Sept. 29, 1953 A. J. LAWSON 2,653,568

STARTER GATE FOR RACE TRACKS

Filed May 17, 1952 3 Sheets-Sheet 1

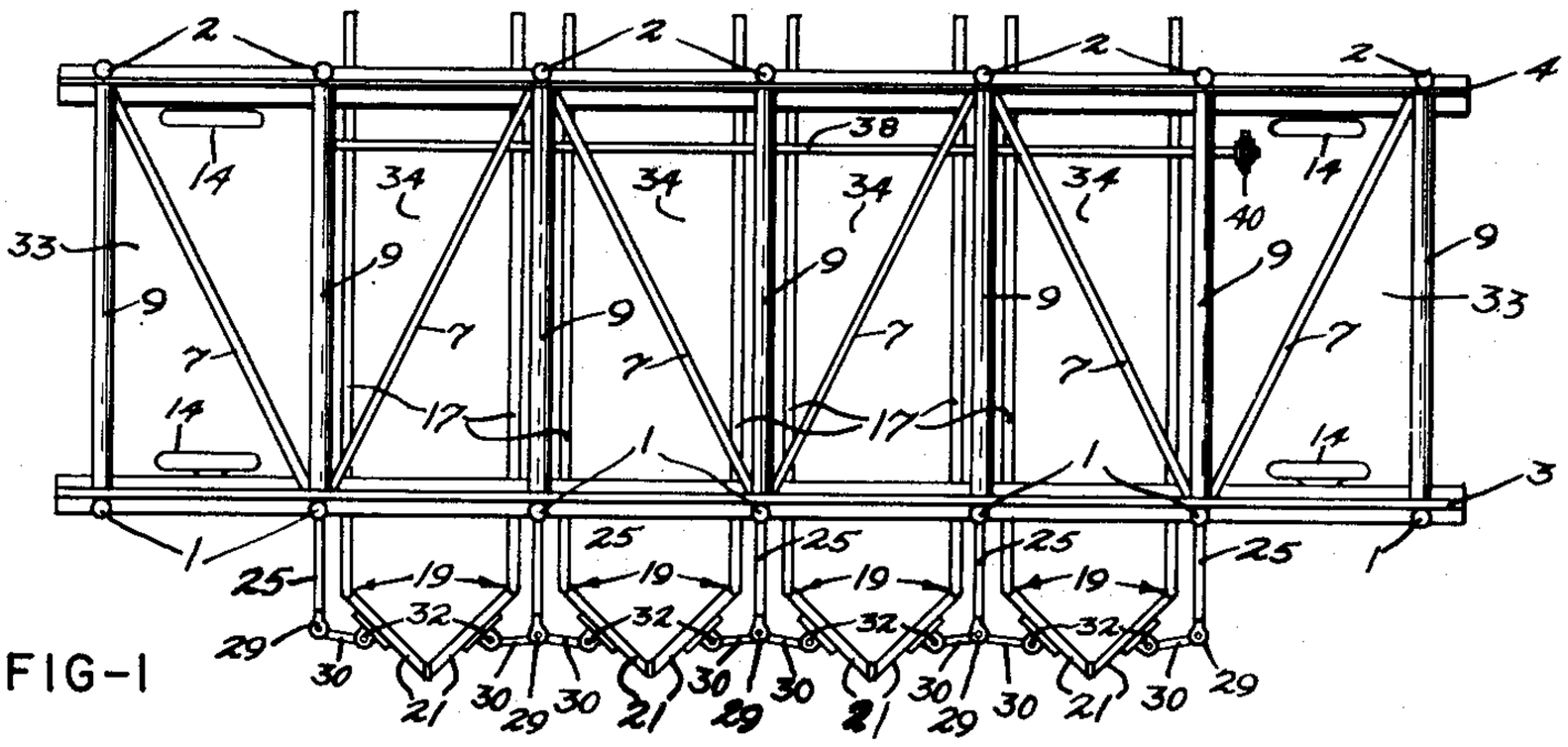

FIG-1

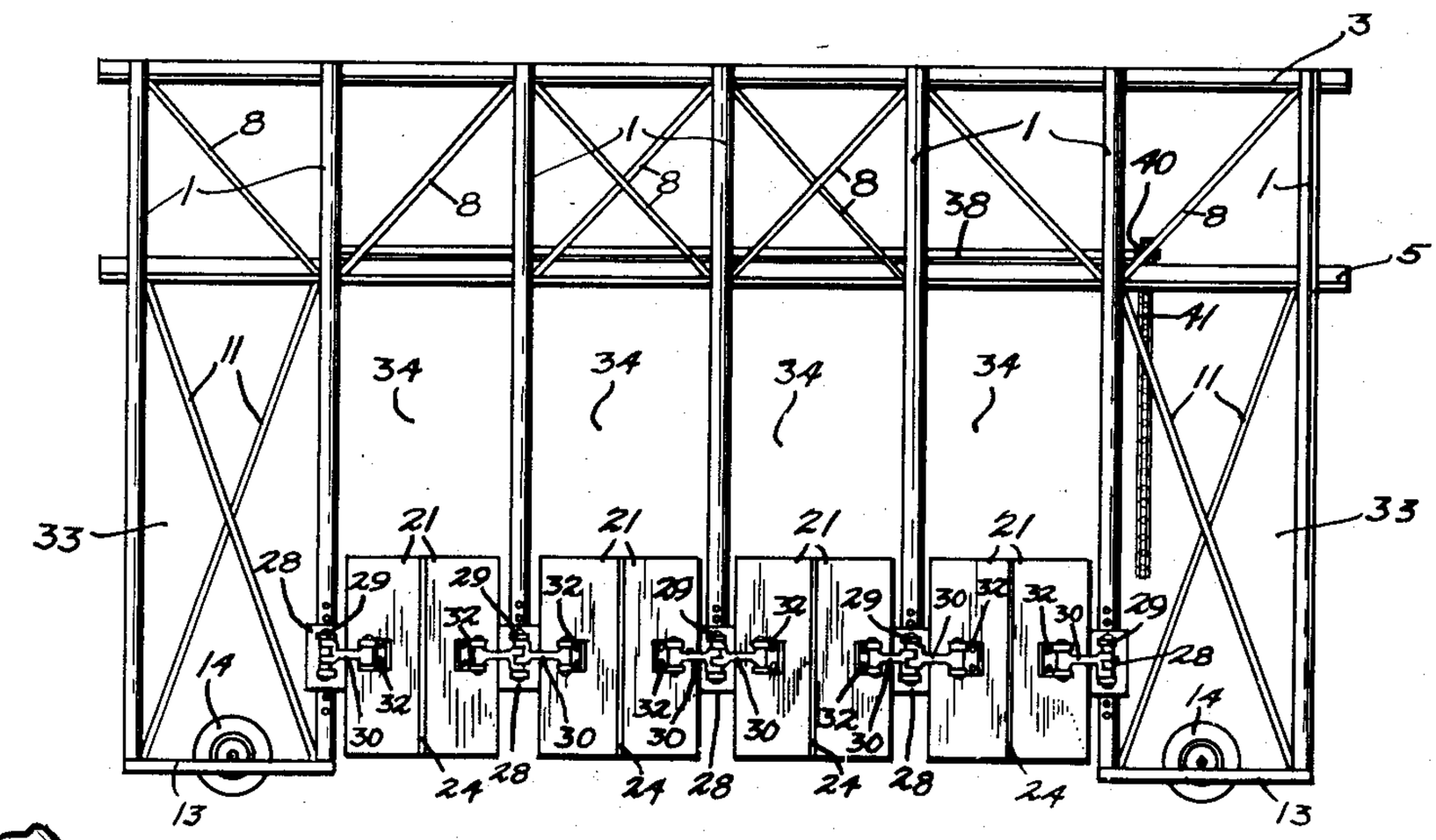

FIG-2

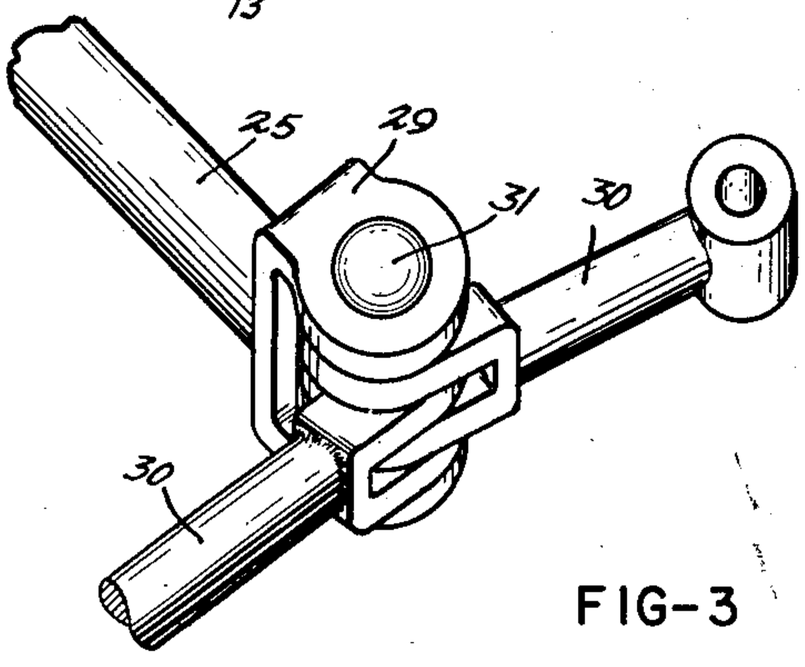

FIG-3

Andrew J. Lawson
INVENTOR.

BY *Glenn L. Finch*
ATTORNEY

Sept. 29, 1953 A. J. LAWSON 2,653,568

STARTER GATE FOR RACE TRACKS

Filed May 17, 1952 3 Sheets-Sheet 2

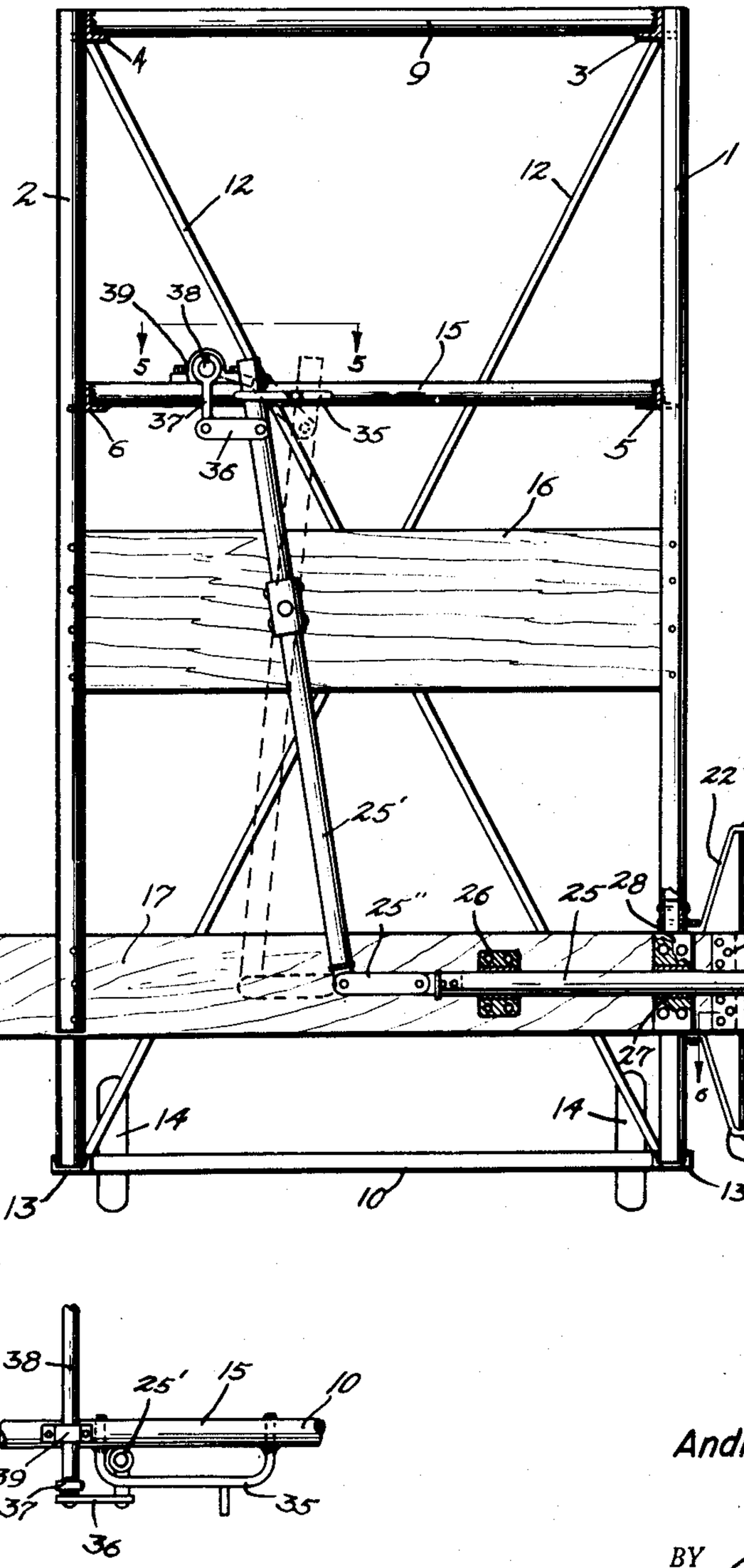

FIG-4

FIG-5

Andrew J. Lawson
INVENTOR.

BY Glenn L. Fish
ATTORNEY

Sept. 29, 1953 A. J. LAWSON 2,653,568

STARTER GATE FOR RACE TRACKS

Filed May 17, 1952 3 Sheets-Sheet 3

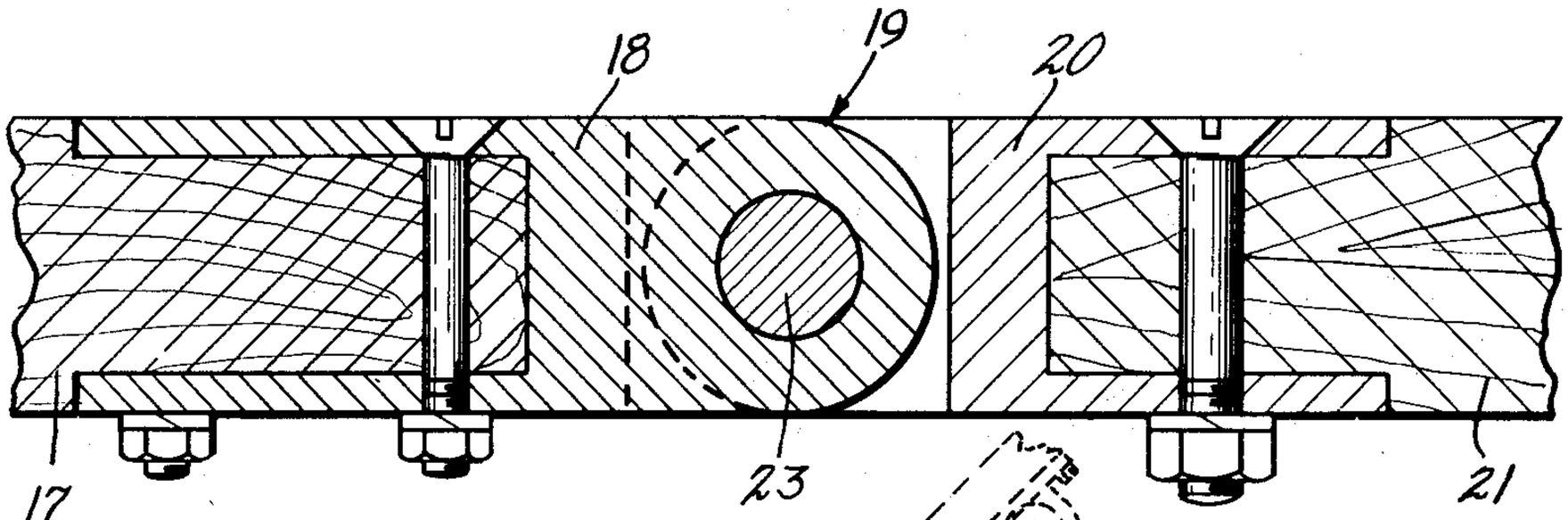

FIG-6

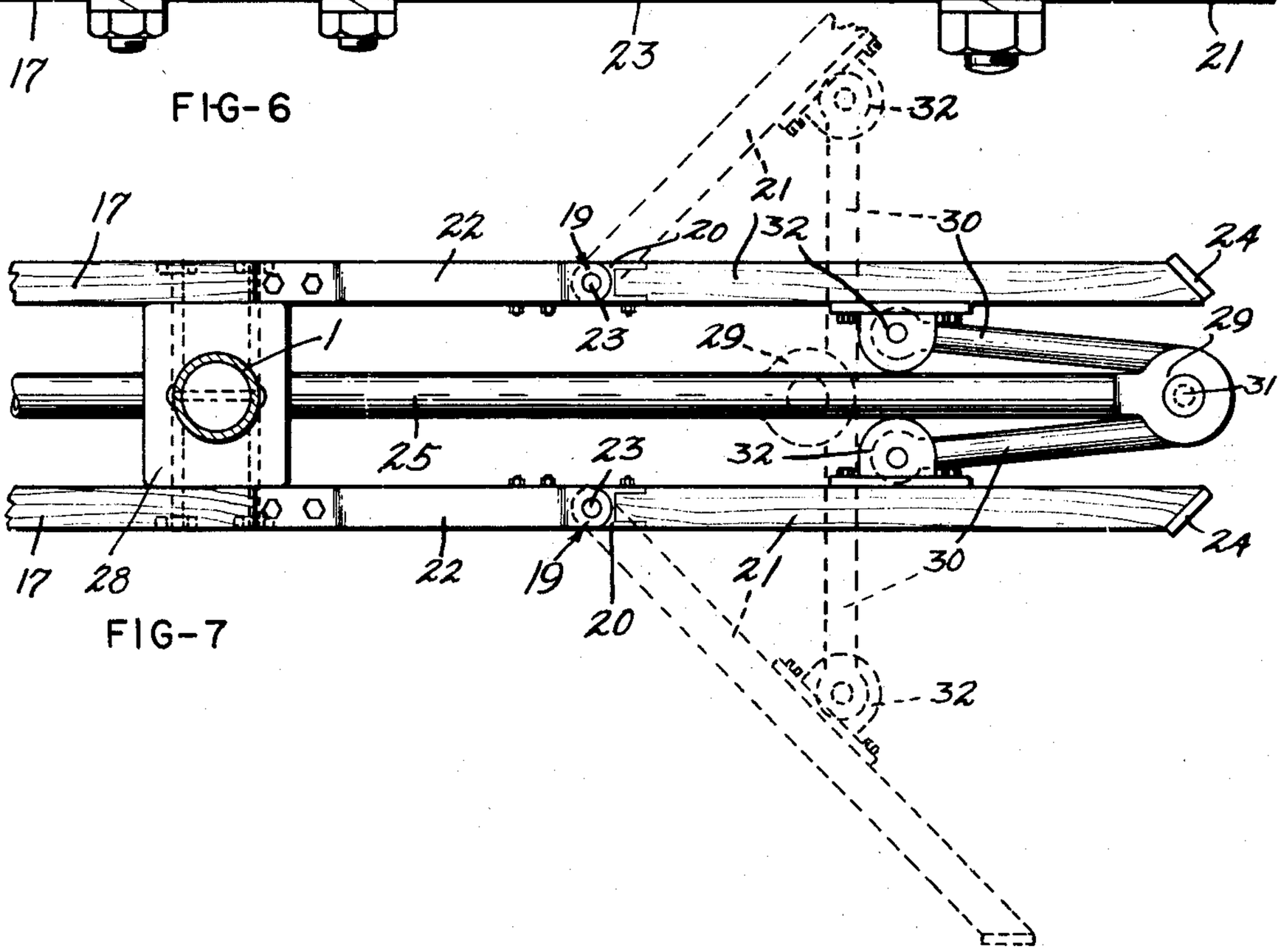

FIG-7

Andrew J. Lawson
INVENTOR.

BY Glenn L. Fish
ATTORNEY

Patented Sept. 29, 1953 2,653,568

UNITED STATES PATENT OFFICE

2,653,568

STARTER GATE FOR RACE TRACKS

Andrew J. Lawson, Republic, Wash., assignor of one-half to Theodore R. McKeen, Republic, Wash.

Application May 17, 1952, Serial No. 288,417

4 Claims. (Cl. 119—15.5)

1

This invention relates to a starter gate for race tracks and it is one object of the invention to provide a starter gate which is readily movable along or across a race track into or out of position for use, the gate having an improved frame construction which is strong and of light weight and is divided into a plurality of stalls having open front ends closed by gates mounted in an improved manner for opening and closing and having opening and closing movements imparted to them by improved mechanism which causes all of the gates to be opened or closed at the same time.

Another object of the invention is to so form the frame and the stalls that the stalls project forwardly from the frame and thus cause horses in the stalls to be so positioned that they will not be disturbed by attendants having charge of the starter gate.

Another object of the invention is to provide a starter gate having gates for its stalls provided with improved operating mechanism including a rocker shaft which may be turned by an attendant standing in a compartment at an end of the starter gate frame, the operating mechanism also including an improved arrangement of levers tilted about pivots when the rocker shaft is turned and connected with plungers which are slidably mounted for movement longitudinally of the stalls and so connected with gates that the gates will be swung to opened and closed positions according to the direction in which the plungers are moved.

Another object of the invention is to so connect the plungers with the gates that one plunger may impart opening and closing movements to a pair of gates for adjoining stalls.

With these and other objects in view the invention consists of an improved construction, one practical embodiment of which is illustrated in the accompanying drawings wherein:

Figure 1 is a top plan view of the improved starter gate.

Figure 2 is a front elevation thereof.

Figure 3 is an enlarged fragmentary perspective view of the front end portion of one of the gate-operating plungers.

Figure 4 is a view upon an enlarged scale taken vertically through the starter gate and showing portions in section and portions in elevation.

Figure 5 is a fragmentary view showing the connection between the rocker shaft and a lever, the view being taken along the line 5—5 of Figure 4.

Figure 6 is an enlarged fragmentary sectional view taken along the line 6—6 of Figure 4.

Figure 7 is an enlarged top plan view showing the manner in which gates are mounted for swinging movement to closed and opened positions.

2

This improved starter gate has a frame which may be of such length that it will extend partially or entirely across a race track. The frame has front and rear standards or posts 1 and 2. Rails 3 and 4 which are formed of inverted T-shaped metal are secured against inner portions of upper ends of the posts and in downwardly spaced relation to these rails are additional rails 5 and 6. Braces 7 extend diagonally between portions of the posts and the upper rails which are secured together and upper portions of the front posts are braced by strips or bracing bars 8 extending diagonally between the rails 3 and 5. Similar braces may be provided for upper portions of the rear posts. Bars 9 and 10 extend between the end and adjoining front and rear posts at their upper and lower ends and in order to brace the frame against vertical strains there have been provided diagonally extending bracing bars 11 and 12. Between the end posts and the adjoining posts are bars 13 which carry wheels 14 of such size that the starter gate may be readily moved from one place to another. Cross bars 15 extend between the rails 5 and 6 and are secured thereto between the front and rear posts and below these cross bars are boards 16 and 17 disposed in vertical spaced relation to each other, the boards 17 being of less width than the boards 16 and having end portions projecting beyond the front and rear posts to which they are secured.

The boards 17 are near lower ends of the posts and upon their front ends are mounted castings 18 forming rear leaves of hinges 19. The front leaves 20 of the hinges are mounted upon the gates 21. The hinge leaves 20 are of such size that they extend the full length of the inner side edges of the gates and these hinge leaves are braced by strips 22 which prevent the hinge leaves from tilting vertically and causing excessive wear upon the hinge pins 23 which would prevent free swinging movement of the gates. Each stall has two gates hinged at their outer side edges and when the gates are closed the free inner side edges of the gates meet midway the width of a stall. Strips 24 of elastic material are provided along the free side edges of the gates and are compressed when the gates are shut. As the strips are under compression when the gates are shut they urge the gates towards an opened position and cause the gates to quickly open.

In order to move the gates to opened and closed positions there have been provided plungers 25 which extend longitudinally of the boards 17. These plungers slidably pass through bearings 26 carried by the boards and also slidably pass through bearings 27 formed through castings 28 carried by the front posts except those posts at opposite ends of the frame. A yoke 29 is carried at the front end of each plunger

and is disposed vertically, as shown in Figures 2 and 3. Links **30** are pivotally mounted by pins **31** carried by the yokes and outer ends of the links are pivoted to brackets **32** carried by the doors or gates **21**. With the exception of the plungers mounted along the boards of the partitions dividing the attendant's compartments **33** from the stalls **34** each plunger carries a pair of links **30** by means of which the plunger is connected with a pair of doors and when these plungers are shifted longitudinally each causes the right hand door of one stall and the left hand door of an adjoining stall to be simultaneously opened or closed according to the direction in which the plungers are moved. Each of the boards **16** carries a lever **25'** which is disposed vertically and has its lower end connected with a companion plunger by a link **25''**. The upper end portion of each lever passes through a keeper **35** carried by and extending longitudinally of the bar **15** above the board to which the lever is pivoted. The keepers serve to guide movement of the levers and also to limit their pivotal movement. Links **36** are pivoted to upper end portions of the levers and these links are pivoted to ends of crank arms **37** carried by and extending downwardly from a rocker shaft **38** which extends in crossing relation to the stalls and is rotatably mounted in a suitable number of bearings **39** carried by the bars **15**. At one end the rocker shaft carries a sprocket wheel **40** about which is trained the upper portion of an endless sprocket chain **41**. This chain extends downwardly from the sprocket wheel into one of the attendant's compartments **33** and is of such length that an attendant standing in this compartment may readily grasp one flight of the chain and exert pull upon the chain to turn the sprocket wheel and the rocker shaft and cause all of the plungers to be shifted longitudinally and the doors all moved to an opened or closed position according to the direction in which the shaft is turned and the plungers moved. It will thus be seen that after horses have been placed in the stalls it is merely necessary for an attendant to exert pull upon the chain and all of the gates or doors will be opened so that the horses may leave the stalls to start a race. After the horses have left the stalls the doors may be quickly closed by turning the shaft in an opposite direction and the starter gate may then be moved to one side of the track where it will be out of the way and also moved along the track to another location if the next race is to be shorter or longer than the race just started. It will be understood that fluid pressure motors may be employed to actuate plungers **25** if desired.

Having thus described the invention, what is claimed is:

1. A starting gate for race tracks comprising a frame divided into stalls disposed in side by side relation to each other and open at front and rear ends, right and left hand gates for the front end of each stall hinged at outer side edges for horizontal swinging movement from an opened position to a closed position in which their free side edges contact, plungers slidable longitudinally of said stalls, links pivoted to the front ends of said plungers and extending laterally from sides thereof and pivoted to said gates and serving to swing the gates forwardly to an opened position when the plungers are slid forwardly, a rocker shaft rotatably mounted in the upper portion of said frame transversely of said stalls, crank arms carried by said rocker shaft and extending downwardly therefrom, levers disposed vertically and each pivotally mounted intermediate its length, links connecting lower ends of said levers with rear ends of said plungers, links connecting upper portions of said levers with lower ends of said crank arms, a sprocket wheel carried by said rocker shaft, and a sprocket chain trained about said sprocket wheel and extending downwardly therefrom and when pulled upon serving to rotate the rocker shaft and move the gates to opened and closed positions.

2. A starter gate for a race track comprising a frame having front and rear vertically disposed posts and transversely extending boards together therewith forming partitions dividing the frame into attendant's stands at opposite ends of the frame, and a plurality of stalls in side by side relation to each other between the attendant's stands and open at their front ends, gates for the front ends of said stalls hinged to front ends of said partitions for swinging movement transversely of the stalls to opened and closed positions, plungers slidable longitudinally of said boards, links connecting front ends of said plungers with said gates, levers disposed vertically in the frame and pivoted to the partitions, links connecting lower ends of the levers with said plungers, a rocker shaft rotatably mounted in the frame and extending transversely of the stalls, crank arms carried by said shaft, links connecting the crank arms with upper portions of said levers, and means operatively associated with said shaft for rotating said rocker shaft extending downwardly therefrom into one of the attendant's stands.

3. The structure of claim 2 wherein the boards carried by the posts consist of upper and lower boards, the lower boards carrying bearings through which the plungers are slidably mounted and having their front end portions projecting forwardly from the frame and carrying hinges for the gates, the upper boards carrying pivoted bearings for the levers, and upper ends of the levers passing through elongated keepers carried by the partitions and extending longitudinally thereof and serving to guide and limit tilting movement of the levers.

4. A starter gate for a race track comprising a frame, vertical partitions in said frame dividing the frame into stalls in side by side relation to each other, gates for front ends of said stalls hinged to front ends of the partitions, other gates for front ends of said stalls hinged at outer side edges for swinging movements to open and closed positions, plungers slidable longitudinally of said partitions, and having front ends connected with said gates, levers disposed vertically and pivoted to the partitions and having lower ends connected with the plungers, a rocker shaft rotatably mounted in the frame transversely of the stalls and carrying crank arms connected with upper portions of said levers, and means operatively associated with said shaft for rotating said shaft to open and close the gates.

ANDREW J. LAWSON.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
1,795,820	Bahr	Mar. 10, 1931
1,815,757	Bahr	July 21, 1931
1,870,768	Comfort et al.	Aug. 9, 1932
1,888,106	Ballew	Nov. 15, 1932
2,043,918	Bacon, Jr.	June 9, 1936
2,414,984	Steele	Jan. 28, 1947