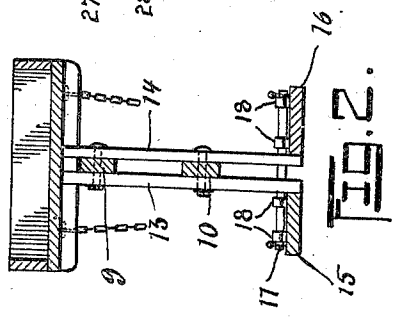
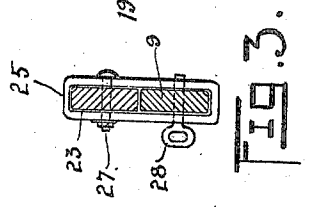
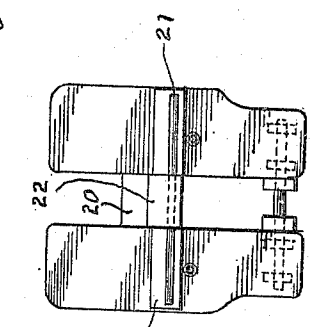
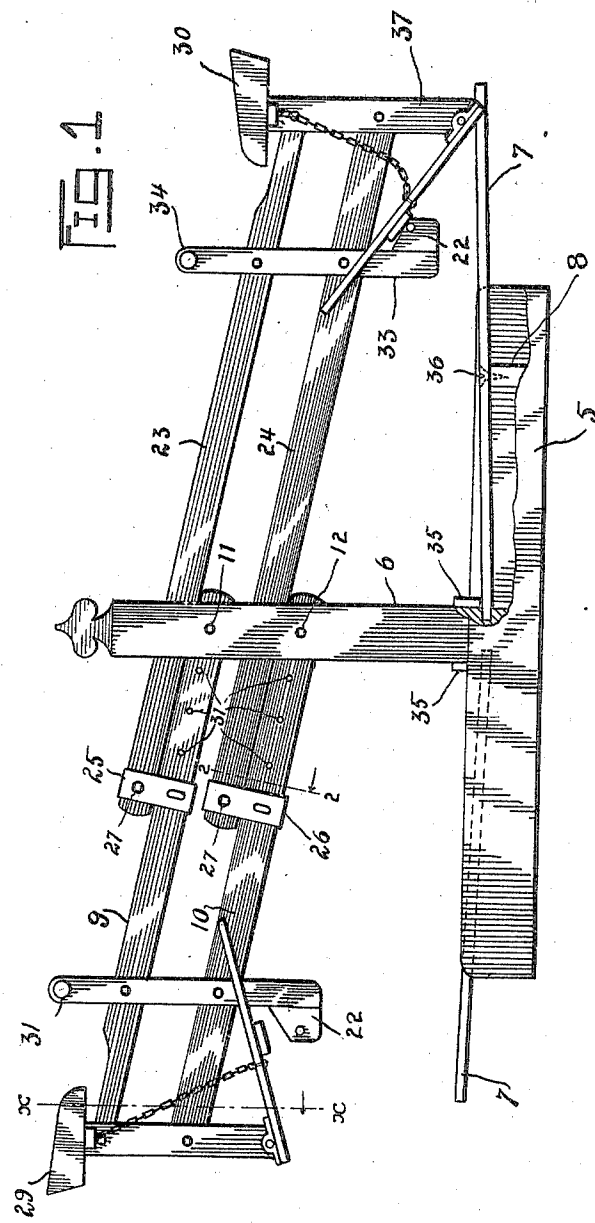


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SEESAW.
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Patented Mar. 8, 1910.



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UNITED STATES PATENT OFFICE.

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SEESAW.

951,540.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, JOHN D. MILLER and OTIS H. MILLER, citizens of the United States, residing at Norfolk, in the county of Norfolk, State of Virginia, have invented certain new and useful Improvements in Seesaws, of which the following is a description.

In the drawing,—Figure 1 is a side elevation of a see-saw embodying our invention. Fig. 2 is a detail sectional view on the line $x-x$ Fig. 1. Fig. 3 is a detail sectional view on the line 2—2 Fig. 1. Fig. 4 is a detail bottom plan view of the pedals and associated parts.

5 represents a base constructed of two spaced members suitably secured together, between which at the center, is secured the upright center post 6, which post is constructed of two members spaced apart. Spring boards 7 are suitably secured between the spaced members of the base, the inner ends being inserted under blocks 35 which blocks are secured to the center post or support, there being blocks 8 also secured between the base members which act as fulcrums for the spring boards, and to which they are secured by means of the screw 36. These spring boards, as shown in the drawing, extend beyond the outer ends of the base. 9 and 10 are parallel bars, the inner ends of which are pivotally secured between the members constituting the center support or post 6, by means of the bolts 11 and 12. The outer ends of these bars 9 and 10 are secured to the members 13 and 14, and constitute the seat post, the lower ends of these members 13 and 14 extending considerably below the bar 10.

15 and 16 are foot pedals hinged to a rod 17 which is secured to the depending end of the seat post, straps 18 connecting the pedals to the said rod.

19 is a cleat secured to the under side of the pedals and serving to connect them to act as a unit.

20 is a handle bar pivotally connected to the parallel bars intermediate the center post and the seat post, the lower end of which depends below the parallel bars. This bar 20 is composed of two members spaced apart by the parallel bars.

21 is a rod carried by the lower end of the handle bar and projecting from each side thereof, the projecting ends serving as fulcrums upon which the body of the pedals 15,

16 work. The rod 21 slides on the cleat 19 when the see-saw is operated. A block 22 is secured between the lower ends of members constituting the handle bars.

23 and 24 are parallel bars provided with seat posts and handle bars, such as has just been described in detail in connection with the bars 9 and 10, and hence it is unnecessary to further describe them in connection with said bars. The inner ends of the bars 23 and 24 are provided with loops 25 and 26, which are secured thereto by means of bolts 27, the loops or stirrups being greater in length than the width of the bars, so that both of the bars 23 and 24 may pass through them as shown more clearly in Fig. 3. The loops or stirrups are provided with bolt openings to receive the bolts or keys 28 which may be secured by means of a chain to the loops or stirrups to prevent their being lost or misplaced. The bars 23 and 24 are not secured to the center post or support, but are secured at their inner ends to the bars 9 and 10 by means of the loops or stirrups 25 and 26, and in order that the pair of bars 23 and 24 and pairs of bars 9 and 10 may be adjusted relatively to counterbalance unequal weights in the seats 29 and 30, and in order that this adjustment may be readily made, the bars 9 and 10 are provided with a series of bolt openings 31 to receive the bolt or key 28 to maintain the pairs of bars in their adjusted position. In the adjusted position, if extreme, the seat post 32 will not come in contact with the spring board, but the handle bar 33 will, so that the function of the spring board is maintained on both sides of the see-saw. By securing the spring boards to the blocks 8, we not only get the full efficiency of the same, but the board is prevented from flying up beyond a certain limit of safety. The seats 29 and 30 are built to hold two passengers each, and in order to protect the passengers from the rays of the sun, suitable covering, such as an umbrella, may be secured over the seats.

In use, the passengers press their feet down on the pedals and pull upon the handle bars, there being a transverse handle 34 secured to each handle bar. The rods 21 act as fulcrums for the pedals and the cleats 19 secured to the pedals have a limited sliding movement on the cleats, for which purpose the cleats are comparatively wide.

In constructing the see-saw, it is neces-

sary, in order to assure easy movement, that the bearing for the rod 19 be in a lower plane, normally, than the plane of the bolt 12 on the center post. The major portion of the work of operating the see-saw, we have found, by experience, is always done by the lowermost party. For instance, in the position in which the parts are shown in Fig. 1, the passengers in seat 30 must, by pedal pressure, assist the passengers in the other seat to descend.

37 is a chain the upper end of which is secured, in a suitable manner, to the upper end of the seat post, while its lower end is secured to the foot pedal. The chain is of given length so that when the bars are at equal balance it becomes tightened or extended its full length and pulls the pedal up and raises it from the fulcrum bar. This, it will readily be seen, will carry the foot pedal to a point just below the lower bolt in the handle bar. When the see-saw is down the chain will hang loose at one end and will raise the pedal, as above stated, only when the see-saw passes the center of equilibrium.

What we claim as new and desire to secure by Letters Patent, is:—

1. A see-saw comprising a center support, parallel bars pivoted at their inner ends to said support, a second set of parallel bars, means adjustably securing their inner ends to the first named parallel bars beyond the center support, vertical seat posts pivotally connected to the outer ends of the respective parallel bars.

2. A see-saw comprising a center support, parallel bars pivoted at their inner ends to said support, a second set of parallel bars,

the inner ends of which extend beyond the center support, means adjustably securing the inner ends of the second set of parallel bars to the first named parallel bars beyond the center support, vertical seat posts pivotally secured to the outer ends of the said parallel bars, operating levers pivotally connected to each set of the parallel bars between the center support and the seat posts.

3. A see-saw including a center support, parallel bars pivotally mounted on said support, seat posts pivotally connected to the outer ends of said bars, foot pedals hinged to said seat posts, and a fulcrum for said pedals connected to the parallel bars.

4. A see-saw including a center support, parallel bars pivotally mounted on said support, seat posts pivotally connected to said bars, a handle bar pivotally connected to said parallel bars intermediate the center support and seat posts, pedals hinged to the lower ends of the seat posts, and a fulcrum on the lower end of the handle bars for the pedals.

5. A see-saw including a center support, bars pivotally mounted on said support, seat posts pivotally connected to said bars, a handle bar pivotally connected to said bars, foot pedals hinged to the lower ends of said seat posts, and a chain connecting the pedals with the upper end of the seat post.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN D. MILLER.
OTIS H. MILLER.

Witnesses:

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