No. 647,166. Patented Apr. 10, 1900.

S. STEDEKER.

STARTING DEVICE FOR RACE COURSES.

(Application filed Dec. 20, 1899.)

(No Model.) 3 Sheets—Sheet 1.

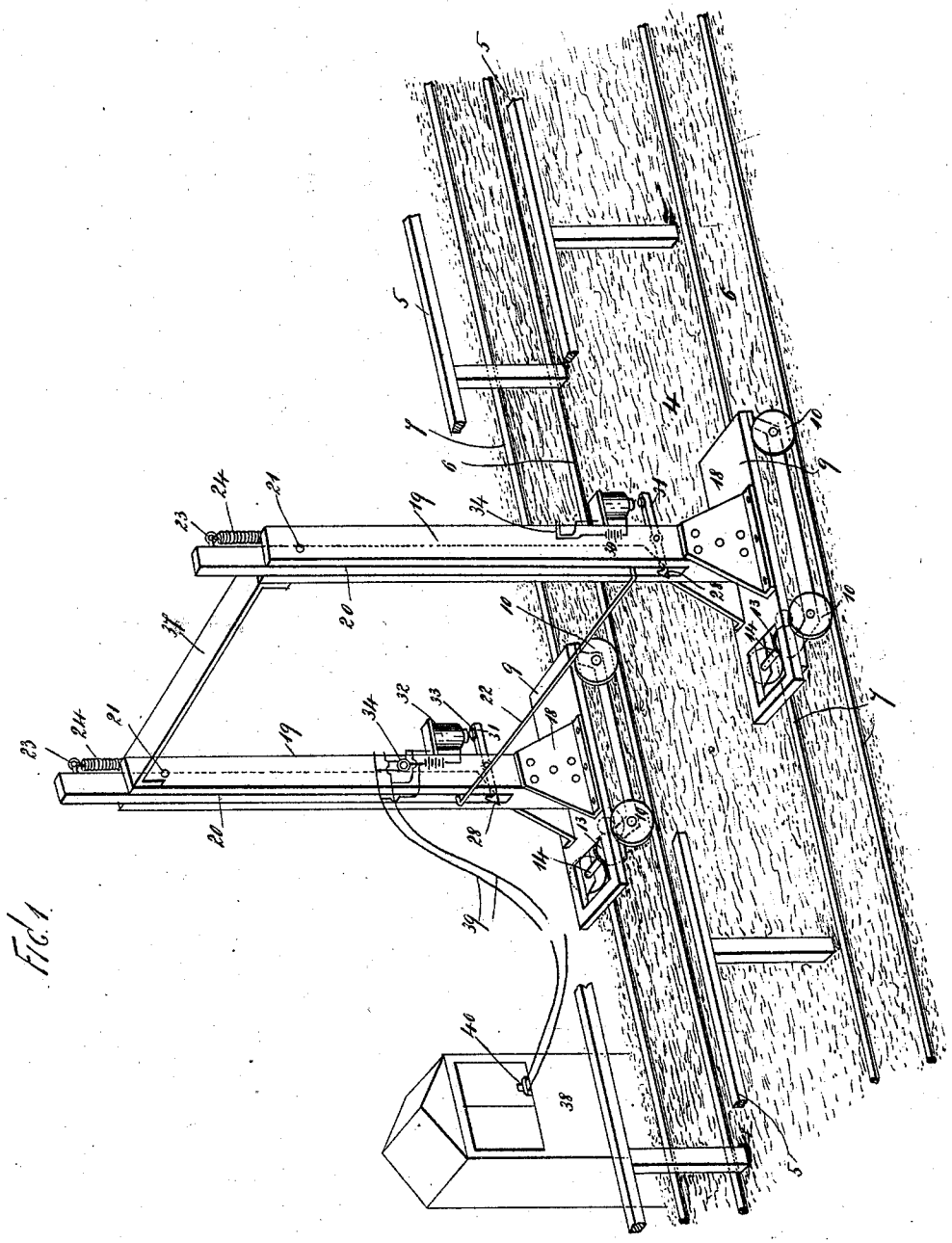


FIG. 1.

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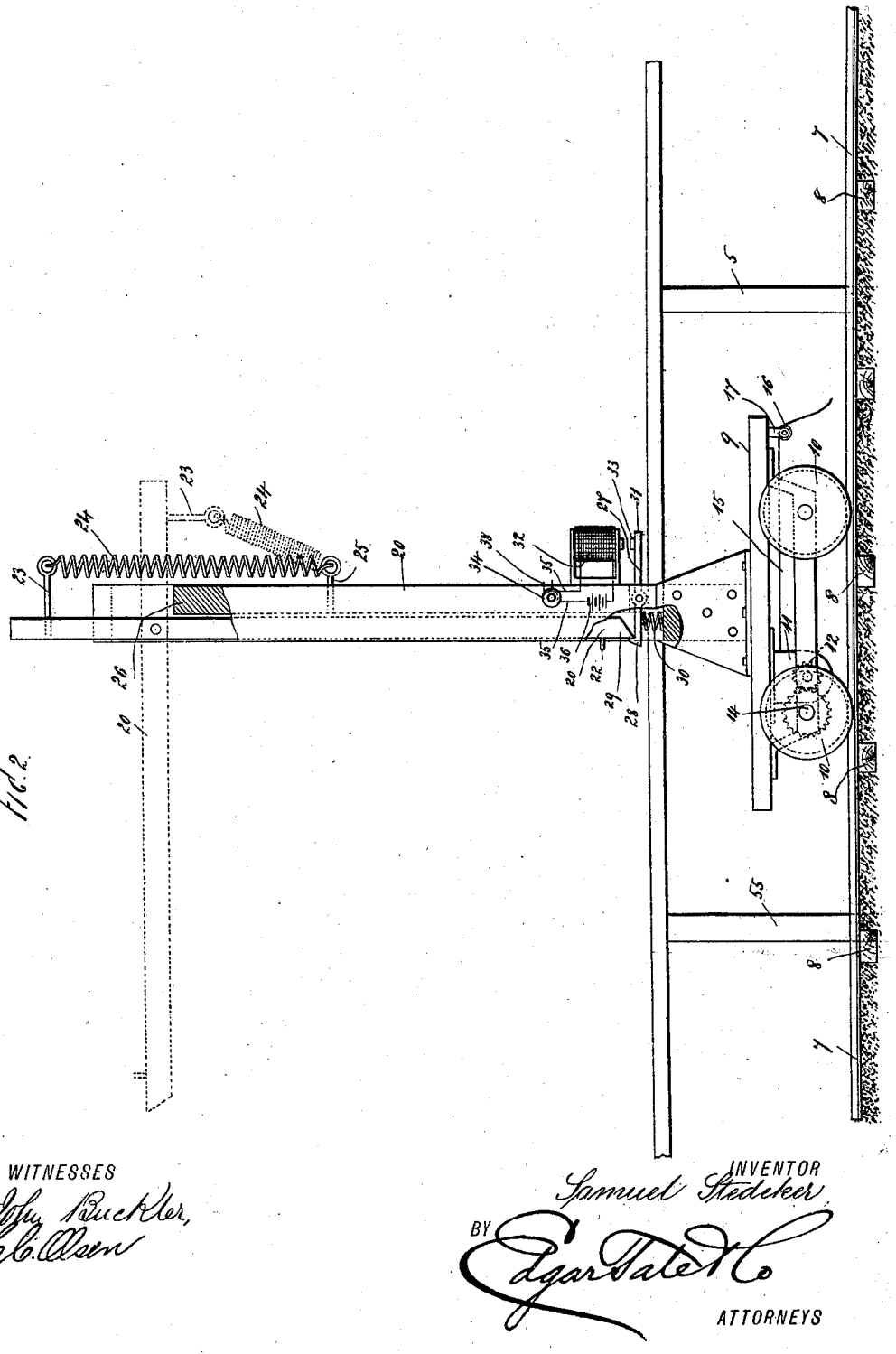


Fig. 2.

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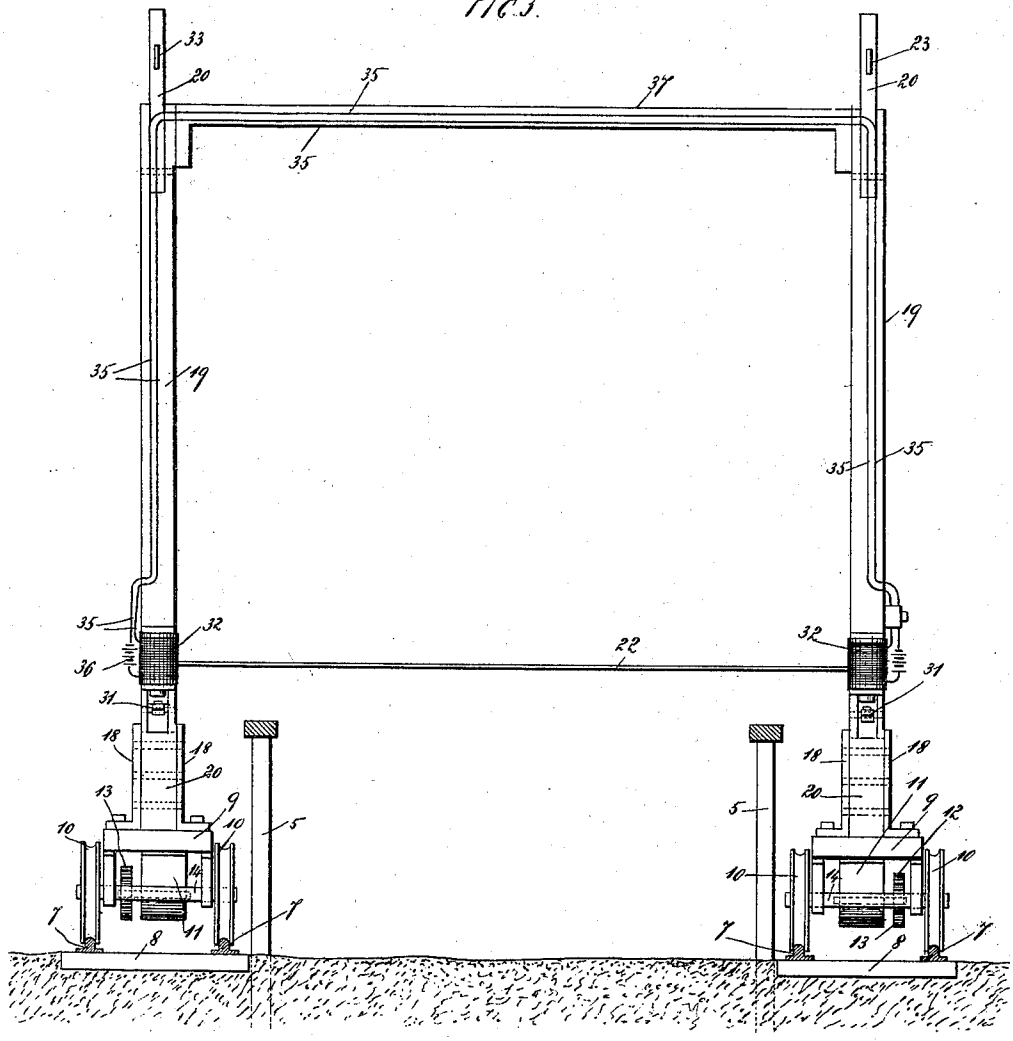
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(No Model.) 3 Sheets—Sheet 3.

FIG. 3.



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UNITED STATES PATENT OFFICE.

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STARTING DEVICE FOR RACE-COURSES.

SPECIFICATION forming part of Letters Patent No. 647,166, dated April 10, 1900.

Application filed December 20, 1899. Serial No. 740,972. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL STEDEKER, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Starting Devices for Race-Courses, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to starting devices for race-courses whereby even starting of horses in a race may be facilitated; and the object thereof is to provide a device of this class whereby horses may be evenly started while walking, trotting, or running. With starting devices as at present constructed it is necessary to bring the starting horses to a standstill in front of the starting-gate and the starting-signal is given while the horses are at a standstill, which custom or practice causes an unfair disadvantage to certain horses which cannot get under way as quickly as others, although they may be faster when once in motion. A moving start brings all the horses to the starting-line with equal advantages, and the starting of the race thus becomes equitable to all the entries.

My invention consists in the construction and arrangement of parts hereinafter set forth.

In the accompanying drawings, forming part of this specification, in which like reference characters denote corresponding parts in the several views, Figure 1 is an isometric view of a portion of a race-track, at either side of which are arranged tracks upon which is mounted the movable starting-gate which comprises my invention. Fig. 2 is a side elevation, partly in section, of the starting-gate shown in Fig. 1, the side rail of the race-track being shown in full lines and the road-bed of the starting-gate tracks in section and on an enlarged scale; and Fig. 3 a, rear elevation of the starting-gate shown in Figs. 1 and 2, the tracks of the starting-gate, together with the road-bed thereof and the race-track, being transversely sectioned, the whole being also upon an enlarged scale, the spring 24 being omitted for purposes of clearness of illustration.

In the practice of my invention I provide at either side of a race-track 4, provided with the usual side rails 5 at either side thereof, a road-bed 6, provided with tracks or rails 7, similarly arranged to the tracks of railways and mounted upon sleepers 8, whereby a smooth running-surface is provided.

The tracks or rails 7 of the race-track 4 extend a predetermined distance at either side of the starting-line, preferably for a distance, say, of one hundred feet at the side of the starting-line upon which the horses approach the same and, say, fifty feet at the other side thereof. Mounted upon the rails 7 at either side of the race-track 4 is a truck 9, provided with wheels 10, by means of which it may be moved upon said tracks or rails, and said trucks are provided with motors 11, with which are operatively connected driving-gears 12, which mesh with gears 13, one of which is mounted upon one of the shafts 14, upon which one set of wheels 10 of each of the trucks 9 are carried.

The motor devices 11 preferably consist of electric motors and, as shown in Fig. 2, are provided with circuit-wires 15, which pass rearwardly of the trucks 9 and over wheels 16, supported by brackets 17. From the wheel 16 the circuit-wires extend to the source of electrical generation and are preferably arranged to be drawn along the road-beds 6 as the trucks move upon the tracks or rails 7. It is evident that, if desired, an overhead or underneath-ground trolley may be supplied for the trucks 9, whereby electric current may be passed through the motors 11, and the circuit-wire 16 thus dispensed with, although this arrangement and construction of current-feed device is not shown, being well known and the application thereof being readily perceived.

Each of the trucks 9 is provided with a base 18, to which is firmly secured the lower end of an upright 19, which is preferably vertically grooved, as shown in Figs. 1 and 2, and in each of the uprights 19, at the upper end thereof, is pivoted a gate-arm 20 at 21, said gate-arms being connected at their outer ends by a tape or cord 22. The arms 20 project an appreciable distance above the tops of the uprights 19 in the position shown in Figs. 1 and 3, and connected with each of said upper ends by means of brackets 23 are coiled springs 24,

which are connected at their lower ends by means of brackets 25 with the rear portions of the uprights 19, and the springs 24 exert a continuous tension upon the arms 20 to raise the lower ends thereof, together with the tape or cord 22, into the position shown in Fig. 2 in dotted lines, in which position they are maintained by a central web 26, which makes a portion of each of the uprights 19, and in engagement with the upper portion of which the upper portions of the arms 20 are brought upon elevation of the lower ends of said arms.

The lower portions of the uprights 19 have chambers rearwardly communicating with the upright grooves therein and are provided in said chambered portions with pivoted catch-arms 27, provided at their forward ends with catch-heads 28, which operate in connection with the lower ends 29 of the arms 20, which, as shown in the drawings, are beveled, whereby they may be readily engaged with the catch-heads 28. The catch-heads 28 are normally held in engagement with the beveled ends 29 of the arms 20 by coiled springs 30, which are imposed within the vertical grooves of the uprights 19 beneath said catch-heads.

Above the rearward end 31 of each of the catch-arms 27 is mounted an electromagnet 32, and said ends 31 are provided with armature devices 33, in connection with which said magnets operate. A circuit-closing device 34 is connected with one of the uprights 19, at one side thereof, and the terminals thereof are connected by circuit-wires 35 with the electromagnet 32, which is connected with said upright, and also by the circuit-wires 35 with the electromagnet 32, which is connected with the other upright 19, and by means of said circuit-closing device, the wires 35 being divided, as shown at 36, to include a source of electrical energy, the electromagnets 32 may be energized to attract the armature devices 33, raising the ends 31 of the catch-arms 27, depressing the catch-head 28, and disengaging the same from the beveled ends 29 of the arms 20, thus allowing the coiled springs 24 to raise said ends 29, together with the tape or cord 22, which latter, as shown in the drawings, extends across the race-track 4 at a suitable distance above the same and above the side rails 5 at either side of the race-track, constituting the barrier proper, at one side of which the starting horses are lined. The circuits connecting the source of electrical energy 36, contact device 34, and the electromagnet 32 are clearly shown in Fig. 3, and the electromagnet 32 may thus be energized by the starter of the race at one side of the race-track by his operating the circuit-closing device 34.

At 38 I have shown a starter's stand, which is, as is customary, arranged at one side of the race-track adjacent the starting-line and in which the starter takes his place to initiate the race by sending the horses over the line on even terms. In using the starting-gates for this purpose it is necessary that the starter be able to raise the barrier at the proper moment when he desires to send the horses over the line. Therefore I have shown the circuit-wires 35 of both of the electromagnets 32 connected up to branch circuit-wires 39, which extend to the starter's box and are electrically connected with a circuit-closing device 40, which is connected with the starter's stand, as shown in the drawings. As soon as the starter decides to send the horses over the line upon the arrival of the movable starting-gate, together with the horses at the line, he operates the circuit-closing device 40 and the barrier 22 rises, allowing the horses to go over the line, and the race is thus started. If desired, the controlling apparatus for regulating the movement of the starting-gate upon the tracks may also be installed upon the starting-stand and be under control of the starter.

The uprights 19 are connected at their tops by a cross-brace 37, whereby joint movement of the two uprights with their respective trucks and connected parts may be maintained. In the use of my improved starting-gate the circuit-wires 16, by means of which the electric motors 11 are energized, are also connected with a suitable starting device or controller by means of which the movement of the said trucks may be governed. This controller device is not shown and may, if desired, be mounted upon the truck 9, with the upright 19 of which the circuit-closing device 34 is connected, and may be operated by the same person who operates the said circuit-closing device. It is understood that this controller device may be of any usual or desired form and forms no part of this invention and is not shown, for the reason that its application to the electric motors is well known and of common occurrence.

In use the electric motors 11 are energized to move the trucks 9 and connected parts above described upon the tracks 7 rearwardly of the starting-line, which is not shown in the drawings, and the horses to start in the race are lined up abreast of the tape or cord 22. At a given signal a closed circuit is established through the wires 16 of the motors 11, and the trucks 9 are moved toward the starting-line, together with the connected parts, the horses also moving with the same and keeping abreast of the tape or cord 22. When the starting-gate comes to the starting-line, if all the horses be on even terms in respect to position with relation to said line, the circuit-closing device 34 is operated to raise the ends 31 of the catch-arms 27, and the barrier, consisting of the arms 20 and tape or cord 22, is raised, allowing the horses to pass forward, thus initiating the race, or, as shown in the drawings, the circuit-closer 40 may be operated with the same effect.

The entire device may be operated by an attendant upon that one of the trucks 9 the upright 19 of which is provided with the circuit-closer 34, and which same truck may be

provided with the starting or controlling device for the electric motors 11. This attendant may operate in connection with the official starter of the race, who may be located at any desired point of vantage, and which attendant may control his operations in accordance with signals received from the starter. If desired, however, the controlling device for the electric motors 11, together with the circuit-closing device 24, may be directly under control of the starter himself by means of suitable electrical connections, such as will readily suggest themselves to any one skilled in the art and as shown in Fig. 1.

By means of the improved starting-gate above described all the disadvantages of starting horses from a standstill are obviated and an eminently-fair start of a race may be made. Its adoption for race-tracks does not necessitate any material alteration in the same, as it only requires the installation of the rails of the track 7 at either side of the race-course.

Having fully described my invention, I claim as new and desire to secure by Letters Patent—

1. As an improved starting device for races, a movably-mounted starting-gate provided with supports arranged at either side of the race-track, a motor connected with one of said supports, and means for operating said gate, substantially as shown and described.

2. The herein-described improved starting device for races, comprising a movable barrier, consisting of two uprights, each of which is supported by a truck at one side of the race-track, and operating upon rails or tracks arranged parallel with said race-track, a motor carried by one of said trucks, a gate-arm pivoted to each of said uprights, means for normally maintaining said gate-arms in a raised position, devices which operate in connection with said gate-arms to maintain the same in depressed position, electromagnetic devices connected with said uprights and which operate in connection with said latter devices to free said arms and allow the same to be moved into a raised position, and a circuit-closing device by means of which a circuit may be closed through said electromagnetic devices, said gate-arms being connected at their outer ends by means of a barrier tape or cord, substantially as shown and described.

3. A race course or track provided at a predetermined point with a starter's stand, rails or tracks arranged at either side of said race course or track, trucks movably mounted thereon and provided with motor devices, a barrier connected with said trucks, means for normally holding said barrier in a depressed position, electromagnetic devices which operate in connection with said means for freeing said barrier, whereby the same may be moved into a raised position, said electromagnetic devices being electrically connected with a circuit-closing device which is installed in connection with said starter's stand, whereby said starting-gate may be operated from said starter's stand, substantially as shown and described.

4. A race course or track provided at a predetermined point with a starter's stand, movable uprights arranged at either side of the race-track and one of which is provided with a motor, a movable barrier connected with said uprights, means for normally holding said barrier in a depressed position, electromagnetic devices which operate in connection with said means for freeing said barrier, whereby the same may be elevated, a controlling device for said motor and a controlling device for said electromagnetic devices, said latter controller being installed in connection with the said starter's stand, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 19th day of December, 1899.

SAMUEL STEDEKER.

Witnesses:
C. C. OLSEN,
V. M. VOSLER.