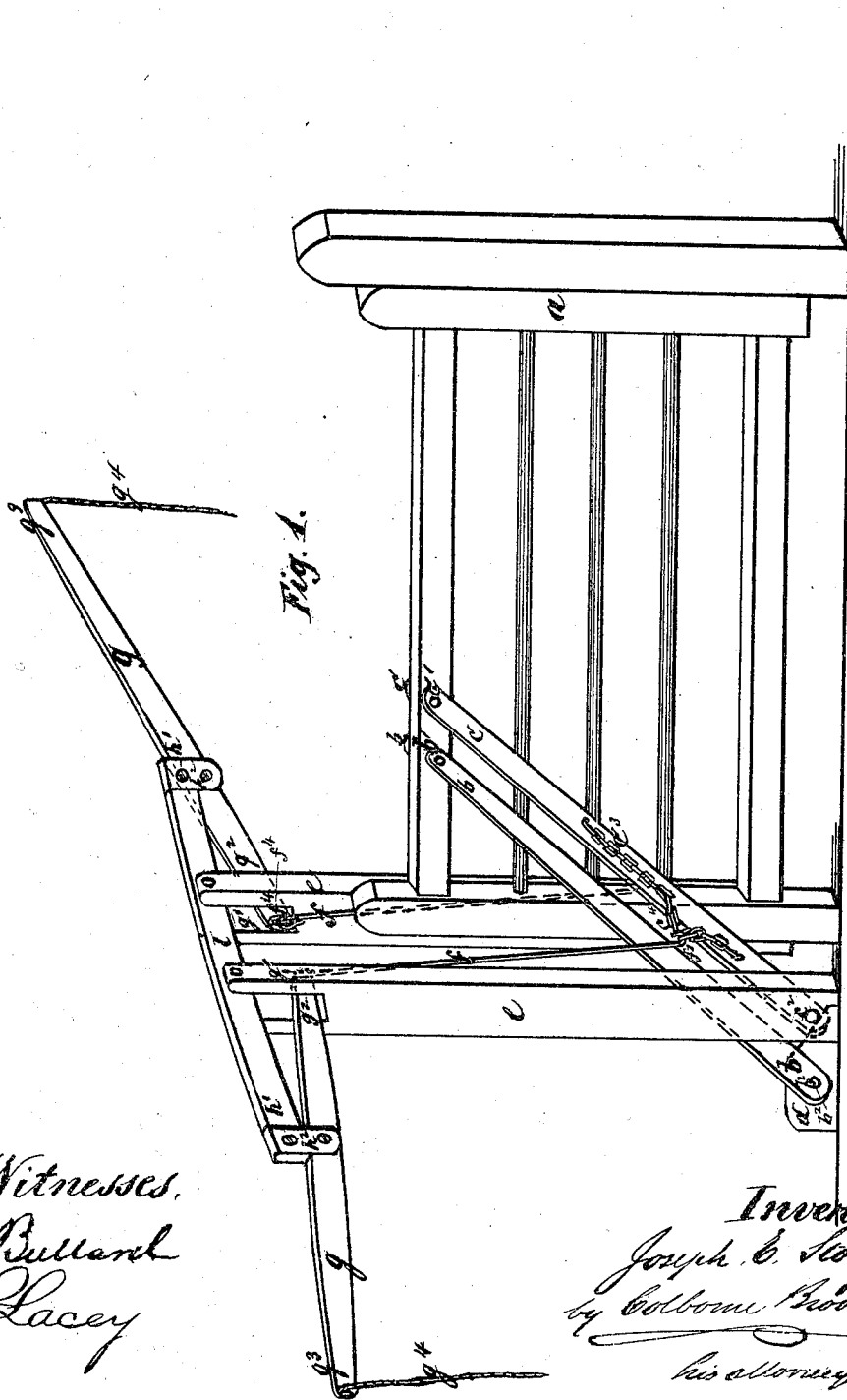


J. E. STONG.
Automatic Gates.

No. 141,900.

Patented August 19, 1873.



Witnesses,
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UNITED STATES PATENT OFFICE.

JOSEPH E. STONG, OF NEWTON BROOK, CANADA.

IMPROVEMENT IN AUTOMATIC GATES.

Specification forming part of Letters Patent No. **141,900**, dated August 19, 1873; application filed July 26, 1872.

To all whom it may concern:

Be it known that I, JOSEPH E. STONG, of Newton Brook, in the county of York, in the Province of Ontario, Canada, have invented certain Improvements in Gates, of which the following is a specification:

My invention relates to improvements in apparatus for supporting and operating gates, whereby the same may be readily opened by passengers either riding, driving, or on foot; and after such passengers have passed through the gateway, such gates may be readily closed.

In carrying out my invention the gate is supported at the upper part by means of parallel levers, which are arranged in pairs at each side of the gate. These parallel levers at their upper ends are connected to the gate by means of bolts or pins capable of turning in bearings in the parallel bars. At their lower ends one pair of parallel bars are supported and turn on axes carried by a block or bed firmly affixed in the ground. The other pair of parallel bars at their lower end turn on and are supported by a shaft or axis which passes through and is supported by a pair of posts arranged one in front and the other in rear of the gate. To the parallel bars supported by the axis carried by the posts a chain is attached in such manner as to form an extended loop. Through one of the links of each of these looped chains a connecting-rod is passed, the lower end of which is provided with a curved extension and a button or knob for securely holding the chain in position. The opposite end of each connecting-rod is formed with a hook or loop arranged at right angles to the curved extension. Each of these loops is, by means of other loops or staples, connected to one end of one of a pair of levers which pass, with capability of free movement, through the main posts at right angles to the gate, and are supported by stirrups extending down from and affixed to a cross-beam supported by the main posts. The opposite end of each pair of levers to which the connecting-rods are connected are provided with loops or staples, to which a rope or chain is attached, which hangs down in position to be easily taken hold of by passengers who may require to pass through the gateway; but that my invention may be fully understood, I will

proceed to describe the same more in detail by aid of the accompanying drawings.

Figure 1 is a perspective view of apparatus arranged according to my invention, showing a gate closed. Fig. 2 is a front view of the same on a smaller scale, showing the gate open. Fig. 3 is an end view, and Figs. 4 and 5 detached views, of one of the connecting-rods of the apparatus.

a represents a gate, which is supported by means of parallel levers *b b c c*, arranged in pairs at each side of the gate. These parallel levers *b b* and *c c*, at their upper ends, are connected to the gate *a* by means of bolts or pins *b¹ c¹*, capable of turning in bearings in the parallel bars. At their lower ends the bars *b b* are supported by and turn on axes *b² b²*, carried by a block, *d*, firmly fixed in the ground. The other pair of parallel levers, *c c*, at their lower ends, turn on and are supported by a shaft or axis, *c²*, which passes through and is supported by a pair of main posts, *e e*, arranged one in front and the other in rear of the gate *a*. To each of the parallel levers *c c* a chain, *c³*, is connected at *c⁴ c⁴* in such manner as to form an extended loop. Through one of the links of each of these looped chains *c³* a connecting-rod, *f*, is passed, the lower end *f¹* of which is provided with a curved extension, *f²*, and a button or knob, *f³*, for securely holding the chain *c³* in position upon the curved extension *f²*. The opposite end of each connecting-rod *f* is formed with a hook or loop, *f⁴*, arranged at right angles to the curved extension *f²*. Each of these loops *f⁴* is, by means of other loops or staples, *g¹*, connected to one end, *g²*, of one of a pair of levers, *g*, which pass, with capability of free movement, through the main posts *e e* at right angles to the gate *a*, and are supported by bearings *h¹ h¹* carried by stirrups *h² h²* extending down from and affixed to a cross-beam, *i*, supported by the main posts *e e*. To the end *g³* of each of the levers *g* a rope or chain, *g⁴*, is attached, which hangs down in position to be easily taken hold of and operated by passengers who may require to pass through the gateway.

Supposing the gate to be closed, as represented by Fig. 1, when it is required to open the same from any one side, it is simply neces-

sary to pull upon one of the ropes or chains g^4 , thereby lowering the end g^3 of its levers g , and raising the end g^2 , and with it its connecting-rod f , by which means tension will be exerted on the chain c^3 , whereby the lever c , to which it is attached, will be caused to rise and carry with it the gate a , and the corresponding lever c and the levers b , until the gate has passed the center. It will then fall over by its own gravity into the position shown by Fig. 2. The levers g are formed sufficiently heavy to counterbalance the weight of the gate a , to facilitate its movement and prevent concussion of the same.

When a passenger has passed through the gateway it is simply necessary to operate the gate in a similar way to that already described by pulling the other rope or chain, and the same will be closed.

By this arrangement it will be seen that gates may be readily opened or closed by pas-

sengers on horseback or driving without necessitating their dismounting or leaving their vehicles.

Having thus described my invention, I would have it understood that I lay no claim to a tilting gate, as I am aware that the same is old; but

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

The combination, with a tilting gate such as herein described, of the balance-levers g , supported in stirrups h^1 , suspended from a cross-bar, i , and provided with chains or ropes g^4 , connecting-rods f , and looped chains c^3 , all arranged, constructed, and operated substantially as shown and described.

Toronto, July 20, 1872.

JOSEPH E. STONG.

Witnesses:

J. HERBERT BARTLETT,
GEORGE RIDOUT.