

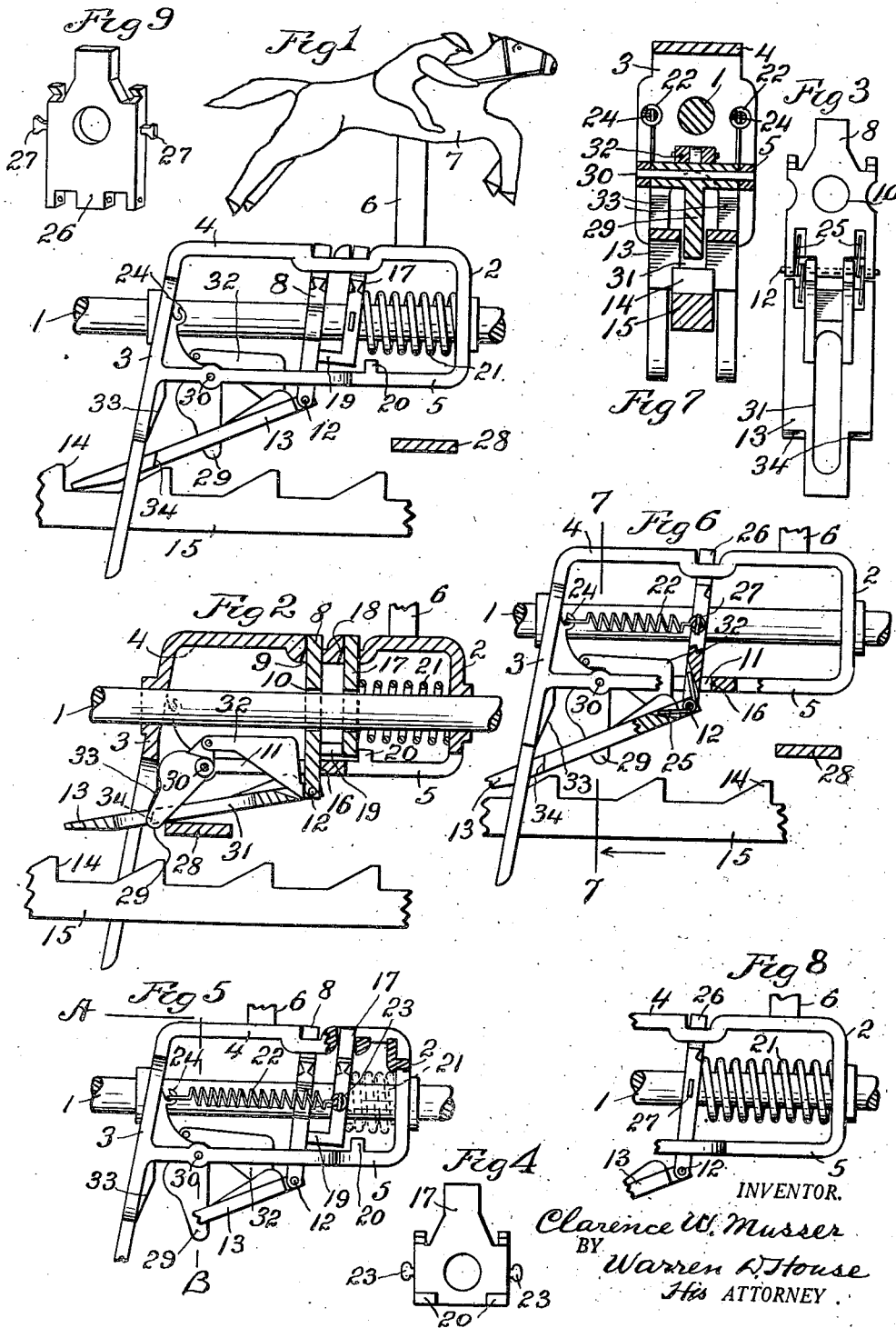
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RACING AMUSEMENT APPARATUS

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RACING AMUSEMENT APPARATUS

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15 Claims. (Cl. 46—119)

My invention relates to improvements in racing amusement apparatus of the type in which carriers for figures simulating jockeys on horses are independently advanced step by step to a finish position, and are then retracted to the starting position. It relates particularly to the type in which each carrier is mounted for travel on a supporting bar on which it is intermittently advanced by a locking member slidable on the bar which is moved forwardly by a pawl engaged with a reciprocative ratchet member, the locking member being adapted to tilt into locking engagement with the supporting bar to hold the carrier from forward skidding, resetting means being provided for retracting the carriers.

One of the objects of this invention is to provide novel means for holding the carrier from forward skidding.

A further object is the provision of novel means for guiding the locking member to prevent transverse swinging thereof.

Still another object of the invention is the provision of two means for releasing the locking member, one of which becomes operative to assist the other when the parts become worn through use.

Another object of the invention is the provision of a novel carrier.

Still another object of my invention is the provision of an apparatus of the kind described which is simple, strong, durable, not likely to get out of order, which is applicable to racing devices now in use, and which is efficient in its operation.

In the accompanying drawing which illustrates my invention,

Fig. 1 is a side view partly in vertical section, partly in elevation, and partly broken away, of a form of my invention which employs two locking members, shown in the locking position to which they are normally forced by a spring which encircles the supporting bar.

Fig. 2 is a vertical sectional view of what is shown in Fig. 1, with parts omitted and the locking members shown in the release positions.

Fig. 3 is a stretchout view of the pawl and one of the locking members to which it is pivoted.

Fig. 4 is a rear elevation of the front locking member.

Fig. 5 is a side elevation of a modification in which two coil pull springs normally force the two locking members to the locking positions, as shown.

Fig. 6 is a side view, partly in elevation and partly in vertical section, and partly broken away,

of a modification which employs but one locking member, and two pull springs.

Fig. 7 is a vertical section on the line 7—7 of Fig. 6. It is also a section, in part, on the line A—B of Fig. 5.

Fig. 8 is a side elevation of some of the parts shown in Fig. 6, a single coil push spring being employed for forcing the locking member to the locking position shown.

Fig. 9 is a front elevation of the locking member shown in Figs. 6 and 8.

Similar characters of reference designate similar parts in the different views.

In the forms of my invention shown in Figs. 1 and 2, there is provided a supporting horizontal stationary bar 1, supported at its ends in any suitable manner, not shown.

Forwardly and rearwardly reciprocative on the bar 1 is a racing figure carrier comprising a front leg 2 and a rear leg 3, and two longitudinal portions 4 and 5 disposed respectively above and below the bar 1 and connecting the legs 2 and 3, the bar 1 extending through the legs which are slidable on the bar.

Extending upwardly from the upper portion 4 is a post 6 on which is mounted a racing figure 7, which simulates a horse carrying a jockey.

For forwardly advancing to the right the carrier, the following described mechanism is employed.

A rear locking member 8 comprising an upright plate has its upper end pivotally mounted in a hole 9 in the portion 4, so as to be adapted to swing forwardly and rearwardly and to move with the carrier. The locking member 8 has a hole 10 through which extends the bar 1 on which the locking member is adapted to slide and to be tilted rearwardly into locking engagement with the bar 1, as shown in Fig. 1, or forwardly out of such locking engagement to the release position shown in Fig. 2.

The locking member 8 extends through a longitudinal guiding slot 11 in the lower portion 5 of the carrier, the side walls of which slot hold the locking member from lateral swinging.

To the lower end of the locking member 8 is pivoted by a horizontal pintle 12 the upper forward end of a downwardly and rearwardly inclined pawl 13, the lower end of which is adapted for engagement with teeth 14 on the upper side of a forwardly and rearwardly reciprocating ratchet member 15, which is reciprocated by mechanism not shown.

When the ratchet member 15 moves to the right and the pawl 13 is engaged therewith, as

shown in Fig. 1, the pawl will be forced to the right, or forwardly, thus moving the locking member 8 forwardly out of locking engagement with the bar 1 to the position shown in Fig. 2 in which the locking member 8 will strike an abutment 16 on the carrier at the front end of the slot 11.

The continued forward movement of the ratchet member 15 and of the pawl 13 will slide the carrier and the locking member 8 forwardly to the right on the bar 1.

The function of the locking member 8, in addition to advancing the carrier on the bar 1, is to stop the carrier from forward skidding, due to its momentum, when the ratchet member 15 stops its forward movement. When the latter occurs, the locking member 8, being no longer pushed forwardly by the pawl 13, will swing rearwardly to the locking position shown in Fig. 1, thus stopping the forward movement of the carrier.

For assisting the locking member 8 in holding the carrier from forward skidding, there is provided in front of the locking member 8 a front locking member comprising an upright plate 17 the upper end of which is pivoted in a hole 18 in the portion 4 so as to swing forwardly and rearwardly and to move with the carrier. When swung rearwardly to the position shown in Fig. 1, the front locking member 17 will have locking engagement with the bar 1. In order that the locking members 8 and 17 may move conjointly, the locking member 17 is provided with two rearwardly extending projections 19 which are adapted to bear against the front side of the locking member 8, as shown.

When the locking member 8 is forwardly moved from the locking position shown in Fig. 1 to the released position, shown in Fig. 2, the projections 19 being engaged with the locking member 8 will also move the locking member 17 to the released position, as shown in Fig. 2, in which position the locking member 17 will contact with the rear side of an abutment 20 on the portion 5 of the carrier.

For normally exerting a continuous yielding pressure on the locking members 8 and 17 tending to force them into locking engagement with the bar 1, means are provided in the form shown in Figs. 1 and 2 comprising a coil spring 21 which encircles the bar 1 and bears at its front end against the leg 2 and at its rear end against the front side of the locking member 17.

The single coil spring 21 by its tension continuously exerts a yielding pressure tending to force the locking members 8 and 17 rearwardly to the locking position on the bar 1. In the form shown in Fig. 5 such pressure is exerted by two coil springs 22 the forward ends of which are respectively attached to two projections 23 on opposite edges of the front locking member 17, the rear ends of the springs 22 being respectively attached to two hooks 24 on the rear leg 3 of the carrier. The springs 22 are pull springs which normally pull rearwardly to the locking position the front locking member 17 and with it the rear locking member 8. As shown in dotted lines in Fig. 5, the two springs 22 could be eliminated and a single coil spring 21 encircling the bar 1 substituted therefor.

Aside from the employment of the pull springs 22, a shorter carrier, and the post 5 disposed at the rear of the locking member 8, instead of in front of the locking member 17, as shown in Fig. 1, the structures shown in Figs. 1 and 5 are similar in structure and mode of operation.

For normally swinging the pawl 13 downwardly into engagement with the ratchet member 15, in each form of my invention shown, two coil springs 25 encircle the pintle 12 and have one set of ends bearing against the upper side of the pawl 13 and their other set of ends bearing against the rear side of the locking member to which the pawl is pivoted, the tension of the springs 25 also serving to exert a pressure tending to swing the locking member with which the springs contact toward the locking position.

In the forms shown in Figs. 6 and 8, the locking member 17 is eliminated, as are the abutment 20 and the hole 18. In the form shown in Fig. 6, the single locking member 26, corresponding to the locking member 8, has its opposite edges provided with projections 27 to which the coil springs 22 are respectively attached.

In the form shown in Fig. 8, a coil spring 21 encircles the bar 1 and bears at its ends respectively against the front leg 2 of the carrier and against the front side of the locking member 26 for normally forcing the latter rearwardly to the locking position. In other respects the structures shown in Figs. 6 and 8 correspond to that shown in Fig. 1.

For retracting the carrier to its starting position on the bar 1, after the finish of a race, there are provided, in each form of the invention shown, the following described parts.

For lifting and disengaging the pawl 13 from the ratchet member 15, there is provided a forwardly and rearwardly reciprocating transverse bar 28, which on moving rearwardly strikes the under side of the pawl 13, lifting it to clear the teeth 14, following which the bar 28 strikes and swings rearwardly the lower end of a lever 29, which is pivoted on a transverse pin 30 extending across the slot 11 and mounted in the portion 5 of the carrier.

The lever 29 extends through a longitudinal slot 31 in the pawl 13, and has pivoted to its upper end a pushing member 32 the forward end of which normally lies on the pawl 13 and is slidable thereon against the rear side of the locking member 8, in the forms shown in Figs. 1 and 5 and against the rear side of the locking member 26 in the form shown in Fig. 6.

After the retracting bar 28 has lifted the pawl 13, the bar 28 engages and forces rearwardly the lower end of the lever 29, thus forcing forwardly the pushing member 32 which will engage and push forward from the locking position the locking member 8, and with it the locking member 17, as shown in Fig. 2.

Continued rearward movement of the retracting bar 28 will force rearwardly the carrier to the starting position of the latter.

When the retracting bar 28 starts forwardly, the pawl 13 will be forced by the springs 25 into engagement with the ratchet member 15, thus completing a cycle.

As shown in Figs. 2 and 7, the lower end portion of the rear leg 3 of the carrier is bifurcated, and the pawl 13 extends between the arms of such bifurcation the forward sides of said arms having respectively forwardly and upwardly inclined portions 33. As shown in Fig. 3, the opposite edges of the pawl 13, near the lower end thereof are respectively provided with two shoulders 34. In case the parts become sufficiently worn with use, the retracting bar 28 will lift the pawl 13 to a position in which the shoulders 34 will slide against the inclined portions 33, thus forcing the pawl 13 forwardly until the locking

members 8 and 17 are fully released and strike the abutments 16 and 20 respectively.

If desired, the device may be used without the lever 29 and pushing member 32, in which case, the pawl 13 will by itself release the locking members 8 and 17 by contacting with the inclined portions 33, when the bar 28 is retracted to lift the pawl and retract the carrier to the starting position.

Also, if desired, the springs 21 and 22 may be dispensed with, and the springs 25 employed to retract the locking members 8 or 26, as the case may be, to the locking position. However, the device is more efficient and durable with the employment of said springs and of the lever 29 and pushing member 32.

Many modifications of my invention, within the scope of the appended claims, may be made without departing from the spirit of my invention.

What I claim is:—

1. In a device of the kind described, in combination, a supporting bar, a racing figure carrier mounted for travel thereon, two locking members, one separate and distinct from and in front of the other, engaging and movable with said carrier and slidable on said bar and tiltable thereon into and out of locking engagement therewith, and means for moving said locking members from locking engagement with said bar.

2. In a device of the kind described, in combination, a supporting bar, a racing figure carrier mounted for travel thereon, two locking members, one separate and distinct from and in front of the other, engaging and movable with said carrier and slidable on said bar and tiltable thereon into and out of locking engagement therewith and engaging each other so as to be adapted for conjoint movement, and means for moving one of said locking members from locking engagement with said bar.

3. In a device of the kind described, in combination, a supporting bar, a racing figure carrier mounted for travel thereon, two locking members, one separate and distinct from and in front of the other, engaging and movable with said carrier and slidable on said bar and tiltable thereon into and out of locking engagement therewith, means normally yieldingly forcing one of said locking members into such locking engagement, and means for moving said locking members from such locking engagement.

4. In a device of the kind described, in combination, a supporting bar, a racing figure carrier mounted for travel thereon, two locking members, one separate and distinct from and in front of the other, engaging and movable with said carrier and slidable on said bar and tiltable thereon into and out of locking engagement therewith and engaging each other so as to be adapted for conjoint movement, means normally yieldingly forcing one of said members into such locking engagement, and means for moving said locking members from such locking engagement.

5. In a device of the kind described, in combination, a supporting bar, a racing figure carrier mounted for travel thereon, two locking members, one in front of the other, engaging and movable with said carrier and slidable on said bar and tiltable thereon into and out of locking engagement therewith and engaging each other so as to be adapted for conjoint movement, means normally forcing one of said locking members into such locking engagement, and means engaging the other locking member for moving the locking members from such locking engagement.

6. In a device of the kind described, in combination, a supporting bar, a racing figure carrier mounted for travel thereon, two locking members, one in front of the other, engaging and movable with said carrier and slidable on said bar and tiltable thereon into and out of locking engagement therewith and engaging each other so as to be adapted for conjoint movement, a pawl engaging one of said locking members for moving the latter from such locking engagement, and a ratchet member operatively engaging said pawl.

7. In a device of the kind described, in combination, a supporting bar, a racing figure carrier mounted for travel thereon, two locking members, one in front of the other, engaging and movable with said carrier and slidable on said bar and tiltable thereon into and out of locking engagement therewith and engaging each other so as to be adapted for conjoint movement, a lever pivoted to said carrier, means actuated by said lever for moving one of said locking members from such locking engagement, and means for operatively actuating said lever.

8. In a device of the kind described, in combination, a supporting bar, a racing figure carrier mounted for travel thereon, two locking members, one in front of the other, engaging and movable with said carrier and slidable on said bar and tiltable thereon into and out of locking engagement therewith and engaging each other so as to be adapted for conjoint movement, means including a spring for forcing one of said locking members to the locking position, and means for moving said locking members from the locking position.

9. In a device of the kind described, in combination, a supporting bar, a racing figure carrier mounted for travel thereon, two locking members, one in front of the other, engaging and movable with said carrier and slidable on said bar and tiltable thereon into and out of locking engagement therewith, and engaging each other so as to be adapted for conjoint movement, means including a spring for forcing one of said locking members to the locking position, a ratchet member, and a pawl engaging one of said locking members and engageable by said ratchet member for moving said locking members from the locking position.

10. In a device of the kind described, in combination, a supporting bar, a racing figure carrier mounted for travel thereon, two locking members, one in front of the other, engaging and movable with said carrier and slidable on said bar and tiltable thereon into and out of locking engagement therewith and engaging each other so as to be adapted for conjoint movement, means including a spring for forcing one of said locking members to the locking position, a lever pivoted to said carrier, means actuated by said lever for moving the other locking member from the locking position, and means for operatively actuating said lever.

11. In a device of the kind described, in combination, a supporting bar, a carrier mounted for travel thereon and having two portions at opposite sides respectively of said bar, a locking member pivotally engaging one of said portions so as to swing forwardly and rearwardly and to move with said carrier and slidable on said bar and tiltable thereon into and out of locking engagement therewith, the other of said portions having guiding means for holding said locking member from transverse swinging, and means for moving said locking member from such locking engagement.

12. In a device of the kind described, in combination, a supporting bar, a carrier mounted for travel thereon and having two portions at opposite sides respectively of said bar, a locking member pivotally engaging one of said portions so as to swing forwardly and rearwardly and to move with said carrier and slidable on said bar and tiltable thereon into and out of locking engagement therewith, the other of said portions having a longitudinal guiding slot in which said locking member is oscillatable, the sides of said slot holding said locking member from transverse swinging, and means for moving said locking member from the locking position.

13. In a device of the kind described, in combination, a supporting bar, a carrier having two legs transverse to and mounted for travel on said bar, said carrier having two longitudinal portions connecting said legs at opposite sides respectively of said bar, a locking member pivotally engaging one of said portions so as to swing forwardly and rearwardly and to move with said carrier and slidable on said bar and tiltable thereon into and out of locking engagement therewith, and means for moving said locking member out of such locking engagement.

14. In a device of the kind described, in combination, a supporting bar, a carrier having two legs transverse to and mounted for travel on said bar, said carrier having two longitudinal portions con-

necting said legs at opposite sides respectively of said bar, a locking member pivotally engaging one of said portions so as to swing forwardly and rearwardly and to move with said carrier and slidable on said bar and tiltable thereon into and out of locking engagement therewith, a lever pivoted to the other of said portions, means actuated by said lever for moving said locking member out of such locking engagement, and means for operatively swinging said lever to so move said locking member.

15. In a device of the kind described, in combination, a supporting bar, a carrier having two legs transverse to and mounted for travel on said bar, said carrier having two longitudinal portions connecting said legs at opposite sides respectively of said bar, two locking members pivotally engaging one of said portions so as to swing forwardly and rearwardly and to move with said carrier and slidable on said bar and tiltable thereon into and out of locking engagement therewith and engaging each other so as to be adapted for conjoint movement, one of said portions having guiding means engaging one of said locking members for holding it from lateral swinging, and means engaging one of said locking members for moving the locking members out of such locking engagement.

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