

Sept. 8, 1931.

A. SPILLMAN

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CABLE DRIVE

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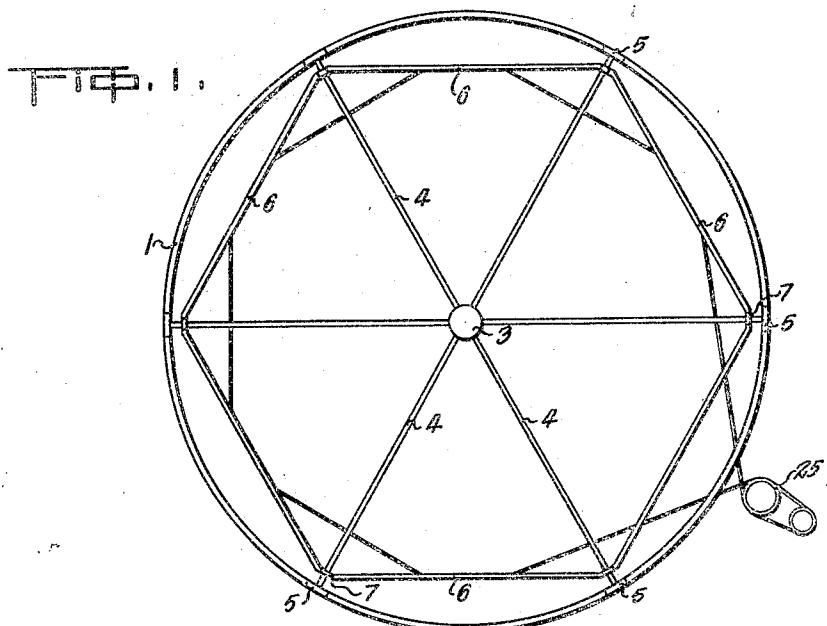
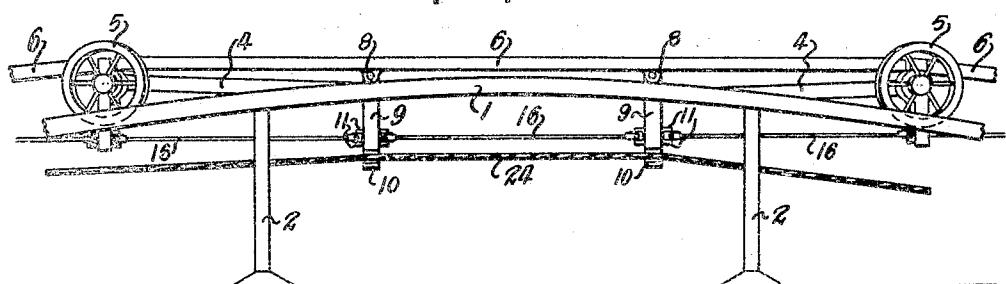


FIG. 5.



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CABLE DRIVE

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My invention relates to improvements in cable drives and is particularly directed towards drives for passenger carrying amusement devices of the rotary undulating type, and the object of my invention is to so construct and mount the cable carrying members upon such a device that a much greater number of cable carrying members or jaws can be used than has formerly been the case, and a further object of my invention is to so mount the cable carrying jaws that they in no way interfere with the standard construction of this type of device.

A still further and particular object of my invention is to pivotally mount my cable carrying jaws upon the amusement structure and so connect them that they always extend through a substantially horizontal plane irrespective of the undulated movement of the structure upon which they are mounted.

My invention consists of a cable drive for amusement devices and the like constructed and arranged all as hereinafter more particularly described and illustrated in the accompanying drawings, in which

Fig. 1 is a plan view of a rotative undulating under structure of a passenger carrying amusement device, the passenger carrying platform, cars or other devices which are generally mounted thereon not being shown.

Fig. 2 is an enlarged side elevation view of a fragmentary portion of such structure, and

Fig. 3 is a perspective view of a fragmentary portion of the structure, the connections between the cable carrying jaws being shown partially taken apart.

Like characters of reference indicate corresponding parts in the different views in the drawings.

My invention is shown applied to a rotative undulating device of standard construction which comprises a circular undulated track 1 supported upon a plurality of jack stands 2 which rest upon the ground. A hub 3 is positioned centrally of the track 1, and 4 are a plurality of sweeps extending from the hub to the track. The inner ends of the sweeps are pivotally connected to the hub so that they are capable of a vertical swinging movement and their outer ends are furnished

with freely mounted running wheels 5 resting upon the track 1. The sweeps are connected together in the vicinity of their outer ends by a plurality of peripheral connecting members 6 which are furnished at their ends with jaws 7 hooked upon the ends of the sweeps 4. As the sweeps 4 are rotated upon the track 1 they have a vertical swinging movement in following the undulations of the track and impart an undulatory rocking motion to the members 6. Passenger carrying cars, platforms or other devices are carried between the sweeps 4 and upon the members 6.

In providing a cable drive for this type of device, the practice heretofore has been to provide downwardly extending jaw members upon the ends of the sweeps 4, and passing a driving cable around such jaws. As the sweeps 4 do not, in themselves twist, but only have a vertical swinging movement as they rotate, it will be understood that the cable carrying jaws would always remain in a substantially horizontal position and carry the cable without binding.

This form of construction was satisfactory where a comparatively large number of sweeps were provided so that a sufficient number of jaws could be used, but in the case of amusement devices wherein a comparatively small number of sweeps were used, such as that illustrated in Fig. 1, this form of drive was not practical as the distances between the jaws upon the ends of the sweeps were too great to provide a satisfactory drive in which the cable would not whip off. It was not possible to rigidly secure extra jaws to the members 6 in addition or instead of the jaws upon the sweeps as jaws rigidly secured to the members 6, would of course, have a swinging motion following the rocking motion of the members 6 which meant that the driving cable became alternately taut and slack dependent upon the relative positions of the various members 6.

In order to overcome this objection and to mount jaws upon the members 6 I have pivotally mounted jaws upon the members 6 and so connected them together and to the sweeps that they always remain in a sub-

stantially horizontal position irrespective of the inclination of the members 6; as I shall now describe.

Upon each of the members 6 I furnish a plurality of pairs of lugs 8 and between each pair of lugs pivotally mount a depending jaw member 9 furnished at its lower end with a jaw 10. Upon each side face of the jaw members 9 I form a pair of lugs 11 with orifices 12 and insert between each pair of lugs 11 a block 13 provided with a vertical orifice 14, a pin 15 extending through the orifices 12 and 14 so that the block 13 is permitted a horizontal swinging movement.

10 Tie bars 16 extend between the jaw members 9 and are furnished at their ends with bifurcated members 17 straddling the outer ends of the blocks 13. The outer ends of the blocks 13 are furnished with horizontal orifices 18, and the ends of the members 17 with orifices 19, pins 20 extending through the orifices 18 and 19 whereby the tie rods 16 have a vertical swinging movement in respect to the blocks 13.

15 The ends of the sweeps 4 are furnished with downwardly extending members 21 which are formed with clamp portions 22 upon their upper ends encircling the sweeps 4 and drawn together by bolts 23 whereby the members 21 are rigidly clamped to the sweeps. The members 21 are also furnished with block receiving lugs 11 similarly to the jaw members 9. 24 is a cable extending around the amusement device and seated 20 within the jaws 10; such cable running from the jaws at one point and extending around a pair of pulleys 25 which are rotated from any suitable source of power.

As the members 21 extend downwardly in 25 a vertical position and are tightly clamped to their sweeps 4 the jaw carrying members 9 will also extend downwardly in a substantially vertical direction through the medium of the tie rods 16 which extend between the members 21 and also between the members 9, the tie rods 16 being suitably adjusted in length.

When the device is rotated the members 21 upon the sweeps 4 will always remain in 30 a substantially horizontal position and through their connections with the jaw members 9, such jaw members 9 will remain in a substantially vertical position and the jaws 10 in a substantially horizontal position irrespective of the rocking motion of the members 6 upon which the jaw members 9 are carried.

It will, therefore, be readily understood 35 that the driving cable 24 will always remain at the same tension irrespective of the inclinations of the members 6. It will also be understood that although I have only shown two jaw members 9 upon each member 6 that three or more jaw members can be mounted upon each member 6 dependent upon the re-

quirements of the device in question, and although I have shown and described a particular embodiment of my invention it is to be understood that I can make such changes and alterations as I may, from time to time, 70 deem necessary or apply my invention to other mechanisms apart from amusement devices, without departing from the spirit of my invention as set forth in the appended claims.

75 What I claim as my invention is:

1. A cable drive for a device having in combination a continuous undulated track, a plurality of spaced apart wheels running upon the track, sweeps upon which the 80 wheels are mounted, connecting members extending between the sweeps, a plurality of cable carrying jaw members supported by the connecting members, and an endless driving cable extending around the jaw members.

85 2. A cable drive for a device having in combination a continuous undulated track, a plurality of spaced apart wheels running upon the track, sweeps upon which the wheels are mounted, connecting members extending between the sweeps, a plurality of cable carrying jaw members pivotally supported by the connecting members, and means connected to said jaw members whereby each individual jaw member is retained in a substantially horizontal plane independently of the inclination of the member upon which it is mounted.

90 3. A cable drive for a device having in combination a continuous undulated track, a plurality of spaced apart wheels running upon the track, sweeps upon which the wheels are mounted, connecting members extending between the sweeps, a plurality of 100 depending cable carrying jaw members pivotally supported by the connecting members, and means connected to said jaw members whereby each individual jaw member is retained in a substantially horizontal plane independently of the inclination of the member upon which it is mounted.

105 4. A cable drive for a device having in combination a continuous undulated track, a plurality of spaced apart wheels running upon the track, sweeps upon which the 110 wheels are mounted, connecting members extending between the sweeps, a plurality of cable carrying jaw members pivotally supported by the connecting members, members rigidly secured to the sweeps, and retaining means extending between the rigid members and the cable carrying jaw members.

120 5. A cable drive for a rotative device of the character described having in combination a circular undulated track, a central hub, a plurality of sweeps radiating from the hub, wheels mounted upon the sweeps and running upon the track, connecting members extending between the sweeps, a plurality of 125 depending cable carrying jaw members piv- 130

totally supported by the connecting members, depending members rigidly secured to the sweeps, and tie rods extending between the jaw members and the members depending from the sweeps.

5 6. A cable drive for a rotative device of the character described having in combination a circular undulated track, a central hub, a plurality of sweeps radiating from the hub, wheels mounted upon the sweeps and running upon the track, connecting members extending between the sweeps, a plurality of depending cable carrying jaw members pivotally supported by the connecting members, depending members rigidly secured to the sweeps, tie rods extending between the jaw members and the members depending from the sweeps, and universal joints forming connections between the ends of the tie rods and the jaw and depending members.

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