June 18, 1929. P. S. McLAUGHLIN 1,718,167

AMUSEMENT APPARATUS

Filed Jan. 25, 1928 4 Sheets-Sheet 1

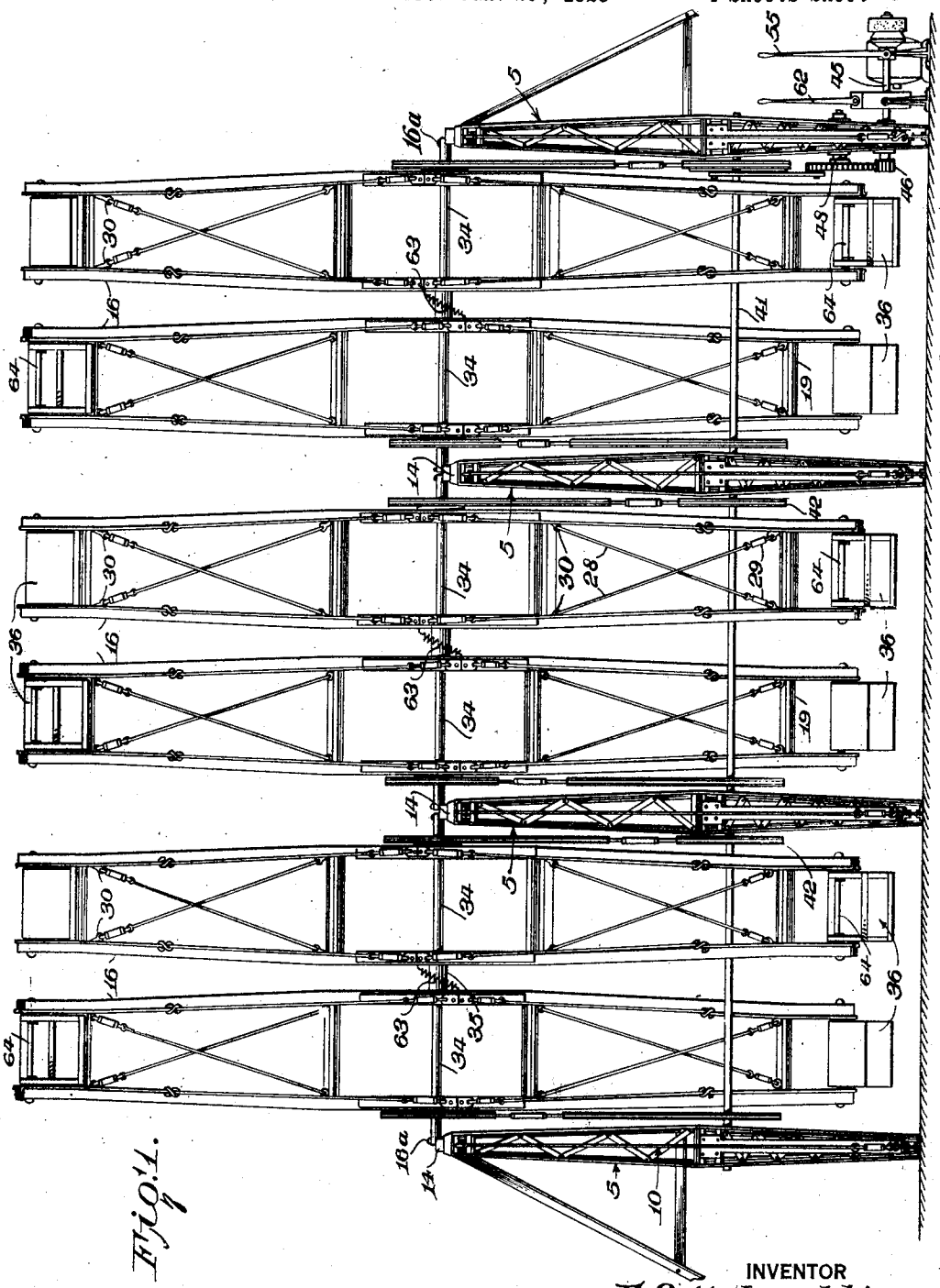

Fig. 1.

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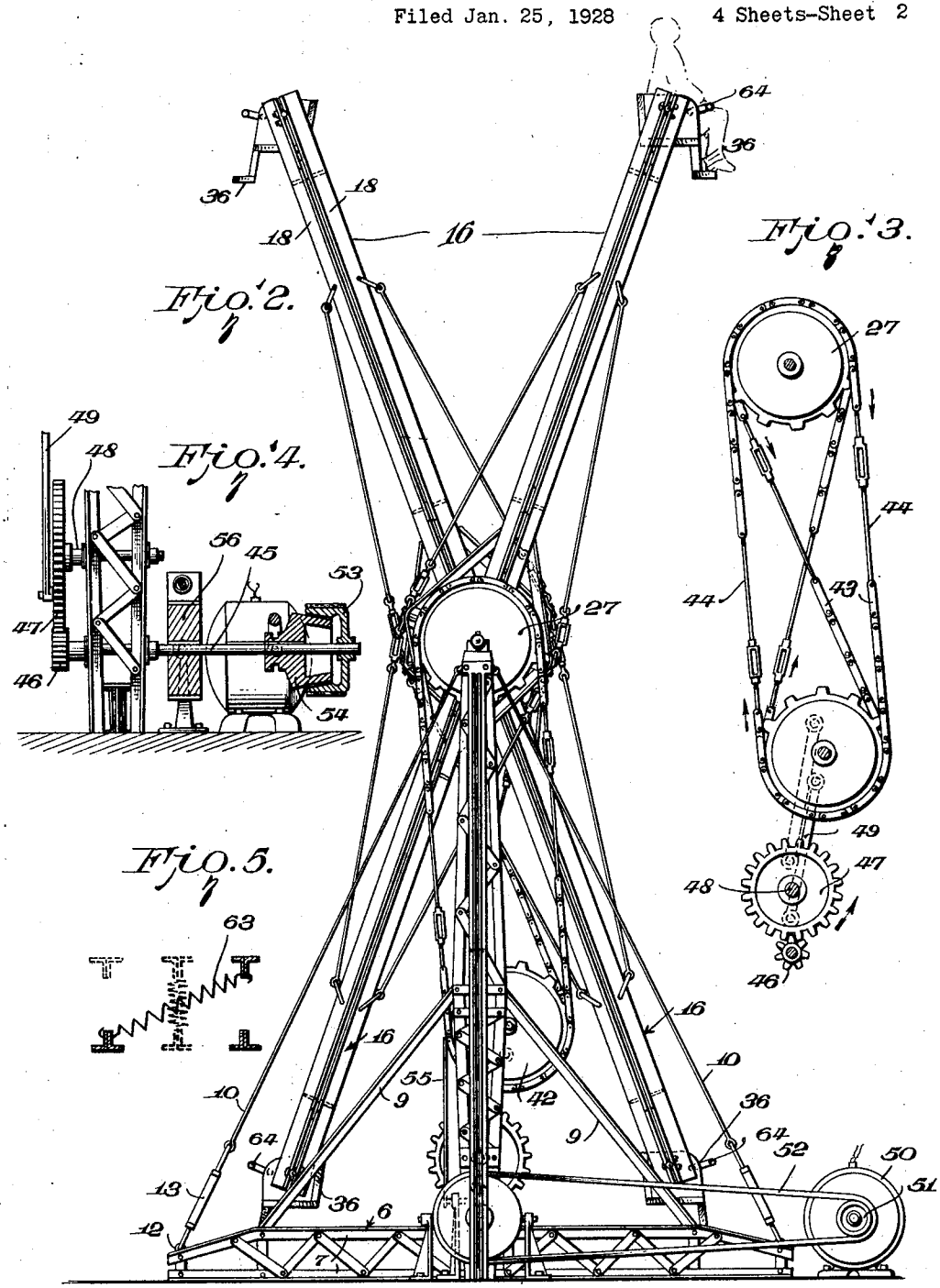

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

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AMUSEMENT APPARATUS

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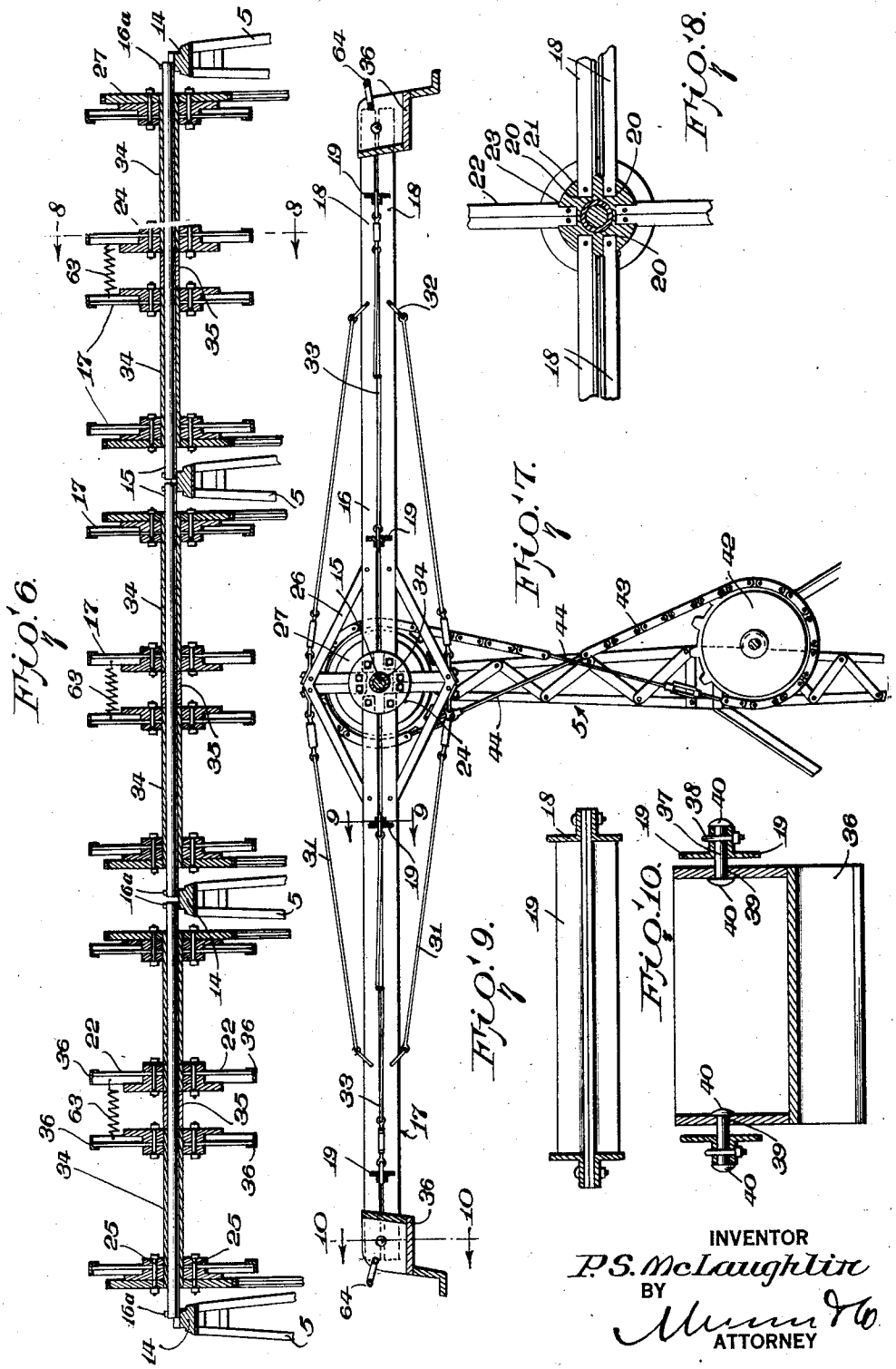

Fig. 6.

Fig. 8.

Fig. 7.

Fig. 9.

Fig. 10.

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AMUSEMENT APPARATUS

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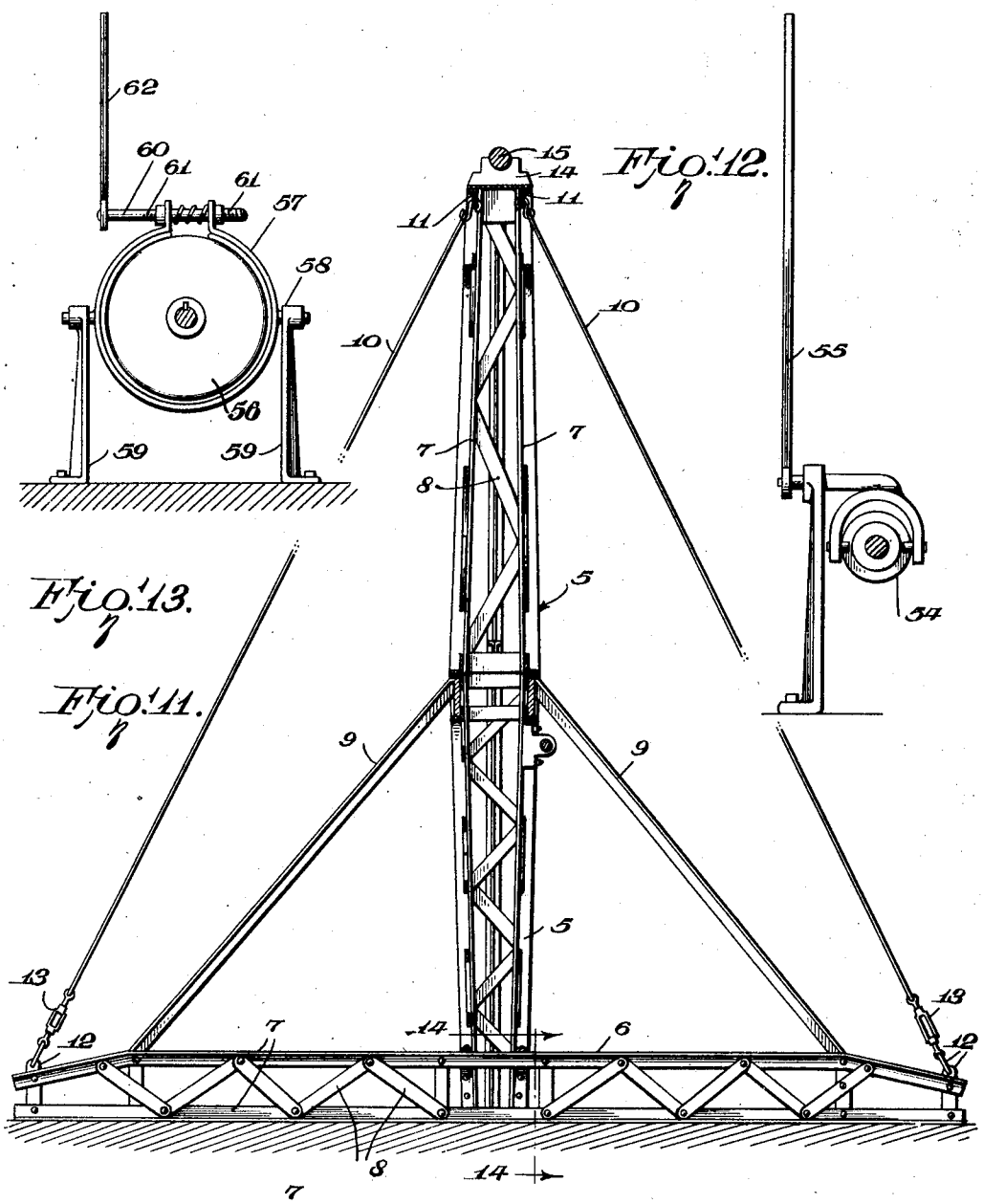

FIG. 12.

FIG. 13.

FIG. 11.

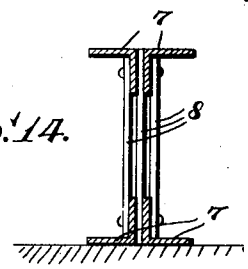

FIG. 14.

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UNITED STATES PATENT OFFICE.

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AMUSEMENT APPARATUS.

Application filed January 25, 1928. Serial No. 249,317.

My invention relates to amusement apparatus and more particularly to an oscillatory passenger carrying mechanism.

An object of the invention is to provide a passenger carrying mechanism embodying a plurality of swinging or oscillatory beams equipped with passenger carrying seats.

Further the invention provides a mechanism of this character wherein the alternate beams are caused to rock continuously in opposite directions and are actuated from a common drive.

With the preceding and other objects and advantages in mind, the invention consists in the novel combination of elements, constructions and arrangement of parts to be hereinafter specifically referred to, claimed and illustrated in the accompanying drawings, wherein:

Figure 1 is a front elevation of my improved amusement apparatus;

Figure 2 is an end elevation of the same;

Figure 3 is a detail view of the operating mechanism for each of the oscillatory beams;

Figure 4 is a view partly in elevation and partly in section of the operating mechanism;

Figure 5 is a sectional detail view;

Figure 6 is a longitudinal sectional view of the invention;

Figure 7 is a transverse sectional view of the same;

Figure 8 is a transverse section taken on line 8—8 of Figure 6;

Figure 9 is a similar view taken on line 9—9 of Figure 7;

Figure 10 is a transverse sectional view taken on line 10—10 of Figure 9;

Figure 11 is a vertical sectional view of the invention;

Figure 12 is a detail elevation of the control clutch embodied in the invention;

Figure 13 is a detail elevation of the brake embodied in the actuating mechanism of the invention; and

Figure 14 is a sectional view taken on line 14—14 of Figure 11.

Referring to the invention in detail a plurality of longitudinally alined vertical columns 5, attached to horizontally disposed ground engaging feet 6, is provided. The columns 5 and supporting feet 6 are built from angle rails 7 connected together by truss or brace elements 8.

To lend rigidity to the columns, they are braced by angularly disposed braces 9 which are connected with the feet 6. To further brace the columns, guy wires 10 are connected with hooks 11 attached to the upper ends of the columns at opposite sides thereof, and have their lower ends connected to the opposite ends of the feet 6, as at 12. Turn buckles 13 are interposed in each of the guy wires to maintain the same under proper tension.

Extending from each two adjacent vertical columns and supported on heads 14 attached to the upper ends thereof, are fixed horizontal shafts 15, the ends of the latter being secured to the heads by fastenings 16ª passing transversely through the shafts and engaged with the heads. Oscillatory or swinging passenger carrying beams 16 are journalled upon each of the shafts 15. These beams are identical in construction and a detail description of one will suffice for all. As particularly illustrated in Figure 9, the beam 16 comprises pairs of substantially parallel side members 17, each of which consists of oppositely arranged angle rails 18 between which transverse T-shaped in cross section bars 19 are held at spaced intervals. The inner ends of the angle rails 18 are received in longitudinally alined sockets 20 in transversely alined hubs 21 arranged centrally of the extremities of the beam 16. Also extending from the hubs 20 and disposed at right angles to the angle rails 18, are brace elements 22 having their inner ends received in sockets 23 in the hub members. Clamping disks 24 are arranged in opposed relation to the hub members and receive transverse bolts 25 which pass through the ends of the angle rails, brace elements and the hub members. V-shaped braces 26 are anchored to the outer ends of the brace elements and are secured to the angle bars at points adjacent the opposite sides of the hub members to strengthen the structure in the zone of these hub members. A sprocket wheel 27 is attached to the outer face of one of the hub members of each pair by means of the bolts 25. Crossed flexible brace elements 28, provided with turn buckles 29, are connected with laterally projecting eyes 30 extending from the angle rails 19. Similar flexible brace elements 31 are connected with the V-shaped braces 26 at opposite sides thereof and are connected with the angle rails, as at 32. To further increase the

rigidity of the beam, flexible brace elements 33 are connected with each two adjacent transverse members 19.

A sleeve or bearing 34 has its ends fixed within the hub members to rotate therewith. As illustrated in Figure 6, the sleeve or bearing 34 of each beam is received on one of the shafts 15 and the beams are arranged in parallelism. It will be observed that two of these swinging beams are arranged in spaced relation on one of the shafts 15, and to retain them in such spaced relation a spacing sleeve 35 is received on each shaft between the opposed faces of the adjacent hub members.

Oppositely arranged passenger carrying seats 36 are carried by the opposite ends of each of the swinging beams. To pivotally suspend the seats from the beams, pairs of transversely alined stub shafts 37 are held between the angle rails 18 by U-shaped fastenings 38 passing through these angle rails and embracing the stub shafts. The side walls of the seats are provided with transversely alined openings 39 which pivotally receive the shafts. Heads 40 are formed upon the opposite ends of the stub shafts to retain the latter against longitudinal shifting.

To continuously rock or oscillate the beams 16 a common drive mechanism is provided which comprises a drive shaft 41 arranged parallel to the shafts 15 and journalled in the columns 5 below these shafts. A plurality of sprocket wheels 42 is fixed to the shaft 41, each of which being arranged in vertical alinement with one of the sprocket wheels 27. A sprocket chain 43 is engaged with each pair of coinciding sprocket wheels 42 and 27. As particularly illustrated in Figure 3, each of the sprocket chains includes a pair of parallel turn buckles 44 whereby proper tension may be maintained at all times. In practice the alternate rocking beams 16 rock or oscillate in opposite directions. To accomplish this movement each alternate sprocket chain is crossed.

A power shaft 45 is journalled below the shaft 41 and carries a drive pinion 46 upon its inner end which meshes with a larger pinion 47 supported above the shaft 45, as at 48. A pitman rod 49 is eccentrically connected with the pinion 47 and one of the sprocket wheels 42. The pitman rod is connected with this sprocket wheel at a point where it can never reach dead center, so that the sprocket wheel will be alternately rotated a partial revolution in clockwise and counter-clockwise directions. A suitable electric motor 50, having a drive pulley 51 engaged by a drive belt 52 passing around a drive cone 53 loose on the shaft 45, is provided. A clutch member 54 adapted to frictionally engage the drive cone 53 is keyed to the shaft 45. A hand lever 55 is operatively connected with the clutch element 54 to render the drive shaft 45 operative and inoperative.

A brake drum 56 is fixed to the shaft 45. A brake shoe 57, encircling the brake drum 56, is pivotally supported, as at 58, in upstanding brackets 59. A rod 60, passing transversely through the extremities of the brake drum, is provided, with right and left threads 61 whereby the brake band is contracted to engage the drum 57. An actuating handle 62 is fixed to the threaded rod 60.

To assist the drive motor in rocking the beams, a contractile spring 63 is connected to each two adjacent beams. These springs extend across the shafts 15 and are connected with the beams at points offset from these shafts. Thus the springs will be placed under tension due to the fact that the beams rock in opposite directions and thereby assist the movement of these beams in the reverse directions.

In the operation of the apparatus motion is transmitted to the driven shaft 41 which in turn drives the sprocket wheels 27 through the medium of the sprocket chains to rock or oscillate the beams 16. During the rotation of the drive shaft the alternate beams 16 will move towards each other to alternately raise and lower the passenger carrying seats 36. As the beams reach their highest point, the rotation of the sprocket wheels will be reversed to cause the beams to move in the reverse direction.

A safety bar 64 is carried by each of the seats 36 to prevent the passengers from falling therefrom.

What is claimed is:—

1. In combination an elevated horizontal support, a plurality of passenger carrying beams pivotally supported thereon at their transverse centers, a sprocket wheel fixed to each beam, a common drive shaft below the sprocket wheels, a plurality of sprocket wheels on the drive shaft, each of which being disposed in vertical alinement with the first mentioned sprocket wheels, and sprocket chains engaging the coinciding sprocket wheels, each alternate sprocket chain being crossed whereby alternate sprocket wheels of those first mentioned will be driven in reverse directions.

2. In combination an elevated horizontal support, a plurality of parallel passenger carrying beams pivoted thereon at their transverse centers, a driven shaft supported below the horizontal support and having operative connection with the beams to rock the latter, a rotatable element fixed to the driven shaft, and a driven rotatable element and a pitman rod eccentrically connected with the rotatable elements whereby to rock the passenger carrying beams.

3. An amusement apparatus including a beam mounted at its transverse center to

swing about a horizontal axis and having side members composed of oppositely disposed channel irons, pairs of stub shafts projecting from the opposite ends of the parallel members and anchored between the angle irons, and seats disposed between the ends of the side members and pivotally supported on the stub shafts.

4. In combination, an elevated horizontal support, a passenger carrying beam pivoted intermediate its ends on the support, a driven shaft supported below the horizontal support, a sprocket wheel fixed to the axis of the beam, a second sprocket wheel fixed to the driven shaft, a sprocket chain engaged with the sprocket wheels, a rotatable element fixed to the driven shaft, a driven rotatable element, and a pitman rod eccentrically connected with the rotatable elements.

Signed at Forty Fort, in the county of Luzerne, and State of Pennsylvania this 16th day of January A. D., 1928.

PHILIP S. McLAUGHLIN.