

(No Model.)

G. C. TWYMAN.
SWINGING GATE.

No. 540,601.

Patented June 4, 1895.

Fig. 1.

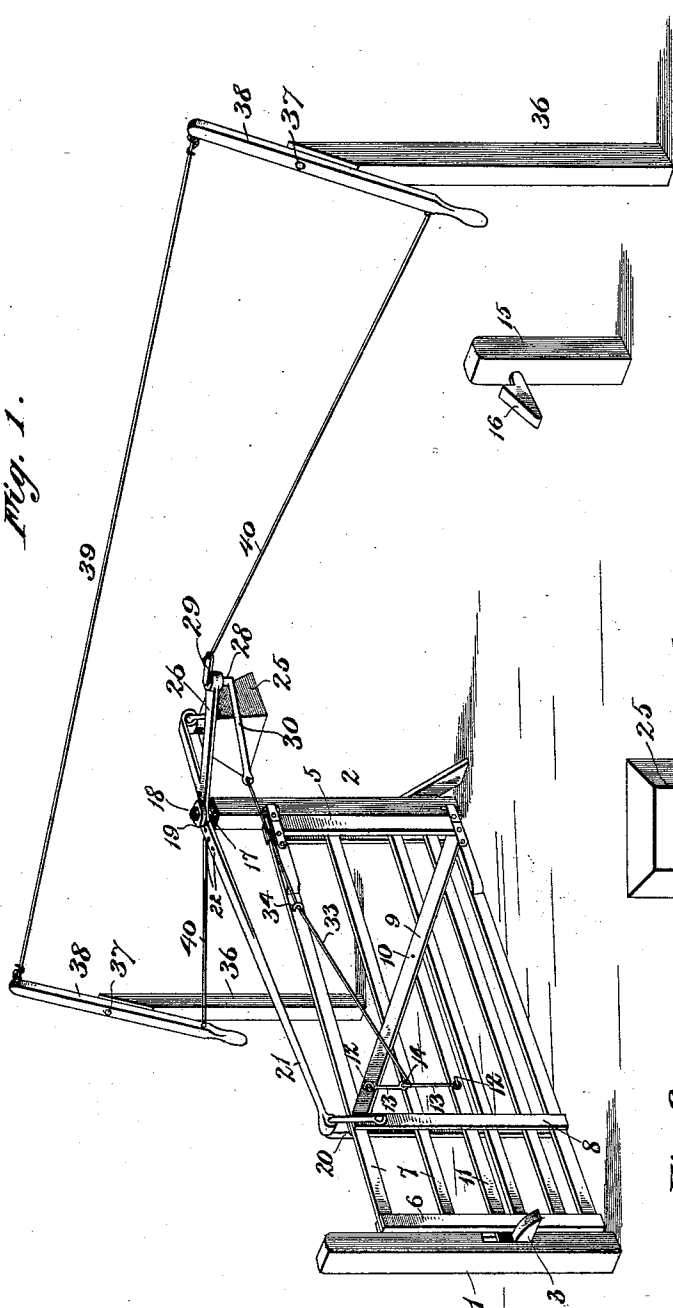


Fig. 2.

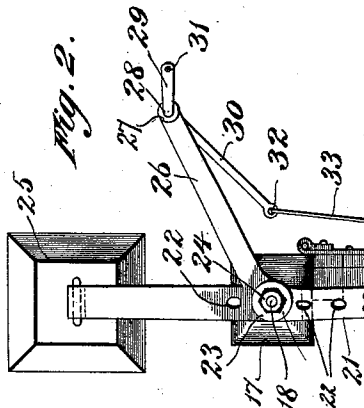
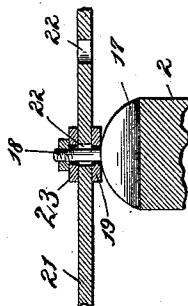


Fig. 3.



Attest.
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UNITED STATES PATENT OFFICE.

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SWINGING GATE.

SPECIFICATION forming part of Letters Patent No. 540,601, dated June 4, 1895.

Application filed March 7, 1895. Serial No. 540,883. (No model.)

To all whom it may concern:

Be it known that I, GOODLOE C. TWYMAN, a citizen of the United States, residing at Bowling Green, in the county of Warren and State of Kentucky, have invented certain new and useful Improvements in Swinging Gates; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in swinging-gates; and the main objects in view are to produce a cheaply and simply constructed gate of this class that may be readily set up for operation either upon a slope or hill-side or upon the level; to avoid any sagging of the gate; to decrease the wear and strain upon the hinges; and to provide for an opening and closing of the same and also an unlatching and latching thereof while the operator stands some distance from the gate and is either afoot or on horse-back.

Various other objects and advantages of the invention will hereinafter appear, and the novel features of the invention will be particularized in the claims.

Referring to the drawings, Figure 1 is a perspective view of a gate constructed in accordance with my invention. Fig. 2 is a detail plan of the rear end of the gate balancing and supporting lever. Fig. 3 is a section of the upper end of the hinge-post.

Like numerals of reference indicate like parts in all the figures of the drawings.

The numerals 1 and 2 designate the usual latch and hinge-posts, respectively, the former as its name implies being for the accommodation of the catch 3, which may be set at one side of the post and project therefrom in the direction in which the gate opens and closes, or may be arranged at the inner face of the post in the event it is desired that the gate should open and close in both directions, which is also contemplated by my invention. In the present instance, however, I have shown the gate as being adapted for opening in but one direction, deeming this to be sufficient for the purpose of illustrating my improvements.

The hinge-post 2, is set a sufficient distance

from the latch-post 1, and is provided at its inner front corner with a pair of L-shaped hinge-members, in which interlock or engage hinge-eyes of the usual pattern located on the vertical end-bar 5, of the gate. The end-bars 5, there preferably being two, have counterparts 6, at the opposite end of the gate, and these are connected by and embrace the usual rails 7, of which there is a series arranged a sufficient distance apart. Near the end-bars 6 are arranged an intermediate pair of vertical bars 8, which also embrace the rails 7, and these bars 5, 6 and 8 are bolted to the rails 7 at their points of intersection. Arranged between the lower ends of the rear end-bars 5 and the upper ends of the intermediate bars 8 are a pair of inclined braces 9, employed to stiffen the gate as a whole.

Having its rear end pivoted as at 10, at a point between the inclined braces 9, is a vertically swinging latch-bar 11, the front end of which extends beyond the end-bars 6 and is adapted to ride over and engage with a notch formed in the catch 3. A staple 12, extends from the face of the latch-bar, and a companion staple 12, extends from the inclined brace 9 at a point vertically above the first mentioned staple, the two staples being connected by a pair of loosely jointed rods or links 13, the same being provided with interlocking eyes 14.

At that side at which the gate opens, and at the same distance from the hinge-post as the latch-post is located, there is also located a holding-post 15, the same having a catch 16, similar to the catch 3 carried by the post 1, and the office of this second post is to catch and hold the gate in an open position as long as may be desired. Of course if the gate be constructed so as to open in both directions the post 15 and its latch would be duplicated at the opposite side of the post 2.

The upper end of the hinge-post 2 is preferably provided with a cast-metal cap 17, the same being rounded upon its upper surface, and being designed to take the wear of the moving parts from the post. From the center of the cap there extends upwardly a stud 18, over which I arrange a perforated metal washer 19, the perforation being considerably larger than the stud it receives, and the washer

therefore being loosely mounted in position and capable of rocking upon the cap.

An inverted U-shaped stirrup 20, loosely embraces the upper ends of the bars 8, its terminals having eyes at their ends which loosely engage with a transverse pin or stud that passes through the upper ends of the aforesaid bars 8. To the upper end of this stirrup is loosely connected the front end of the gate supporting and balancing lever 21, the same extending to the rear over the gate in an inclined manner and over and beyond the stud and the cast-metal cap from which said stud projects. The lever 21 is provided with a series of elongated holes 22, any one of which may be engaged over the aforesaid stud, and thus any sagging compensated for. For instance should the gate sag, in order to restore the same, it would be simply necessary to engage one of the holes in advance with the stud and thus lift the free end of the gate. The lever is held in position upon the stud by means of a superimposed washer 23 and a nut 24, the said stud being threaded at its upper end for the accommodation of the latter.

In rear of the stud and the perforations formed in the lever 21, the latter is bifurcated, one branch of its bifurcations extending in line with the main portion of the lever forming a weight-arm 24 and preferably terminating in a hook, upon which is hung a counterbalancing weight 25, the said weight being sufficient to counterbalance the gate and thus poise the same, removing the strain from the hinges. The remaining branch of the lever 21 is laterally disposed out of line with the gate, forming an arm 26, which extends in rear of the post 2 and terminates in a vertical eye 27. Arranged in this eye 27 is a vertical shaft 28, having an upper crank or bend 29, and a lower crank or bend 30, the two cranks being disposed at an angle to each other. The crank 29 terminates in an eye 31 and the crank 30 in an eye 32. A latch operating wire 33 connects the eye 32 with the interlocking eyes 14, and is guided between these points by a staple 34, arranged on the gate.

At opposite sides of the hinge-post 2 there are located two vertical posts 36, the upper ends of which are preferably chamfered, and have pivoted on such portions, by intermediately located pivot-bolts 37, inclined gate operating levers 38, the lower ends of which are shaped to form handles. These levers 38 are connected at their upper ends by a wire 39, and at opposite sides of their pivots and near their lower ends by a wire 40, the latter at a point where it crosses the upper crank portion of the vertical shaft 28, being connected thereto.

It will be obvious that by operating either of the levers 38 the gate may be swung in either direction—that is, to open or close the same, and that before the swinging takes

place the latch-wire will be operated so as to raise the latch from the catch with which it is engaged.

By my invention it will be seen that a large gate can be easily operated by a person either afoot or upon horse-back, and in the latter instance without the necessity of dismounting for the purpose. It will also be obvious that the gate is evenly poised by the weight so that the strain and wear upon the hinges are greatly lessened; and finally that the gate will operate as well upon the hill-side as upon the level.

Having described my invention, what I claim is—

1. The combination with the hinge and latch-posts, and the gate swung upon the hinge-post, of the lever pivotally connected to the hinge-post and having a laterally bent arm terminating in an eye in rear of said post and at its front end connected to the gate, a double crank-shaft journaled in said eye, a latch carried by the gate, a connection between the same and one of the cranks, opposite posts, levers pivoted thereon, and wires connecting the levers, one of which is connected to the remaining crank, substantially as specified.

2. The combination with the hinge and latch-posts, and the gate swung upon the hinge-post, of the lever pivotally connected to and fulcrumed upon the upper end of the hinge-post and bifurcated in rear thereof, one of said bifurcations being extended in line with the lever and provided with a weight, and the remaining bifurcation laterally extended out of line with the gate, a latch operating device carried by the latter bifurcation, a latch carried by the gate, a connection between the same and the operating device, opposite posts, levers intermediately pivoted thereon, wire connections between the upper and lower ends of the said levers, the lower connection being connected with the latch operating device, substantially as specified.

3. The combination with the hinge and latch-posts, a stud extending from the former, a gate hinged on the hinge-post, a latch for the gate, opposite posts, levers intermediately pivoted thereon, wires connecting the upper and lower ends of the levers, of a counterbalancing lever connected at its front end to the gate and provided with an intermediate elongated perforation engaging with the stud beyond which it is provided with a weight, an arm extending from the lever in rear of the stud, a latch operating device carried by the arm and connections between the same and the latch and the lower wire connection, substantially as specified.

4. The combination with the hinge and latch-posts, the gate hinged to the former, a rounded cap arranged on said hinge-post and provided with a vertical threaded stud having a pair of washers and a superimposed nut, of a stirrup loosely connected to the gate near its free end, a lever connected to the stirrup and extending rearward beyond the post, and pro-

vided with a series of elongated openings for
engaging the stud between the washers, a
weight at the rear end of said lever, an arm
laterally extending therefrom, a latch oper-
5 ating device carried by the arm, a latch ar-
ranged upon the gate connections between the
same and its operating device, opposite posts,
intermediately pivoted levers carried thereby,
wires connecting the upper and lower ends of

the levers, and a connection between the lower 10
wire and the latch operating device, substan-
tially as specified.

In testimony whereof I affix my signature
in presence of two witnesses.

GOODLOE C. TWYMAN.

Witnesses:

GEO. R. GORIN,
J. M. WARD.