Jan. 5, 1937. A. T. J. BAHR 2,066,447

STARTING GATE

Filed Feb. 15, 1932

Fig. 1

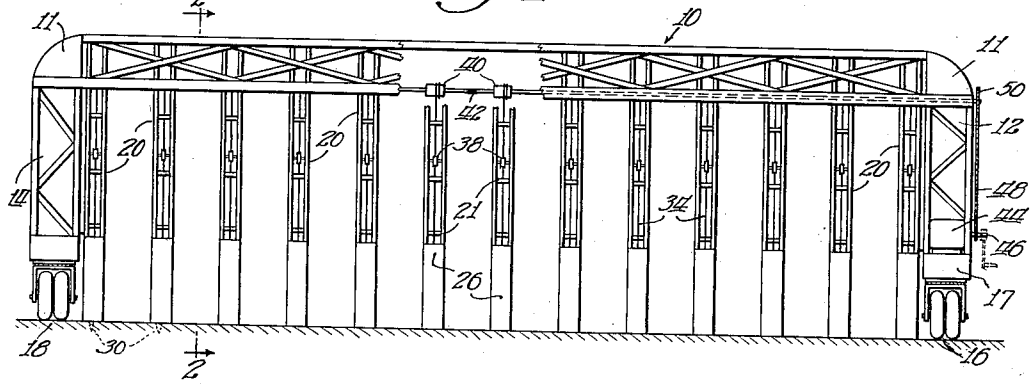


Fig. 2

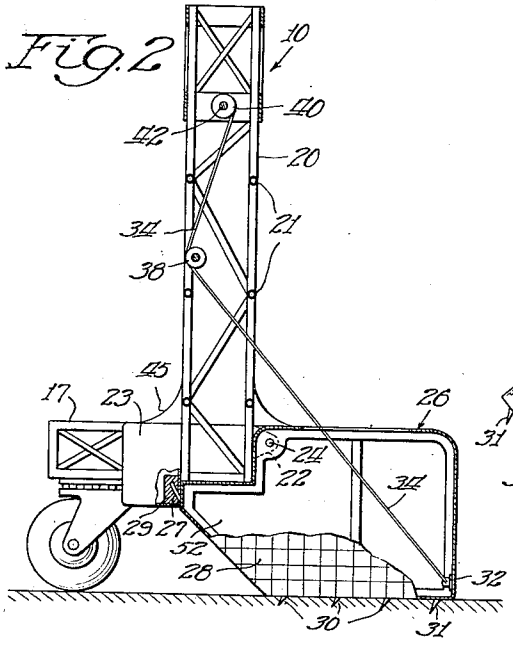


Fig. 3

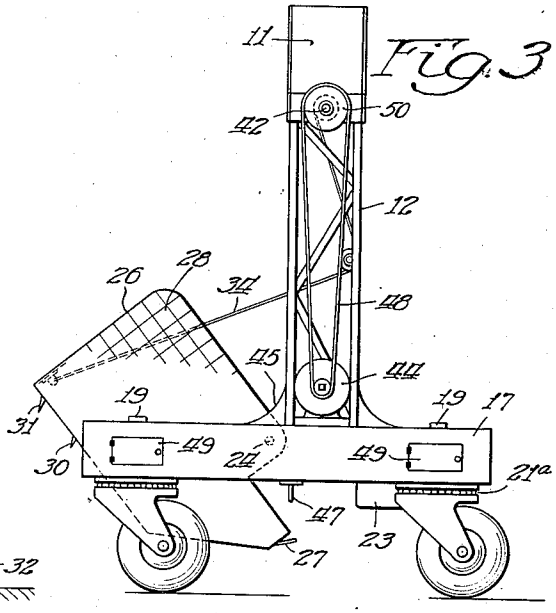
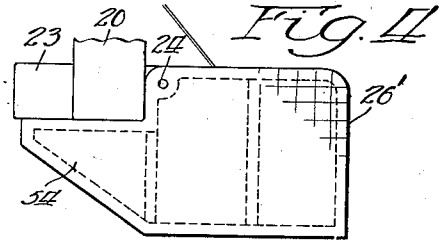


Fig. 4



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2,066,447

STARTING GATE

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Application February 15, 1932, Serial No. 593,069

2 Claims. (Cl. 119—15.5)

This invention relates to new and useful improvements in a starting gate, and has for one of its principal objects the provision of means whereby race horses may be conveniently held in their proper post positions without danger of injury to the horses, the riders or the assistant starters.

One of the important objects of this invention is to provide means for conveniently and definitely overcoming the delays at the post which not only ruin the chances of many of the starters, lessen the interest of the public in the contest, and subject the starters to criticism, but also put many horses out of racing for all time to come.

Another important object of this invention is to provide in a starting gate, an individual padded stall for each horse, the stalls being open at both ends, and of sufficient width to allow a horse to readily pass therethrough or to be conveniently held therein.

A further important object of this invention is to provide a starting device for race horses or the like whereby excessive handling at the post by assistant starters is eliminated, as is also the danger of either the starters or other horses being kicked or injured, and whereby horses known as "bad actors" can be easily controlled.

Still another and further important object of this invention is to provide a starting gate which is safe, mobile, and reliable, and so constructed that heavy and muddy tracks will not interfere in any way with its operation. The starter gate of this invention will not mar the surface of the track when being placed thereon or removed therefrom, carries its own barrier, and a bell to warn the horses of the start, and can be placed in position and removed in a minimum time.

Another and still further important object of the invention resides in the provision of improved stall partitions for a starter gate of this type, which stall partitions are movable upwardly in a foldable manner when the starting gate is to be moved, so that there will be no excessive drag on the surface of the track.

Other and further important objects of the invention will be apparent from the disclosures in the accompanying drawing and following specification.

The invention, in a preferred form, is illustrated in the drawing and hereinafter more fully described.

In the drawing:

Figure 1 is a front elevation of the race track starting gate of this invention.

Figure 2 is a detail sectional view of the construction and mounting taken on the line 2—2 of Figure 1 with a portion broken away.

Figure 3 is an end view similar to Figure 2, but showing the parts in another position and taken from the right-hand end of Figure 1.

Figure 4 is a detail view of the partition and illustrating a slight modification certain parts being omitted for clarity.

As shown in the drawing:

The reference numeral 10 indicates in a general way the overhead supporting member for the starting gate of this invention which member is secured and supported at each end by columns 12 and 14 mounted on sets of wheels 16 and 18.

Suspended from the overhead supporting member 10 is a number of partition supports 20. An extension 22 designed and adapted to receive and retain a pivot pin 24 is attached to and forms a part of the lower portion of each of the partition supports 20.

The truss or overhead supporting member is constructed with a two inch camber and is built in sections as illustrated. The supporting wheels 16 and 18 are swiveled on ball bearings, and are off-center as shown, allowing them to be very easily turned whenever the machine is pulled or pushed, and automatically assuming the proper angle to move the gate in the desired direction. The wheels are preferably dual and provided with heavy pneumatic tires.

The standards 20 are preferably composed of sections of pipe or metal tubing, and are joined by means of cross-braces 21 as best shown in Figure 1, thereby providing a particularly strong construction. The outer edges of the truss or overhead supporting member 10 are rounded as shown at 11, this providing sufficient strength while at the same time assuring a graceful structure. It will be noted that the supporting pins for the wheels 16 and 18 extend upwardly through the frame 17 of the gate and are held in position by means of fastening nuts or the like 19 which at the same time allow of an easy rotation thereof on the bearings.

Partitions 26 consisting of frames of channel or angle iron or the like, and covered with padding 28 form a series of stalls or passageways in which horses can be held awaiting the starting signal, said partitions being of sufficient width to enable the assistant starter to stand at the end thereof in safety as horses are released and pass from the stalls on each side of said partitions. The partitions 26 are substantially rectangular in shape with a triangular shaped portion 52 extending to

the rear and adapted to fit the bottom of the partition support **20** when said partitions **26** are lowered.

It will be noted that the lower ends of the standards **20** are provided with rearward extensions **23** which, in addition to acting as extra length elements for the stalls formed by the partitions also serve to protect the legs and feet of the jockeys from being crushed against the partitions when the horses are driven therebetween preparatory to starting them.

The stall partitions are so built into the supporting trusses that they are very rigid, and the width of each stall partition is such that the horses are prevented from bumping into one another when they break from the gate, thereby avoiding accidents. The assistant starter standing in front of any partition is protected by this width, and his position thereby does not interfere with the horses. Furthermore, he is protected by this width from being injured or stepped upon by the horses.

Extending rearwardly from each partition **26** is a combination bracing and guide pin **27** which fits closely into a sleeve or the like **29**, the sleeve being formed in the rearward extension or stop element **23** as best shown in Figure 2. There are preferably two or more of these guide pins with corresponding sleeves for each partition, and they extend for a considerable distance into the extension or stop member **23** and are also quite rigid with the partition itself, so that sidewise movement of the front end of the partition is positively prevented, and a very secure bracing of the pivoted partition accordingly results.

Metal spikes **30** and **31** extending downwardly from the lower edges of the partitions penetrate the surface of the track to support and hold the partition **26** against sidewise strains and stresses caused by lunging or crowding horses. Excess length spikes **31** are preferably used at the forward ends of the partitions as a safety measure because said ends are a considerable distance from the rigid partition support. The spikes are preferably at a slight angle to afford better protection.

An eye-bolt **32** secured to the inside of each partition adjacent the lower edge, provides a means for attaching a cable or the like **34** for raising or lowering said partition. Each cable **34** passes over pulleys **38** secured to the partition supports **20** and thence upwardly to a drum **40** mounted on a shaft **42** in the overhead supporting member **10**.

Each partition **26** is formed of a plurality of angle irons or strips, and is hollow as shown in Figures 2 and 4, the padding **28** simply covering the outside, and on account of the width of each partition, there is ample space for the cable **34** to move in the open upper portion of the partition when the partition is being raised or lowered. This movement of the cable with respect to the partition is best illustrated by a comparison of the respective positions shown in Figures 2 and 3. Also the cross-braces **21** for the standards **20** are so arranged that suitable movement of the cable **34** between the standards **20** is allowed without any contact with the cross-brace **21**. This assures a very free motion of the partitions both up and down, and eliminates friction to a very considerable extent, thereby providing a much easier working installation and one which is very satisfactory from an operating standpoint. The weight of each partition **26** is such that it will readily drop into place by gravity when desired.

One drum **40** is required for each cable **34**, and these drums can be either steel or wood, and all drums and gears are keyed on the shaft. Power for driving the shaft **42** to raise the partitions **26** may be supplied by a motor **44** or manually. For the manual raising of the partitions a crank may be applied to the armature shaft extension **46**. Power for rotating the drums is transmitted from the shaft **46** to the sprocket **50** mounted on the shaft **42**, by a chain **48**.

The return of the partitions **26** to the lowered position is accomplished by gravity, sufficient braking power to govern the speed of the descent being obtained by use of the crank.

The pivoted construction of the stalls as described above allows the same to fold up upon the order of a jack knife when the starting gate is to be moved. The balancing of the same on the trusses is such that very little power to raise the same is necessary, thereby enabling the motor **44** to be dispensed with, and the manually operated crank used exclusively.

From an inspection of Figures 2 and 3, it will be noted that the supporting standards or end members **12** and **14** are braced by means of curved buttress plates **45** which while affording sufficient strength are of limited extent so that a clear view of the horses by both the starter and the spectators is attained, and there is no blocking of this view at any time on account of the very open nature of the entire structure itself.

In order to facilitate movement of the entire device, handling or grappling hooks **47** are provided as best shown in Figure 3, these being for the attachment of chains whereby the gate can be readily pulled about on the track into and out of position. Doors **49** are fitted into the ends of the lateral extending frame members **17**, thereby providing ready access to the bearings for the shafts which support the wheels **16**, **18**, etc., and furthermore, these doors may be used to provide access to storage spaces or the like built into the housing at these points.

A modification of the construction of the partition is shown in Figure 4 in which the triangular shaped solid portion **54** extending further to the rear than the part **52** is used as a counterbalance to assist in raising or lowering the partitions.

On account of this rearwardly extending counter-weight, stall partitions constructed in this fashion are even more properly balanced, and consequently less power is required to raise the same.

It will be evident that herein is provided a starting gate for race tracks or the like which will give the starter a complete view of all the horses and his assistants, and the starter can always see that each horse is ready to break. Furthermore, the public can always have a complete view of all the horses.

With the partitions raised the device will pass through the ordinary narrow gate or opening in a fence. The weight also is shifted, by such raising, to a position nearer the center line of the starting gate which greatly facilitates moving said gate over rough or uneven ground and also provides a wide margin of safety against tipping. Moreover the pivot pins can be made rapidly removable, thus permitting said partitions to be easily and quickly removed for transportation.

I am aware that many changes may be made and numerous details of construction varied

throughout a wide range without departing from the principles of this invention, and I, therefore, do not purpose limiting the patent granted hereon otherwise than as necessitated by the prior art.

I claim as my invention:

1. A race track starting gate, comprising a supporting frame, said frame consisting of a pair of uprights and a horizontal cross member, supports extending downwardly from the cross member, and a plurality of counter-balanced partitions pivotally mounted at the lower ends of the supports.

2. A portable race track starting gate, comprising a supporting frame, a plurality of pivotally mounted partitions therein, said partitions being relatively thick, counter-balanced, and having flat forward edges, and means for lifting the forward edges of said partitions, and simultaneously raising the partitions.

AUGUST T. J. BAHR.