Dec. 17, 1968 R. S. MORGAN ETAL 3,416,792

BALANCING EXERCISER PLATFORM WITH SHOCK ABSORBER MEANS

Filed Feb. 4, 1966

Fig. 1

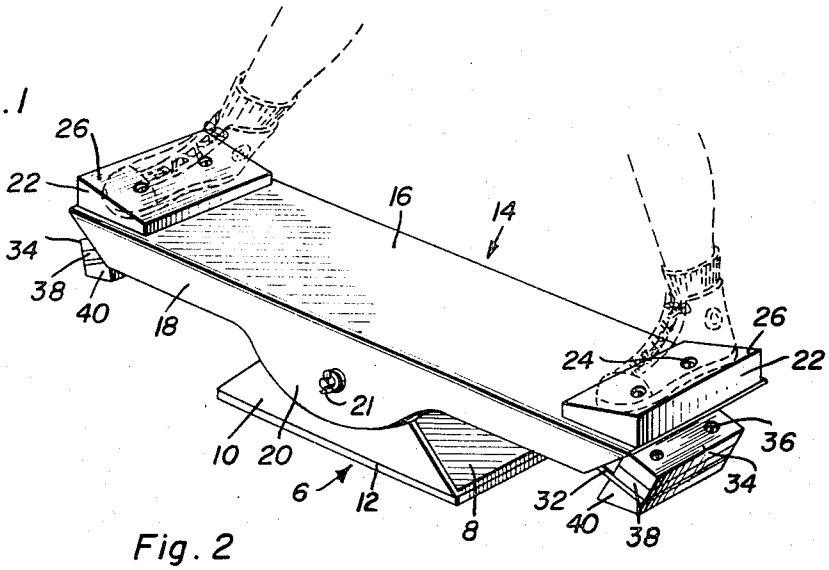


Fig. 2

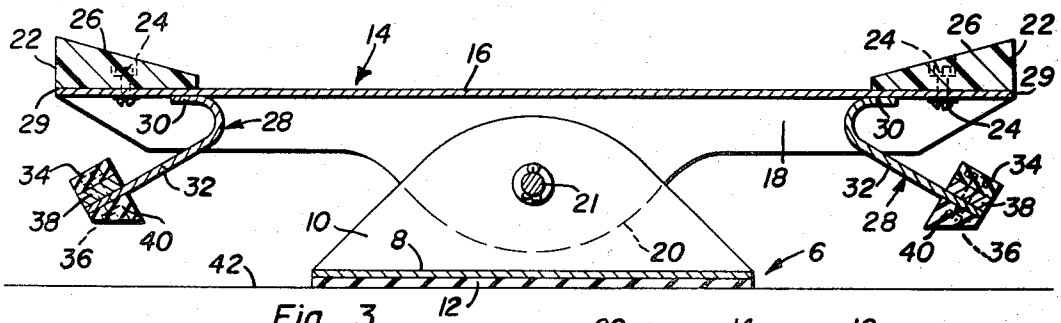


Fig. 3

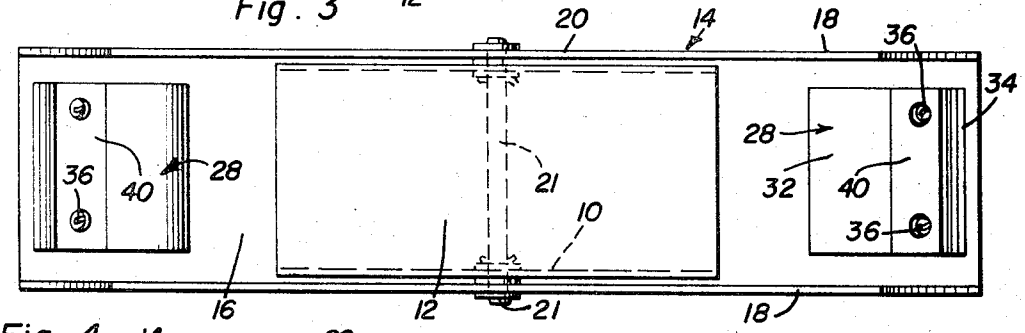
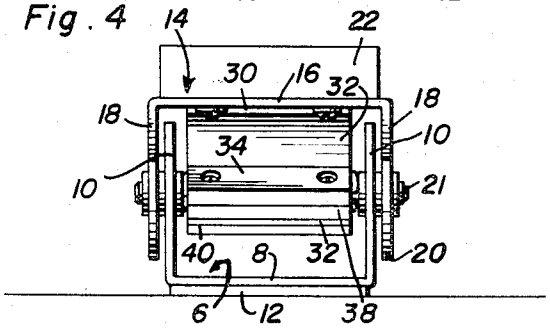


Fig. 4



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United States Patent Office 3,416,792 Patented Dec. 17, 1968

3,416,792

BALANCING EXERCISER PLATFORM WITH SHOCK ABSORBER MEANS

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Filed Feb. 4, 1966, Ser. No. 525,257
7 Claims. (Cl. 272—60)

ABSTRACT OF THE DISCLOSURE

A portable channel-shaped self-standing base unit has a flat bottoming web whose underneath side is covered by an anti-skid cushion. The vertical flanges pivotally support coordinating depending flanges on the median portion of a complemental horizontally elongated rider balancing and rocking platform. Anti-slipping inwardly converging foot pads are mounted atop end portions of the platform, and unique limit stop leaf spring-biased shock absorbing and rebounding devices are mounted beneath the respective end portions of the platform.

The present invention relates to amusement and exercising devices for youngsters and has reference to commonly called seesaws or teeter-totters characterized, as usual by a balanced horizontally elongated platform fulcrumed intermediate its ends on a relatively stationary support unit and unique in that the opposite end portions of the platform are equipped with spring-biased shock absorbing devices which react to the vertical up-and-down movement of the end portions of the platform in such a manner that the rider must resort to skill and dexterity to accomplish impressive speed and endurance.

Briefly, the teeter-totter features an adaptation which is characterized by a relatively short occupant supporting and balancing platform. This part can be and preferably is made from stamped or suitably formed sheet material having downturned reinforcing flanges along the edges. These flanges overlap and are disposed in spaced parallelism with similar flanges on a sheet metal or equivalent base unit. The base unit is channel-shaped in cross-section and the flanges of the platform and base unit are hingedly joined together to provide the desired balanced vertical oscillation of the ends. The end portions of the top are provided with block-like pads of rubber or the like which have sloping surfaces so that the feet of the rider can be securely placed thereon so that the rider can rock from left to right and vice versa to achieve the desired seesaw motion.

The bottom side of the base supporting and fulcruming base unit is preferably provided with a rubber or equivalent antislipping surface which can be placed on the ground, floor or other relatively stationary foundation so that the teeter-totter can be used successfully either indoors or outdoors.

In addition to the foot positioning and retaining pads or blocks at the ends, the respective ends of the platform are also provided with novel shock absorbing means or devices. For best results it has been found that each device may comprise a suitably resilient leaf spring. The inner or attached end of the spring is provided with a return bend which is fixedly mounted on the underneath side of the platform. The free end of the leaf spring slopes outwardly and downwardly and is provided with a laminated head, the laminations thereof providing platform and surface strikers which call for experience and practice in order to achieve the alternating rhythm of motion necessary for a creditable and acceptable performance on the part of the occupant or rider.

These together with other objects and advantages which

will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a view in perspective of a teeter-totter constructed in accordance with the principles of the present invention and showing how it is constructed and intended to be used by an individual rider;

FIGURE 2 is a view on an enlarged scale which is taken centrally through the structure shown in FIGURE 1;

FIGURE 3 is a bottom plan view; and

FIGURE 4 is an end elevational view.

The portable but relatively stationary base unit or stand is denoted at **6**. It is of channel-shaped cross-section and embodies a horizontal bottom or web **8** having vertical spaced parallel upstanding channel walls or flanges **10**. The underneath side is provided with a sheet or ply of rubber **12** which is of uniform thickness and provides not only a bottom but a satisfactory anti-skid cushion. The platform unit is denoted by the numeral **14** and is horizontally elongated and comprises a generally rectangular flat plate **16** whose lengthwise marginal edges are provided with depending spaced parallel rigidifying flanges **18** having sector-shaped portions **20** which are disposed alongside of and in spaced parallelism relative to the flanges **10** and are pivotally supported on an assembling and pivoting rod or equivalent pin **21** held in place by suitable washers and cotter keys in the manner suggested in FIGS. 1 and 2. The end portions of the platform plate project beyond and overhang the corresponding end portions of the centrally positioned base unit **6**. While it would be within the purview of this invention to provide seats at the ends and to make the device sufficiently large that two riders could be entertained simultaneously, it is presently the herein disclosed idea to make the platform or "board" just long enough for one rider to stand thereon in the manner shown in phantom lines (FIG. 1) and teeter or rock back and forth. For best results each end portion is provided on its upper side with an anti-skid foot pad for locating the foot of the rider. This pad comprises a generally rectangular non-skid rubber or an equivalent block **22** which is of a length to extend transversely across the surface of the platform and which is secured by fasteners **24**. The top surface **26** of the block or pad is inclined inwardly and downwardly to provide a position of use as shown in FIG. 1.

It will be noted that the tiltable supporting and balancing platform, the plate portion **16** for example, is not only provided at its ends with the feet holding and orienting pads **22**, each end is provided with a pressure responsive springy or spring-loaded shock absorbing device **28**. Both shock absorbing devices are in the same relation with respect to each cooperating end portion of the platform and each such device is located in line with the cooperating transverse edge portion **29** of the plate. Each shock absorber is characterized by a stainless steel or equivalent flexible and yieldable spring, more particularly a leaf spring which has an upper end portion **30** formed with a return bend or bent portion which is superimposed on and welded or otherwise fixedly connected to the underneath side of the coacting part of the plate. The outwardly downwardly inclined major portion of the leaf spring, denoted at **32**, has its free end terminating substantially beneath the edge **29** of the plate. This free end portion is provided (1) with a laminated upper or buffer head which has an upper rectangular block-like compressibly resilient rubber or an equivalant abutment **34** secured by a bolt and nut **36** to a spacing shim **38** and (2) a lower block-like compressibly resilient or an equivalent abutment **40**. The surface of the lower abutment which is op-

posed to and comes into contact with the ground or other support surface **42** is chamfered or beveled so that when the platform is horizontal and level the contact surface of the abutment **40** is spaced above and is parallel with the support surface **42**. The angle or sloping pitch of the portion **32** of the leaf spring serves to cant the abutment **34** to the normal state or position illustrated in FIGS. 1 and 2 in particular. When, however, the platform is swung down, that is at either end and when the surface of the abutment **40** engages the support surface **42**, the surface of the top or upper abutment **34** comes into contact with the underneath side of the platform plate. With the shock absorbers **28** thus constructed and interrelated with respect to each other and the end portions of the platform it will be seen that they are alternatively or intermittently operable and that as the end portions of the platform are angled toward the surface **42**, the shock absorbers provide limit stops while the inherent return spring action comes into play to assist in returning the platform to its normal generally horizontal state or position.

It will be evident that a teeter-totter constructed in accordance with the principles of the present invention well serves the unique purposes for which it has been devised and put to use. In addition to each unit **6** and **14** being structurally unique in and of itself, it will be seen that the over-all device is an innovation because of the incorporation therein of the inwardly and downwardly toed pads **22** and the underlying spring-based shock absorbing devices **28**.

Experimental use of the herein disclosed teeter-totter with end-type shocking-absorbing devices ensures the rider of a balancing thrill not attainable in similarly constructed and performing teeter-totters. It follows that the herein disclosed device is a novel contribution to the art of teeter-totter-type amusement and exercising devices.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A device for amusing and exercising a youngster while standing up and at the same time rocking back and forth from left to right and vice versa comprising: a portable base unit, a horizontally elongated supporting and balancing platform providing a teeter-totter and positively pivoted intermediate its ends atop said base for vertical oscillation and provided atop its end portions with means to accommodatingly position and reliably hold the feet of the occupant rider, spring-biased shock absorbing devices carried by and located beneath said end portions, each shock absorbing device comprising a leaf spring having one end affixed to an underneath surface of said platform, the other end of said spring having a terminal head structure embodying a first abutment capable of striking said underneath surface.

2. The device according to claim **1**, and wherein said base unit is horizontally elongated and channel-shaped in cross-section and embodies a bottoming web having an anti-skid cushion attached to its underneath support contacting side, and also embodies a pair of vertical upstanding flanges, the intermediate portion of the underneath side of said platform having a pair of depending lengthwise flanges paralleling, straddling and pivotally joined to said first-named flanges.

3. The device according to claim **1**, and wherein each means atop the end portions comprises an anti-slipping foot pad affixed atop the cooperating terminal end portion.

4. The device according to claim **1**, and wherein each means atop the end portions comprises an anti-slipping foot pad affixed atop the cooperating terminal end portion, said pad comprising a block of compressibly resilient rubber which is wedge-shape in cross-section, the upwardly facing tread surfaces of said blocks sloping inwardly and downwardly toward the coacting top surface of said platform to assist the rider to occupy and retain a sure-footed stance while standing and rocking from left to right and vice versa.

5. The device according to claim **1**, and wherein each shock absorbing device also embodies a second abutment located in a plane of operation below the plane of operation of said first abutment and adapted to intermittently contact the ground or other relatively stationary foundation surface.

6. The combination according to claim **5**, and wherein each abutment comprises a substantially rectangular block of compressibly resilient rubber.

7. A device for amusing and exercising a youngster while standing up and at the same time rocking back and forth from left to right and vice versa comprising: a portable base unit, a horizontally elongated supporting and balancing platform constituting a teeter-totter and positively pivoted intermediate its ends atop said base for vertical oscillation and provided atop its end portions with means to accommodatingly position and reliably hold the feet of the occupant rider, spring-biased shock absorbing devices carried by and located beneath said end portions, each shock absorbing device constituting a limit stop for the end portion of the platform with which it is cooperable, each device comprising a leaf spring having a return-bent upper end superimposed upon a cooperating surface of the bottom of the end portion of the platform which is complemental thereto, and having a downwardly outwardly slanting end portion terminating in a laminated head, the laminations being of elongate block-like form, there being an upper block-like abutment capable of striking an elevated surface of the underside of the platform, and a lower block-like abutment having a suitably beveled bottom adapted to intermittently engage the ground or other equivalent foundation or support surface.

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