S. SMALL.

Automatic-Gate.

No. 221,368. Patented Nov. 4, 1879.

Fig. 1.

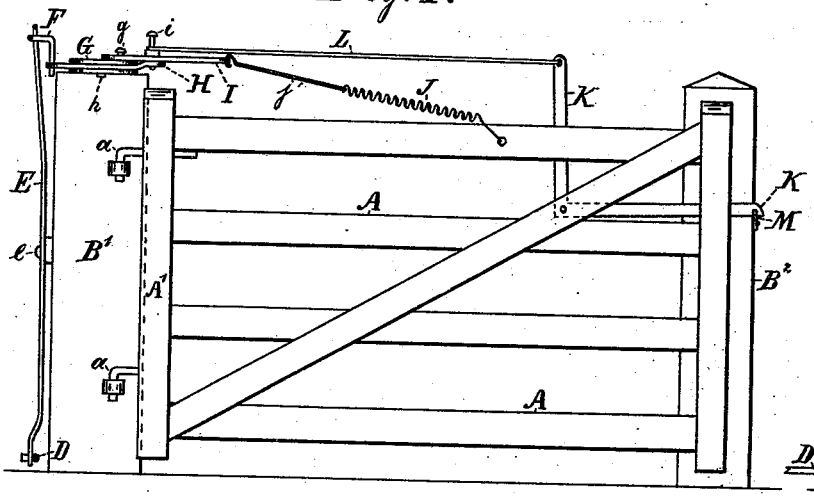


Fig. 2.

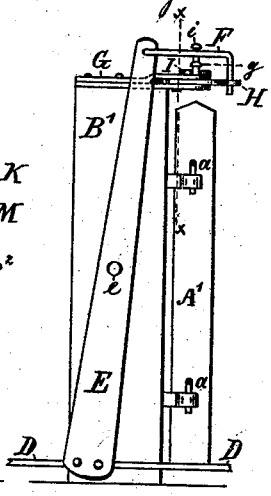


Fig. 3.

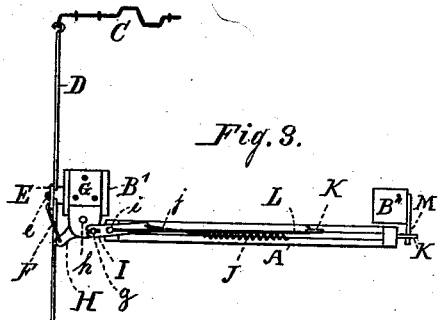


Fig. 4.

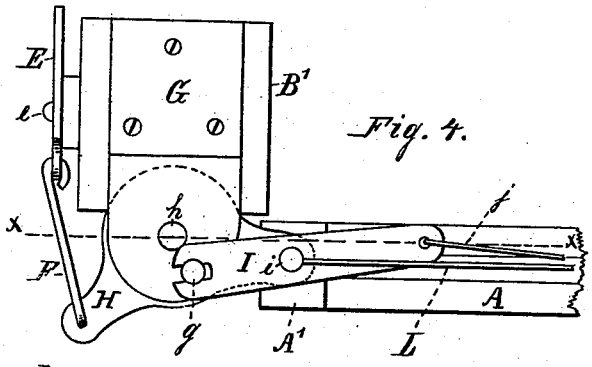


Fig. 5.

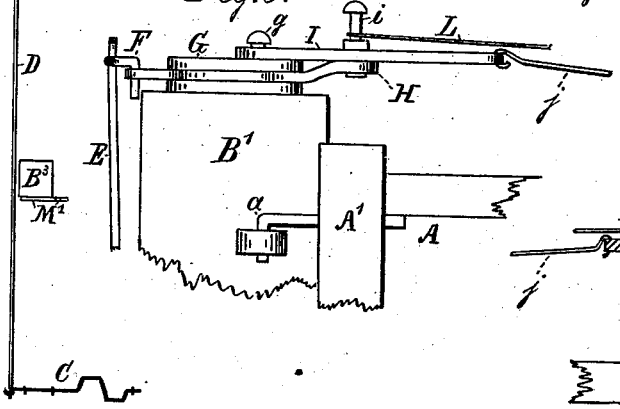
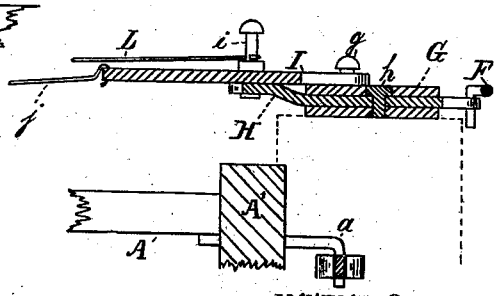


Fig. 6.



WITNESSES.

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SAMUEL SMALL, OF CLAY TOWNSHIP, HAMILTON COUNTY, ASSIGNOR TO SYLVANUS CAREY AND LEMUEL CAREY, JR., OF CARMEL, INDIANA; ONE-FOURTH TO EACH.

IMPROVEMENT IN AUTOMATIC GATES.

Specification forming part of Letters Patent No. **221,368**, dated November 4, 1879; application filed September 9, 1879.

To all whom it may concern:

Be it known that I, SAMUEL SMALL, of the township of Clay, county of Hamilton and State of Indiana, have invented certain new and useful Improvements in Automatic Gates, of which the following is a specification.

Reference is had to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts.

Figure 1 is a side elevation of a closed gate embodying my invention. Fig. 2 is an end elevation of the gate in the same position as shown in Fig. 1. Fig. 3 is a top or plan view of the entire gate. Fig. 4 is a plan view of the principal portion of the operating mechanism and adjacent parts. Fig. 5 is an elevation of the parts of which Fig. 4 is a plan. Fig. 6 is a vertical section on the dotted line *x x* in Figs. 2 and 4, looking outwardly from the post to which the gate is hung.

In said drawings, the portions marked A represent the gate; B′, the post to which it is hung; B^2, the post against which it shuts; B^3, the post against which it rests when open; C, bent levers, over which the wheels or runners of the vehicles pass, and thereby operate the mechanism; D, rods connecting the bent levers C to the other mechanism; E, a vertical lever attached to the post B′ by the pivot *e*, and connected at its bottom with the connecting-rods D D, and at its top, through the connecting-rod F, to the rotating plate H; G, a projecting arm rigidly attached to the top of the post B′, which supports the mechanism that operates directly on the gate; H, a rotating plate secured to and pivoted upon the post G by the pivot *h*; I, a forked or slotted lever connected at the forked end with the stationary stud *g*, and at the other with a spring or with a rod running to one and pivoted in the middle to the pivot *i*, which connects it to one arm of the rotating plate H, through which the motive power is applied to said lever; J, a spring attached to the gate A at one end, and at the other either directly to the lever I or to an intermediate rod, *j*; K, a latch pivoted at *k*, and formed in the shape of an elbow-lever; L, a rod connecting the vertical portion of the latch K with the upper end of the pivot *i*, which is extended to form a stud for that purpose; M M′, catches upon the posts B^2 and B^3 to engage the latch K when the gate is shut and open, respectively.

The gate is hinged to the post B′ by the hinges *a a*, or in any ordinary or approved manner.

It is operated as follows: The vehicle-wheels strike the bent levers C, tipping them in the usual manner, and, through the rods D, lever E, and connecting-rod F, operating to rotate the plate H, and thus unfasten the latch through the rod L, and pull the gate open or shut, as the case may be, through the lever I and rod or spring J.

This spring and lever attachment being among the important points of my invention, will be more particularly described. The lever being attached to the stud *g* at one end, and to a spring or rod attached to the gate at the other, and being driven by a central attachment to the arm of the rotating plate, will, if the attachment be properly made, have a quicker movement than the gate proper, and, in the operating of the parts, keeps in advance of the gate, and when the latter is fully opened or closed stands at something of an angle therewith, as shown in the drawings, and thus always exerts enough force to keep the gate in position whether latched or not. This, however, is a minor point, and I should not regard such an arrangement of the same parts as would fail to do this as an avoidance of my invention.

The rod L is operated to pull upon the latch by the same movement of the rotating plate which operates upon the lever and spring to pull upon the gate, and is usually attached to the same stud *i* by which the lever is operated.

The lever E and connecting-rod F form a simple and desirable means for connecting the rods D to the operating mechanism.

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

1. The combination of the rotating plate H,

lever I, pivoted to said plate at *i*, stud *g*, and rod or spring J with the gate A, substantially as shown and specified.

2. The combination of the lever E, pivoted at *e*, connecting-rod F, rotating plate H, intermediate mechanism connecting said plate to the gate, and the gate A, all substantially as set forth.

3. The combination of the bent levers C, rods D, lever E, connecting-rod F, arm G, stud *g*, rotating plate H, pivoted at *h*, pivot *i*, lever I, rod or spring J, and gate A, substantially as shown and specified.

4. The combination of the bent levers C, rods D, lever E, connecting-rod F, arm G, plate H, stud or pivot *i*, rod L, and elbow-lever, shaped latch K, all substantially as shown and specified.

In witness whereof I have hereunto set my hand and seal at Indianapolis, Indiana, this 5th day of September, A. D. 1879.

SAMUEL SMALL. [L. S.]

Witnesses:
C. BRADFORD,
A. B. GILLETT.