

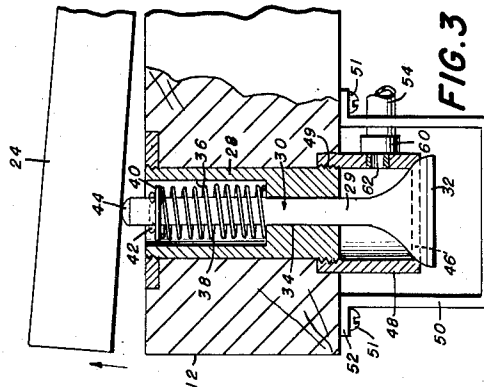
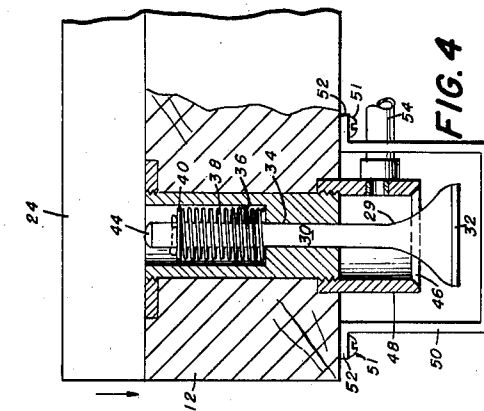
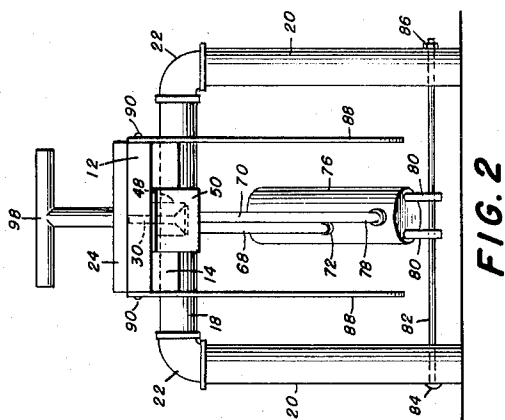
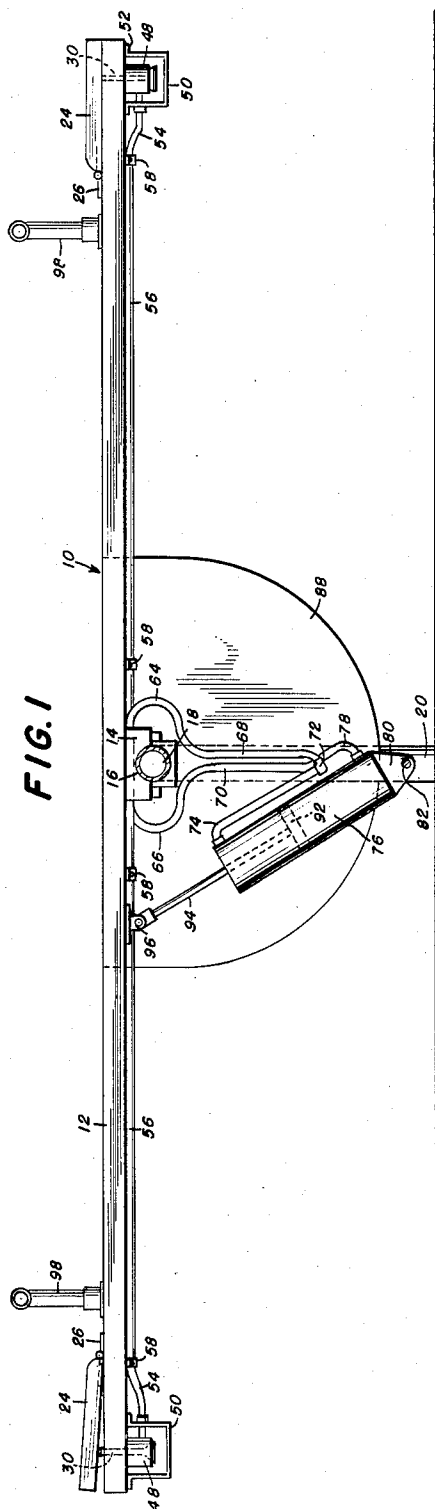
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SAFETY-TYPE TEETER BOARD

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SAFETY-TYPE TEETER BOARD

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9 Claims. (Cl. 272—54)

This invention relates to the so-called seesaw or teeter board type of child's amusement device, and it particularly relates to a seesaw of an improved safety type.

The seesaw is an old and commonly used device which has always been subject to the defect that if one child, at one end of the device suddenly is removed therefrom as by falling or jumping off, the loss of this weight will cause the weight of the child at the other end of the board to suddenly exert a violent downward force on that end of the board; so that the child still on the board will be flung down with such force as to often cause injury.

It is an object of the present invention to provide a seesaw or teeter board device which will not violently react when the weight on one end thereof is removed.

Another object of the present invention is to provide a seesaw or teeter board device which is completely safe for use by either children or adults.

Another object of the present invention is to provide a seesaw or teeter board device which is relatively simple in construction while yet being completely safe.

Other objects of the present invention are to provide an improved seesaw or teeter board device, of the character described, that is easily and economically produced, which is sturdy in construction, and which is highly efficient in operation.

With the above and related objects in view, this invention consists in the details of construction and combination of parts, as will be more fully understood from the following description, when read in conjunction with the accompanying drawing in which:

Fig. 1 is a side elevational view, partly in section, of a teeter board device embodying the present invention.

Fig. 2 is an end elevational view of the device of Fig. 1.

Fig. 3 is a fragmentary view, partly in section and partly in elevation, of the valve and seat structure such as found at each end of the board in Fig. 1, the valve being shown in the closed position and the seat in raised position.

Fig. 4 is a fragmentary view, similar to Fig. 3, but showing the valve in open position and the seat in lowered position.

Referring now in greater detail to the drawing wherein similar reference characters refer to similar parts, there is shown a teeter board, generally designated 10, which comprises an elongated board 12 provided on its undersurface, at the center thereof, with a bearing member 14. The bearing member 14 has a concave recess 16 on its underside; and this recessed portion 16 seats on the tubular cross-bar 18 extending between the tubular posts 20. The posts 20 and crossbar 18 are illustrated as structural pipes which are connected by elbow couplings 22. The posts 20 comprised the center support for the device while the cross-bar 18 forms the fulcrum.

At each end of the board 12 is provided a pivoted seat 24 which is pivoted to the board at 26. Below each seat 24 is a valve structure comprising a valve housing 28 in which is positioned a valve 29 having a stem 30

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and a conical head 32 at the lower end of the stem. The stem 30 extends upwardly through a vertical bore 34 in the housing 28 as well as through a counterbore 36 in the housing 28. Within the counterbore 36, the stem 30 is surrounded by a coil spring 38, one end of which abuts against the lower end of counterbore 36 and the other, or upper end, of which abuts against a washer 40 held on the stem 30 by a cotter pin 42. The spring 38 thereby acts to resiliently bias the valve stem 30 upward into a position wherein the upper end 44 of the stem 30 presses against the bottom of the seat 24 and maintains the seat 24 in a normally upraised position, as shown in Fig. 3.

When the valve 28 is in its normally upraised position, as in Fig. 3, the valve head 32 is closed against a valve seat 46 on the bottom of a valve seat housing 48. This valve seat housing 48 is threadedly connected at its upper end to housing 28, as indicated at 49. An open framework 50 surrounds the housing 48, this framework 50 being connected to the underside of the board 12 by screws or the like 51 extending through flanges, shown at 52, on the open framework 50. The framework 50 supports the offset end 54 of a conduit 56 extending along the underside of board 12 and held thereto by clamps 58.

The offset ends 54 of each conduit 56 are provided with end flanges 60 which are connected to the housing 48 around an opening 62 in the housing 48. At their opposite ends, the conduits 56 are provided with elbow portions, such as shown at 64 for the left hand conduit 56, as viewed in Fig. 1, and at 66 for the right hand conduit 56. These elbow portions 64 and 66 are provided with vertical extensions, as at 68 and 70 respectively. The vertical extension 68 is connected at its lower end, through an elbow fitting 72, to a conduit 74 leading into the upper end of a cylinder 76. The vertical extension 70 is connected, through an offset lower portion 78, to the lower end of cylinder 76. The extensions 68 and 70, as well as the elbows 64 and 66 are preferably constructed of flexible, high-pressure hose.

The lower end of the cylinder 76 is pivotally connected by ears 80 to a cross-pin 82. This pin 82 extends through each post 20 and is held in place by a head 84 at one end and a nut 86 at the other. A pair of vertical, side cover plates 88 are connected at their upper ends to the sides of board 12 by means of screws 90.

Within the cylinder 76 is provided a piston 92 having a stem 94 the upper end of which is pivotally connected to the underside of the board 12 as at 96.

In front of each seat 24 is a handle bar 98 of the type ordinarily used in teeter boards.

In operation, the valve stem 30 will normally be in the upward position wherein its upper end 44 lifts the seat 24 up and wherein the valve head 32 is closed against seat 46. When a person sits down on each seat 24, the valves 29 on both sides are automatically opened so that the air at atmospheric pressure is present on both sides of the piston 92 in the cylinder 76 and the board is substantially in balance except for the seesaw action induced by the oppositely disposed weights of the users. However, if one of the persons should suddenly leave his seat 24, the corresponding valve 29 would close and trap air on the corresponding side of the piston 92. This air would be at greater than atmospheric pressure and would, therefore, resist the relatively increased force of the weight of the person on the other side. It would, in effect, act as a dashpot to slow the sudden descent of the other side of the board.

The above description has been concerned with the use of atmospheric air as the pressure fluid in the dashpot system. However, if desired, hydraulic or pneumatic means, involving the use of pressure liquids or

gases under pressure, may be substituted. However, the use of atmospheric air is simpler, more inexpensive and equally as effective and is, therefore, more desirable.

Although this invention has been described in considerable detail, such description is intended as being illustrative rather than limiting, since the invention may be variously embodied, and the scope of the invention is to be determined as claimed.

Having thus set forth and disclosed the nature of this invention, what is claimed is:

1. A teeter board device comprising an elongated board pivotally mounted on a fulcrum, a movable seat at each end of said board, a normally closed valve operatively connected to each seat, each valve being in fluid communication with a separate side of a piston within a piston cylinder, one end of said cylinder being pivoted on a pivot mounted in fixed relation to said fulcrum, each seat being normally positioned in a first position and being movable into a second position wherein it acts to open the corresponding valve, and said piston having a stem extending through the other end of said cylinder and pivotally connected to said board at a point somewhat spaced from the fulcrum point of said board to prevent unrestrained pivoting of said board when either valve is closed, said valves being connected to a source of fluid pressure and being individually opened and closed to vary the pressure on each side of said piston.

2. The device of claim 1 wherein said valves when open are connected to atmosphere which serves as the source of fluid pressure.

3. The device of claim 1 wherein each of said seats are pivotally connected to said board and are pivotally raised by the action of the corresponding valve when said valve is in its normally closed position.

4. In a teeter board device having an elongated board positioned on a fulcrum, a normally closed valve assembly at each end of said board, each valve assembly comprising a valve biased into a closed position and opening upon the seating of a weight on the corresponding end of the board, each valve being in fluid communication with

a dashpot means mounted to resist pivoting of said board on its fulcrum when either individual valve is closed, and to permit unresisted pivoting of said board only while both valves are open.

5. The device of claim 4 wherein said valves open up to atmosphere.

6. A teeter board device comprising an elongated board, a fulcrum supporting said board, an individually movable seat at each end of said board, each seat being normally positioned in a raised position relative to said board, a valve assembly underlying each seat, each valve assembly comprising a valve seat housing having a valve seat at its lower end, a piston valve having a valve head adapted to seat on said valve seat and a valve stem, means resiliently biasing said valve stem upwardly and said valve head against said valve seat, an abutment means at the upper end of said valve stem, said abutment means contacting the corresponding seat and raising said seat when said valve stem is in its upwardly biased position, and a conduit system placing each valve seat housing in fluid communication with a correspondingly opposing side of a piston in a closed piston housing, said piston housing being pivoted at one end to a pivot mounted in fixed relation to said fulcrum, and a piston stem extending from said piston through the other end of said piston housing and pivotally connected to said board at a point somewhat spaced from the fulcrum point of said board.

7. The device of claim 6 wherein each seat is pivotally connected to said board.

8. The device of claim 6 wherein each valve is biased upwardly by a spring.

9. The device of claim 6 wherein each valve seat housing is open to atmosphere when said valve head is moved away from said valve seat.

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