

May 9, 1933.

H. H. MARTIN

1,907,848

PROGRESSIVE ROCKER

Filed May 18, 1931

2 Sheets-Sheet 1

FIG. 1.

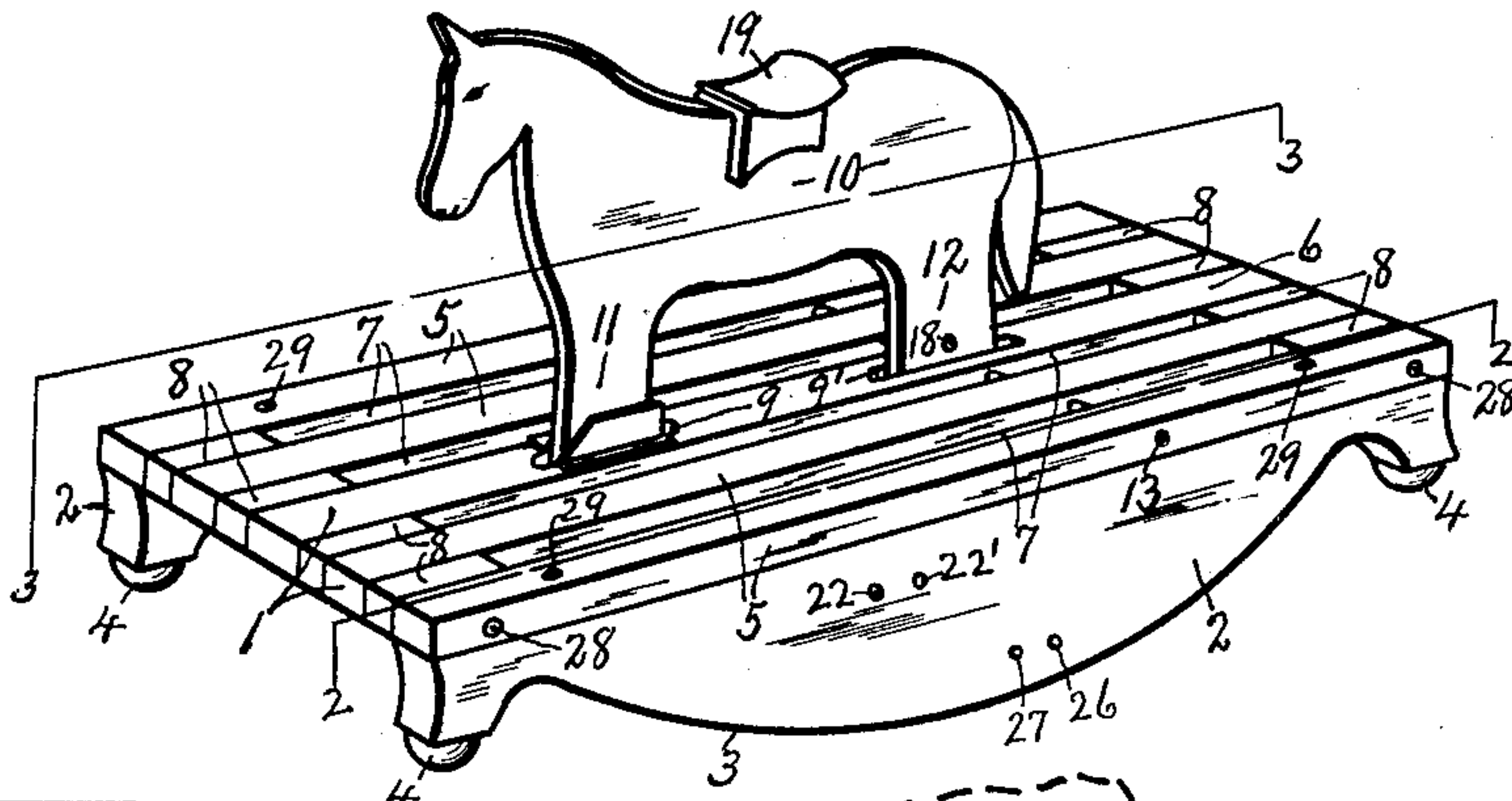


FIG. 2.

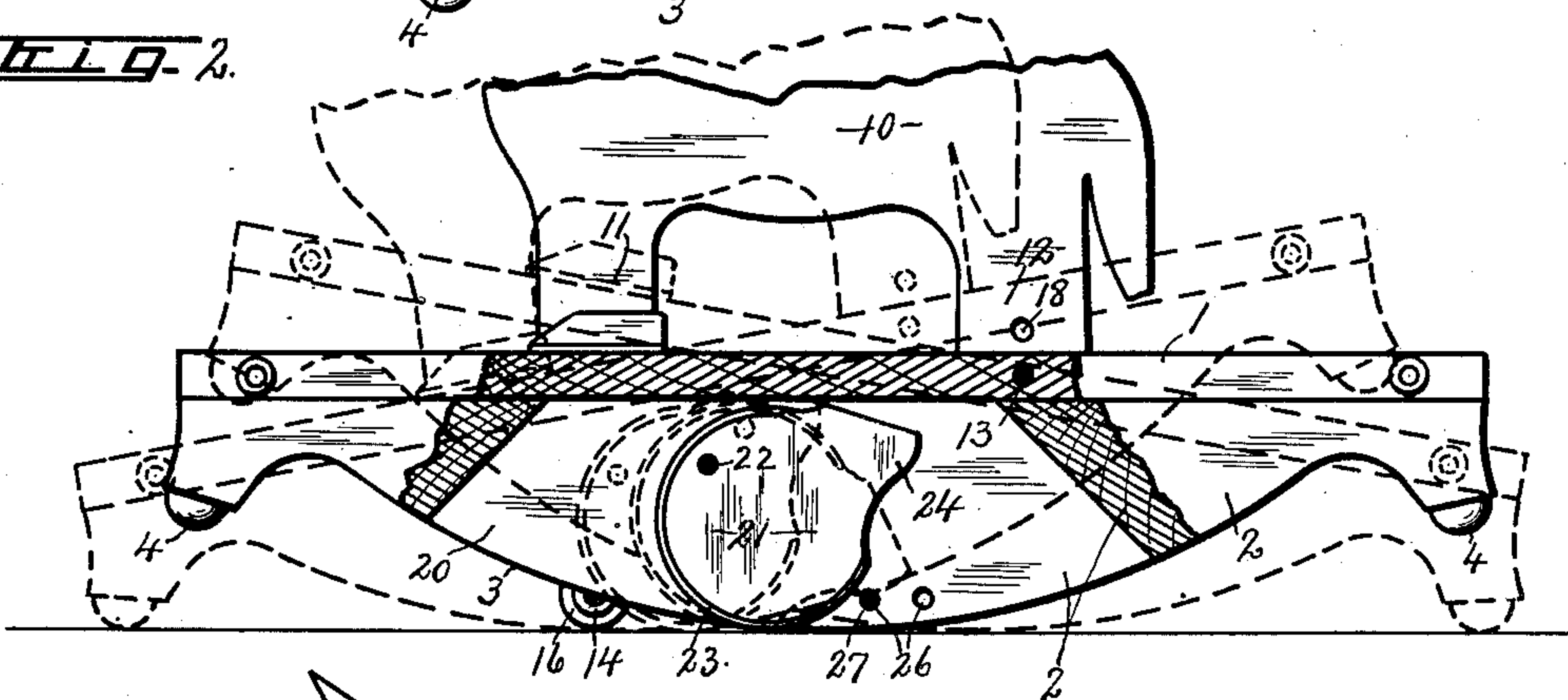
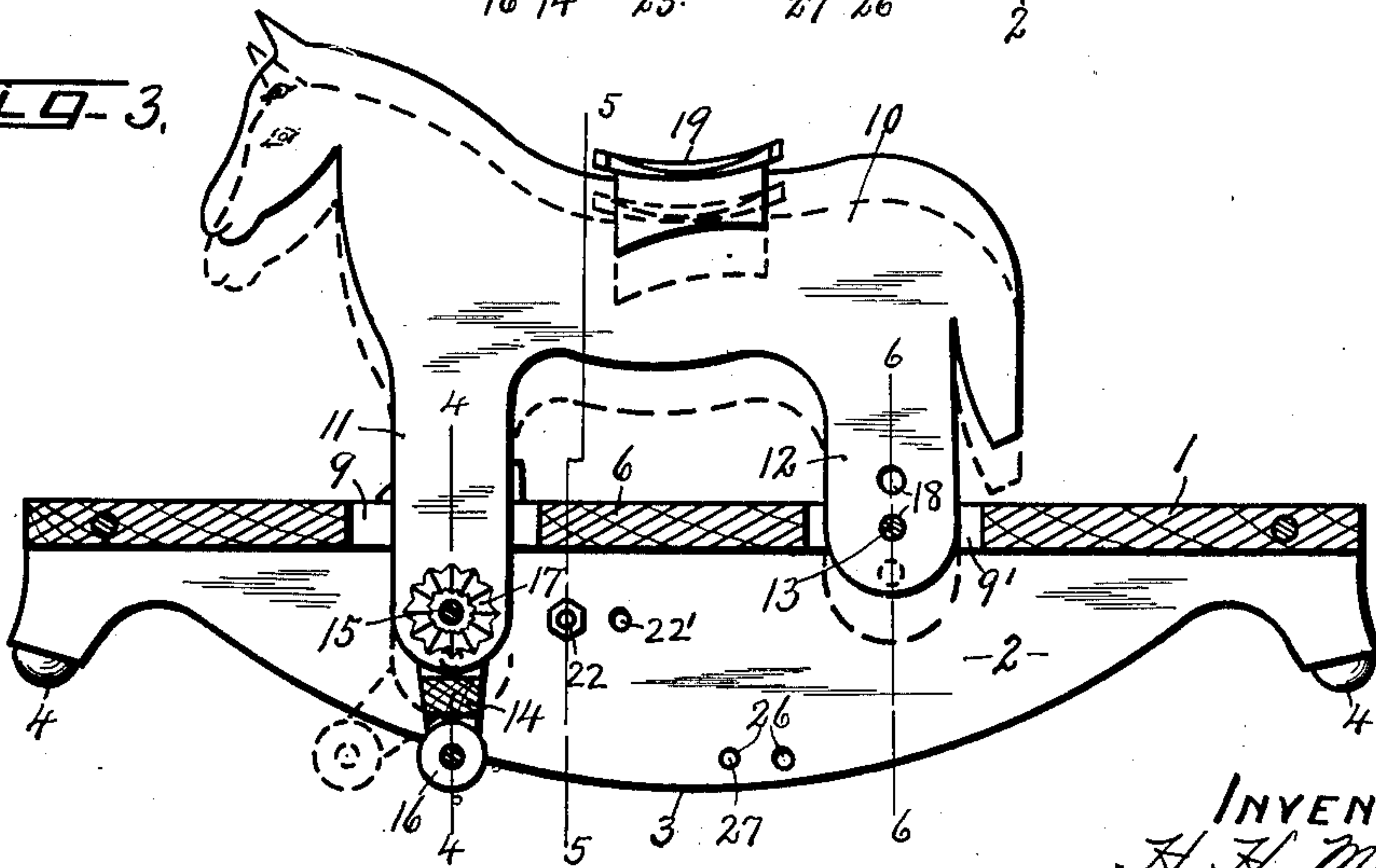


FIG. 3.



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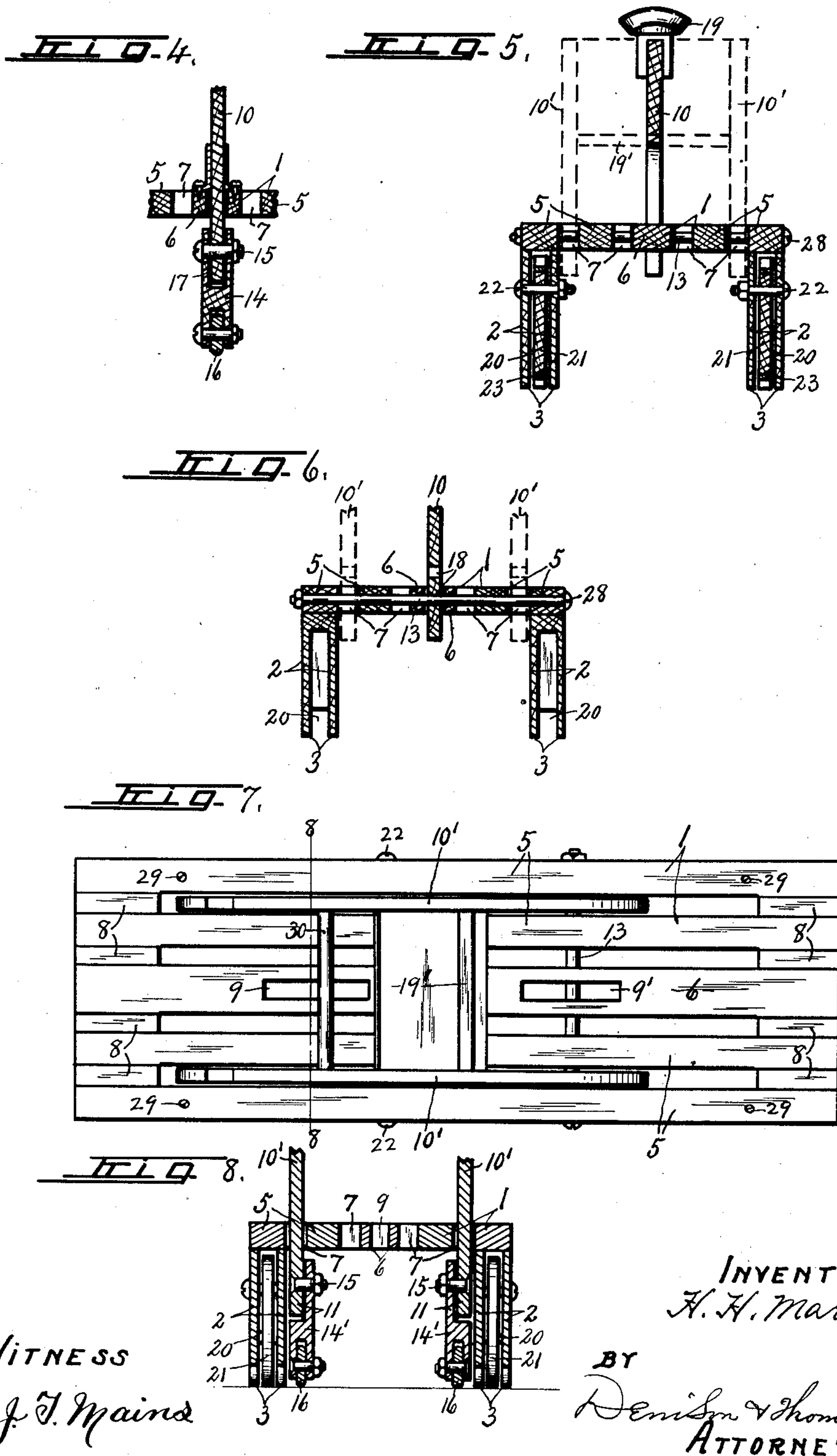
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UNITED STATES PATENT OFFICE

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PROGRESSIVE ROCKER

Application filed May 18, 1931. Serial No. 538,243.

This invention relates to a progressive rocker, preferably of the hobby horse type, adapted to be used more particularly by small children for amusement and exercise, and involves the use of a platform rocker adapted to rock upon a floor or other flat support, and a seat or saddle-supporting element in imitation of a horse or other animal having rear legs pivoted to the platform to rock vertically, and front legs movable vertically through an opening or openings in the platform into and out of engagement with the floor or other supporting surface to impart rocking movement to said element relatively to the platform as the latter is rocked in reverse directions, together with suitable means carried by the platform for engaging said surface and causing intermittent forward movement of the entire device during the rocking movement of the platform.

The main object is to provide a light strong and durable device of this character which may be used by children of widely varying ages with a greater degree of safety and a wider range of exercise than has heretofore been practised.

Another object is to permit the use of seat-supporting members of varying capacity upon the same platform.

A further object is to provide a novel construction of feed rollers by which the entire device with the user thereon will be automatically progressed along the floor with a more uniform gliding motion than has heretofore been practised.

Other objects and uses relating to specific parts of the device will be brought out in the following description.

In the drawings:—

Figure 1 is a perspective view of a progressive rocker equipped with a single seat-supporting element.

Figures 2 and 3 are enlarged longitudinal vertical sectional views taken respectively in the planes of lines 2—2, and 3—3, Figure 1,

a portion of the seat-supporting element being broken away in Figure 2.

Figures 4, 5 and 6 are transverse vertical sectional views taken respectively in the planes of lines 4—4, 5—5 and 6—6, Figure 3, the double seat-supporting element being partially shown by dotted lines in Figures 5 and 6.

Figure 7 is a top plan of the same platform shown in Figure 1 having a double seat-supporting element mounted thereon.

Figure 8 is a transverse vertical sectional view taken in the plane of line 8—8, Figure 7.

As illustrated, this device comprises a substantially flat rectangular platform 1 elongated in one direction and provided along its opposite longitudinal edges with pendant flanges 2 having downwardly convexed circular edges 3 of relatively long but equal radii adapted to rest upon the floor or other flat support to enable the platform to be rocked forwardly and rearwardly, the opposite ends of the flanges being provided with rubber stops or buffers 4 for engaging the floor and limiting the rocking movements of the platform.

The platform 1 with its flanges 2 constitute what may be termed a platform rocker in which the platform is provided with a plurality of, in this instance five, lengthwise bars 5 and 6 arranged in transversely spaced relation to form intervening lengthwise slots 7 extending the major portion of the length of the platform but closed at both ends by spacing blocks 8.

The central bar 6 is provided with vertical slots or openings 9 and 9' in longitudinally spaced relation for receiving portions of a single seat-supporting element 10 which, in this instance, is made in imitation of a horse having front and rear legs 11 and 12.

The rear legs 12 extend into or through the opening 9' and are pivoted to the side walls of said opening, or rather to the central

bar 6, by means of a pivotal bolt 13 to permit relative vertical rocking movement of the platform 1 and element 10.

The front legs of the seat-supporting element 10 are movable vertically in the opening 9 as the platform 1 and element are rocked vertically relatively to each other, the lower end of the legs 11 being provided with extension sections 14 connected thereto by a pivotal bolt 15, and having its lower end provided with a roller 16 adapted to engage the floor upon which the platform rocker is mounted.

The extension 14 of the front legs 11 is adjustable forwardly and rearwardly about the axis of the pivotal bolt 15 to vary the height of the member 10 above the floor line, and is held in its adjusted position by the tightening of the pivotal bolt 15 aided by the serrations 17 around the axis of the pivot to be engaged by corresponding serrations on the upper end of the extension 14, as shown more clearly in Figures 3 and 4.

The lower and upper ends of the extension 14 are preferably bifurcated for receiving respectively the lower end of the legs 11 and roller 16, thereby affording relatively long bearings for the extension and roller.

The rear leg 12 of the seat-supporting element 10 is also adjustable vertically relative to the platform and for this purpose is provided with a plurality of bolt openings 18, one above the other, any one of which is adapted to receive the pivotal bolt 13.

The main body of the seat-supporting element 10 is disposed in a plane some distance above the platform 1 and is provided with a seat or saddle 19 adapted to be occupied by the user with the feet resting upon the platform.

The front and rear legs of the seat-supporting member 10 are located respectively at the front and at the rear of the vertical plane of the apex of the rocker faces 3 so that the weight or pressure of the rider may be thrown forwardly or rearwardly of said vertical plane for rocking the platform in reverse directions.

That is, the pressure of the feet of the rider upon the front end of the platform serves to rock said platform forwardly and downwardly, while the rearward movement of the body of the rider throws the weight upon the rear portion of the platform to rock the latter rearwardly and downwardly, these operations being repeated for rocking the platform in reverse directions.

The rocker flanges 2 are provided intermediate their ends with longitudinal elongated slots 20 open at the bottom for receiving like pawls or rollers 21 which are eccentrically pivoted by bolts 22 to the opposite walls of their respective slots and therefore to the flanges 2 between the front leg 11 and vertical plane of the seat 19 and apex of the

rocker face 3 to swing vertically about the horizontal pivots under their own weight with their lower ends or edges contacting with the surface as —A— of the floor or other support.

The major portions of these pawls 21 are circular in side elevation and are provided with corresponding circular shoes 23 of leather or equivalent material adapted to ride upon a floor surface —A— for frictional contact therewith, the pivots 22 being located in planes above and at the front of the centers of gravity of the pawls to allow the latter to swing downwardly and forwardly when the platform is rocked rearwardly and downwardly.

This rearward and downward movement causes the lower edges of the pawls to contact with the supporting surface —A— more or less directly under the pivots 22 and beyond the adjacent portions of the rocker edges 3 so that when the front end of the platform is rocked downwardly the lower edges of the pawls will fulcrum upon the supporting surface —A—, thereby causing the pivotal bolts 22 and upper portions of the pawls 21 to be carried forwardly, resulting in a forward feeding movement of the platform and seat-supporting member 10 carried thereby.

During this operation the riders feet engaging the front end of the platform will, of course, move downwardly giving the rider the sensation of the upward movement of the member 10, while at the same time the front leg of the member 10 carrying the roller 16 will ride a corresponding distance along the support —A—, it being understood that the platform 1 will at all times be free to rock about the pivotal connection 13 with the member 10.

The pawls 21 are provided with rearwardly projecting weighted extensions 24 to facilitate the downward and forward rocking movement thereof when the platform is tilted rearwardly and downwardly, as shown by dotted lines in Figure 2.

It is now clear that after the platform has been rocked rearwardly and downwardly followed by its forward and downward movement, the engagement of the lower edges of the pawls with the supporting surface —A— will cause the platform and all parts carried thereby to be moved forwardly to the position shown by dotted lines in Figure 2.

Suitable means is provided for adjusting the pivots 22 forwardly and rearwardly to different positions and for this purpose the opposite walls of the slots are provided with extra bolt holes 22' so that both of the pivots may be placed therein for varying the distance of intermittent forward feed of the device at each cycle of rocking movement or, if the pivotal bolt for one of the pawls is placed in the front hole of one side and the pivotal bolt of the other pawls is placed in

the rear hole of the other side, the reverse rocking movement of the device will cause the latter to travel in a more or less circular path along the floor.

5 Suitable means is provided for limiting the downward and forward swinging movement of the pawls 21 when the latter are pivoted at one or the other of the holes 22 and 22', and for this purpose the opposite walls
10 of the slots 20 are provided with registering apertures 26 for receiving stop pins 27 which are located in the path of movement of the corresponding extensions 24 to be engaged thereby as the pawls are rocked downwardly
15 and forwardly, it being understood that when the pawls are pivoted in the front holes 22' the pins 27 will be inserted in the front holes 26, and that when the pivotal pins 22 are inserted in the rear holes 22' the stop pins 27
20 will be inserted in the rear holes 26.

The seat 19 and apex of the rocker face 3 are nearly in the same vertical plane approximately midway between the legs 11 and 12, as shown in Figure 3 and, therefore, the pre-
25 dominance of weight of the parts 10 or 10', will be at the rear of said plane tending to rock the rear end of the platform 1 downwardly, but this tendency may, of course, be resisted by downward pressure of the feet of
30 the rider upon the front end of the platform.

It therefore follows that by relieving the downward pressure of the feet of the rider upon the front end of the platform aided by
35 the rearward swing of the body of the rider upon the seat, the platform 1 will automatically rock rearwardly and downwardly, thereby allowing the eccentric member 21 to rock downwardly and forwardly.

40 Then if the rider throws his body forwardly and at the same time presses the front end of the platform 1 downwardly by foot pressure, the previously changed position of the member 21 on the floor will cause the entire
45 device to move forwardly a limited distance or until the member 21 again assumes its normal relation to the rocker surface 3.

In Figures 7 and 8 are shown a pair of the seat-supporting members 10' connected by a
50 seat 19', the members 10' being supported in the outer slots 7 of the platform by means of the pivotal pins 13 closely adjacent the inner faces of the flanges 2 as shown more clearly in Figure 8. Otherwise the construction is
55 similar to that previously described, with the exception that the extensions as 14' are adjustably mounted upon the front legs of both of the members 10'.

60 The opposite ends of the bars 6 and spacing blocks 8 are secured together by transverse bolts 28 to form a substantially unitary platform, the outer side bars 6 being secured by
65 screws 29 or equivalent fastening means to the upper edges of the adjacent rocker 2 so

that the entire platform rocker constitutes a rigid structure.

Operation

The rider sitting upon the seat 19 or 19' 70 with the feet resting upon the front portion of the platform 1 first releases his downward foot pressure upon the front end of the platform 1, and at the same time throws his body
75 rearwardly to cause the platform to tilt rearwardly and downwardly, thereby raising the lower edges of the front portions of the rockers above the floor line —A—, and allowing the pawls 21 to rock downwardly and forwardly into engagement with the floor below
80 and in front of the apex of the raised front portions of the rockers.

The rider then throws his body forwardly pressing his feet upon the front end of the platform to tilt the latter forwardly and
85 downwardly about the fulcrum bearing between the lower edges of the pawls 21 and floor —A— which throws the weight of the entire device upon the pivot 22 and causes the lower edges of the pawls to roll forwardly
90 upon the floor surface —A— resulting in a forward movement of the entire device with the rider thereon.

By repeating these backward and forward rocking operations the device is intermittently
95 moved forwardly at each downward and forward tilting movement so that the rider experiences the sensation of rocking motion in addition to the progressive forward motion.
100

The pivotal pin 13 connecting the seat-supporting member 10 with the platform is removable endwise which permits the single
105 member 10 to be used in the manner shown in Figures 1 to 4 inclusive or, this single member may be removed and the double seat support 10' placed in operative position, as shown by full lines in Figures 7 and 8, and by dotted lines in Figures 5 and 6, it being understood that the two members 10 and 10' be
110 furnished with the same platform and that either may be used with perfect safety by children of widely varying ages.

The construction shown is particularly simple, durable and efficient, but obviously various
115 changes may be made in the detail construction without departing from the spirit of the invention.

What I claim is:—

1. The combination with a platform rocker 120 adapted to rock upon a floor, a seat-supporting member having one end pivoted to one end of the platform and its other end movable through an opening in the other end of the platform and adapted to rest upon the
125 floor, a floor-engaging roller eccentrically pivoted to the rocker between the pivot and floor-engaging portion of the seat-supporting member to rock in a direction opposite to the direction of rocking movement of the plat- 130

form for moving the rocker along the floor when the direction of rocking movement of the platform is reversed.

2. A progressive rocker as in claim 1 in which the floor-engaging portion of the seat-supporting member is free to rotate.

3. A progressive rocker as in claim 1 in which the seat and apex of the rocker are disposed in approximately the same vertical plane.

In witness whereof I have hereunto set my hand this 9th day of May 1931.

HARRY H. MARTIN.