



LONG'S SWINGING GATE.

**NEW SWINGING GATE.**

A simple and very effective automatic gate is represented in the annexed engraving. It presents none of the objectionable features found in the class of gates operated from overhead, and has but few parts, all of which are substantial and durable.

Fig. 1 shows the gate in perspective, the horizontal connecting rods being exposed to show the connection of the various parts. Fig. 2 is a side elevation of the upper gate hinge, and Fig. 3 is a plan view of the same. Fig. 4 shows the latch used in connection with the automatic gate. This gate can be made of wood or iron, or of both materials combined, and it may be of any style to correspond in general design with the fence to which it is applied.

The gate is supported at the top by a bracket, A, attached to the stile, and apertured to receive the pintle of the bar, B, the latter having a heart shaped opening for receiving the pintle of the bracket, C. The bar, B, is rigidly attached to the upper end of vertical rod, D, which is offset to bring its lower portion axially in line with the pintle of the bracket, C. The rod, D, is journaled near its lower end in a bracket secured to the bottom of the post, and carries a horizontal stud upon which rests the portion of the hinge attached to the lower part of the gate. This part of the hinge is forked to embrace the rod, D, and bent downward forming inclined planes, and when the rod is turned the horizontal pin passes under one or the other of the inclines. This combination assists in opening or closing the gate, as will presently be described. The trip rods E, consist of iron or steel rods bent so as to form two cranks at right angles to each other, and one end of each rod has a lever arm connected by a horizontal rod with a T-lever secured to the bottom of the vertical rod, D. The horizontal connecting rods are made adjustable as to length to compensate for any accidental change in the position of the trip rod.

This gate is readily operated by a light carriage containing one person, and its action is quick and sure. The operation of the gate is as follows: The vehicle wheels operate through the trip rods, E, and the connecting rods to turn the vertical rod, D,

in the usual manner of such gates. It is well understood by those familiar with such devices that the vehicle wheel forces the trip rod entirely down almost instantaneously, and retains it there only momentarily, and therefore that there is no active pressure on the gate except for a very limited space of time, in which it is impossible for the gate to swing entirely open or shut. The result has been that such gates would often remain partially open by reason of a reaction of the mechanism after the wheel had left the trip rod. By means of the bar, B, having the heart-shaped orifice and catch formed on the bracket, C, the difficulty is avoided. The mechanism is operated at once to its full extent by the wheel impact upon the trip rods, and the vertical rod, D, is consequently given the one fourth revolution necessary to turn the gate instantaneously and before the gate has acquired any perceptible swinging motion. This moves the bar, B, on its pivot, so that the pivot occupies one of the sides of the heart-shaped orifice instead of its apex, and the bar is thus made to move rearwardly a sufficient distance so that its point will engage with the catch formed on the bracket, C, and is thereby held in position until the gate swings into position, when it draws the bar forward and the pivot resumes its place in the apex of the heart-shaped opening.

The horizontal stud in the rod, D, turns around under the inclined portion of the lower hinge, so that its face, which rests upon the stud, has a tendency to slide upon the stud, and thus accelerate the motion of the gate, or enable the same to be operated when tilted to a less angle than would otherwise be necessary.

The gate latch is lifted out of its notch when the free end of the gate is raised by the tilting mechanism, so that it offers no impediment to the opening of the gate by a passing carriage.

A double gate may be made on this plan by simply adding another arm to the lever at the bottom of the rod, D, and connecting it by a rod to a corresponding arm of a similar mechanism on the second gate.

This gate was recently patented by Mr. Nathan H. Long, of Muncie, Indiana.