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ADJUSTABLE HEIGHT BALANCE BEAM

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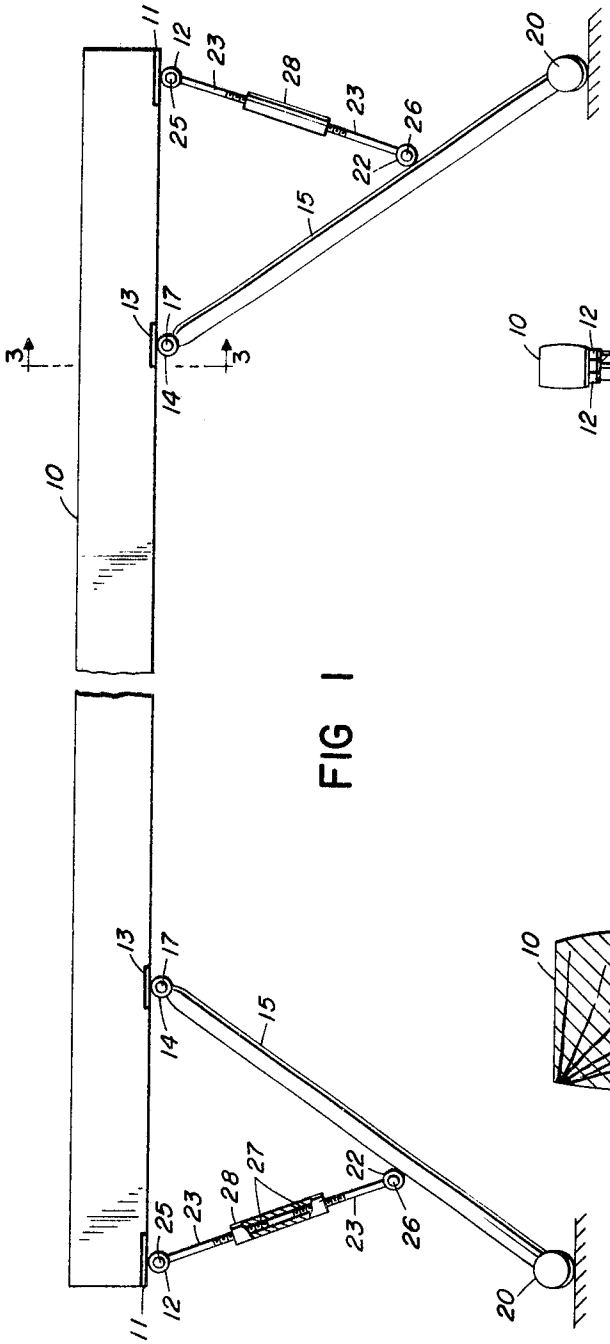


FIG 1

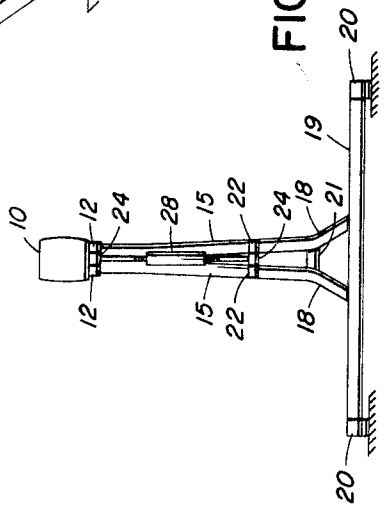


FIG 2

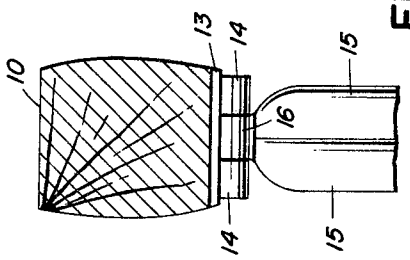


FIG 3

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ADJUSTABLE HEIGHT BALANCE BEAM

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ABSTRACT OF THE DISCLOSURE

A balance beam having inclined legs pivoted thereto which engage the ground only directly below or beyond the ends of the beam in order to leave the area therebelow clear. Adjustable braces are hinged at one end to the beam and at the second end to the legs. At the same time, the legs are formed to distribute the loads on the beam and to insure its stability.

BACKGROUND OF THE INVENTION

Obviously, it is most desirable in the case of a balance beam, no less than in the cases of other gymnastic apparatus, that it be made to the best possible standards of safety and stability. From the standpoint of safety, one of the chief aspects is that the beam not present below it anything which will constitute a hazard to performers either while performing thereon or when mounting or dismounting therefrom. This in turn means that preferably the floor area below the beam be clear of as much of the beam's supporting structure as possible, especially the horizontal portions thereof along the floor which provide stability. Yet at the same time, that stability must not itself be impaired but preferably increased if possible. The foregoing aspects form the chief features of the present invention as hereinater described.

SUMMARY OF THE INVENTION

Essentially, the present invention comprises two pairs of supporting points for the beam, one pair adjacent each end. The inner point of each pair consists of a bifurcated or split leg attached thereto which inclines downwardly and engages the floor approximately directly below or even beyond the end of the beam. The two legs are pivoted to the beam at their attached points in order to provide height adjustment. The latter is accomplished by means of rigid adjustable struts or braces, in the general form of turnbuckles, pivoted at their upper ends to the respective ends of the beam and at their lower ends to their respective legs intermediate the ends of the latter. The upper end of each adjustable brace thus supplies the remaining point of support of each pair thereof for the beam. The lower ends of each leg are fitted with extensive transverse feet which provide the beam's lateral stability. Accordingly, while the beam is rigidly supported at four points along its length and at widely spaced points laterally thereof on the floor, yet the working area therebeneath is free of obstructions likely to cause injury to performers. Thus, that entire area can be smoothly covered with protective mats if desired.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side elevation of a balance beam according to the present invention.

FIG. 2 is an end view of the balance beam shown in FIG. 1.

FIG. 3 is a cross-sectional view taken along the line 3—3 of FIG. 1.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The beam itself is designated at **10** and is conventional in shape and material, the latter being preferably a suitable wood. Into the lower face of beam **10** closely adjacent its opposite ends are fitted hinge plates **11** each carrying a first pair of depending, axially spaced hinge bushings **12**, the axes thereof being perpendicular to the longitudinal axis of beam **10**. Similar hinge plates **13** are fitted into the lower face of beam **10** at equal distances inboard of hinge plates **11** and each is equipped with a second pair of similarly spaced hinge bushings **14** whose axes are parallel to those of bushings **12**.

A pair of leg assemblies incline downwardly and outwardly toward the ends of beam **10** from the hinge plates **13**. Each such leg assembly comprises a pair of split leg members **15**, which may be formed from suitable tubing, laterally spaced from each other transversely of beam **10**. The upper portions of each pair of leg members **15** are joined side-by-side and fitted upon their ends with a hinge bushing **16** received between the hinge bushings **14**, being pivoted therebetween upon a suitable hinge pin **17**. The lower portions of each pair of leg members **15** diverge gradually until adjacent their lower ends they are rather sharply splayed outboardly at **18**, the lower ends themselves being rigidly attached, as by welding, midway between the end of an extensive transverse foot **19**. The latter may also be formed of suitable tubing and is equipped at its outer ends with suitable elastomeric pads **20** which engage the floor. Each pair of leg members **15** is joined at **18** by a tie member **21** and the undersurfaces of each pad **20** are arcuate in the longitudinal plane of beam **10**.

Intermediate the ends of each leg assembly, on the face thereof opposite the hinge bushings **12** thereabove, the leg members **15** thereof have fixed thereto a third pair of axially spaced hinge bushings **22** whose axis is parallel to those of bushings **12** and **14**. The ends of a pair of adjustable braces are interposed between the respective pairs of hinge bushings **12** and **22**. Each such brace includes a pair of axially spaced rods **23** whose remote ends are fitted with hinge bushings **24** received between the respective pairs of hinge bushings **12** and **22** and pivoted thereto upon suitable hinge pins **25** and **26**, respectively. The adjacent ends of rods **23** are provided with oppositely threaded portions **27** which are engaged by the complementary internal threads of adjusting sleeves **28**. Accordingly, beam **10** is rigidly supported above the floor at four points along its length represented by the two pairs of hinge pins **17** and **25**, and its height may be adjusted by appropriate rotation of sleeves **28**.

Preferably, the entire balance beam assembly is made to the specifications prescribed by the Federation Internationale Gymnastique. These call for beam **10** to be 500 cm. in length and the height of its top face to be adjustable from 100 to 120 cm. above the floor. The hinge pins **17** and **25** are to be located 75 cm. and 6 cm., respectively, inboard from the ends of beam **10** and the length of the feet **19** is to be 120 cm. Thus, the leg assemblies should be proportioned so that at the maximum height of 120 cm. of beam **10**, its feet **19** fall approximately directly below the respective ends of beam **10**. Any decrease in the height of the latter will require movement of feet **19** outwardly of the ends of beam **10**. Thus feet **19** can not in any circumstances intrude upon the clear space left beneath the beam **10** which is thus always left wholly free for placement of protective matting. Stability is also assured by the broad extent of feet **19**.

Though the invention has been described in the terms of a particular embodiment and detailed descriptive language has been used, it is not so limited. Instead, the fol-

lowing claims should be read as encompassing all modifications and adaptations of the invention falling within the spirit and scope thereof.

I claim:

1. In gymnastic apparatus having an elongated horizontal balance beam effective to support a performer thereon, the improvement in combination therewith of a supporting structure for each end of said beam effective to support said beam above the floor, each of said supporting structures comprising: a leg assembly hinged at its upper end to said balance beam about a first axis transverse with respect thereto at a first location adjacent one end thereof, said leg assembly inclining downwardly from said hinge axis in a direction toward said beam end, and adjustable brace means hinged to said beam about a second axis at a second location adjacent said beam end and to said leg assembly intermediate the ends thereof about a third axis, said second and third hinge axes being parallel to said first hinge axis, said brace means being effective to fix said leg assembly with respect to said beam and to optionally permit adjustment of the inclination of said leg assembly with respect thereto about said first axis, said balance beam being thereby adjustable by virtue of said adjustable brace means between predetermined greater and lesser heights above the floor, said leg assemblies engaging the floor substantially directly beneath the respective ends of said beam when said beam is at said greater height and beyond the respective ends of said beam when said beam is at said lesser height.

2. The combination of claim 1 wherein said first location is inboard of said beam end and said second location is at said beam end.

3. The combination of claim 2 wherein each of said leg assemblies comprises a pair of leg members laterally spaced in a direction transversely of said beam, each of said leg members joining at their upper ends adjacent said first hinge axis and the spacing therebetween increasing in the downwardly direction, and a foot member connecting the spaced lower ends of said leg members, said foot member extending transversely of said beam to each side thereof effective to resist upsetting of said apparatus by a performer thereon.

4. The combination of claim 3 wherein the spaced portion of each pair of said leg members is provided with a fixed brace therebetween intermediate the ends thereof.

5. The combination of claim 4 wherein each of said adjustable brace means comprises a pair of spaced, axially aligned rods, the respective remote ends of said rods being hinged about one pair of said second and third hinge axes, the respective adjacent ends of said rods having external oppositely threaded portions, and a sleeve receiving both of said rod portions and having internal oppositely threaded portions threadedly engaging said rod portions.

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