(No Model.)

P. E. JENSEN.

DOUBLE SUSPENDED SLIDING GATE.

No. 483,614. Patented Oct. 4, 1892.

Fig. 1.

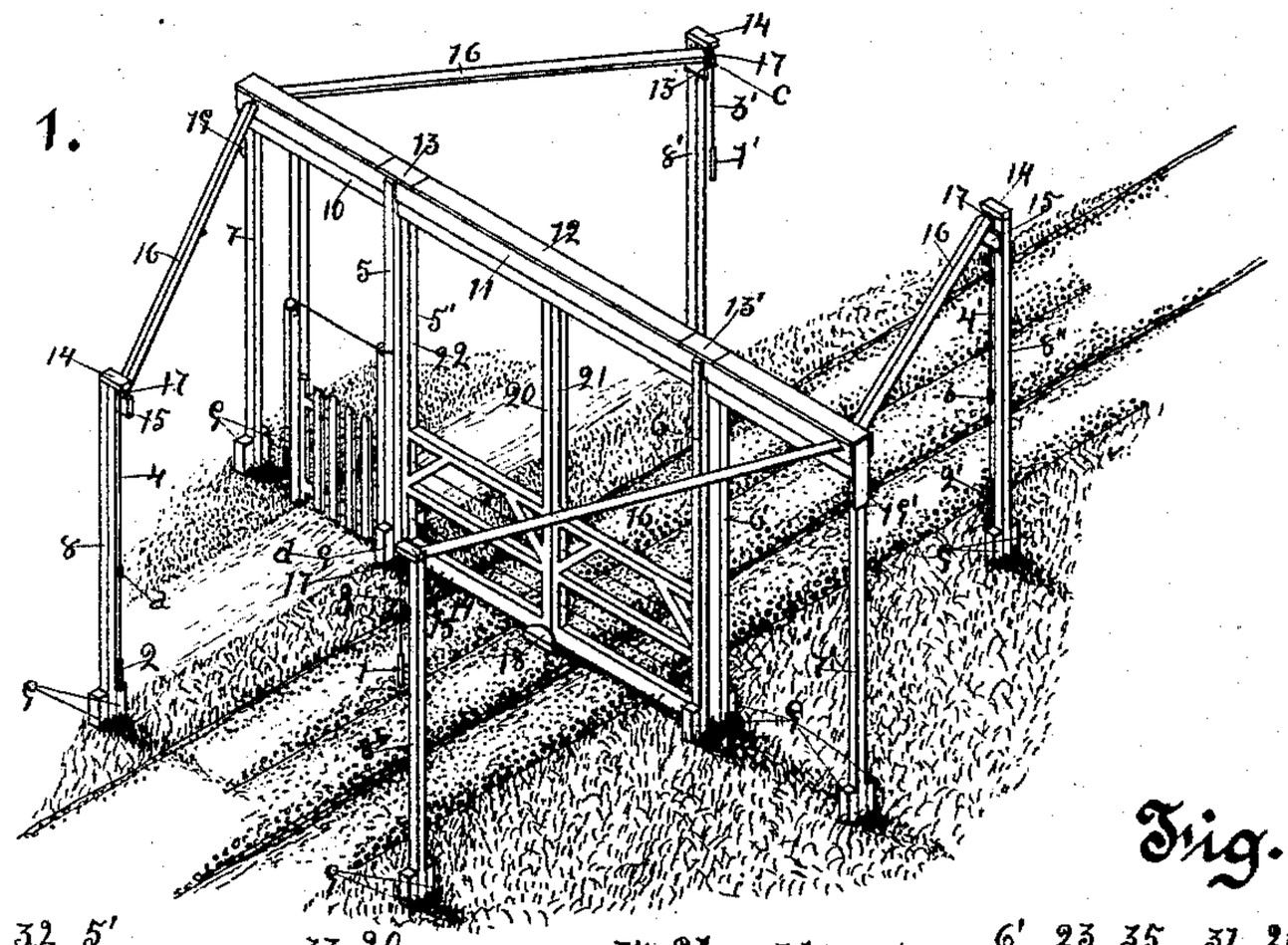

Fig. 2.

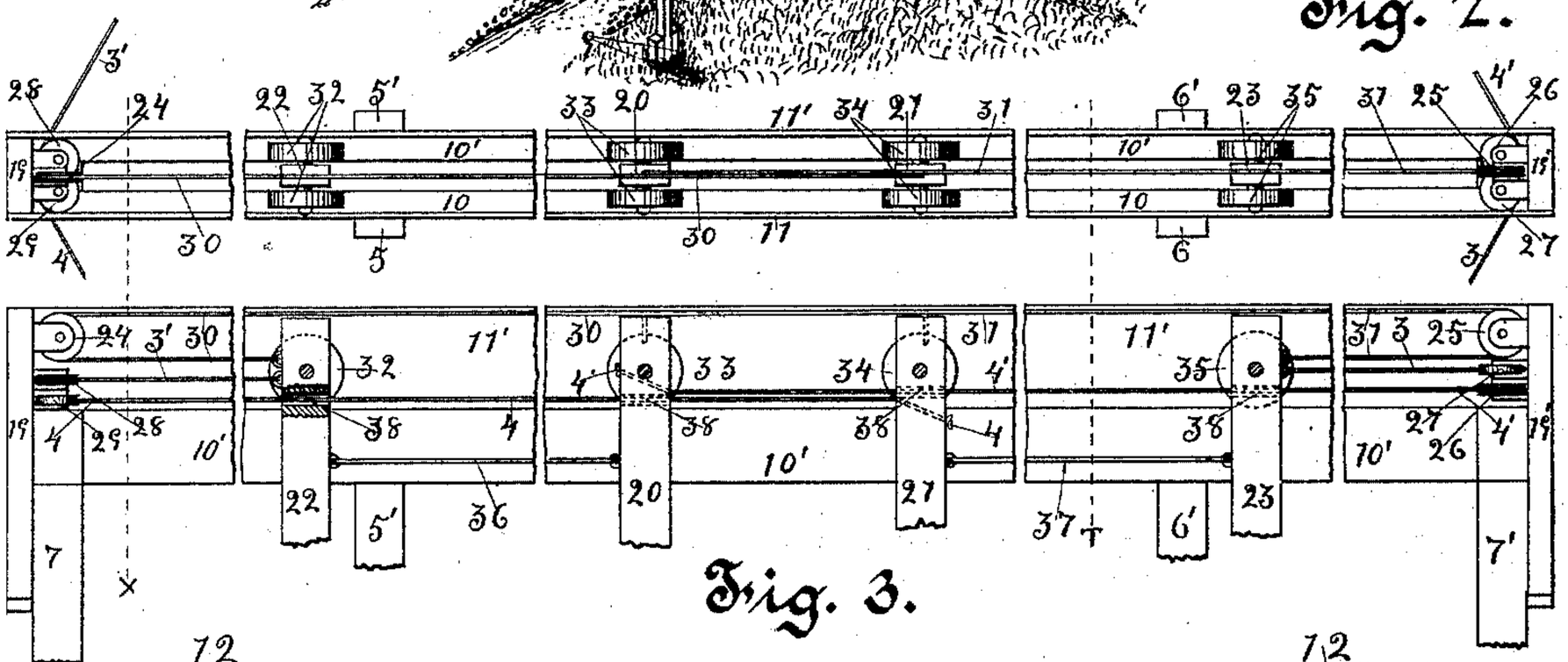

Fig. 3.

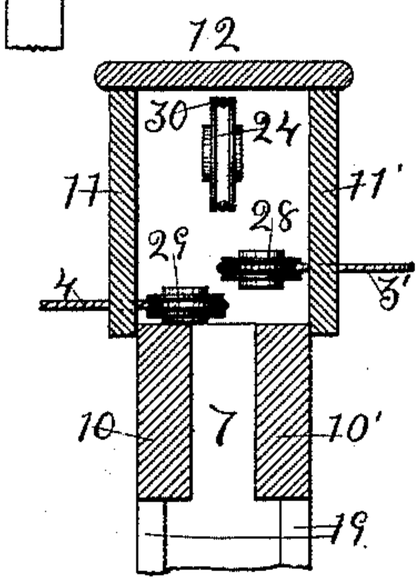

Fig. 4.

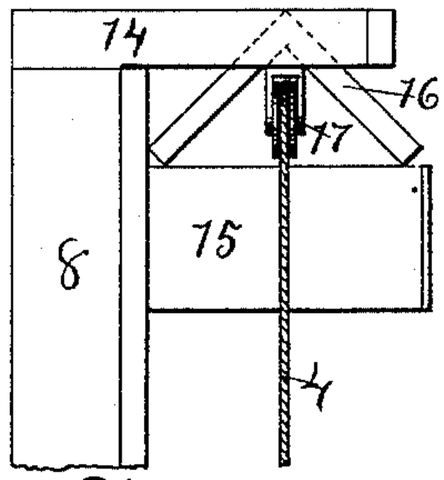

Fig. 5.

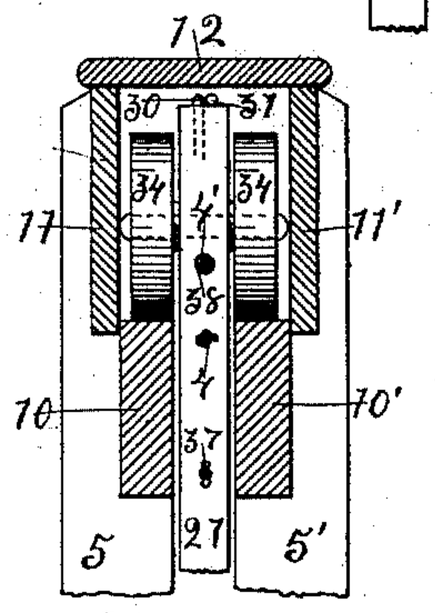

Fig. 6.

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UNITED STATES PATENT OFFICE.

PETER E. JENSEN, OF BLAIR, NEBRASKA.

DOUBLE SUSPENDED SLIDING GATE.

SPECIFICATION forming part of Letters Patent No. 483,614, dated October 4, 1892.

Application filed June 10, 1892. Serial No. 436,258. (No model.)

To all whom it may concern:

Be it known that I, PETER E. JENSEN, a citizen of the United States, residing at Blair, in the county of Washington and State of Nebraska, have invented a new and useful Double Suspended Sliding Gate, of which the following is a specification.

My invention relates to improvements in gates suspended from wheels running on a track across and above the driveway and operated by ropes and pulleys; and the objects of my improvement are to provide such a contrivance of direct and easy operation and simple and strong construction, meeting the general requirements of an entrance-gate. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the entire contrivance set up ready for use, the gates being closed. Fig. 2 is a top view of the tracks, wheels, and gate-stiles, and showing a plan of the arrangement of the ropes and pulleys. Fig. 3 is a side elevation of the wheels, tracks, ropes, and pulleys, with the upper ends of the gate stiles and posts supporting the tracks and casing, a part of the casing 11 and 12, with one track 10 and the rollers running on the same, being removed. Fig. 4 is a perpendicular sectional view of the tracks and casing on the broken line X, showing the arrangement of the ropes and pulleys at this end. Fig. 5 is a perspective view at the top of the post 8, showing the disposition of the opening and closing lines at the side of the driveway. Fig. 6 is a perpendicular cross-section on the broken line T in Figs. 2 and 3, looking toward the center.

Similar numerals refer to similar parts throughout the several views.

The closure consists of a pair of gates or half-closures, their meeting stiles 20 and 21 coming together at the center of the driveway, and these, with the outer stiles 22 and 23, extending upward, the upper ends of each supplied with a pair of wheels 32, 33, 34, and 35, one on each side of the stile, to run on the tracks 10 and 10′. (See Figs. 2, 3, and 6.) The tracks 10 and 10′ are above the drive at sufficient height to clear loaded vehicles, and are supported by a framework consisting of pairs of posts 5 5′ and 6 6′, located at each side of the drive, each pair separated sufficiently to allow the gate to pass between them. The extreme ends of the tracks and casing are supported by single posts 7 and 7′, set directly in the line of the path of the gates and sufficiently far from the drive to allow the opening between the gates to be full width.

In Figs. 2, 3, and 4 is shown the manner of attaching the tracks 10 10′, as well as the casing or housing 11 11′, and cap-board 12 to the top of the posts 7 7′. The planks 19 and 19′ extend down on the post, to which they are firmly attached, extending above the posts to form ends for the casing on the insides of which the pulleys 24, 25, 26, 27, 28, and 29 are fixed.

In Fig. 6 is shown the fitting of the tracks and casing to the top of the double-posts 5 5′ and 6 6′, to which they are screwed or otherwise firmly attached. All the above-mentioned posts, as well as those supporting the ends of the lines for operating the gates, have their lower ends bolted between pairs of anchor-posts 9 9 9, &c., set deep in the ground to make the whole firm. The post 8 8′ 8″ 8‴ are located at the sides of the drive, each a suitable distance from the gates to support the ends of the opening-lines 3 and 3′ and the ends of the closing lines 4 and 4′ at such points as to enable the drivers to open the gate ahead of the team and close the same behind the vehicle after passing through without alighting. Semicircular blocks 18 are anchored in the center of the drive on each side of the gate, the curved surface of the blocks bearing against the meeting stiles at the bottom to guide them to and retain them in position laterally. (See Fig. 1; also, in this figure is shown the traps 13 and 13′ in cap 12, by which access is gained to the wheels for oiling.) Where the lines pass from the end of the casing to the posts 8 8′ 8″ 8‴ an inverted-**V**-shaped covering and brace, one end resting on the arm 15 on the post and the other attached to the casing, protects the line from wind, water, and ice and braces the framework. For the operating-lines 3 3′ 4 4′

and connecting-lines 30 and 31 I prefer using braided sash-cord of a good quality, running over suitable pulleys.

By reference to Fig. 1 it will be observed that the ends of the opening-lines 3 and 3′, provided with the combined weights and handles 1 and 1′, are each so located as to be on the right hand when approaching the gate, the line 3 passing up over the pulley 17, which is suspended from the arm 14 at the top of post 8, as shown in Fig. 5, then along under the V-shaped covering 16, through a suitable aperture in the casing 11′ (see Fig. 4) and around the pulley 28, and then parallel with the track to the outer stile 22, to which the end of the line is attached. By draft on the handle 1′ it will be plainly seen that the outer stile 22 will be drawn toward the end post 7 and this half of the gate opened. In a similar manner line 3 has one end attached to the outer stile 23 of the opposite gate or half-closure, then back around the pulley 27, thence to the pulley 17 at top of post 8‴, and down to the handle 1 by means of draft, upon which the stile 23 is brought back against the end post 7′, opening this half of the gate. The closing-line 4 is attached to the meeting stile 21, as shown in Figs. 3 and 6. It is then carried along parallel with the track, passing loosely through apertures 38 in the meeting stile 20 and outer stile 22 of the opposite half-closure around the pulley 29, thence over pulley 17 at top of post 8, down to the weight and handle 2. In a similar manner the closing-line 4 runs up over the pulley 17 at top of post 8″, thence to and around pulley 26, and thence parallel with the track loosely through apertures 38 in stiles 23 and 21 to meeting stiles 20, to which this end of the line is attached.

In order to make the opposite halves of the gate work simultaneously and automatically, they are connected by two other lines 30 and 31, as follows: The line 30 has one end fastened to the outside stile 22. It then runs parallel to the track to and around pulley 24 on end 19, and then in a reverse direction just above stiles 22 and 20 to the meeting stile 21 of the opposite half-gate, to which it is made fast. In a similar manner, but in reverse direction, the line 31 is made fast to the outer stile 23, then to and around pulley 25, and then in a reverse direction just above the stiles 23 and 21 to the meeting stile 20 of the other half-gate, to which this end is securely fastened. (See Figs. 2 and 3.) By this arrangement when either half of the gate is opened the line that is attached to its meeting stile will draw in an opposite direction on the outer stile of the other half of the gate. It will be plainly observed that if either half-gate is closed the opposite half will move in a reverse direction—that is, open and close simultaneously. When the gate is opened, the closing-lines 4 and 4′ are drawn into the casing, bringing up the weight-handles 2 and 2′ to a position convenient to be grasped and close the gate. The opening and closing handles 1 1′ and 2 2′ are made of heavy material, preferably cast-iron, their weight serving to keep the opening and closing lines taut and straight between pulleys and to insure that when an opening or closing is drawn open the other opening or closing line, as the case may be, will make a similar movement and not become snarled. Further, the gate may be opened by grasping either half by hand and forcing it back, the lines taking good care of themselves, each weighted end being balanced by one drawing in the opposite direction.

For convenience in operating the gate from high vehicles or loads a small light handle is attached a distance above each of the weight-handles on the lines. (See *a*, *b*, *c*, and *d* in Fig. 1.) Aside from the meeting and other stiles the part of the gate making the closure over the drive may be constructed as shown, or with rails and pickets, or in any other suitable manner. To keep the gate as light as possible and yet sufficiently strong, the stiles of each are tied together at the top with light rods or wires 36 and 37, as shown in Figs. 3 and 6. By a study of the arrangement of the lines it will be seen that the strain on these wires is always tension. Hence a strut is not needed. The tracks 10 and 10′ also serve the purpose of guides for the upper ends of the gate-stiles. Hence any grooved or raised track with corresponding wheels is unnecessary. It will be further seen that the operating and connecting lines are all located in a central plane parallel with the direction of movements of the gates and exert their force on the gates only in this plane. (See Figs. 2, 3, and 6.) Therefore the gate is operated with the minimum of friction, always moving easily and with little wear or noise.

By the use of two half-closures instead of one single large gate it will be readily seen that the run of all opening and closing lines is only one-half as great to obtain the same width of driveway. A small gate may be located, as shown in Fig. 1, when there is a foot-path at side of drive.

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

1. In a double suspended sliding gate, the combination of two half-closures having outer and meeting stiles extending upward between a pair of guide-tracks, each stile having a pair of wheels adapted to run on said tracks, each half-closure connected with the opposite one by a line attached to its outer stile, running around a pulley at the adjacent ends of tracks, then to and attached to the meeting stile or the opposite half-closure, opening-lines attached to the outer stiles, passed around pulleys at the adjacent ends of tracks, and

then diagonally to the side of drive a suitable distance from the gate, closing-lines attached to the meeting stiles and passed to and around pulleys at the opposite ends of tracks, and then diagonally to the side of drive opposite to the opening-lines, substantially as shown and described.

2. In a double suspended sliding gate, the combination of two half-closures having the meeting stiles 20 and 21, the outer stiles 22 and 23, provided with the pair of wheels 32, 33, 34, and 35, adapted to run on the tracks 10 and 10′, supported above the drive by the single end posts 7 and 7′ and the intermediate double posts 5 5′ and 6 6′, the outer stiles 22 and 23, connected with the meeting stiles 20 and 21 of each opposite half-closure by the lines 30 and 31, running over the pulleys 24 and 25, all substantially as shown and described.

3. In a double suspended sliding gate, the combination of two half-closures having the meeting stiles 20 and 21 and the outer stiles 22 and 23, provided with the pairs of wheels 32, 33, 34, and 35, adapted to run on the tracks 10 and 10′, supported above the drive on the single end posts 7 and 7′ and the intermediate double posts 5 5′ and 6 6′, the outer stiles 22 and 23 of each half-closure connected with the meeting stiles 20 and 21 of each opposite half-closure by the lines 30 and 31, running over the pulleys 24 and 25, opening-lines 3 and 3′, attached to the outer stiles 22 and 23, then running to and around pulleys 27 and 28 to and over pulleys 17 17 at tops of posts 8′ and 8‴ and suspended at their ends the weight-handles 1 and 1′, the closing-line 4, attached to meeting stile 21, running loosely through the apertures 38 38 in the meeting stile 20 and outer stile 22, to and around pulley 29, to and over pulley 17 at top of post 8, and having weight-handle 2 suspended at its end, in like manner closing-line 4′, attached to meeting stile 20, then through stiles 21 and 23, around pulley 26, over pulley 17 on post 8″, and having at its end the weight-handle 2′, all substantially as shown and described.

4. In a double suspended sliding gate, the combination of the framework consisting of the single posts 8, 8′, 8″, and 8‴, having the inverted-V-shaped braces 16 16 16 16, attached near the top and connecting them with the casing, consisting of side pieces 11 and 11′, cap-pieces 12, and ends 19 and 19′, covering the double track 10 10′, which is supported by the single end posts 5 5′ and 6 6′, with two half-closures having the meeting stiles 20 and 21, and the outer stiles 22 and 23, provided with the pairs of wheels 32, 33, 34, and 35 at their upper ends, adapted to run on the tracks 10 10′, the outer stiles of each half-closure connected with the meeting-stile of the opposite half-closure by the lines 30 and 31, running over the pulleys 24 and 25, opening-lines 3 3′, attached to the outer stiles running around the pulleys 27 and 28, then under the inverted-V-shaped coverings 16 16 to and over the pulleys 17 17 at the top of posts 8′ and 8‴, closing-lines 4 and 4′, attached to the meeting stile of each half-closure and passed around the pulleys 26 and 29 at opposite ends of tracks, then under coverings 16 16, over pulleys 17 17 at top of posts 8 8″, and the extreme ends of opening and closing lines provided with weight-handles 1 1′ and 2 2′, substantially as shown and described.

Signed at Blair, in the county of Washington and State of Nebraska, this 6th day of June, 1892.

PETER E. JENSEN.

Witnesses:
W. E. DAVID,
I. C. BRENBARGER.