

(No Model.)

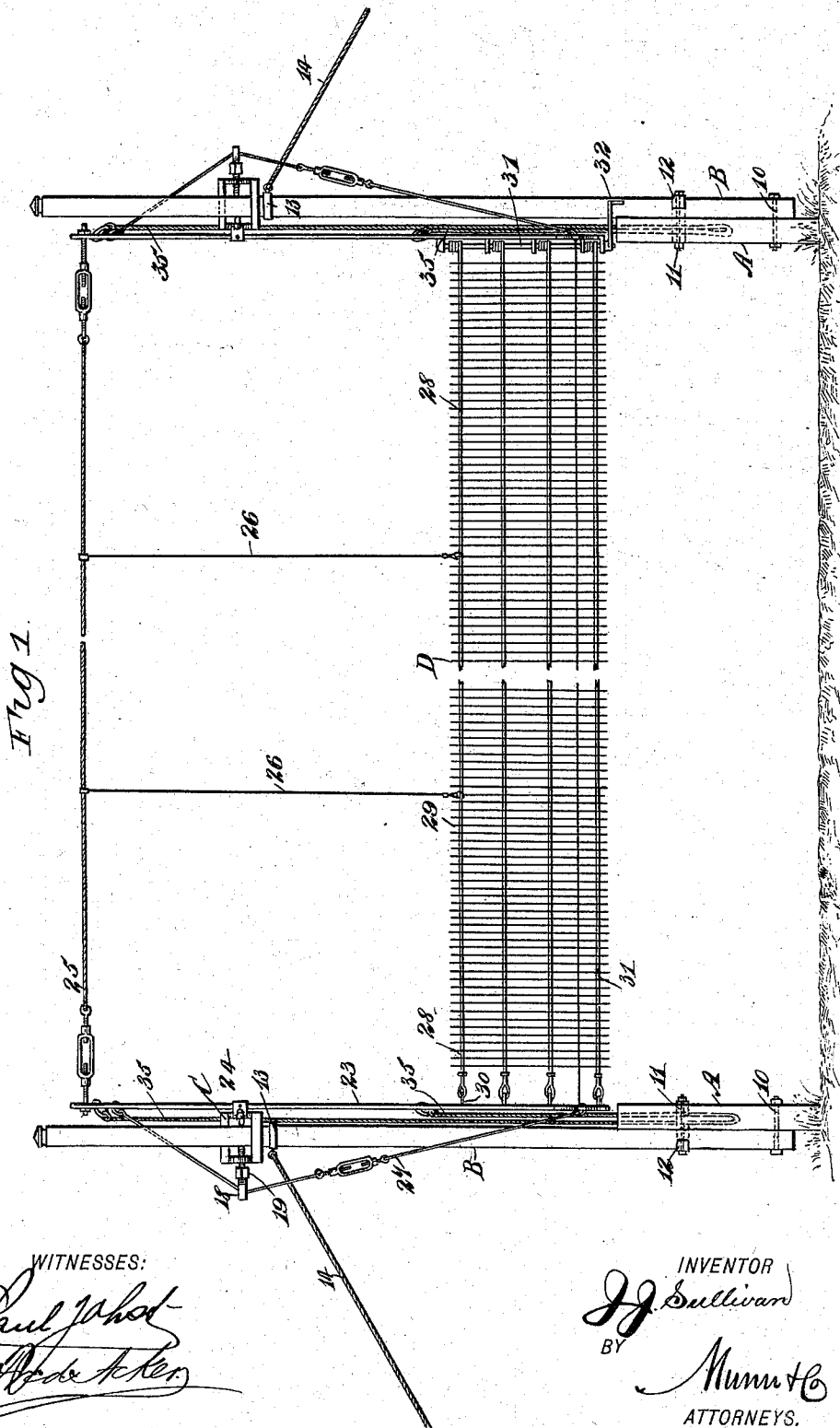
2 Sheets—Sheet 1.

J. J. SULLIVAN.

DEVICE FOR STARTING RACE HORSES.

No. 557,915.

Patented Apr. 7, 1896.



WITNESSES:

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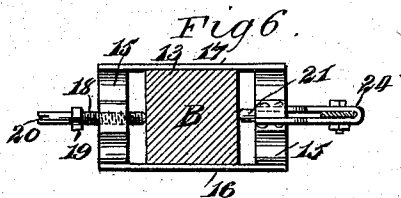
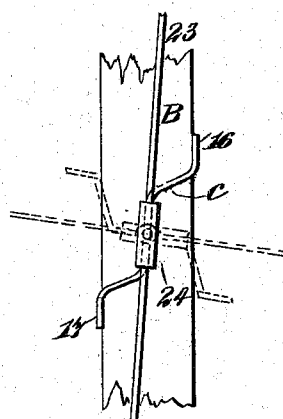
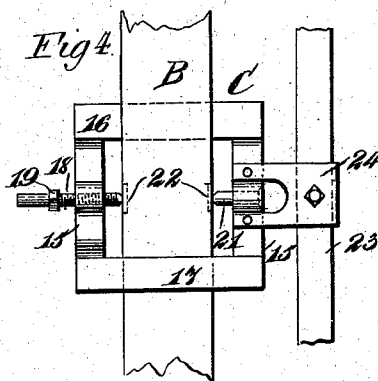
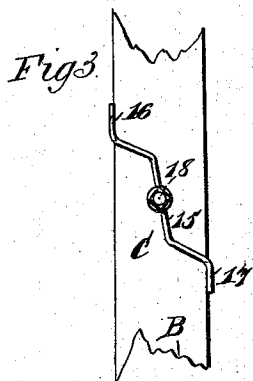
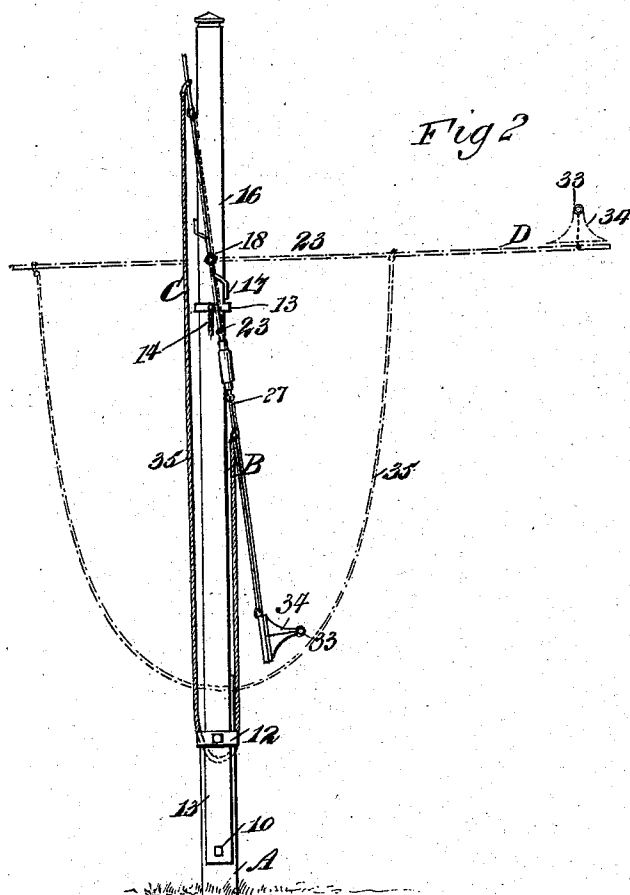
(No Model.)

2 Sheets—Sheet 2.

J. J. SULLIVAN.
DEVICE FOR STARTING RACE HORSES.

No. 557,915.

Patented Apr. 7, 1896.



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UNITED STATES PATENT OFFICE.

JAMES J. SULLIVAN, OF NEW YORK, N. Y.

DEVICE FOR STARTING RACE-HORSES.

SPECIFICATION forming part of Letters Patent No. 557,915, dated April 7, 1896.

Application filed August 8, 1895. Serial No. 558,658. (No model.)

To all whom it may concern:

Be it known that I, JAMES J. SULLIVAN, of New York city, in the county and State of New York, have invented a new and Improved
5 Device for Starting Race-Horses, of which the following is a full, clear, and exact description.

My invention relates to a device for starting race-horses; and it has for its object to insure fair and prompt starts by providing a
10 screen to be stretched across the track in front of the horses in such a manner that none of the horses can pass beyond it before the proper time.

A further object of the invention is to construct the screen and the devices for operating it in an exceedingly simple, durable, and economic manner and to provide for the raising and lowering of the screen expeditiously and through the instrumentality of said simple mechanism.
20

Another object of the invention is to construct the entire device in such a manner that it may be readily put up and taken down and adapted to any race-course; also, that it may
25 be made so light and portable that it can be changed from point to point on the track, wherever attaching-posts are located, the change being made each day, or between races, or whenever desired.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying
35 drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of the device. Fig. 2 is an edge view thereof, showing the screen and frame carrying it in two positions. Fig. 3 is an enlarged side elevation of the hinge adapted to pivot the screen-carrying frame. Fig. 4 is a side elevation of the said hinge. Fig. 5 is a section through the hinge,
45 illustrating the screen-carrying frame in vertical position in positive lines and in horizontal position in dotted lines; and Fig. 6 is a cross-section through the standard or upright to which the hinge is attached, showing the
50 hinge in side elevation and one of the side supports of the screen in cross-section.

In carrying out the invention short posts A

are secured in the ground, one at each side of the track, and these posts are adapted as supports for longer vertical posts B, and preferably the two posts are adjustably connected,
55 and this connection may be made and ordinarily is made by passing a pivot-bolt 10 through the longer upright or post B and through the shorter posts A supporting it, a
60 second bolt 11 being passed through both these posts above the bolt 10, and the upper bolt 11 carries a clamp 12 to insure rigid connection between the two.

Each post or upright B is usually provided
65 with a collar 13 near its upper end, and a guy-rope 14 is securely attached to the collar and anchored or otherwise fastened in the ground. Each of the long posts or uprights B is adapted to carry a link hinge or a bent collar C, the
70 construction of which is best shown in Figs. 3, 4, 5, and 6. This link hinge or bent collar consists of two side bars 15, bent substantially on the lines of a compound curve, the center, however, being more or less straight, as is
75 particularly shown in Fig. 3, and the sides are connected at the top by a cross-bar 16 and at the bottom by a second cross-bar 17, and preferably the collar or hinge is made in one piece.

The cross-bars 16 and 17 are adapted to engage with opposite sides of the long post B,
80 since the post passes upward through the hinge or collar, as illustrated in Figs. 1 and 4.

If in practice it is found desirable, the shape of the side pieces of the link hinge or bent
85 collar may be more angular or more curved than illustrated.

A pivot-pin 18 of steel or other hard material is screwed or otherwise secured in the outer side bar of each bent collar or link
90 hinge, at the center thereof, and the inner end of the pivot-pin is pointed or made conical, its outer end being provided with a lock-nut 19 and a slot or a recess 20. An opposing, preferably plain, pin 21 is secured in the
95 central portion of the opposite side bar of the hinge, as shown in Figs. 4 and 6.

Metal socket-plates 22 are attached upon the inner and outer faces of the posts or uprights B, and these sockets receive the pivot-
100 pins 18 and 21 of the hinge, as illustrated in Fig. 4.

The screen D which is used is carried by the frame, and this frame consists of oppos-

ing side bars 23, which between their centers and upper ends are secured to the link hinges or collars C, preferably by link plates 24 or their equivalents, projected from the central inner side faces of the hinges, as shown in Fig. 4. The stay-rod or cable 25 connects the side bars of the frame at their upper ends, and the said cable is provided with turn-buckles, as illustrated in Fig. 1, and cords or wires 26 are carried downward from the upper cable 25 to the screen D, being placed at predetermined points. These cords or wires may be and preferably are provided each with a take-up to compensate for the slack or adjustment of the screen.

In order that the frame of the screen shall be braced against lateral strain, one or more rods or cables 27 are secured to the upper and lower portions of each of the side bars 23 and are passed through the recesses 20 in the outer pivots 18 of the hinges, and these brace-rods or cables are provided with suitable turn-buckles in order that they may exert more or less tension on the frame.

The screen consists of ropes or wires 28, extending horizontally between the said bars 23 of the frame, and light reeds 29, cords, or their equivalents are vertically secured to the horizontal ropes or wires 28. The screen can be made in one or more panels, as occasion may demand, and the horizontal ropes or wires of the screen are fastened to one of the side bars of the frame, ordinarily by forming loops in the extremities of the said horizontal cables, which loops receive hooks 30, secured to the side bar of the frame, while its horizontal wires or ropes 28 at their opposite ends are made to pass around a windlass 31 or like device upon the opposite side of the frame and rotated through the medium of a crank-handle 32 or its equivalent. It is therefore obvious that any desired tension may be given to the screen and that the upper cable 25 will offset the strain at the lower portion of the pivoted frame. It is also obvious that the tension and the weight of the screen and its frame will be centrally exerted on the hinges no matter in what position the screen may be.

In the event that the track is very wide the screen may be longitudinally braced by one or more tension-cables 33 or rods provided with turnbuckles and attached to bearings 34, (shown in Fig. 2,) formed, preferably, upon the side bars of the screen-supporting frame and extending outward at an angle therefrom, and when the screen is in the horizontal position, as shown in dotted lines in Fig. 2, any slack therein may be taken up by attaching the screen to the said tension-cables 33.

The screen is adapted to be operated by men standing on the ground or on a platform at each side of the structure, and these men manipulate the gate through the medium of cables or ropes 35, which are attached at one end to the upper portion of each side bar of the screen-supporting frame, being secured

also to said side bars at or near their lower ends.

In operation, when the horses are called to the post the screen will be in the horizontal position shown in dotted lines in Fig. 2, about twelve feet above the ground, offering no obstacle to free passage on the track. When the horses are all at the post, the screen is brought down to the vertical position, (shown also in Fig. 2 in dotted lines and in positive lines in Fig. 1,) effectually barring the movement of the horses beyond it, the panel of netting forming a perfect but absolutely harmless barrier. The horses need not be lined up against the screen, but may have perfect freedom of movement while waiting for the signal which will indicate that the screen is to be lifted out of their way. The signal arranged for use with this screen is not given suddenly, but in such manner that ample notice will be given, and thereby everybody within hearing will know just when the screen is to be lifted. Therefore the jockeys cannot be taken by surprise at any time. At the predetermined signal the screen will be swung instantly forward and upward out of the way by men working in concert and pulling upon the ropes attached to the upper ends of the side bars of the screen-frame. The horses will then dash away.

If the starter, who will be in his usual place some distance beyond the screen, is satisfied with the alinement of the horses, he will give them the flag in the usual manner. If the alinement is not satisfactory, he will withhold the flag and the horses will be brought back for another trial, or the start may be made peremptory, if desired.

The fulcrum of the screen-frame is placed at the upper side of the center; but the screen and frame may be balanced by weights or otherwise, if desired, and the pivots of the screen are exceptionally free from frictional resistance; also, as the screen has such a short arc to travel it can be swung out of the way of the horses in an instant. The operation of the hinge of the screen—that is, its contact with the base upon which it is pivoted—is clearly illustrated in Figs. 3, 4, 5, and 6, and will be readily understood therefrom without further description.

It will be understood that the screen may be held in an upper or a horizontal position by attaching the rear stretch of the rope 35 to any convenient keeper, or by equivalent means.

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

1. In a device for starting horses, the combination with the vertical supports adapted to be placed at opposite sides of the track, of link hinges through which the supports are passed, pivots connecting the hinges to said supports, and a screen secured to the adjacent side bars of the hinges to swing there-with, substantially as described.

2. In a device for starting horses, the screen-carrying hinge formed of a link or open frame through which a support may be passed, a pivot extending into the link at one side, and
5 a screw-pivot extending into the link from its opposite side, substantially as described.

3. In a device for starting race-horses, supports adapted to be placed at the sides of the track, a screen, a frame supporting the same,
10 and link hinges pivoted upon the said supports at their centers, having their ends out of the plane of their centers and connected with the frame of the screen, substantially as and for the purpose specified.

15 4. In a device for starting race-horses, supports adapted to be placed at opposite sides of the track, link hinges through which the supports are passed, the said hinges being curved longitudinally and being provided
20 with end bearing-surfaces for engagement with opposite sides of the supports, pivots centrally located in the said hinges, entering sockets formed in the supports, a screen connected with the said hinges, and means for
25 raising and lowering the screen, as and for the purpose specified.

5. In a device for starting race-horses, supports adapted to be placed at opposite sides of

the track, link hinges longitudinally curved and provided with adjustable pivot-points, 30 the supports being passed through the hinges and the pivot-points engaging with said supports, a screen connected with the said hinges, and cables or ropes connected with the upper and lower portions of the screen at points 35 above and below the pivots of the hinges, substantially as shown and described.

6. In a device for starting race-horses, supports adapted to be placed at opposite sides of the track, link hinges longitudinally curved 40 and provided with adjustable pivot-points, the supports being passed through the hinges and the pivot-points engaging with the said supports, a screen connected with the said hinges, cables or ropes connected with the 45 upper and lower portions of the screen at points above and below the pivots of the hinges, braces strengthening the supports for the screen against lateral strain, and a take-up device connected with the parts of the 50 screen, as and for the purpose specified.

JAMES J. SULLIVAN.

Witnesses:

J. FRED. ACKER,
C. SEDGWICK.