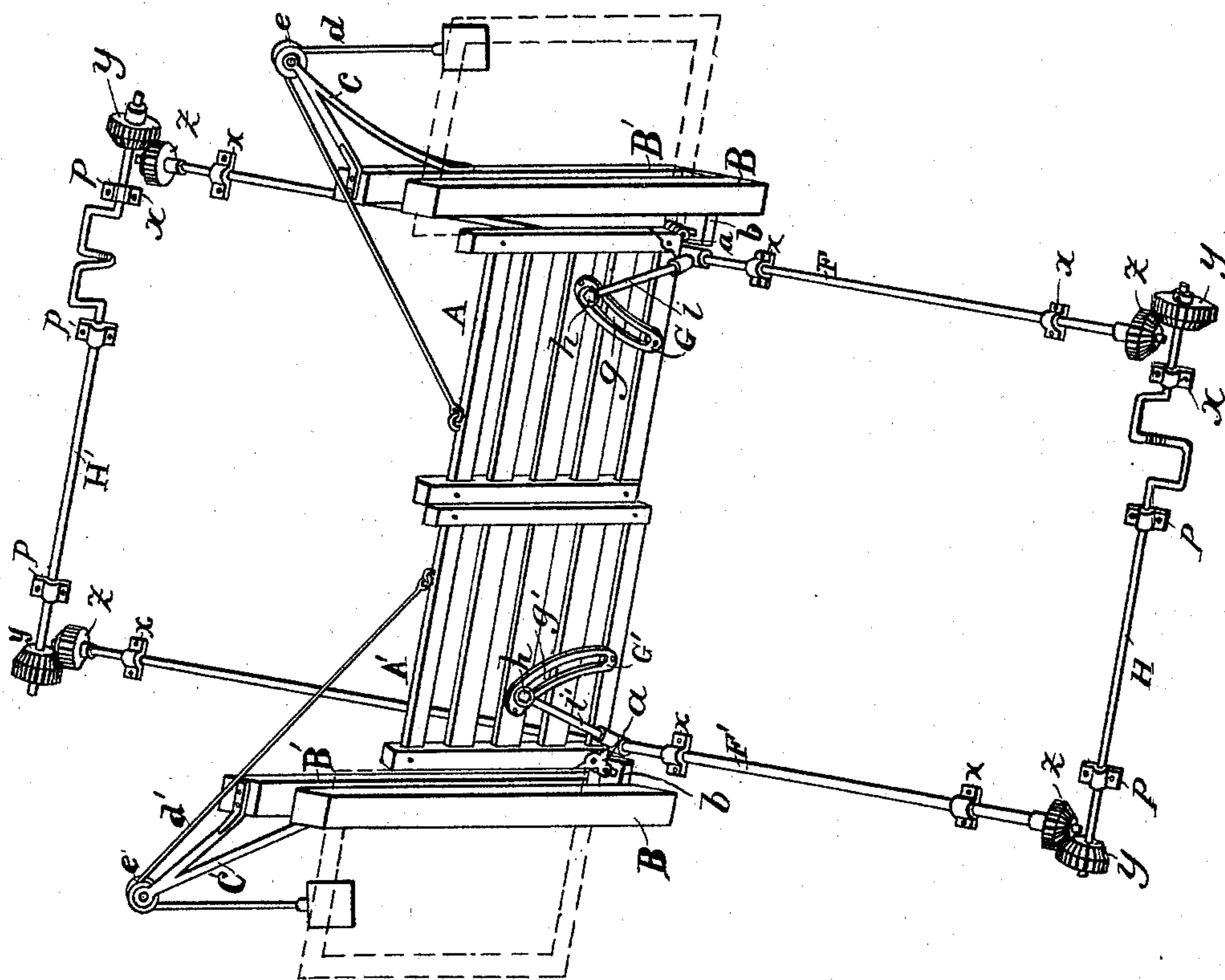


(No Model.)

S. ROYER.
AUTOMATIC TILTING GATE.

No. 585,790.

Patented July 6, 1897.



WITNESSES:

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SAMUEL ROYER, OF TERRE HAUTE, INDIANA.

AUTOMATIC TILTING GATE.

SPECIFICATION forming part of Letters Patent No. 585,790, dated July 6, 1897.

Application filed December 30, 1896. Serial No. 617,470. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL ROYER, a citizen of the United States, residing in Terre Haute, in the county of Vigo and State of Indiana, have invented certain new and useful Improvements in Automatic Tilting Gates; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which forms part of this specification.

My invention relates to that class of gates which are operated by means of a shaft and tilting bar, which in turn are operated by a double wheel-iron or crank-shaft and in which the gate is tilted backward and forward in a perpendicular plane, and which may be opened and closed from either side of approach.

The objects of my invention are, first, to provide a gate or gates which will be substantial, durable, and inexpensive; second, to provide a gate which can be operated easily and quickly from either side of approach by simply tripping one of the wheel-irons or crank-shafts with the wheel of a vehicle, and, third, to provide a gate or set of gates which may be opened or closed without the passenger alighting from the vehicle in which he rides or slackening his speed while passing through said gate or gates. These objects I attain by means of the mechanism illustrated in the drawing annexed hereto, in which the figure is a perspective view of the gates mounted in a roadway, also showing the position of the gates when open by the dotted lines.

The letters A and A' indicate strong and rigid rectangular gates constructed of any convenient material, which are provided at their lower post sides with a strong iron hinge or pivot *a*, whereby they are fastened to a block *b*, which is in turn firmly fixed at the bottom of and between two guide-posts B and B', between which the gates pass when being operated.

The letters C and C' indicate strong and substantial cranes constructed of wood, iron, or any other convenient material, which are mounted upon either of the guide-posts B and

B', and which in turn support at their outer ends pulley-wheels *e* and *e'*, over which cables *d* and *d'* are run. These cables are connected at one end to the top bars of the gate-frames and suspend heavy iron weights from their other ends for the purpose hereinafter set forth.

The letters G and G' indicate curved guide-bars through which are cut slots *g* and *g'*, through which short bolts *h* and *h'* are loosely fixed by means of a nut upon each end thereof. These bolts are also riveted or bolted upon one end of the levers *i* and *i'*, the other ends of which are fastened by means of a T-coupling to the shafts F and F' hereinafter described.

The letters F and F' indicate strong metallic shafts which are laid along the side of and parallel with the roadway and just under the lower back corners of the gates and extending a convenient distance from each side of the gates. These shafts are supported upon and find their bearings in a series of block-bearings, (marked *x*.) The shafts F and F' bear upon each of their several extreme ends an iron bevel-gear *z*, which is keyed firmly thereto.

The letters H and H' indicate double-crank shafts, each of which consists of a strong metallic shaft which is bent a short distance from one of its ends into the form of a double crank, the two bends of which extend laterally from the shaft proper and at right angles to each other, as shown in the drawing.

Each of the shafts H and H' bears upon each of its extreme ends a bevel-gear *y*, which corresponds to and meshes with the bevel-gears *z* upon the shafts F and F'. These shafts extend across the roadway and connect through their respective bevel-gears with the shafts F and F', thereby forming a complete rectangular system of shafts, all of which are revolved by the revolution of one of the crank-arms.

The crank-arm shafts H and H' are supported by and find bearings upon the series of block-bearings, (indicated by the letters *p*.)

The various shafts above mentioned are covered by a convenient boxing, if so desired, for the purpose of protecting the same from obstructions and external injury.

In the drawing the dotted lines indicate the

position of the gates when the same are tilted back or open.

When my gates are mounted as described, it is only necessary to drive the wheel of a vehicle over that portion of either of the crank-shafts or wheel-irons which at the moment stands upright to revolve the system of bevel-gears and shafts, thereby revolving the levers *i* and *i'*.

The levers *i* and *i'*, when the gates are closed, stand at such an angle that the bolts *h* and *h'* will bear against the guide-bars *G* and *G'* at the upper ends of the slots therein, so that when the levers are revolved by the turning of the wheel-irons the gates will be carried with them until the levers stand perpendicular, at which point the weights suspended from the cables *d* and *d'* will exert their force and draw the gates past their centers of gravity, when they will fall back until they stand upon end, as shown by the dotted lines in the drawing, thus clearing the roadway. When the gates are open, the levers will stand in a perpendicular position and at the other end of the slots in the guide-bars, having passed the full length of said slots.

To close the gates after passing through the same, the wheel of the vehicle is driven over the upright bend of the crank-shaft or wheel-iron situated upon that side of the gates, thereby revolving the levers *i* and *i'* back to

their original position, whereby, together with their own weight, the gates are drawn down or closed.

I have described my invention as applied to a double gate or set of gates; but the same mechanism may be used to operate a single gate.

I am fully aware that gates have heretofore been operated by means of wheel-irons or crank-shafts, and I do not, therefore, make a broad claim upon such device; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

In an automatic tilting gate, the combination of the gates *A* and *A'*, the hinges *a*, the blocks *b*, the guide-bars *G* and *G'*, the guide-posts *B* and *B'*, the cranes *C* and *C'*, the pulley-wheels *c* and *c'*, and the weighted cables *d* and *d'*, with the shafts *F* and *F'*, the double crank shafts *H* and *H'*, the four sets of bevel-gears *y* and *z*, the levers *i* and *i'* and the bolts *h*, all substantially as described and for the purpose set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of, two witnesses.

SAMUEL ROYER.

Witnesses:

FRED W. BEAL,
SYDNEY B. DAVIS.