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APPARATUS FOR MOUNTING BASKETBALL BACKBOARDS

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2 Sheets-Sheet 1

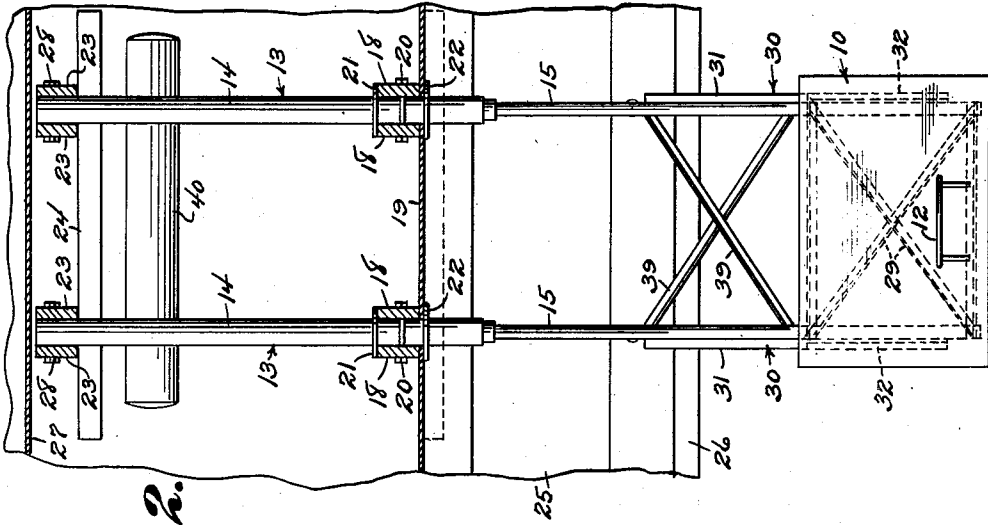


Fig. 2.

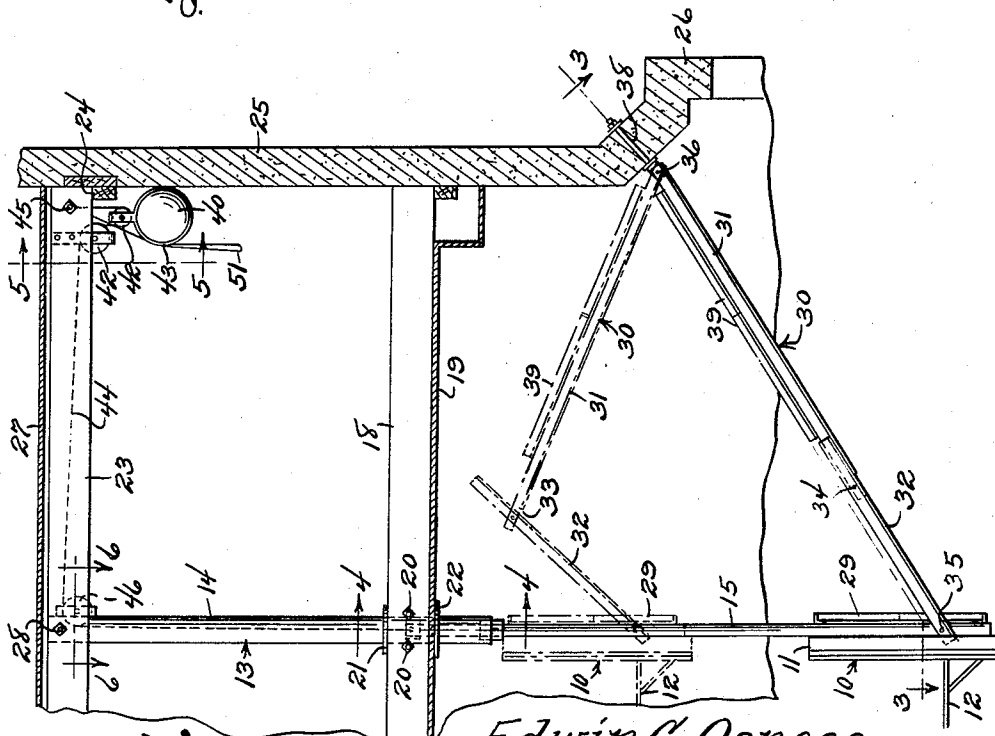


Fig. 1.

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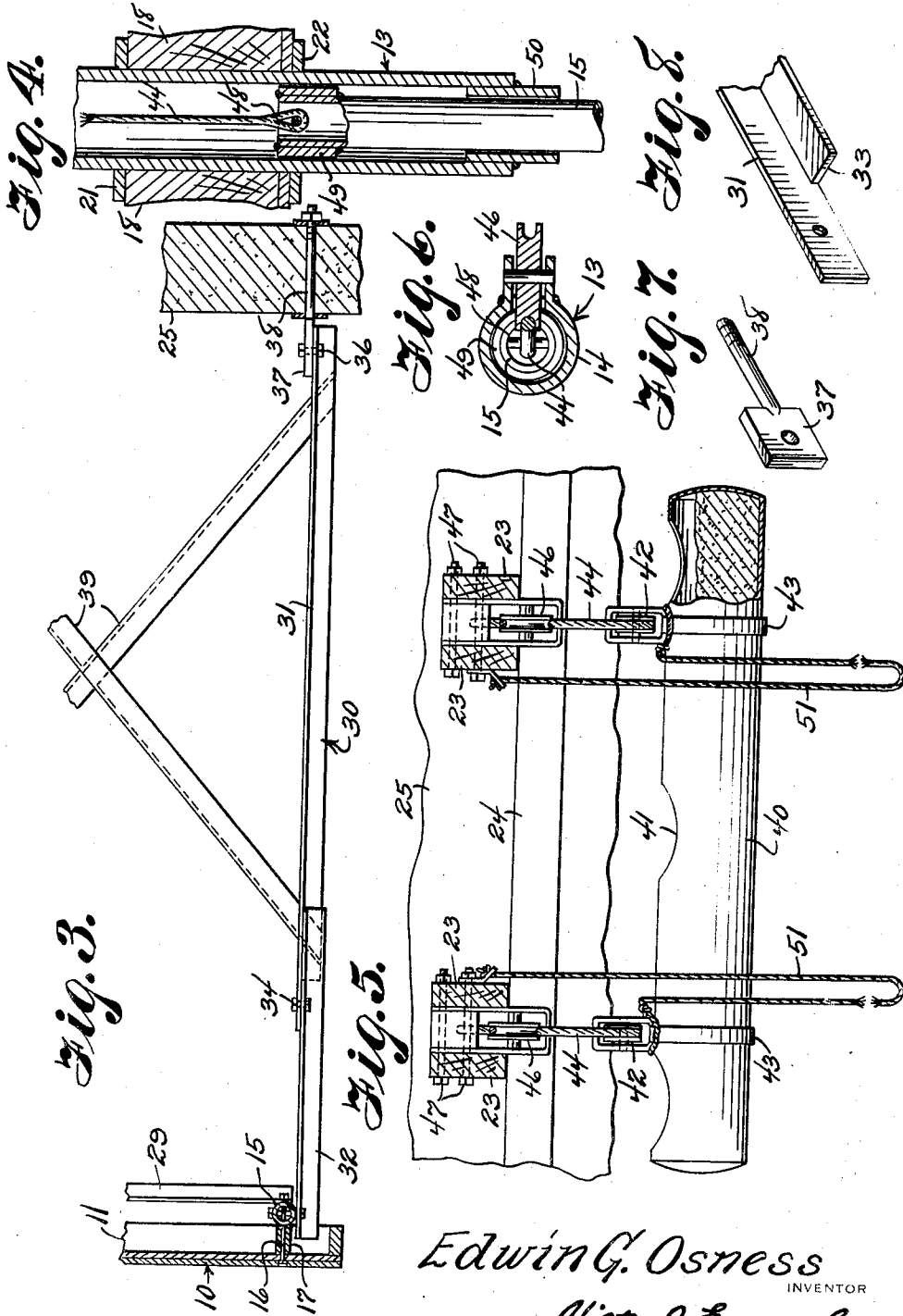
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APPARATUS FOR MOUNTING BASKETBALL BACKBOARDS

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3 Claims. (Cl. 273-1.5)

This invention relates to apparatus for mounting basketball backboards and has for an object to provide apparatus of this character adapted to so mount the backboard in front of a stage proscenium that it can be easily moved upward to clear the opening.

A further object is to provide apparatus of this type having an elbow action brace frame adapted to permit the backboard to be raised to clear the stage proscenium opening or lowered to operative position.

A further object is to provide apparatus of this character having a counterbalance for holding the backboard in raised position when not in use.

A further object is to provide apparatus of this character including a safety device adapted to prevent both the counterbalance and the backboard from falling to the floor in case the cable breaks.

A further object is to provide apparatus of this character which will be formed of a few strong simple and durable parts, which will be inexpensive to manufacture, and which will not easily get out of order.

With the above and other objects in view the invention consists of certain novel details of construction and combinations of parts hereinafter fully described and claimed, it being understood that various modifications may be resorted to within the scope of the appended claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings forming a part of this specification:

Figure 1 is a cross sectional view of a portion of a stage proscenium showing a basketball backboard mounting apparatus constructed in accordance with the invention, in side elevation.

Figure 2 is a longitudinal sectional view of the proscenium showing the backboard mounting apparatus in front elevation.

Figure 3 is a longitudinal sectional view taken on the line 3-3 of Figure 1 showing the brace frame of the backboard and showing one of the anchoring bolts of the frame.

Figure 4 is a detail vertical sectional view taken on the line 4-4 of Figure 1 showing the safety device for preventing the apparatus from falling to the floor in case the cable breaks.

Figure 5 is a detail vertical sectional view taken on the line 5-5 of Figure 1 showing the counterbalance and its connections with beams of the building.

Figure 6 is a detail cross sectional view taken on the line 6-6 of Figure 1 showing one of the

guide pulleys and the connection of one of the cables to one of the telescopic rod supports of the backboard.

Figure 7 is a detail perspective view of one of the anchor bolts for pivotally securing the brace frame to the proscenium.

Figure 8 is a detail perspective view showing the end of one of the bars forming the elbow joint in the brace frame.

Referring now to the drawings in which like characters of reference designate similar parts in the various views, 10 designates a basketball backboard, preferably of laminated structure, as best shown in Figure 3, and having on the rear side thereof a frame 11 of the same rectangular shape as the backboard. The backboard is equipped on the front with the usual basket support 12.

The backboard mounting apparatus comprising the subject matter of this invention includes a pair of vertically disposed telescoping rods, each including an upper tubular rod and a lower rod slidable into and out of the upper rod. As best shown in Figure 3, the lower rod is secured to a respective side of the backboard by a bolt which is passed through the backboard and through the rod. A spacing sleeve is disposed on the bolt between the backboard and the lower rod.

The upper rod, as best shown in Figure 2, passes between two beams of the ceiling structure of the building, and is bolted to the beams by a pair of bolts passed through the beams on each side of the upper rod, as best shown in Figure 1. Upper and lower stop collars are disposed on the upper rod, the upper stop collar resting upon the upper edges of the beams and the lower stop collar bearing against the ceiling.

The upper end of the upper rod is engaged between a pair of beams which rest at the ends on a bar, best shown in Figure 2, secured to the wall of the building above the proscenium, near the roof. A bolt is passed through the upper end of the rod and through both beams, as best shown in Figure 1.

The lower rods of both telescoping rods are braced by a pair of crossed braces of angular cross section. When the lower rods are telescoped into the upper rods the backboard will be raised to upper position to clear the opening of the proscenium. When the lower rods are lowered to extended position below the upper rods the backboard will be disposed in operative position below the proscenium.

The brace frame comprises parallel side members 30, each formed of a pair of overlapping arms 31 and 32 of angular cross section. The upper arm 31 is provided with a cut-away portion 33 at its lower end, as best shown in Figure 1, which end is overlapped by the upper end of the lower arm 32. A pivot pin 34 is passed through the overlapping ends of the arms to permit elbow motion, as shown by dotted lines in Figure 1.

10 The lower end of the lower arm is pivotally connected to the lower rod 15 of the respective telescoping rod 13 by a pivot pin 35. The upper end of the upper arm is pivotally connected by a pivot pin 36 to a flat head 37 formed on the end of a bolt 38, best shown in Figure 7. The bolt 37 is engaged through the wall 25 of the building to pivotally anchor the respective side member of the brace frame to the building. A pair of crossed braces 39, of angular cross section, are secured at the ends to the side members of the brace frame, as best shown in Figure 2, to reinforce the members against spreading apart.

The counterbalance comprises an elongated tube 40, best shown in Figure 5, which is closed at both ends. The tube is provided with opening 41 in the top side through which sand or other ballast may be inserted in the tube to weight the tube, as best shown in Figure 1. The tube is provided with a pair of sheaves 42 near the ends, secured to the tube by strap rings 43.

The counterbalancing weight is suspended from the beams 23 by a pair of cables 44 which are passed through respective sheaves 42 and secured at one end to respective beams 23 by bolts 45. The cables are trained over respective sheaves 46 disposed between each respective pair of beams 23 and secured to the latter by a pair of bolts 47, as best shown in Figure 5. From thence, the cables 44 are trained downwardly through respective upper tubular rods 14 of the telescoping rods 13 and terminally connected to the upper ends of respective lower rods 15 by bolts 48, as best shown in Figure 4.

When the side members of the brace frame 30 are in full line position shown in Figure 1, the weight 40 has a tendency to pull upward the lower end of the lower arms 32. This is resisted by the overlapping lower portion of the upper arms 31 so that the backboard 10 is firmly held in operative position. When the elbow joint is broken, as shown by dotted lines, the lower arms 32 will engage in the cut-away edges 33 of the upper arms 31, at the limit of movement of the joint, so that the weight will hold the backboard raised to upper position above the proscenium 26.

Now referring to Figure 4, it will be seen that a sleeve 49 is welded, or otherwise secured, to the upper end of the lower rod 15 of each telescoping rod 13. Also a sleeve 50 is welded, or otherwise secured, to the lower end of the upper tubular rod 14 of each telescoping rod. In case the cable 44 breaks the lower rods 15, carrying the backboard 10, will gravitate until the sleeves 49 engage the sleeves 50 and prevent further gravitating movement. Thus the rods and backboard are prevented from falling to the floor of the stage in case the cables 44 break.

A pair of auxiliary safety cables 51 are secured at the upper ends to the beams 23 and at the lower ends to the strap rings 43 to check the counter weight in case the main cables 44 break.

Since the operation of the parts have been described as a description of the parts progressed, it is thought that the operation of the invention

will be fully understood without further explanation.

What is claimed is:

1. Basketball backboard suspension apparatus comprising the combination with a stage proscenium and the building structure above the proscenium, of a backboard, vertically telescoping frame rods connected at the lower ends to the backboard and connected at the upper ends to the building structure above the proscenium, an elbow jointed brace frame adapted to fold upwardly at the joint, said frame being pivotally connected to the rods at the backboard and being pivotally connected to the building structure above the proscenium opening, the elbow joint 15 of said frame permitting the backboard to be elevated to released position above the proscenium opening when the frame rods are telescoped and permitting the backboard to be lowered to operative position below the proscenium when the frame rods are extended, and a counterbalance means connected to the frame rods and connected to the building structure above the proscenium for holding the backboard in either lowered operative position or in raised inoperative position.

2. Basketball backboard suspension apparatus comprising, the combination with a stage proscenium and the building structure above the proscenium, of vertically disposed frame rods, each comprising an upper tubular member fixed to the building structure above the proscenium and a lower member telescoping into the upper member and connected to the backboard, a brace frame including longitudinal members having elbow joints adapted to fold upwardly, said brace frame being pivotally connected to the lower members of the frame rods at the backboard and being pivotally connected to the building structure above the proscenium opening, sheaves connected to the building structure above the proscenium, a counterbalance weight, sheaves connected to the counterbalance weight, and cables connected at one end to the building structure above the proscenium and trained through said sheaves, the other ends of the cables being connected to the lower members of the frame rods, said weight holding the elbow joints of the brace frame in either normal or in folded position to respectively hold the backboard in lowered operative position below the proscenium when the frame rods are extended or in raised inoperative position above the proscenium opening when the frame rods are telescoped.

3. Basketball backboard suspension apparatus comprising the combination with a stage proscenium and the building structure above the proscenium, of a backboard, vertically telescoping frame rods connected at the lower ends to the backboard and connected at the upper ends to the building structure above the proscenium, a brace frame including parallel side members, each formed of upper and lower arms, pivotally connected together, the upper arm being provided with a cut-away portion at its lower end adjacent the pivot, the upper end of the lower arm overlapping the cut-away portion and extending beyond the pivot, said overlapping upper end yieldably holding the upper and lower arms in alinement, the upper portion of the lower arm rocking into said cut-away portion to permit the arms to fold upwardly and form an elbow joint at the pivot, pivots connecting the lower arms to the frame rods at the backboard, pivots connecting the upper arms to the building struc-

ture above the proscenium opening, the elbow joints of said arms permitting the backboard to be elevated to inoperative position above the proscenium opening when the frame rods are telescoped and permitting the backboard to be lowered to operative position below the proscenium when the frame rods are extended, and a counterbalance means connected to the frame rods and connected to the building structure above the

proscenium for holding the backboard in lowered operative position when said arms of the brace frame are in alinement, said counterbalance means holding the backboard in raised inoperative position above the proscenium opening when said arms of the brace frame are folded upwardly at the elbow joints.

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