United States Patent [19]

Broling et al.

[11] **3,789,775**

[45] **Feb. 5, 1974**

[54] **ADJUSTABLE PEDESTAL ASSEMBLY**

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[73] Assignee: **Portec, Inc.,** Oak Brook, Ill.

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[52] **U.S. Cl.**..... **105/367,** 105/366 D, 105/369 A, 248/191 R

[51] **Int. Cl.**..... **B60p 7/08,** B61d 45/00

[58] **Field of Search**..... 105/366 A, 366 D, 367, 105/369 A; 214/119 R

[56] **References Cited**

UNITED STATES PATENTS

3,595,176	7/1971	Broling	105/367
2,891,490	6/1959	Elsner	105/369 A
3,713,616	1/1973	Bowers	105/369 A
3,417,712	12/1968	Pulcrano et al.	105/366 D

Primary Examiner—Drayton E. Hoffman

Attorney, Agent, or Firm—Hill, Sherman, Meroni, Gross & Simpson

[57] **ABSTRACT**

Adjustable pedestal assemblies for supporting stacks of automobile frames on the deck of a flat car. Each adjustable pedestal assembly forms a support for the rear end portion of the bottom frame of a stack of frames, and includes a channel-like base extending longitudinally of the car having parallel side walls and retainer flanges extending inwardly therefrom having inwardly opening notches spaced therealong. A pedestal block is supported on the channel-like base between the flanges thereof and is retained from tilting movement relative to the base by said flanges and is locked in position by a locking ring extending about the pedestal block. The locking ring has portions registrable with the notches in the flanges and is released from the notches by upward movement of the ring along the pedestal block, to accommodate movement of the pedestal block along the base in accordance with the length of frame to be supported.

7 Claims, 5 Drawing Figures

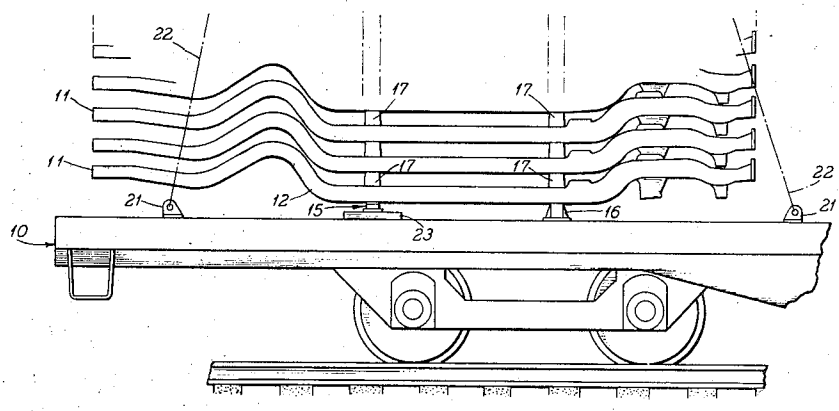


Fig. 1

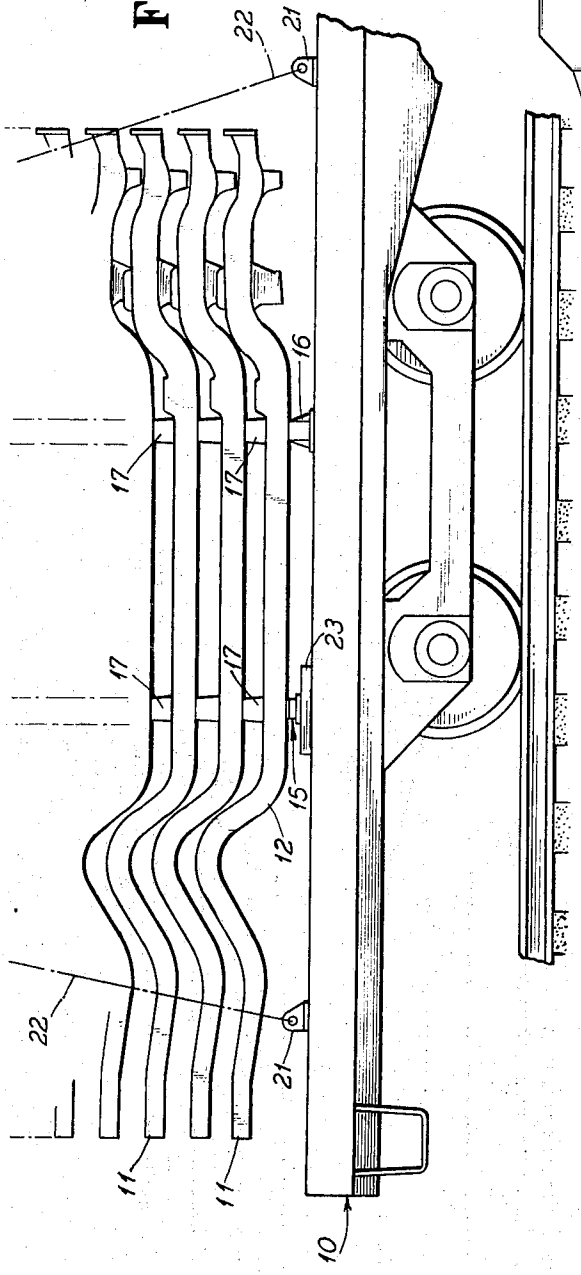


Fig. 3

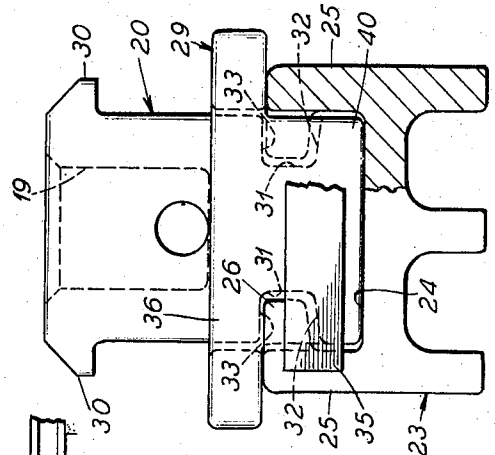
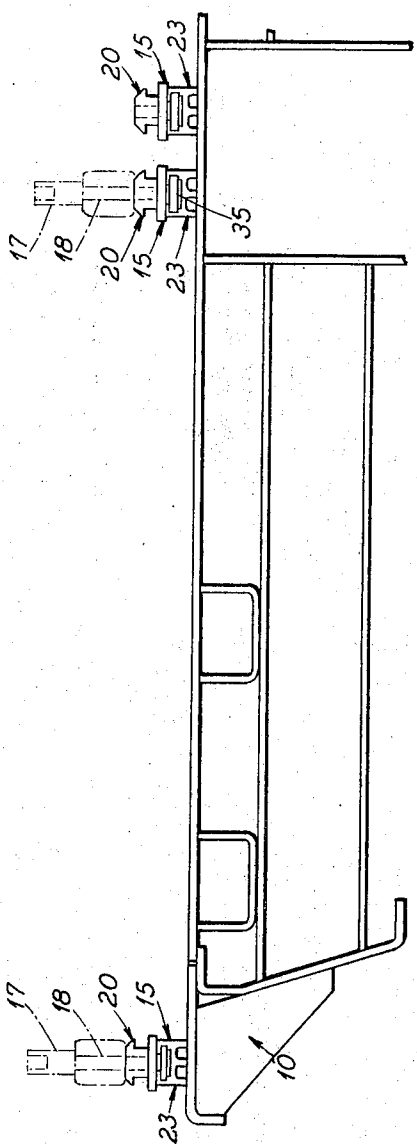


Fig. 2



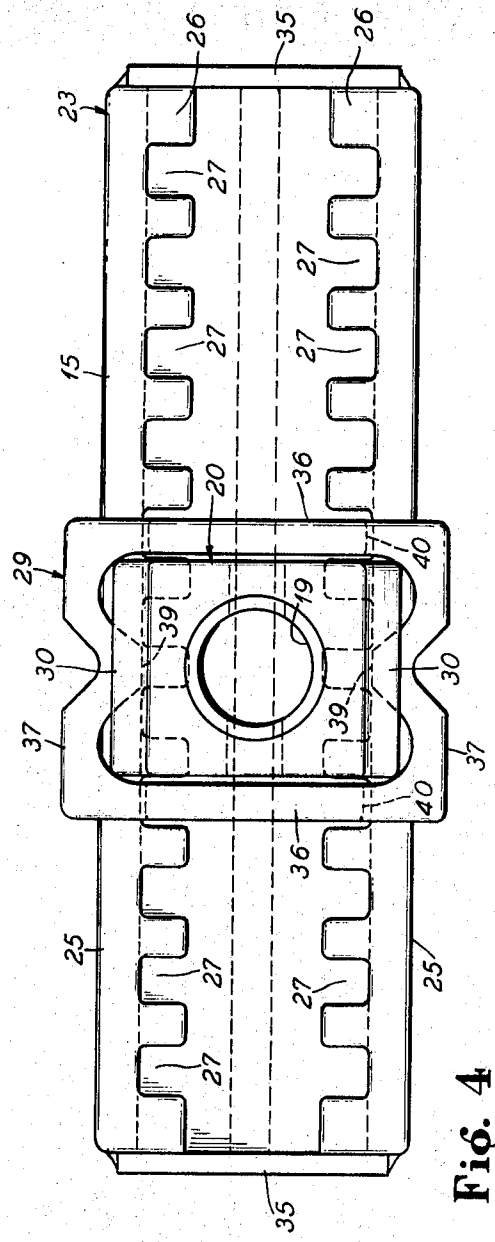

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Fig. 4

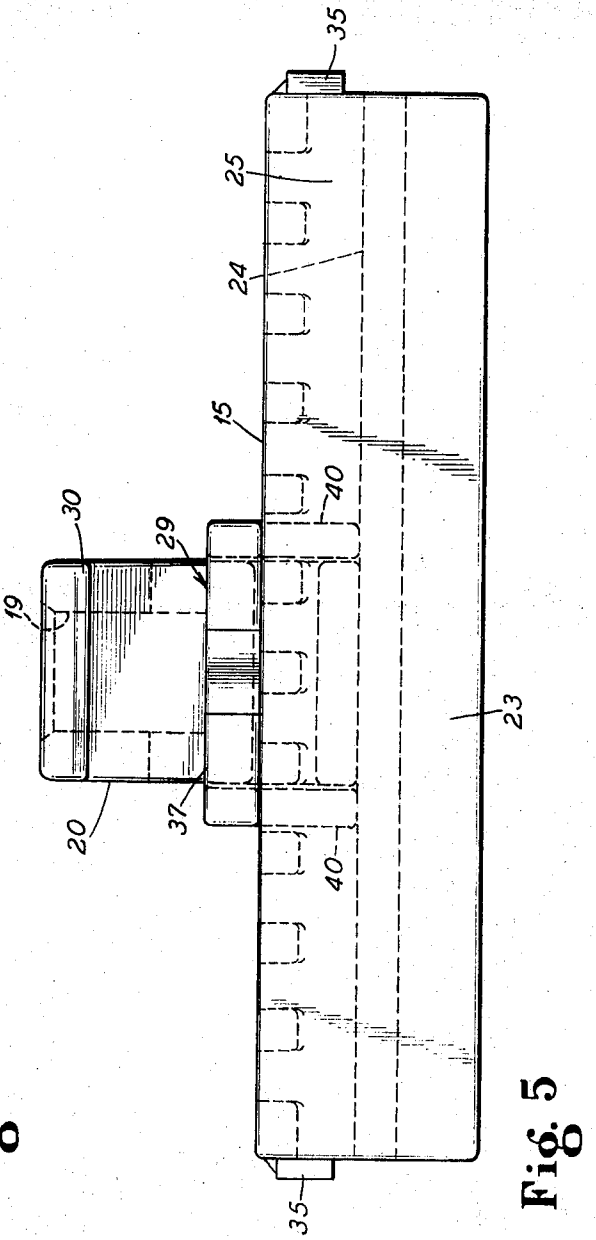

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Fig. 5

ADJUSTABLE PEDESTAL ASSEMBLY

BACKGROUND, SUMMARY AND OBJECTS OF INVENTION

Pedestals for supporting stacks of frames on the deck of a railway flat car are shown in U.S. Pat. No. 3,595,176 granted to Keith W. Broling in July, 1971 and in the U.S. Pat. to Koth et al. No. 2,915,991 granted in December, 1959. Patent No. 3,595,176 further discloses pedestals which may be adjustably moved laterally and longitudinally of the deck of the flat car through bolt and slot connections. Such connections while effective to adjust and lock the pedestals in position, require time to properly position the pedestals and bolt them in position. The adjustable pedestal permits quick changeover from load to load or a mix of frames within a load.

The present invention is an improvement and simplification of that of U.S. Pat. No. 3,595,176 in that the pedestal block is supported on a channel-like base having inwardly extending notched retainer flanges and adjustment of the pedestal block may be attained by moving the block along its base by lifting a locking ring out of engagement with the notches in the flanges of the base, sliding the pedestal block along the base and lowering the locking ring into engagement with the notches in the flanges, when the pedestal block is in a preselected position of adjustment.

The advantages of the present invention, therefore, are that the positions of the pedestals may be preselected in accordance with the length of the automobile frames to be loaded, and locked in position by the simple operation of lowering a locking ring to have interengagement with the base.

Another advantage of the invention is in the simplicity in structure of the base and pedestal block and the positive locking of the pedestal block in a preselected position of adjustment, by the simple lowering of a locking ring into interengagement with the base.

A principal object of the invention, therefore, is to provide a simple and improved pedestal arrangement for supporting a stack of frames on a railway flat car, in which the positions of the pedestal are preselected and adjustment of the pedestal is by the simple operation of lifting a locking ring, sliding the pedestal block to a required position and then lowering the locking ring into interengagement with the base.

A further object of the invention is to provide an adjustable pedestal arranged with a view toward utmost simplicity in construction, positiveness in locking the block in position and simplicity in releasing and adjustably moving the pedestal block along its base.

Other objects, features and advantages of the invention will be readily apparent from the following description of a preferred embodiment thereof, taken in conjunction with the accompanying drawings, although variations and modifications may be effected without departing from the spirit and scope of the novel concepts of the disclosure.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a generally diagrammatic fragmentary view in side elevation of a portion of a railway flat car, illustrating the principle of stacking and tying frames onto the deck of the car, and generally showing an adjustable pedestal constructed in accordance with the principles of the present invention supporting the rear end portion of a stack of frames on the flat deck of the car.

FIG. 2 is a fragmentary transverse sectional view taken through the deck of a flat car, illustrating a series of laterally aligned adjustable pedestals supported on the deck of the car for supporting the rear end portions of the frames of a stack of frames on the deck of a car.

FIG. 3 is an end view of the pedestal, its base and locking ring prior to its assembly to the deck of a car with certain parts broken away and certain other parts shown in section.

FIG. 4 is a top plan view of the pedestal assembly shown in FIG. 3; and

FIG. 5 is a view in side elevation of the pedestal assembly shown in FIGS. 3 and 4.

DESCRIPTION OF PREFERRED EMBODIMENT OF THE INVENTION

In FIGS. 1 and 2 of the drawings, there is shown a portion of a railway flat car **10** having a plurality of generally horizontally extending vehicle frames **11** supported on and stacked above the flat deck of the car one on top of the other. Usually two stacks of frames are stacked across the deck of the car and other stacks of frames are spaced longitudinally along the deck of the car in side-by-side relation.

The vehicle frames may be of various conventional constructions including spaced side rails **12** suitably connected together by cross bracing (not shown). The side rails may extend parallel for the length of the respective frame or may converge from the back to the front of the frame.

The bottom frame **11** is generally shown in FIG. **1** as spaced above the deck of the flat car on rear pedestals **15** and front pedestals **16.** The adjustable pedestals **15** are adjustable longitudinally of the car in accordance with the principles of the present invention while the opposite end pedestals **16** may be fixedly mounted on the deck of the car. The pedestals **16** may also be replaced by the adjustable type **15** on the deck of the car, if desired or required.

The upper frames are spaced from the bottom frame and spaced from each other by interlocking spacers **17** and are interlocked relative to each other and to the bottom frame, by said interlocking spacers **17.**

The spacers **17** are of the same general construction as described in U.S. Pat. No. 3,595,176 and each have an upwardly opening socket and an aligned pin **18** depending therefrom. The pins extend through shipping holes provided in the side frame members **12** of the vehicle frames into the sockets of the next downwardly spaced spacer. The pins **18** extend through shipping holes of the lowermost vehicle frame and are seated in upwardly opening sockets **19** in pedestal blocks **20** of the adjustable pedestals **15.** The pins of the spacers are seated in the fixed pedestals **16** in a similar manner The weight of the frames, except the bottom frame, is taken on the spacers **17** and pins **18,** and pedestals **15** and **16** to relieve the lower frames of the stack of frames from the combined weight of the frames stacked thereabove.

A harness (not shown) in the form of a generally rectangular open framework is provided to tie the frames down to the deck of the car and may be used to tie two laterally spaced stacks of frames to the deck of the car as in U.S. Pat. No. 3,595,176. Anchoring devices **21** on the deck of the car are provided to anchor the harness and frames to the deck of the car through the conventional connecting links **22** connected with

the harness. The connecting links may have turnbuckles and cushioning devices (not shown) therein to enable tension of the links **22** to be taken up and tie down the stack of frames to the deck of the flat car, as shown and described in U.S. Pat. No. 3,595,176, so not herein shown or described further.

The adjustable pedestal **15** is shown as including a base **23**, which may be cast, and welded or otherwise secured to the deck of the car. The base **23** has a channel-like guide and retaining portion including a bottom web **24** forming a support for the pedestal block **20**, parallel spaced side walls **25** having retainer flanges **26** extending inwardly therefrom, and with said base and side walls forming a retainer guide for the pedestal block, retaining the block to said base for adjustable movement therealong. The retainer flanges **26** have uniformly spaced notches **27** spaced therealong and opening toward the center of the base and forming a means cooperating with a locking ring **29**, for locking the pedestal block **20** in position on said base, as will hereinafter more clearly appear as this specificaaion proceeds.

The pedestal block **20** is of a generally rectangular form having the upwardly opening socket **19** in centered relation with respect thereto and having retainer ribs **30** extending outwardly of the side walls thereof adjacent the upper end thereof, to retain the locking ring **29** to said pedestal block when releasing said locking ring from the notches **27**.

Opposite sides of the base of the pedestal block are recessed intermediate the ends of the base, as indicated by reference numeral **31** to form lower flanges **32** extending beneath the retainer flanges **26** and upper shoulders **33** extending along the top portions of said retainer flanges (FIG. 3). The flanges **32** extending beneath the retainer flanges **26** in cooperation with the shoulders **33** and flanges **26** thus hold the pedestal block from tilting relative to said base.

In assembling the pedestal block **20** to the base, said pedestal block with the locking ring **29** thereon, and in an elevated position in engagement with the ribs **30**, is inserted in the base from an end thereof with the recessed portions **31** guided along the retainer flanges **26**. The pedestal block is then retained to its base for slidable movement therealong by metal strips **35** extending across the open ends thereof and welded or otherwise secured thereto.

The locking ring **29** is generally rectangular in form and has parallel spaced end walls **36** and side walls **37** connecting said end walls together. The side walls **37** are recessed intermediate their ends. The inner sides of said side walls **37** extending along opposite sides of the pedestal block conform to the recessed portions thereof to provide lugs **39** slidable along opposite side walls of the pedestal block and engageable with the upper ribs **30**, to prevent the locking ring **29** from being lifted off the pedestal block when being moved into a release position.

The end walls **36** of the pedestal block have locking legs **40** depending therefrom to come into locking engagement with aligned notches **27** in opposite retainer flanges **26**, to lock the pedestal block in position on the base **23**. The notches are spaced along the retainer flanges of the base **23** in a predetermined spaced relation to assure that the pedestal block will be in position to align its socket **19** with a support pin **18** extending through the bottom frame of a stack of frames, where it is desired to interchangeably use the car for stacking frames of different lengths for different models of vehicles. When it is desired to release the lock and change the position of the pedestal block, it is merely necessary to lift the locking ring **29** and withdraw the legs **40** from the respective notches **27** and then slide the pedestal block into the required position along its base.

It may be seen from the foregoing that a simplified form of pedestal for a stack of vehicle frames has been provided, which is rugged in construction and is adjustable longitudinally of the car to take care of frames of different lengths and is arranged to be accurately located in position with respect to the bottom frame of the stack of frames to accommodate the car to be used to interchangeably stack frames of various lengths.

We claim:

1. In a tie-down apparatus for a stack of vehicle frames and in combination with a vehicle having a flat deck,

pedestal means supporting the frames on the deck,

spacer means spacing the frames in vertically spaced relation with respect to each other,

means tying the frames to the flat deck and transferring the weight of the frames to said pedestal means, the improvements comprising,

said pedestal means including at least two laterally aligned pedestal assemblies adjustable in accordance with the length of the frames of the stack of frames,

said adjustable pedestal assemblies each including a channel-like base extending longitudinally of the vehicle deck and having,

a bottom web,

parallel legs extending vertically from opposite sides of said web, and

retainer flanges extending inwardly of said legs,

a pedestal block supported on said bottom web of said base and extending upwardly therefrom between said flanges and having

an upwardly opening socket portion for supporting the stack of frames and retaining the frames in alignment on said deck, and

locking means slidably guided on said pedestal block for interengagement with said flanges for retaining said pedestal block in position on said deck and releasable from interengagement with said flanges to accommodate adjustable movement of said pedestal block along said base in accordance with the length of the frames to be stacked,

said pedestal block having bottom flanges extending under said retainer flanges and having vertically spaced shouldered portions extending over said retainer flanges to retain said pedestal block from tilting relative to said base.

2. The adjustable pedestal assembly of claim **1**,

wherein the retainer flanges have a series of registering inwardly opening notches spaced therealong,

wherein the locking means has at least one leg engageable with a notch in at least one retainer flange and releasable therefrom by vertical movement of said locking means to move said leg out of engagement with said notch.

3. The adjustable pedestal assembly of claim **1**,

wherein the locking means is a locking ring extending about said pedestal block and having at least one leg extending across said base, engageable with facing registering notches in said flanges and sup-

ported on said web when said locking ring is in a locking position and releasable from said flanges by vertical movement of said leg above the tops of said flanges.

4. The adjusable pedestal assembly of claim **2,** wherein the locking ring has two parallel legs depending therefrom extending along opposite sides of the pedestal block across said base for engagement with aligned notches in said flanges, when said locking ring is in a locked position, and movable along said pedestal block to positions above said flanges to accommodate adjustable movement of the pedestal block along said base.

5. The adjustable pedestal assembly of claim **4,** wherein the pedestal block is rectangular, the locking ring conforms to said block and the locking legs are parallel and depend from each end of said locking ring for locking engagement with registering notches in said flanges, to retain said pedestal block in position on said base.

6. The adjustable pedestal assembly of claim **5,** wherein the pedestal block has stop ribs extending outwardly from opposite sides thereof, and wherein the locking ring has stop lugs extending inwardly of opposite sides thereof towards the walls of said pedestal block and engageable with said ribs to prevent removal of said locking ring from said pedestal block.

7. An adjustable pedestal assembly particularly adapted for use in supporting a stack of vehicle frames above the flat deck of a freight transporting vehicle,

a channel-like base extending longitudinally of the flat deck of the vehicle and having a bottom web,

parallel legs extending vertically from opposite sides of said web,

retainer flanges extending inwardly of said legs and having a series of registering inwardly opening notches spaced therealong,

a pedestal block supported on the bottom web of said base between said retainer flanges and extending upwardly of said base and having an upwardly opening socket portion for supporting an associated end portion of the stack of frames and retaining the portion of the stack of frames in association with said pedestal block in alignment on said deck,

and having bottom flanges extending under said retainer flanges and vertically spaced shouldered portions extending over said retainer flanges to retain said pedestal block from tilting relative to said base,

a locking ring extending about said pedestal block and having at least one leg extending across said base, engageable with facing registering notches in said flanges and supported on said bottom web when said locking ring is in a locking position and releasable from said flanges by vertical movement of said ring above the tops of said flanges,

said pedestal block having at least one stop rib extending laterally outwardly from at least one side thereof and disposed above said locking ring when said pedestal block is assembled to said channel-like base, and

said locking ring having a stop leg extending inwardly therefrom toward the wall of said pedestal block and engageable with said stop rib to prevent accidental removal of said locking ring from said pedestal block.

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