(No Model.)

B. HARVEY.

AUTOMATIC GATE.

No. 460,363. Patented Sept. 29, 1891.

Fig. 1.

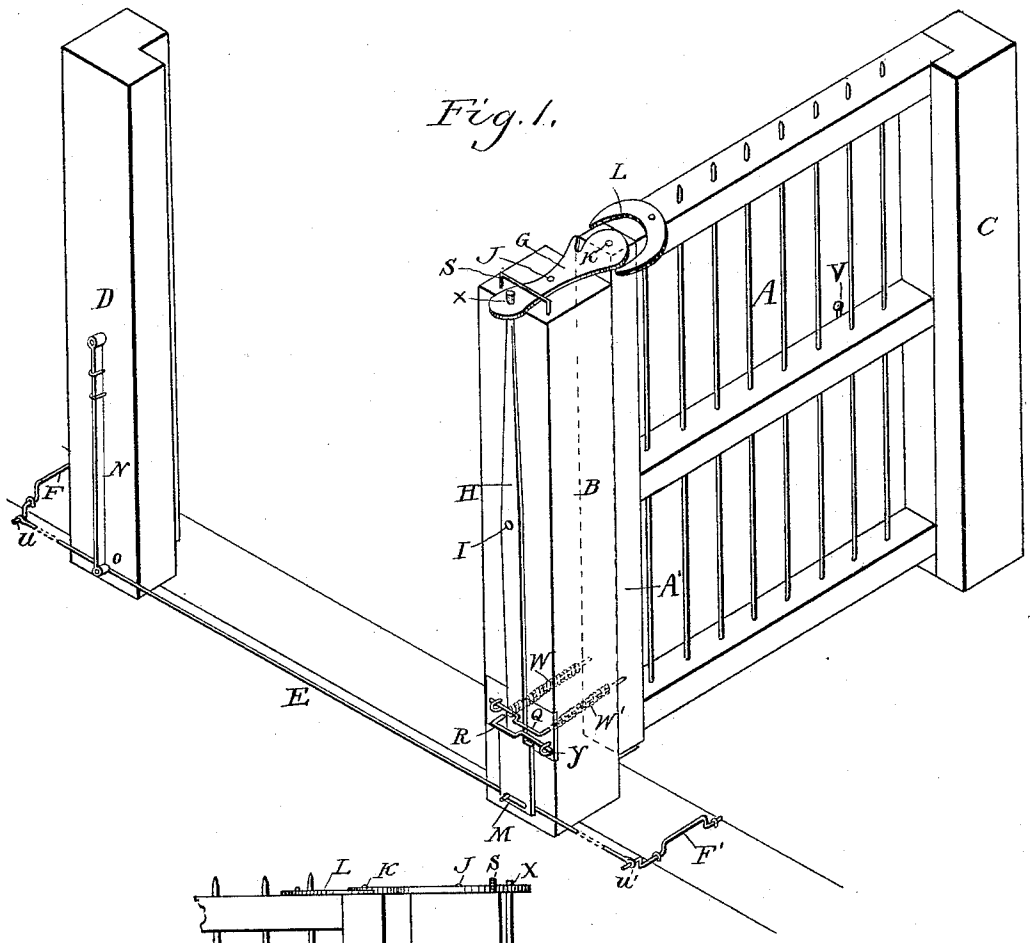
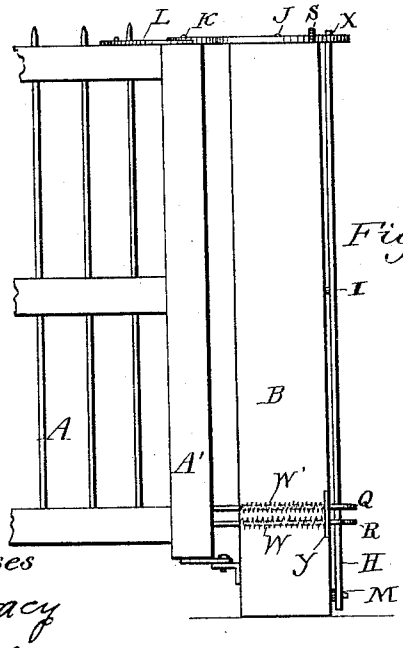


Fig. 2.



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BENJAMIN HARVEY, OF HONEY CREEK, INDIANA.

AUTOMATIC GATE.

SPECIFICATION forming part of Letters Patent No. 460,363, dated September 29, 1891.

Application filed September 3, 1890. Serial No. 363,873. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN HARVEY, a citizen of the United States, residing at Honey Creek, in the county of Henry and State of Indiana, have invented a new and useful Improvement in Automatic Gates, of which the following is a specification.

My invention relates to means for hinging and operating automatic gates.

The object of my invention is to produce an automatic gate that may be opened or closed by any vehicle from either direction passing through the same and striking upon either of the treadles. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view showing the gate closed. Fig. 2 is an elevation of the gate and hinge-post, showing the method of hanging the gate, &c.

The same letters refer to the same parts throughout the several views.

A represents a gate of any form desired. B is the post to which it is hinged.

C is the post in which it latches when closed, and D is the post against which it latches when opened.

H is a vertical bar pivoted to the post B at I. The upper end of this bar extends above the post and is rounded to pass through a hole at X in the outer end of the hinge-plate G. At the lower end of this bar H is a slot M, in which a stud on the rod E works and by which the top end of the rod H is moved to the right or left according to the direction in which the rod E may be pulled. The rod E is attached at one end by an eye therein to the crank of the treadle F, which crank is bent in opposite directions to the bend of the treadle and is attached by means of the eye U′ at the other end to the crank of the treadle F′, which crank is bent in same direction as the bend of the treadle.

N is a spring-bar fastened at its upper end to the outside of the post D, and the free lower end is attached by means of a stud to the rod E, and is for the purpose of elevating the treadles into a vertical position as soon as they are released from the impact of a wheel of any vehicle, and the slot M in lower end of the bar H is long enough to permit this to be done without interfering with the opening and closing of the gate.

G is the upper hinge-plate, and is attached to the top of the hinge-post by means of the pivot J in the top of the post toward the side next to the gate, and has a hole in its outer end which receives the rod H and one at the inner end to receive the pivot or stud K which is attached to the gate.

V is an ordinary spring-latch which holds the gate in place when open or when shut.

L is a horizontal curved spring which is attached to the top rail of the gate and presses against the edges of the hinge-plate G as the gate opens or closes, so as to hasten the gate in opening or closing.

Q R are two right-angled clamps, one end of each of which passes through the hinge-post near its lower end while the other ends extend along the back face of the post over the bar H and are secured to the post at their distal ends by staples near the edges of the post. On the arms Q′ and R′ are spiral springs W W′, working in the holes in the post and secured in place by the plate Y. These right-angled clamps have each in the arm on the face of the post at the end near the arm that passes through the post a notch or bend forming an offset of the width of the bar H and for receiving the bar. They rest against the bar H and clamp the lower end thereof to the post lightly. As the gate opens, the gate-stile A′ impinges upon the projecting end of the clamp R and pushes it outward, and as the gate opens the bar H drops into the notch in clamp R and is held in place so that the gate must go on till open and cannot return shut again. When the gate is open and is in the act of closing, the gate-post A′ presses against the end of the clamp Q and the rod H falls into the offset in the clamp Q and is held in place till the gate is closed.

My gate is operated as follows: Supposing the gate to be closed, a vehicle approaches from either direction, the wheel strikes and presses down one of the treadles F or F′, and the crank on the outer end of the treadle moves the rod E, and the stud on this rod, working in the slot M of the vertical bar H, pushes the lower end of this bar to the left and the top of the bar to the right. The mo-

tion of the top of the bar carries with it the outer end of the hinge-plate G, which works on the pivot J in the top of the post B, moves the inner end of the hinge-plate toward the post, pulls the gate back at top, raises the latch end of gate till the latch is lifted out of the catch, and tilts the top of gate out of plumb and it swings open. As the gate swings open, the spring L presses against the right edge of the hinge-plate G and hastens the opening, and as the gate strikes the post D the latch V drops into the catch and it is held in place. Passing in either direction, when gate is open, it is closed in same manner, only the motions are in the opposite directions.

What I claim, and desire to secure by Letters Patent, is—

1. In an automatic gate, the combination of the lever-bar H, attached to the post B by a pivot I near its middle, having a slot M in its lower end and passing through the hinge-plate G at X, with the rod E, operated by a vehicle pressing down one of the treadles, the hinge-plate G, working at its outer end on bar H, pivoted to post B at J and attached at its inner end to the gate A by the pivot or the stud K, and the clamps Q and R with the spiral springs W W′ surrounding one arm of each and having each a bend near center of the other arm forming offsets to receive and hold in place the vertical rod H, substantially as and for the purposes set forth and described.

2. In an automatic gate, the lever-bar H, pivoted to the hinge-post B at its center on the outer side, having connection with top hinge G and with the treadle-cranks through the rod E, the hinge-plate G, pivoted to the top of the post B, working on bar H at its outer end and attached to the gate by stud K at inner end, the clamps Q and R, each having a right-angled bend at the junction of its arms and a bend about the center of the outer arm forming a sort of offset and attached to the post, as described, and with spiral springs W W′, surrounding the arms, as described, the rod E, attached to the treadle-cranks and having a stud working in the slot M of bar H and attached to the spring N at O, and the spring N, attached to post D, substantially as and for the purposes set forth and described.

3. In an automatic gate, the hinge-plate G, spring L, lever H, clamps Q and R, each having a right-angled bend at the junction of its arms and a bend about the center of the outer arm forming a slight offset and attached to the post, as described, the spiral springs W W′, treadles F F′, having cranks on their outer ends, rod R, attached to the treadles by eyes U U′ and to lever H by a stud working in a slot of bar H, and staple S for keeping the hinge in place, all substantially as and for the purposes set forth and described.

4. In an automatic gate, the combination of the hinge-plate G provided with a hole X, stud K, pivot J, the lever-bar H, rod E, treadles F F′, spring N, clamps Q and R, each having a right-angled bend at the junction of its arms and a bend about the center of the outer arm forming a slight offset or notch, and spring L, all substantially as and for the purposes set forth and described in the foregoing specification.

BENJAMIN HARVEY.

Witnesses:
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