June 24, 1969 B. W. SORENSON 3,451,361

PORTABLE BLEACHER STRUCTURE

Filed Sept. 13, 1967

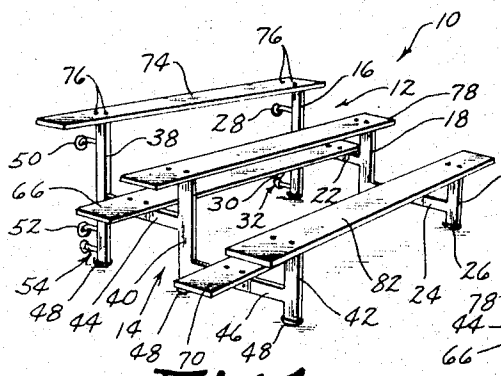

Fig. 1

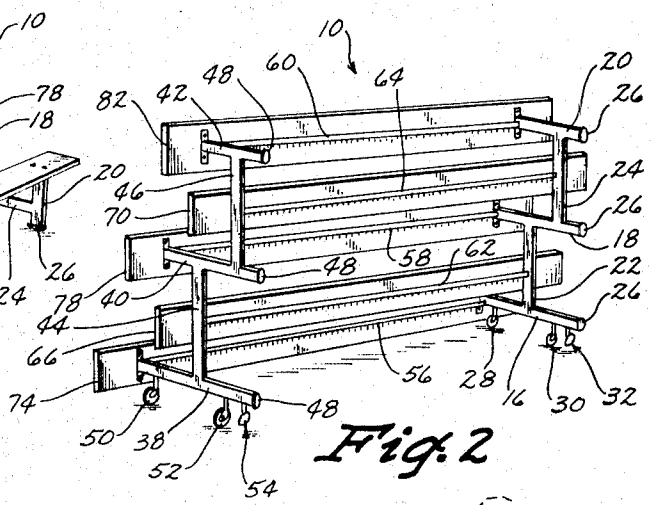

Fig. 2

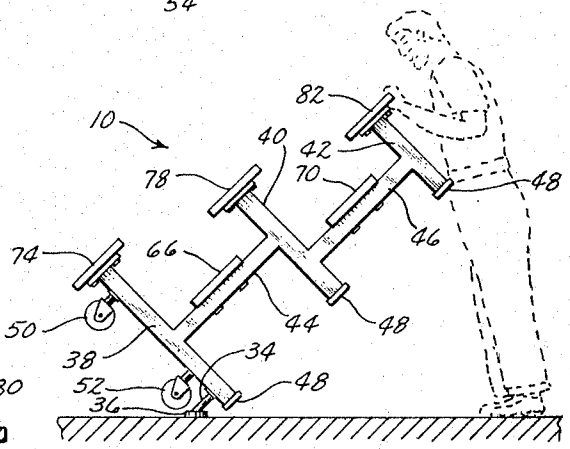

Fig. 3

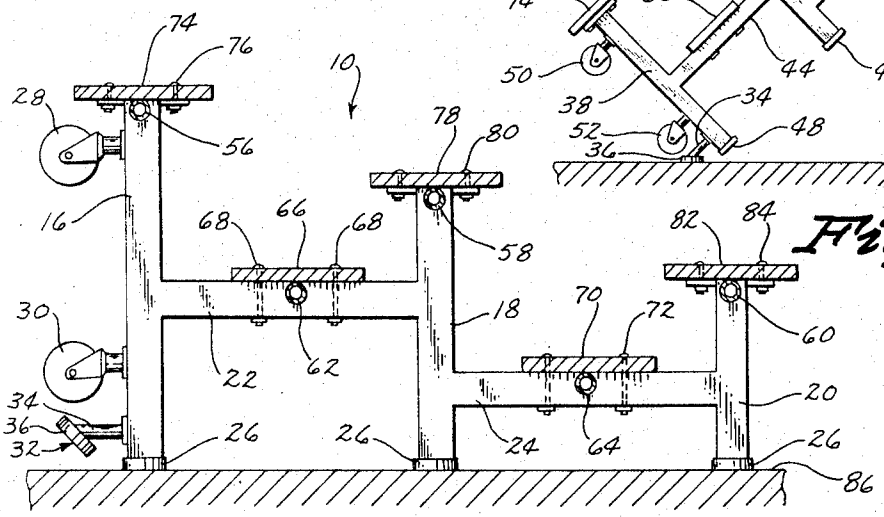

Fig. 4

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PORTABLE BLEACHER STRUCTURE

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ABSTRACT OF THE DISCLOSURE

A portable bleacher structure comprising a frame means having rearward and forward ends and including a floor engaging portion. The frame means has a plurality of casters secured to its rearward end so that the bleacher can be tipped rearwardly 90 degrees from its normal position to a transport position to permit the bleacher to be rolled to a desired location and so that the structure will occupy a minimum amount of horizontal space while in the transport position. A plurality of stop assists are secured to the rearward end of the frame means which are adapted to engage the floor during the tipping operation to prevent the bleacher from rolling away from the person performing the tipping operation.

It is a principal object of this invention to provide a portable bleacher which may be easily pivoted from its normal position to a transport position.

A further object of this invention is to provide a portable bleacher which has a plurality of casters on its rearward end to permit the bleacher to be easily transported from one location to another.

A further object of this invention is to provide a portable bleacher having means positioned on its rearward end which prevents the bleacher from rolling away from the person performing the tipping operation.

A further object of this invention is to provide a portable bleacher which occupies a minimum amount of horizontal space when in a transport position.

A further object of this invention is to provide a portable bleacher which is economical of manufacture, durable in use and refined in appearance.

These and other objects will be apparent to those skilled in the art.

This invention consists in the construction, arrangements, and combination of the various parts of the device, whereby the objects contemplated are attained as hereinafter more fully set forth, specifically pointed out in the claims, and illustrated in the accompanying drawings in which:

FIG. 1 is a front perspective view of the portable bleacher in its normal position;

FIG. 2 is a perspective view of the bleacher in a transport position;

FIG. 3 is a side view illustrating the bleacher as it is being tipped from one position to another; and

FIG. 4 is a sectional view of the bleacher.

The numeral **10** generally designates the portable structure which is seen to be a bleacher unit but it should be understood that the basic concept can be used on any structure wherein portability is desired.

Bleacher **10** includes a pair of opposite side frames **12** and **14** which are constructed of any suitable metal material. Side frame **12** is comprised of vertically disposed, spaced apart frame members **16**, **18** and **20** and which has a horizontal frame member **22** extending between frame members **16** and **18** and horizontal frame members **24** extending between frame members **18** and **20** as seen in FIG. 1. As seen in FIG. 1, the height of the vertical frame members decreases from the rearward end of the bleacher to the forward end and that frame member **24** is disposed in a plane below frame member **22**. The lower ends of frame members **16**, **18** and **20** are each provided with a floor contact **26** mounted thereon which is constructed of rubber or the like. A pair of spaced apart casters **28** and **30** are secured to the reaward end of frame member **16** by any convenient means such as welding or the like. A stop assist **32** is secured to frame member **16** below caster **30** by any convenient means such as welding or the like and is comprised of a body portion **34** and a head portion **36** on the rearward end thereof which is inclined with respect to body portion **34**. Head portion **36** is covered with a suitable resilient material such as rubber or the like.

Side frame **14** is comprised of vertically disposed, spaced apart frame members **38**, **40** and **42** and which has a horizontal frame member **44** extending between frame members **38** and **40** and a horizontal frame member **46** extending between frame members **40** and **42**. As seen in FIG. 1, the height of the vertical frame members **38**, **40** and **42** decreases from the rearward end of the unit to the forward end and that frame member **46** is disposed in a plane below frame member **44**. The lower ends of frame members **38**, **44** and **46** are each provided with a floor contact **48** constructed of rubber or the like. A pair of spaced apart casters **50** and **52** are secured to the rearward end of frame member **38** by any convenient means such as welding or the like. A stop assist **54** is secured to frame member **38** below casters **52**.

As seen in FIG. 2, pipe members **56**, **58** and **60** are secured to and extend between the upper ends of the vertical frame members on side frames **12** and **14**. It can also be seen that pipe members **62** and **64** are secured to the corresponding horizontal frame members and extend therebetween. A plank **66** is bolted to frame members **22** and **44** by bolts **68** and extends therebetween. Likewise, a plank **70** is bolted to horizontal frame members **24** and **46** by bolts **72** and extends therebetween. A plank **74** is secured to the upper ends of frame members **16** and **38** by bolts **76** and a plank **78** is secured to the upper end of frame members **18** and **40** by bolt **80** while a plank **82** is secured to the upper ends of frame members **20** and **42** by blots **84**. Planks **74**, **78** and **82** form the seat portions of the bleacher while planks **66** and **70** form the foot rest portion of the bleachers. Thus, plank **66** serves as a foot rest for the seat portion pormed by plank **74** while plank **70** serves as a foot rest portion for the seat portion formed by plank **78**. Persons sitting on plank **82** would rest their feet upon the floot which is generally designated by the reference numeral **86**. As seen in FIG. 4, the various pipe members not only serve to stabilize the unit but also serve to prevent the various planks from bending downwardly inasmuch as the planks engage the upper surface of the pipe members.

FIG. 1 illustrates the bleacher in its normal position while FIG. 2 illustrates the bleacher in its transport or stored position. The bleacher is pivoted from the position of FIG. 1 to the position of FIG. 2 by simply grasping plank **82** and pivoting the forward end of the unit upwardly and rearwardly in a manner illustrated in FIG. 3. The bleacher will initially pivot about the lower ends of frame members **16** and **38**. The continued pivotal movement of the bleacher will cause the head portions of the stop assists **32** and **54** to engage the floor as seen in FIG. 3. The engagement of the stop assists with the floor prevents the bleacher from rolling rearwardly upon the casters **30** and **52** when the same come into engagement with the floor. It can be appreciated that if the stop assists **32** and **54** were not provided, the unit would tend to roll rearwardly as seen as the casters **30** and **52** came into engagement with the floor and the lower ends of the frame

members **16** and **38** had been raised out of engagement with the floor. The bleacher is pivoted about the stop assists until the unit is in a vertical position and so that the various casters engage the floor surface as seen in FIG. 2. The bleacher occupies a minimum amount of horizontal space when in a transport position which permits the device to be easily rolled through doorways or the like. The device is pivoted from the position of FIG. 2 to the position of FIG. 1 in a manner opposite to the procedure just described.

It can be seen from the foregoing that a portable bleacher has been described which may be easily pivoted from its normal position to a transport position without the attendant danger of the bleacher rolling away from the person performing the tipping operation. It can also be seen that an extremely practical and durable bleacher has been provided due to the construction thereof as specifically described hereabove.

As previously stated, the basic structure can be utilized whenever portability is desired such as on risers, etc.

Thus, the device accomplishes at least all of its stated objectives.

Some changes may be made in the construction and arrangement of my portable bleacher structure without departing from the reel spirit and purpose of my invention, and it is my intention to cover by my claims, any modified forms of structure or use of mechanical equivalents which may be reasonably included within their scope.

I claim:

1. In a portable structure,

a frame means having opposite ends and being pivotally movable from a normal position to a transport position with respect to a supporting surface,

a plurality of casters on said frame means on one of its ends adapted to engage the supporting surface when said frame means has been pivotally moved to its transport position,

a stop means on said one end adapted to engage the supporting surface during the pivotal movement of the frame means to prevent the frame means from moving away from the person pivoting the same, said stop means being secured to said one end at a point above and in spaced relation to said supporting surface when said frame means is in its normal and transport positions,

said frame means is comprised of a pair of spaced apart end frames, each of said end frames including a plurality of vertically disposed, spaced apart frame members having horizontal frame members secured thereto and extending therebetween,

said vertical frame members progressively decreasing in height from said one end to the other end of said frame means,

supporting members secured to and extending between the vertical frame members of the end frames, and supporting members secured to and extending between the horizontal frame members of the end frames,

said casters being secured to the vertical frame members at said one end, and

said stop means being secured to the vertical frame members at said one end below said casters.

2. The structure of claim **1** wherein said frame means comprises a bleacher structure.

3. The structure of claim **1** wherein each of said stop means is comprised of a body portion extending from said one end of said frame means and an inclined head portion secured to the free end thereof.

4. The structure of claim **3** wherein said body portion of said stop means extends in a perpendicular relationship to said one end of said frame means.

5. The structure of claim **4** wherein said inclined head portion extends at an acute angle to the longitudinal axis of said body portion.

6. The structure of claim **5** wherein said head portion includes an outer flat floor engaging surface.

7. The structure of claim **6** wherein said flat floor engaging surface is substantially larger in area than the cross-sectional area of said body portion.

8. The structure of claim **7** wherein said flat surface includes a resilient material thereon covering said substantial flat surface.

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U.S. Cl. X.R.

52—9, 182; 108—92