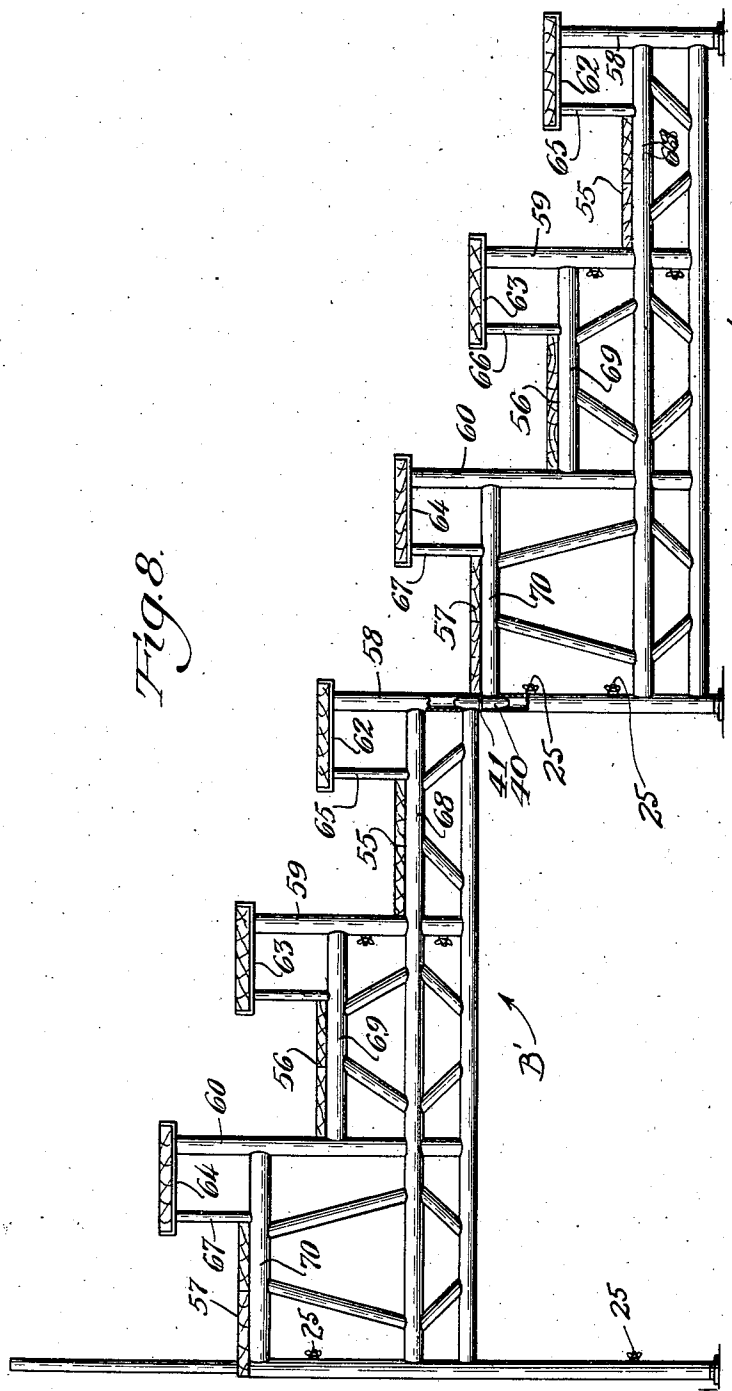


Fig. 8.

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PORTABLE GRANDSTAND OR BLEACHER

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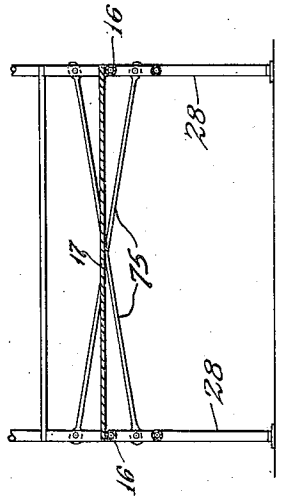


Fig. 10.

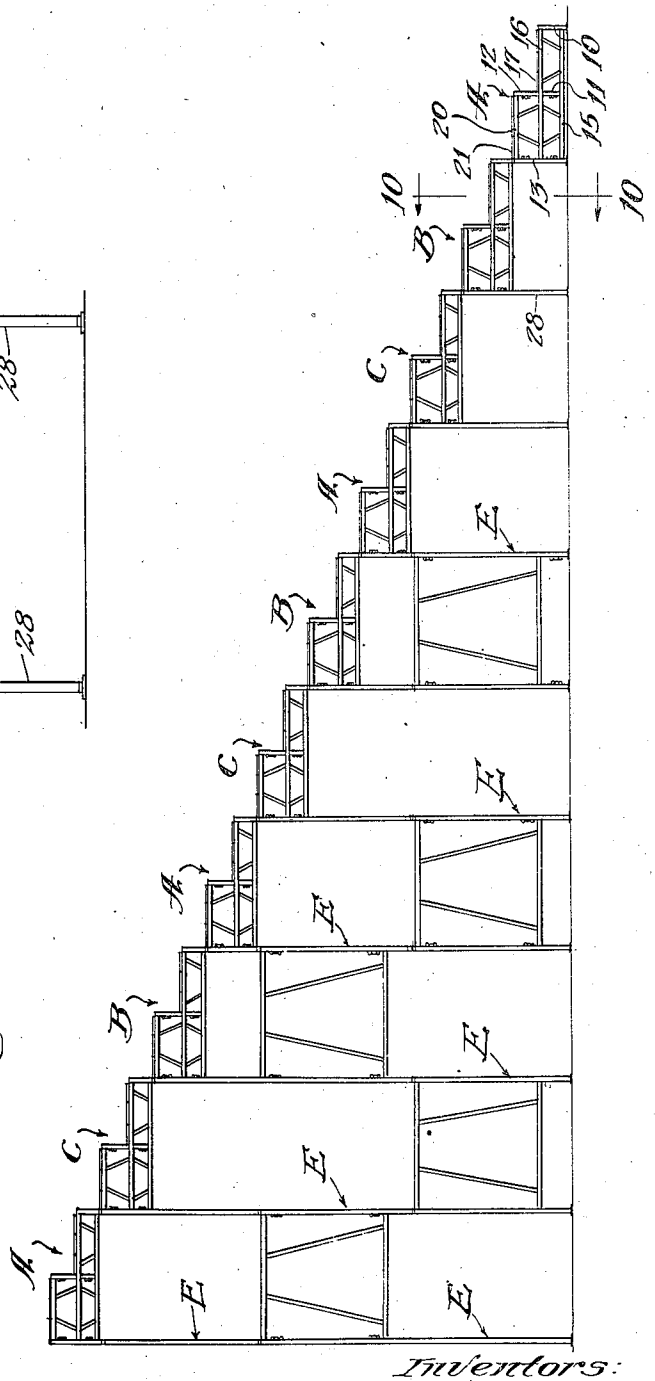


Fig. 9.

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2,295,311

UNITED STATES PATENT OFFICE

2,295,311

PORTABLE GRANDSTAND OR BLEACHER

Reinhold A. Uecker and David E. Beatty, Wauwatosa, and Lawrence C. Oertle, Milwaukee, Wis., assignors to Safway Steel Scaffolds Co. of Wisconsin, Wauwatosa, Wis., a corporation of Wisconsin

Application August 3, 1940, Serial No. 350,850

3 Claims. (Cl. 189—2)

This invention relates to grandstands or bleachers and more particularly to a portable grandstand or bleacher adapted to be increased in height by the addition of sections thereto.

One object of the invention is to provide a portable grandstand or bleacher which will be light in weight.

Another object is to provide a portable grandstand which may be converted into a bleacher at will.

Another object is to provide a bracket adapted to convert a portable grandstand into a portable bleacher.

A further object is to provide a portable grandstand or bleacher which will be economical to manufacture and to erect.

Other objects will become apparent from the following description.

In the drawings:

Fig. 1 is a side elevational view of a portable grandstand with removable bleacher seats in place thereon;

Fig. 2 is a view of a portion of a portable grandstand similar to Fig. 1 but without the bleacher seats;

Fig. 3 is a detail view in side elevation of a portable grandstand with the removable bleacher seats in place;

Fig. 4 is a rear elevational view of the bleacher bracket per se;

Fig. 5 is a side elevational view of the removable bleacher bracket;

Fig. 6 is a cross-section on the line 6—6 of Fig. 3, looking in the direction of the arrows;

Fig. 7 is a modification of the invention showing, in side elevation, a portable bleacher;

Fig. 8 is an enlarged side elevational view of a portion of the bleacher shown in Fig. 7, with parts being shown in cross-section to more clearly illustrate the construction;

Fig. 9 is a side elevational view similar to Fig. 1, but to a somewhat smaller scale, showing a larger grandstand; and

Fig. 10 is a cross-section on the line 10—10 of Fig. 9.

Referring to Figs. 1, 2 and 3 it will be seen that the grandstand may be built to any height by the use of three types of frames, lettered A, B and C, when used in connection with standard scaffold end frames E.

The frame A has a forward post 10, a center post 11—12 and a rear post 13 of approximately twice the length of the post 10. The forward post 10 and the rear post 13 are connected adjacent the bottoms thereof by a horizontal brace 15 and are connected by a horizontal supporting brace 16 fixed between the top portion of the forward post 10 and approximately the center portion of the rear post 13. The forward half of the brace 16 forms a support for grandstand planking 17 at the elevation of the top of the forward post 10. The lower portion 11 of the center post is connected between the parallel braces 15 and 16 while the upper portion 12 of the center post is connected integrally to the top of the brace 16 and extends parallel to the rear post 13. A second horizontal supporting brace 20 connects the tops of the braces 12 and 13 and forms a second support for grandstand planking 21 at the elevation of the tops of the posts 12 and 13.

Suitable diagonal or shear braces 23 join the supporting braces 16 and 20 while similar diagonal or shear braces 24 join the supporting brace 16 with the horizontal brace 15 to form the frame A into a rigid structure. Bolts 25 (Fig. 3) are formed integrally on the post 11—12 and post 13 and are used to attach the ends of cross braces connecting parallel frames as shown in Fig. 10 and in the co-pending application of John F. Roney and Richard W. Page, Serial No. 348,084, filed July 29, 1940, for Portable grandstand.

The frames B and C are identical to the frame A except that the rear post 28 of frame B projects below the bottom of the horizontal brace 15, a distance equal to the height of the post 13, and the rear post 30 of the frame C projects below the bottom of its horizontal brace 15, a distance equal to the length of the post 28 of the frame B. In other respects the frames B and C may be identical to the frame A and similar parts are therefore designated by similar numbers.

The scaffold end frame E is fully described in the U. S. Patent to Reinhold A. Uecker, No. 2,043,498, dated June 9, 1936. Briefly the end frame comprises a pair of spaced tubular posts 35—35 connected by a pair of spaced supporting braces 36—36 and reinforced by shear or diagonal braces 37—37. All of the above members are rigidly connected, as by welding, to form a rigid unit. Bolts 38—38 are fixed on each post adjacent the tops and bottoms thereof on which cross braces (not shown) are connected.

To assemble the grandstand a pin 40 (Fig. 3) having a collar 41 formed thereon is inserted into the tops of each of the rear posts 13, 28 and 30 so that the bottom of the collar 41 rests on the top of the posts 13, 28 and 30. The front post

of the frame B may then be superimposed over the pin 40 in the rear post 13 of frame A and the front post of the frame C superimposed over the pin 40 in the rear post 28 of the frame B.

Thus assembled the bottoms of the posts 13, 28 and 30 are on a single level. The scaffold end frame E being the same height as the post 30 of the frame C may then be used in connection with frame C to support a second frame A, and a second frame B. Thus by adding scaffolding and grandstand frames, a grandstand may be built to any desired height by the mere addition of sections thereto, as will be clearly seen in Fig. 9.

Referring to Figs. 3, 4, 5 and 6 it will be seen that there has been provided a detachable bracket M adapted to convert the grandstand into a bleacher. The bracket M comprises two tubular posts 45 and 46, the post 45 being adapted to fit within the top of the front or center post of the grandstand with a ring 47 formed integrally on the post 45 to support the bracket post 45 on the posts 10 or 12.

The rear bracket post 46 has an inverted U-shaped member 48 formed on the bottom thereof which engages over the supporting braces 16 or 20 to support the rear of the bracket. A horizontal supporting bar 50 is fixed to the tops of the posts 45 and 46 and retains the bleacher planking 51.

If desired the invention may be adapted directly into bleachers. Such a construction is shown in Figs. 7 and 8. Due to the fact that bleachers may be made more compact, three flooring levels 55, 56 and 57 are shown. The forward and center posts 58, 59 and 60 in the bleacher construction are extended above the floor levels 55, 56 and 57 and support the forward end of seat supports 62, 63, 64. The rear ends of the seat supports are carried by posts 65, 66 and 67 which are welded between the seat supports 62, 63, 64, and the horizontal braces 68, 69 and 70.

The frames A, B and C of the grandstand or the frames A', B' and C' of the bleacher are arranged in pairs, spaced from and parallel to each other, as shown in Fig. 10, and connected with cross braces 75, which are connected between the bolts 25 on the frames. The spacing of the frames is equal to the width of an end frame E so that if desired the frames may be placed at right angles to the position shown in Fig. 9.

Thus it will be apparent that there has been provided a light, simple and economical portable grandstand or bleacher which may be built to any desired height by the addition of sections thereto, and it is not desired to limit the invention to the precise form herein shown and described but only by the scope of the appended claims.

The invention is hereby claimed as follows:

1. A grandstand of the character described comprising, a plurality of frames each frame having a front post and a rear post, the length of the rear posts being successive integral multiples of the length of the shortest rear post, a scaffold end frame of a height equal to the length of the longest rear post, means to connect the front post of each frame to the rear post of the frame having the next smallest rear post with the front post superimposed on the rear post, and means to connect and support a frame of the type having the shortest rear post between the top of the longest rear post and the top of the scaffold end frame.

2. In a grandstand having a vertical post and a supporting brace connected to said post adjacent the upper end thereof, a bleacher bracket comprising a pair of spaced vertical posts, one of said posts being receivable within the grandstand post, a horizontal support connecting said posts adjacent the upper ends thereof, a ring formed integrally on and intermediate the ends of that bracket post engageable within the grandstand post to support one end of the bracket, and means on the other bracket post engageable with the supporting brace to support that end of the bracket.

3. In a grandstand having a vertical post and a supporting brace connected to said post adjacent the upper end thereof, a bleacher bracket comprising a pair of spaced vertical posts, one of said posts being receivable within the grandstand post, a horizontal support connecting said posts adjacent the upper ends thereof, a ring formed integrally on and intermediate the ends of that bracket post engageable within the grandstand post to support one end of the bracket, and an inverted U-shaped member having the closed upper end thereof fixed to the lower end of the other bracket post, and having the open lower end thereof engageable over the supporting brace to support that end of the bracket.

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