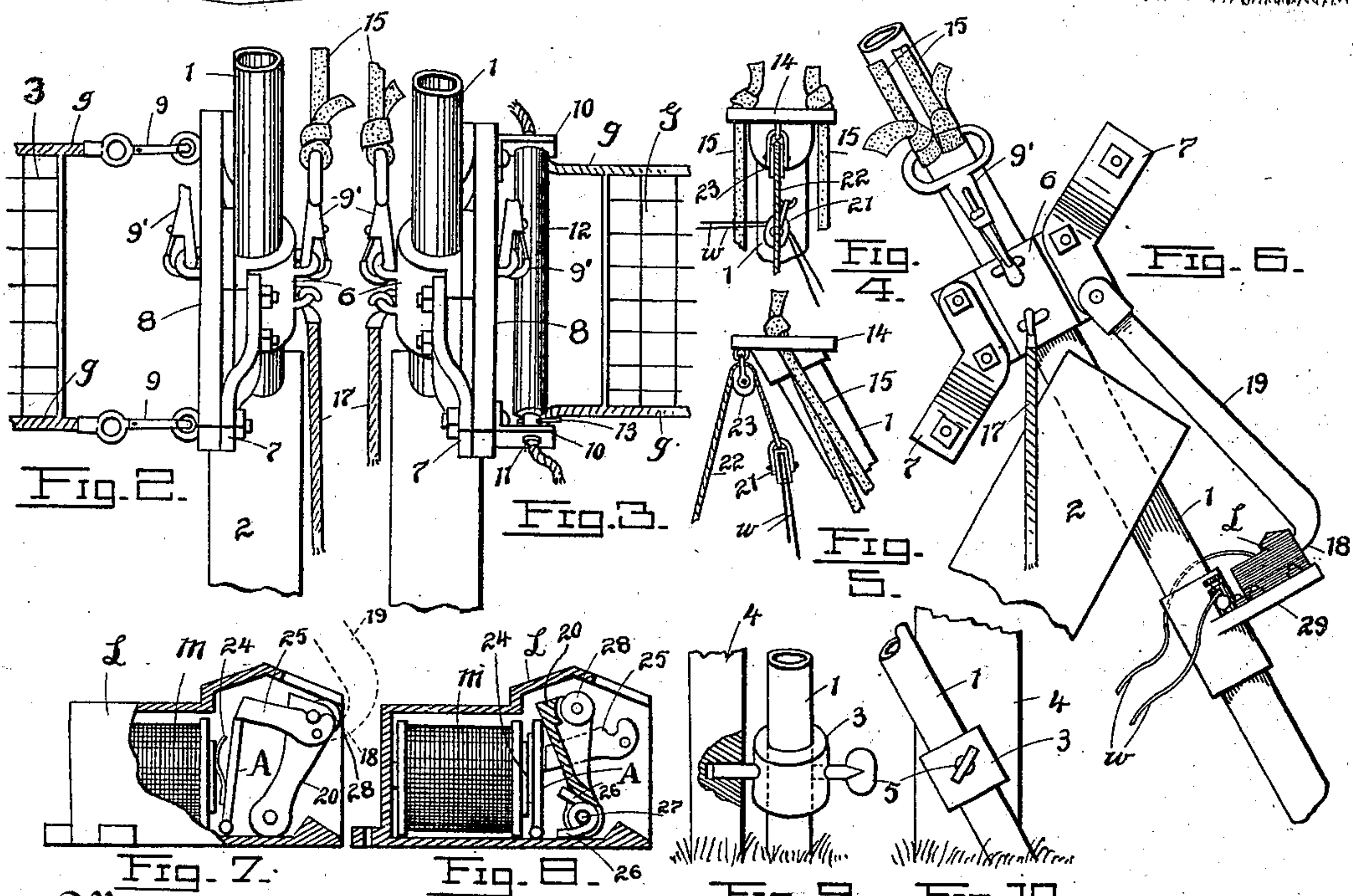
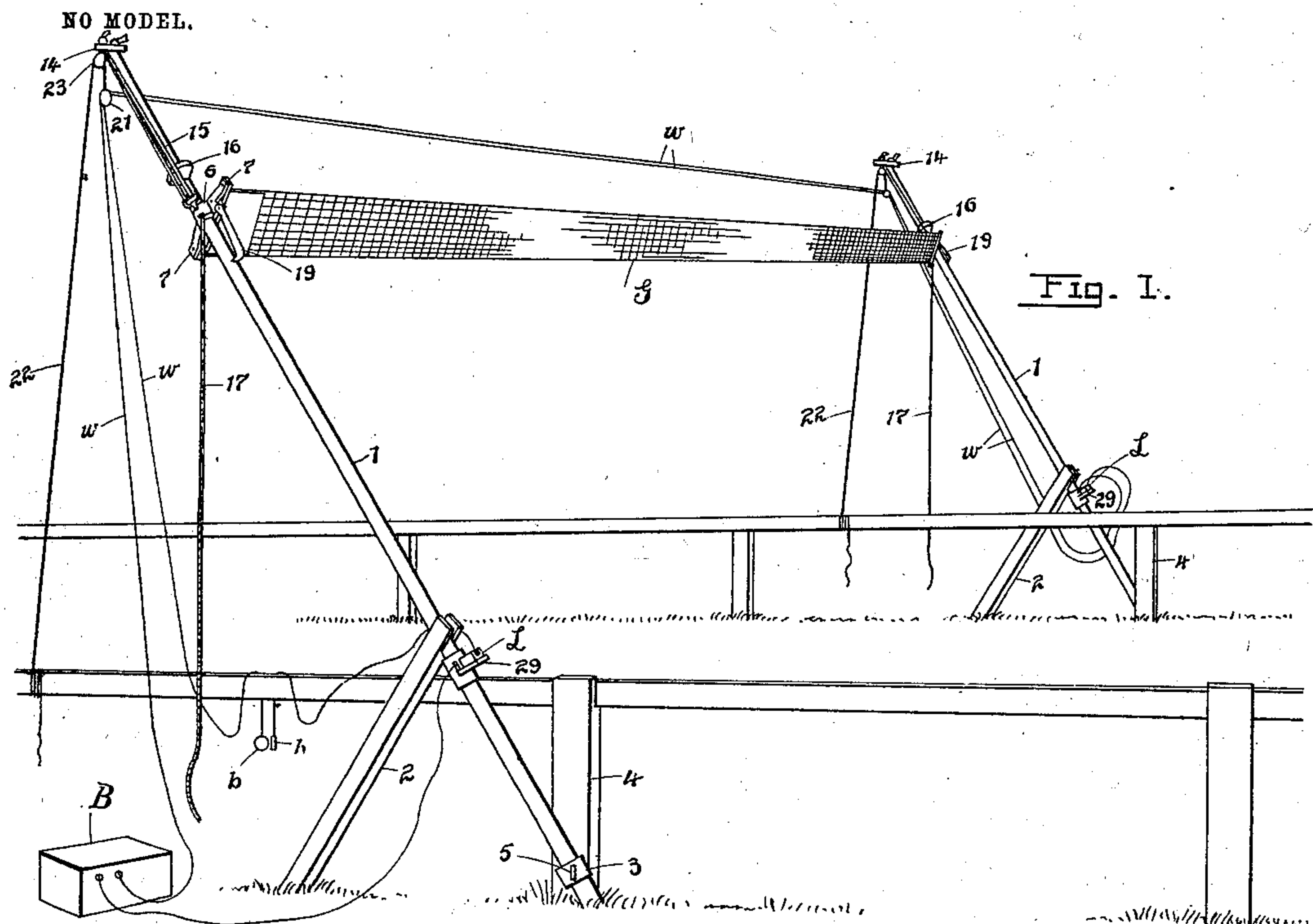


D. J. PINE.  
STARTING GATE.

APPLICATION FILED JUNE 12, 1902.

NO MODEL.



2 Witnesses  
Thos. J. Kawn  
G. L. Belfry

Fig. 9. Fig. 10. Inventor  
By his Attorney *Mudley J. Pine*  
*Emil Stank*



# UNITED STATES PATENT OFFICE.

DUDLEY J. PINE, OF ST. LOUIS, MISSOURI.

## STARTING-GATE.

SPECIFICATION forming part of Letters Patent No. 723,915, dated March 31, 1903.

Application filed June 12, 1902. Serial No. 111,435. (No model.)

*To all whom it may concern:*

Be it known that I, DUDLEY J. PINE, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Starting-Gates, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in starting-gates for race-courses; and it consists in the novel arrangement and combination of parts more fully set forth in the specification and pointed out in the claim.

In the drawings, Figure 1 is a perspective view of my gate thrown open. Fig. 2 is an edge view of the runner of one of the poles, showing the manner of fastening the adjacent end of the gate thereto. Fig. 3 is a similar view of the runner of the opposite pole. Fig. 4 is an end elevation of the upper end of one of the poles, showing the manner of connecting the elastic cables and also the manner of suspending the electric conducting-wires. Fig. 5 is a view at right angles to Fig. 4. Fig. 6 is a side elevation of Fig. 2, showing the runner in its lowered or locked position. Fig. 7 is a side elevation of the electric lock, a portion of the wall being broken away. Fig. 8 is a sectional elevation showing the trigger released from the runner and the armature attracted to the core of the electromagnet. Fig. 9 is a detail elevation showing manner of securing the base of the pole, and Fig. 10 is a view at right angles to Fig. 9.

The object of my invention is to construct a starting-gate for race-courses which can be instantaneously released and automatically elevated out of the way of the animals; one which is composed of a minimum number of parts, thus rendering it compact for shipping purposes, one which is simple and convenient and capable of being set up at a moment's notice, and one possessing further and other advantages better apparent from a detail description thereof, which as follows:

Referring to the drawings, 11 represent two rigid poles disposed on opposite sides of the race course or track and supported in an inclined position by posts 2 2, the base of each pole being passed through a ring 3, the shank of which is driven into a stake 4, a binding-screw 5 serving to secure the pole to the ring.

Adapted to travel up and down each pole is a runner 6, which loosely encompasses the pole, the arms 7 7 of the runner being connected by a bridge-piece 8. To the bridge-piece on one side of the track the gate G (composed of upper and lower cords or ropes *g g*, connected by suitable netting) is secured by means of ordinary snap-hooks 9, Fig. 2. To the bridge-piece on the opposite side the connection is effected as follows: The opposite ends of the bridge-piece, Fig. 3, carry angle-pieces or brackets 10, provided with openings for the reception of the reduced ends 11 11 of a plug 12, one of the ends 11 being provided with a removable transversely-disposed pin 13. The ends of the cords are passed through the openings of the brackets 10 and subsequently frictionally held therein by the ends 11, the plug being subsequently held against longitudinal displacement by the peg or pin 13 referred to. To unfasten the gate, the pin 13 is removed and the plug 12 withdrawn, as is obvious. The upper end of each pole is capped by a plate 14, secured in any mechanical manner, but preferably screwed, to the pipe of which the pole is constructed, the opposite ends of the plate being provided with openings for the passage of the upper ends of the elastic or rubber cables 15, the lower ends of which are coupled directly to the runners on each side of the pole by means of snap-hooks 9'. The elasticity of the cables 15 tends to draw the runners to the upper ends of the poles, the said runners being limited in their upward movement by the rubber buffers 16, carried adjacent to the upper ends of the poles. The runners are drawn downward along the poles by the cables 17 and subsequently set or locked to their lowest position preparatory to their release at the moment of the start of the animals. The locking is effected by the terminal finger 18 of a pivoted or swinging arm 19, carried by each runner, said finger being forced into engagement with an electrically-operated trigger 20 of the electric lock L. While this lock is not new and I make no claim to the details thereof, I have shown a sufficient number of the operating parts of the latter to better illustrate the action and operation of said parts in connection with my present improvement. Each lock contains an electromagnet M, connected by



wires *w* with a dry battery B, the wires, extending from one lock to the other, being passed over pulleys 21, suspended from the top of each pole, each pulley being elevated 5 or lowered by a cable 22, passed over a pulley 23, this arrangement allowing for a lowering of the wires just prior to the disassembling of the gate in the event of its shipment or removal. Pivoted in front of the magnet 10 of each lock is an armature A, normally held released or tilted out of contact with the core thereof by a flat spring 24, the armature when thus tilted engaging the lower edges of the pivoted dogs 25, carried by the side walls of the 15 casing of the lock. Pivoted in advance of the armature is a spring-controlled trigger 20, normally tilted outward by one end of a coiled spring 26, wound about the stationary spindle 27 of the trigger. When thus outwardly tilted, 20 the trigger trips the dogs 25 sufficiently to allow the upper edge of the armature to pass under the lower edges of the dogs, Fig. 7, thus locking the trigger. The latter has mounted along its upper edge an antifriction- 25 roller 28, which the finger 18 of the arm 19 engages when the runner is set or locked. Now the moment the operator closes the electric circuit, which is accomplished by bringing into contact the buttons *b b* at the ends 30 of the wire *w*, which are always within easy reach, the armature is at once attracted, thereby releasing the dogs and permitting the trigger to be tilted to one side under the tension of the rubber cables 15, the finger 18 35 instantly releasing itself from such trigger, Fig. 8, and at the same moment the runners 6 6 are simultaneously drawn up with great velocity by the contraction of the rubber

cables, Fig. 1. As before stated, their arrest is effected by impact with the elastic 40 buffers 16. The gate G, of course, being stretched between the runners is lifted with them and the animals are free to start on their race. The locks are herein shown as being mounted on brackets 29, clamped to 45 the poles; but any other arrangement would answer the purpose. Furthermore, I wish to be understood as not limiting myself to the details here shown, as they may be departed from in a measure without affecting the nature or spirit of my invention. 50

Having described my invention, what I claim is—

In a starting-gate, a suitable rigid pole, means located near the base thereof for supporting the same in position, a runner loosely embracing the pole above its point of support, arms carried by the runner, a bridge-piece connected to said arms, means for securing a suitable netting or web to said bridge- 60 piece, a pivoted arm depending from the runner, a finger at the free end of said arm, said finger being adapted to engage an electrically-operated trigger of a suitable lock, elastic or rubber cables connected respectively to the 65 runner and to the free end of the pole, and a buffer carried by the pole adjacent to the upper end thereof, the parts operating substantially as, and for the purpose set forth.

In testimony whereof I affix my signature 70 in presence of two witnesses.

DUDLEY J. PINE.

Witnesses:

EMIL STAREK,  
ROSA ROSS.