

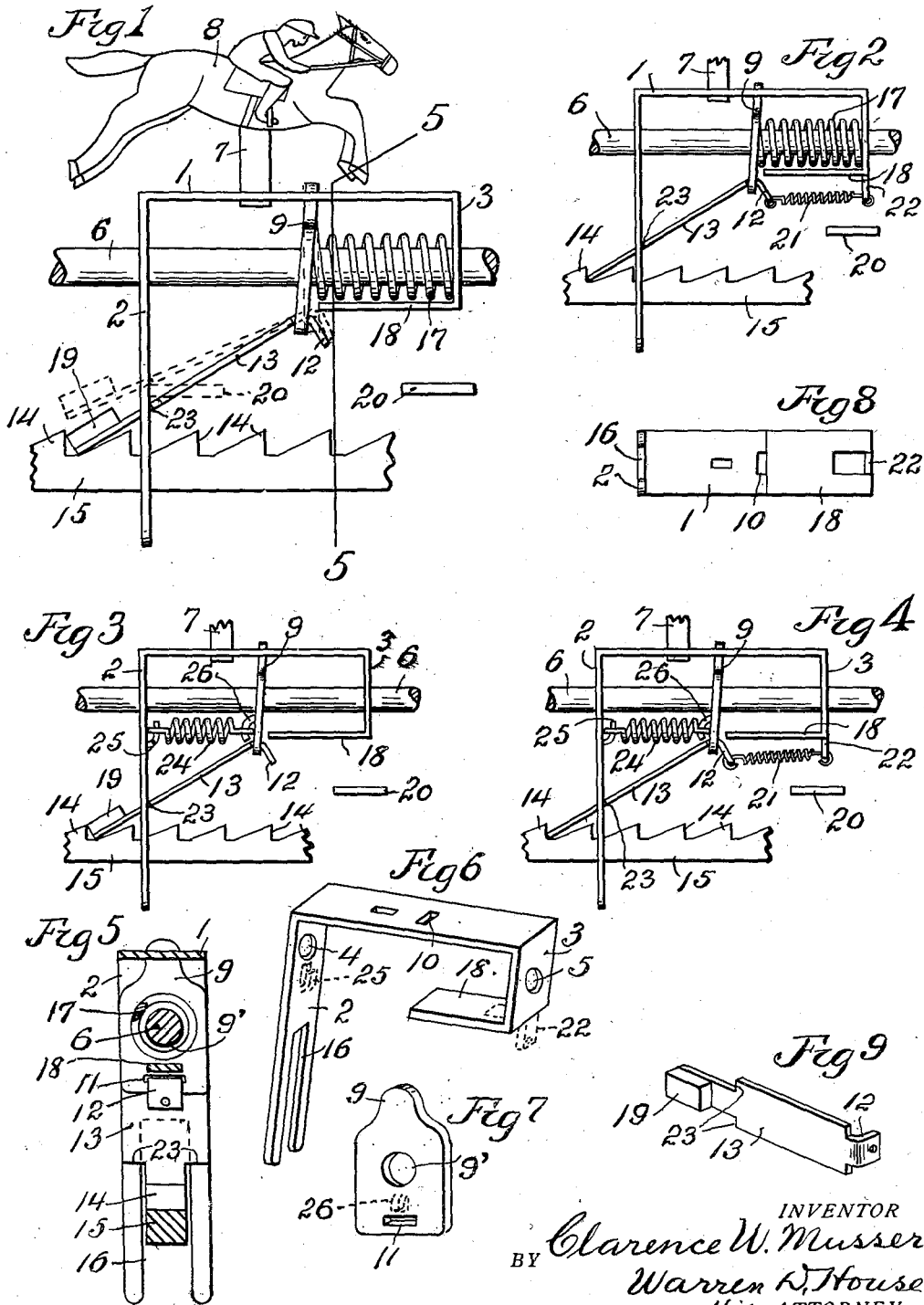
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RACING AMUSEMENT MECHANISM

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## RACING AMUSEMENT MECHANISM

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4 Claims. (Cl. 273-86)

My invention relates to improvements in racing amusement mechanisms of the type in which devices simulating racing figures, such as jockeys on horses, are respectively mounted on carriers which are independently intermittently advanced to a finish position and then simultaneously retracted to the starting position.

It relates particularly to the specific type in which each carrier is reciprocative on a bar on which it is advanced by a locking member movable with the carrier and slidable on the bar, and tiltable thereon to and from an oblique cramped locked position in which it will hold the carrier from accidental advancement, due to its momentum, after the advancing means has discontinued its advancing function.

One of the objects of my invention is the provision of novel means by which the locking member is normally moved to and releasably held in the oblique locking position in spite of wear on the parts.

A further object of my invention is the provision of novel means for holding the pawl, which is employed to release the locking member and advance the carrier, tightly in its operative position against the locking member regardless of wear and looseness of the engaging portions of these members.

Still another object of my invention is the provision of a novel structure for the purposes specified which is simple, cheap, durable, not likely to get out of order, and which is efficient in its operation.

The novel features of my invention are herein after fully described and claimed.

In the accompanying drawing, which illustrates the preferred embodiment of my invention and modifications thereof,

Fig. 1 is a side elevation of my improvement which embodies a compression spring for retracting the locking member, and a weight for forcing the pawl into engagement with the ratchet bar.

Fig. 2 is a reduced view similar to Fig. 1, with the racing figure removed and a spring substituted for the weight to retract the pawl.

Fig. 3 is a reduced side elevation of a modified form of my invention in which a pull spring is employed for moving the locking member to the locking position, parts being omitted.

Fig. 4 is a reduced side elevation similar to Fig. 3 showing the pull spring engaging the locking member for retracting it to the locking position, and a spring for retracting the pawl into engagement with the ratchet bar.

Fig. 5 is a section on the line 5-5 of Fig. 1, the racing figure being omitted.

Fig. 6 is a reduced perspective of the carrier.

Fig. 7 is a perspective view of the locking member.

Fig. 8 is a bottom view of the carrier shown in Figs. 2 and 4.

Fig. 9 is a perspective view of the pawl with a weight attached to one end portion thereof and a spring receiving hole in the opposite end portion.

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

Referring to Figs. 1, 5, 6, 7 and 9, 1 designates the horizontal upper part of a figure carrier having at the ends of the part 1 two vertical arms 2 and 3 provided respectively therethrough with holes 4 and 5 through which extends a horizontal supporting bar 6, on which the carrier is reciprocative. The bar 6 is one of a plurality of parallel bars, which are not shown, but which have a like purpose in a racing mechanism of a type in common use.

Attached at its lower end to and extending upwardly from the horizontal part 1 of the carrier is a post 7 which supports on its upper end a racing figure 8, which, as shown, simulates a horse carrying a jockey.

An upright plate constituting a locking member 9 is slidably reciprocative on the bar 6 between the arms 2 and 3, and has its upper end portion extending through a hole 10, Fig. 6, in the part 1 of the carrier. The member 9 has a hole 9' which receives the bar 6.

The locking member 9 is tiltably laterally on the bar 6 to and from the oblique position, shown in solid lines in Fig. 1, in which position the locking member has cramped engagement with the bar 6 and is locked thereon against any pressure forwardly of the figure 8 and the carrier, but permitting the carrier to move rearwardly toward the left, as viewed in Fig. 1.

The lower end of the locking member 9 has through it a hole 11, in which is pivoted the right angled upper end portion 12 of a downwardly and rearwardly extending plate 13, which serves as a pawl, and having its lower end operatively engageable with teeth 14 of a ratchet bar 15 extending through and vertically movable in a vertical slot 16 which extends upwardly from the lower end of the arm 2.

The ratchet bar 15 is intermittently longitudinally reciprocated, and when it moves forwardly it engages the pawl 13 and carries it forwardly, thus pushing forward the lower end of the

locking member 9 to the vertical position shown in dotted lines in Fig. 1, thereby releasing the locking member.

The mechanism just described comprises a part of the structure which is in common use. To this structure I have added my improvements, one of which consists in disposing between the arm 3 of the carrier and the locking member 9 a coil compression spring 17 which encircles the bar 6 and which bears at one end against the arm 3 and at its other end against the locking member 9.

The tension of the spring 17 which contacts with the locking member 9 normally forces the latter to the oblique locking position shown in solid lines in Fig. 1. A rearwardly extending arm 18 at the lower end of the arm 3 serves as a stop limiting the forward swinging of the locking member 9 to the vertical released position.

A weight 19 on the lower portion of the pawl 13 normally tends to force the pawl to engagement with the ratchet bar 15, in the form shown in Figs. 1 and 9.

In the operation of the form of my invention shown in Figs. 1, 5, 6, 7 and 9, when the ratchet bar 15 moves forwardly, to the left, as viewed in Fig. 1, the pawl 13 will be forced forwardly and will press forwardly the lower end of the locking member 9 to the position shown in dotted lines in Fig. 1, at which time the pawl will strike the arm 18 of the carrier. The locking member being released will force the carrier with the racing figure 8 forwardly until the forward movement of the ratchet bar 15 ceases. The momentum imparted to the carrier will tend to cause it to slide forwardly on the bar 6. This forward movement, however, will be at once arrested due to the coil compression spring 17 forcing rearwardly the locking member 9 to the locked oblique position shown in solid lines in Fig. 1.

As the ratchet bar 15 continues reciprocation, the operation just described will be repeated until the carrier has reached the finishing position, which will be the place of termination of the race.

After the carrier has reached the finishing position, a forwardly and rearwardly reciprocating resetting bar 20, disposed above the ratchet bar 15, transversely thereto, will move rearwardly, and in so doing, will strike the pawl 13 and lift it free from the tooth 14 with which the pawl at the time is engaged, to the position shown in dotted lines in Fig. 1. The resetting bar 20 will engage the arm 2 of the carrier, and will force the latter rearwardly to the initial starting position.

With the use of the compression spring 17, which always is exerting a pressure against the locking member 9 tending to force the latter to the locking position, irrespective of the amount of wear of the locking member around the hole 9', the locking member, on being released from forward pressure upon it by the pawl 13, will instantly lock on the bar 6, and will thereby prevent forward skidding, due to its momentum, of the carrier.

In the form shown in Figs. 2 and 8, the weight 19 on the pawl 13 is omitted and a coil pull spring 21 has one end fastened to the angle portion 12 of the pawl, its other end being fastened to a downwardly extending tongue 22, which is punched from the arm 18.

The tension of the coil pull spring 21 is less than the power of the spring 17, so as not to interfere with the proper operation of the latter, but it

exerts a constant pull which holds the pawl 13 tightly against the locking member 9, and thus tends to quickly swing the pawl 13 to the ratchet bar engaging position shown in solid lines in Fig. 1 and in Fig. 2.

As the resetting bar 20 swings the pawl 13 upwardly, the shoulders 23, Fig. 9 on the pawl, engage the arm 2 of the carrier, thereby forcing the pawl forwardly, so that it moves the locking member 9 to the forward release position, thus eliminating any liability of the locking member locking engaging the bar 6, when the resetting bar 20, engages the arm 2 to retract the carrier.

With the exception of the pull spring 21 and the tongue 22 being provided for engaging the pawl 13 with the ratchet bar 15, and the elimination of the weight 19, the modification shown in Fig. 2 corresponds in construction and mode of operation to the form shown in Fig. 1.

The modification shown in Fig. 3 corresponds to that shown in Fig. 1 in structure and mode of operation, excepting that a pull coil spring 24 is substituted for the compression push spring 17 for normally forcing the locking member 9 to the locking position.

For attaching the coil spring 24, it has one end affixed to an upwardly turned tongue 25 extending forwardly and upwardly from the arm 2 of the carrier, the other end of the spring being attached to a tongue 26 and which extends rearwardly and downwardly from the locking member 9. The pull spring 24 normally forces the locking member to the locking position.

The modification shown in Fig. 4 corresponds in structure and mode of operation to that shown in Fig. 2, with the exception that the coil spring 24, is substituted for the compression spring 17, the spring 24, as in Fig. 3, being fastened at its ends respectively to tongues 25 and 26 provided, as in the form shown in Fig. 3, on the arm 2 and the locking member 9. The tension of the pull spring 24 is such as to normally force the locking member 9 into locked engagement with the bar 6, to hold the carrier from forward skidding, when the pawl 13 and locking member move the carrier forwardly, as has been described.

Other 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, the combination with a supporting bar, a racing figure carrier reciprocative on said bar, a locking member slidably reciprocative on the bar and tiltable to and from cramped locking engagement with said bar, and engaging and movable with the carrier, and when locked to said bar, holding the carrier from forward movement but permitting its rearward movement, a reciprocative ratchet bar, and a pawl engaging the ratchet bar and the locking member for moving the latter forwardly and from the locking position, of a spring engaging the carrier and the locking member and exerting a continuous yielding effort tending to force the locking member into cramped locking engagement with said stationary bar, and means operative independently of said spring for normally forcing said pawl into engagement with said ratchet bar.

2. In a device of the kind described, the combination with a supporting bar, a carrier reciprocative on said bar, a locking member engaging and movable with the carrier and slidably engaging the bar and tiltable thereon to a lock-

ing position, a spring normally forcing the locking member to the locking position, a reciprocative ratchet bar, and a pawl pivotally engaging the locking member and adapted to be engaged by the ratchet bar and moved to release the locking member and to force it and the carrier forwardly, of a spring attached to the carrier and to said pawl and exerting a tension normally forcing the pawl into engagement with said ratchet bar.

3. In a device of the kind described, the combination with a supporting bar, a carrier reciprocative on said bar, a locking member engaging and movable with the carrier and slidably engaging the bar and tiltable thereon to and from a locking position, a reciprocative ratchet bar, and a pawl pivotally engaging the locking member and adapted to engage the ratchet member and to be moved thereby forwardly to release the locking member and to force the latter and the carrier forwardly, of a spring engaging said pawl and at all times exerting a pressure against the pawl for forcing the pawl into engagement with the ratchet bar and yieldable means normally

forcing said locking member to the locking position.

4. Racer actuating mechanism for mechanically operated game apparatus comprising a supporting frame, a stationary longitudinally extending rod mounted on said frame, a reciprocative frame supported bar disposed beneath said rod and provided with ratchet teeth, a racer supporting bracket slidably mounted on said rod, a brake device movably carried in connection with said bracket, said brake device being formed with an opening for the reception of said rod, spring means arranged between said brake device and said bracket and normally tending to maintain the walls of the opening in said device in gripping engagement with the outer surfaces of said rod to restrain said bracket against movement in a forward direction, a trigger movably connected at its upper end with said brake device and having its lower end disposed for engagement with the teeth of said reciprocating bar, and spring means connected with said bracket for normally maintaining the lower end of said trigger in engagement with the bar teeth.

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