No. 730,373. PATENTED JUNE 9, 1903.

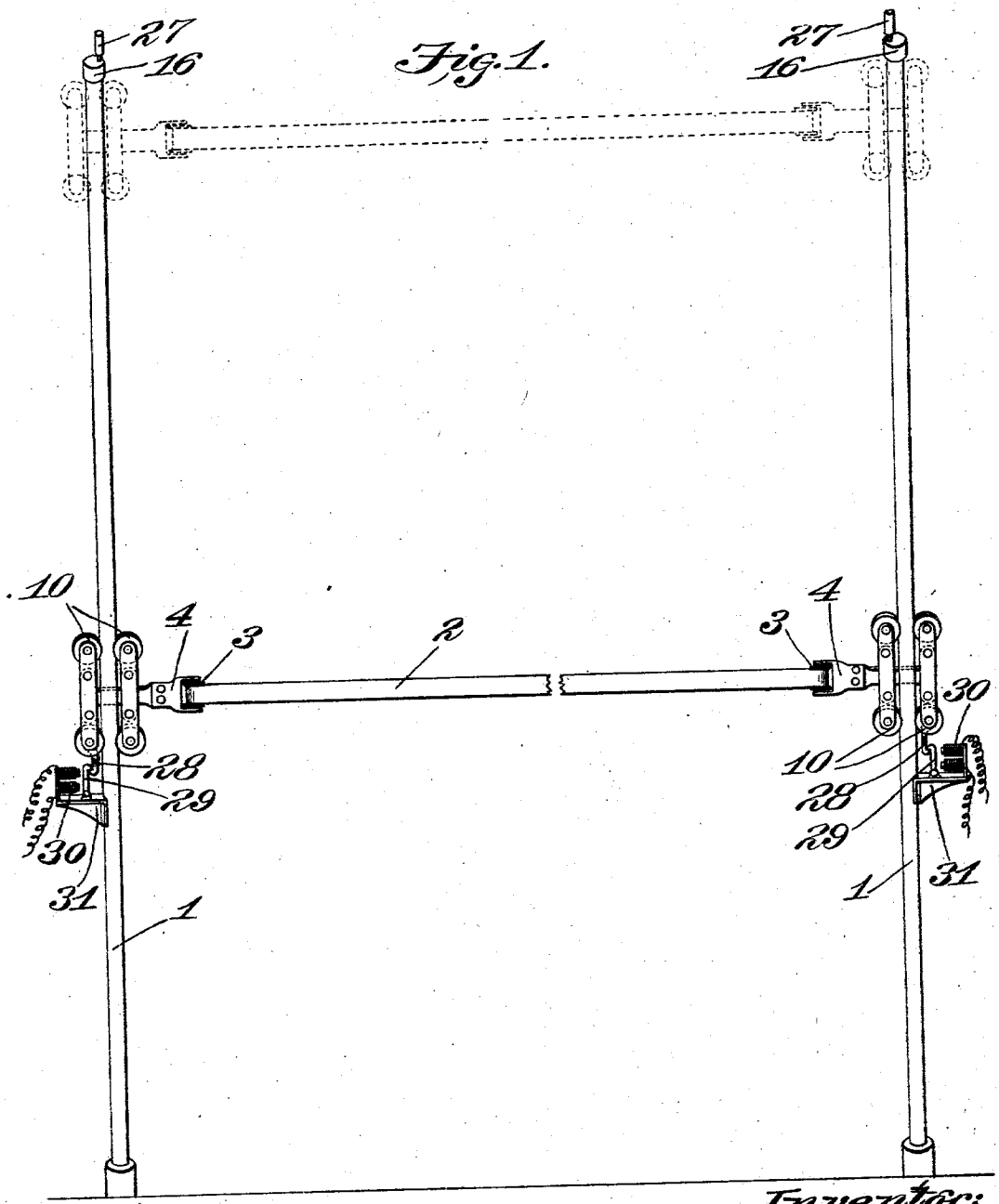
J. IZATT.

RACE STARTING GATE.

APPLICATION FILED JULY 24, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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RACE STARTING GATE.

APPLICATION FILED JULY 24, 1902.

NO MODEL. 2 SHEETS—SHEET 2.

Fig. 3.

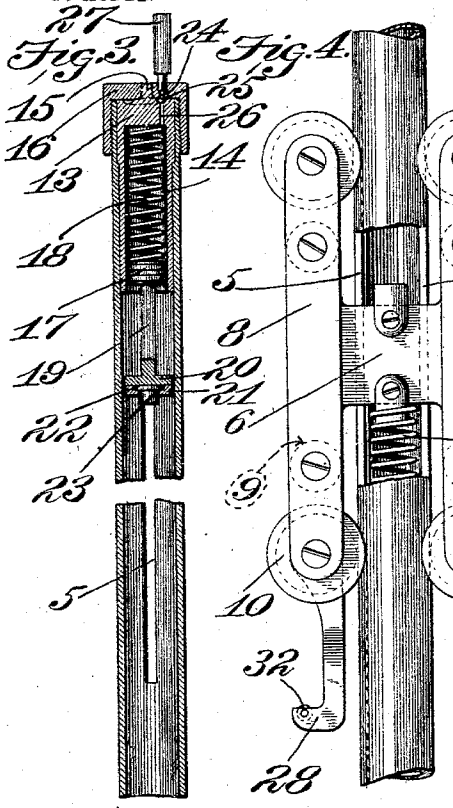


Fig. 4.

Fig. 2.

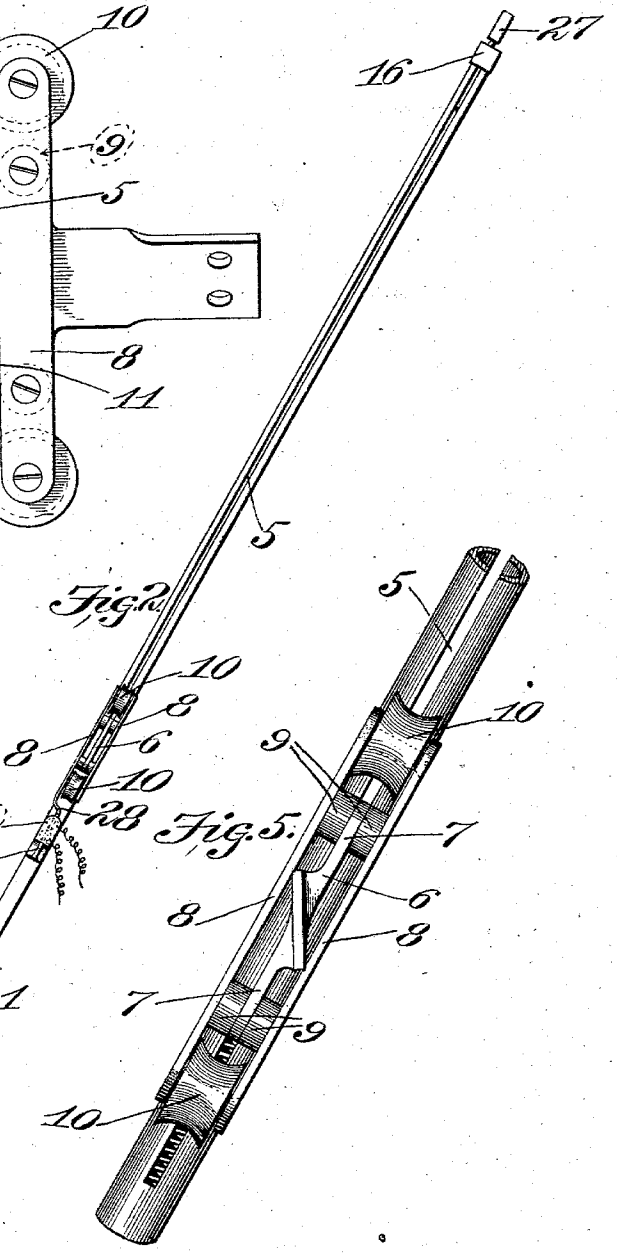


Fig. 5.

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No. 730,373. Patented June 9, 1903.

UNITED STATES PATENT OFFICE.

JOSEPH IZATT, OF ST. LOUIS, MISSOURI.

RACE-STARTING GATE.

SPECIFICATION forming part of Letters Patent No. 730,373, dated June 9, 1903.

Application filed July 24, 1902. Serial No. 116,860. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH IZATT, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Race-Starting Gates, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front elevation. Fig. 2 is a side elevation. Fig. 3 is a sectional elevation through one of the guide-tubes. Fig. 4 is a fragmentary detail elevation, a portion of the guide-tube being broken away; and Fig. 5 is a detail side elevation illustrating the parts shown in Fig. 4, said view being taken from the right-hand side of Fig. 4.

My invention relates to improvements in race-starting gates—that is, to gates which extend across a race-track and are opened for the purpose of permitting the horses to start.

My object is to provide a simple and efficient structure which can be quickly operated at the will of the starter.

To these ends and also to improve generally upon devices of the character indicated my invention consists in the various matters hereinafter described and claimed.

Referring now more particularly to the drawings, 1 1 represent guide-posts, which are tubular and are supported at the sides of the track in a position inclining away from the horses. A movable barrier is supported upon and guided by the said posts. This barrier can be of any suitable construction, but is here shown as a tape or ribbon 2, wound upon suitable spools 3, which are supported in brackets 4.

The guide-tubes 1 are slotted longitudinally from their upper ends to a point about six feet above the bottoms of the tubes, said slots being indicated at 5, and the traveling guides to which the brackets 4 are connected are movable in said slots. Each of said guides has what may be termed a "body-plate" 6, which extends through the slots 5 in a guide-post, and upon the said body-plates are wings 7, which lie upon opposite sides of the post. Elongated plates 8 are secured to each of the said wings upon opposite sides thereof and are spaced therefrom by suitable washers or liners 9, rollers 10, which engage the guide-posts, being journaled between the ends of the said plates 8. The traveling carriers with the barrier supported thereby are thus readily movable along the guide-posts and are mounted upon said posts in such manner that binding is impossible. Contained in each guide-tube is a coiled spring 11, which lies below the body-plate extending across the tube and rests upon any suitable support—as, for example, a plug 12 in the end of the tube. Each of said springs is of such length that when expanded it extends almost the full length of the tube—that is to say, each spring is of such length that it can elevate the traveling carrier to the necessary height. In the top of each tube is a plug 13, having a downwardly-opening cylindrical bore 14, said plug being conveniently provided with a threaded teat 15 upon its head. A cap 16, adapted to screw upon the top of the tube, has a central threaded opening to receive the threaded teat 15. Movable in the bore of the plug is a piston-head 17, which acts against a coiled spring 18 contained in the said bore and intermediate the end of the same and the inner face of the said piston-head. A rod 19 extending downwardly from the said head has a head 20 upon its lower end, and to the under side of said head 20 is secured a perforated plate 21, which is countersunk about its central perforation, as shown at 22. Between the head 20 and the plate 21 is clamped a rubber buffer 23, which projects downwardly beyond the said plate.

The cap 16 is provided with an air-passage 24, which when the parts are assembled communicates with an annular groove 25, formed in the top of the cylindrical plug 13, said plug having an air-passage 26, which communicates between the said groove and the bore 14. A whistle or other pneumatically-operated signal 27 is supported upon the cap 16, the said air-passage 24 leading to such signal.

In operation the barrier is depressed until the body-plates 6 reach the ends of the slots 5, and said barrier is locked in depressed position in any suitable manner, being held in such position against the force of the springs 11, which have, of course, been compressed as the barrier has been moved downwardly. When the race is to start, the barrier is re-

leased and the springs quickly force the same upwardly until the body-plates 6 engage the buffers 23. These buffers receive the initial shock, and the plungers by which the buffers are carried are then moved upwardly against the force of the springs 18 and of the air in the bores 14, the air escaping only through the contracted passage 26, and thus forming a cushion. As the air escapes it flows into the whistle or other signal 27, and such signal is operated, thus announcing that the race has started. The barrier is sustained in its raised position by means of the spring 11.

Manifestly the barrier can be retained in lowered position by many means. I have here shown each traveling carrier as provided with a hook 28, which is adapted to be engaged by a pivoted latch 29, forming or mounted upon the armature of an electromagnet 30, the said magnet and latch being conveniently mounted upon a bracket 31, secured to the tubular guide-post 1. Obviously, when the barrier is lowered the latches 29 are thrown into engagement with the said hooks 28, and thus lock the barrier in lowered position against the force of the springs 11 until the magnets are energized and the latches are thus thrown into unlocking position.

In the use of race-starting gates as heretofore constructed it not infrequently happens that the latches which hold the barrier in lowered position fail to quickly move from the hooks or other members upon the barrier with which said latches engage. In order to obviate this difficulty, I provide each hook 28 with a roller 32, which is engaged by the proper latch 29, said roller forming an antifriction-bearing between the said parts.

I am aware that minor changes in the construction, arrangement, and combination of the several parts of my device can be made and substituted for those herein shown and described without in the least departing from the nature and principle of my invention.

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

1. In a device of the character indicated, a slotted guide-post, and a traveler coöperating therewith, said traveler including a body-plate in said slot, wings upon opposite ends of said body-plate, and members upon said wings engaging said post; substantially as described.

2. In a device of the character indicated, a slotted guide-post, and a traveler coöperating therewith, said traveler including a body-plate movable in said slot, wings upon opposite ends of said body-plate, sets of elongated plates connected to each of said wings, and rollers adapted to engage said post journaled between said elongated plates upon opposite sides of said body-plate; substantially as described.

3. In a device of the character indicated, a movable barrier, a buffer coöperating therewith and working in a chamber to effect an air-cushion, a pneumatically-operable signal, and a passage connecting said chamber with said signal; substantially as described.

4. In a mechanism of the character indicated, a tubular guide-post, a barrier movably supported thereby, a cylinder in said post, said cylinder having a groove in its outer surface and an air-passage communicating with said groove, a plunger working in said cylinder and coöperating with said barrier, and a pneumatically-operable signal connected to a passage in the housing for said cylinder, which passage communicates with said groove; substantially as described.

5. In a mechanism of the character indicated, a tubular guide-post, a barrier movably supported thereby, a cylinder in said post, said cylinder having a groove in the outer face of its head and also having an air-passage communicating with said groove, a cap closing said cylinder and having an air-passage communicating with said groove, a pneumatic signal connected to said passage in said cap, and a plunger working in said cylinder and coöperating with said barrier; substantially as described.

6. In a mechanism of the character indicated, a plunger, a head thereon, a perforated plate secured to said head, and a buffer having a part secured between said head and plate and a part projecting through the perforation of said plate; substantially as described.

7. In a mechanism of the character indicated, a movable barrier, a cylinder, a plunger working in said cylinder and coöperating with said barrier, a spring in said cylinder coöperating with said plunger, and a pneumatic signal, there being an air-passage between said cylinder and said signal; substantially as described.

In testimony whereof I hereunto affix my signature, in the presence of two witnesses, this 19th day of July, 1902.

JOSEPH IZATT.

Witnesses:
GALES P. MOORE,
GEORGE BAKEWELL.