

GATE.

Patented Feb. 4, 1913.

2 SHEETS—SHEET 1.

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APPLICATION FILED OCT. 7, 1911.

1,051,964.

Patented Feb. 4, 1913.

2 SHEETS-SHEET 2.

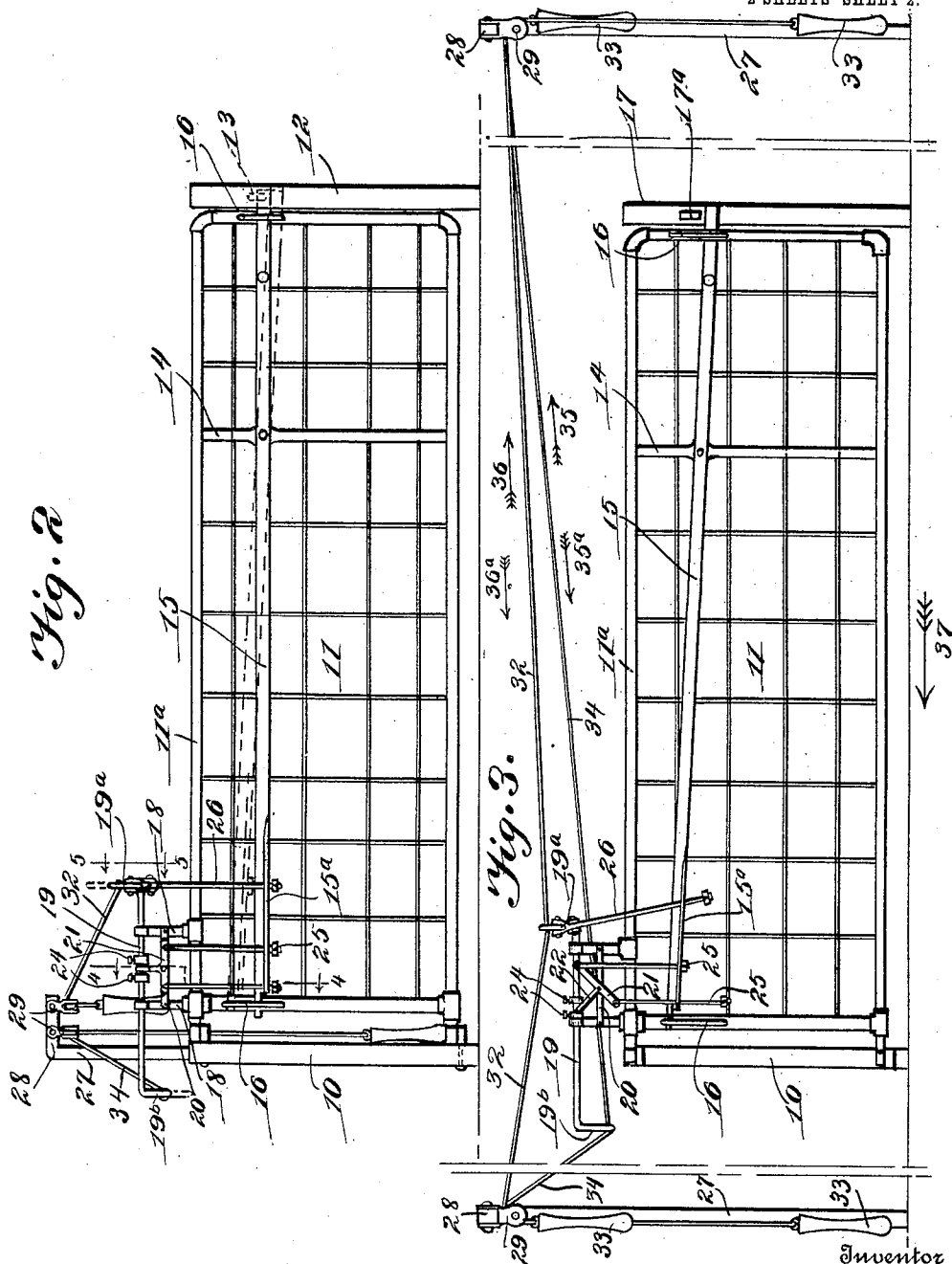


Fig. 2

Fig. 3

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GATE.

1,051,964.

Specification of Letters Patent.

Patented Feb. 4, 1913.

Application filed October 7, 1911. Serial No. 653,449.

To all whom it may concern:

Be it known that I, LEWIS MARTIN, a citizen of the United States, residing at Roseland, in the county of Henry and State of Missouri, have invented certain new and useful Improvements in 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 new and useful improvements in gates, and is designed as an improvement over my application filed August 1, 1911, Serial No. 641,771.

It is, therefore, the object of the present invention to provide a gate which may be opened from the vehicle, in such a manner that said gate will be locked in an open position, and may readily be released from this position and closed after the vehicle has passed through said gate.

Among the other objects of this invention is the construction of a gate of this type which will be operable for opening and closing on both sides of said gate, thereby increasing the adaptability and practical use to which this invention can be applied.

With the above and other objects in view, this invention consists in the construction, combination and arrangement of parts, all as hereinafter more particularly described, claimed and illustrated in the accompanying drawings, wherein:

Figure 1 is a top plan view of a gate constructed in accordance with the present invention, shown in dotted lines in open position; Fig. 2 is an elevation of a gate in a closed position; Fig. 3 is a similar view illustrating the gate in an open position, the locking means thereof being released; Fig. 4 is a vertical section taken along lines 4—4 of Fig. 2; Fig. 5 is a similar view taken in the direction indicated by lines 5—5 of Fig. 2; and Fig. 6 is a perspective view of a stop operable in connection with the actuating bell crank.

The gate forming the subject matter of the present invention comprises a gate of any suitable construction hinged between two suitable posts, having pivotally mounted thereon a lever which constitutes a catch or fulcrum, the pivotal point of said lever being located adjacent to the non-hinged terminal of the gate. A pair of bearings are mounted on the upper side of the gate adjacent to the hinge thereof, and have rotatably and reciprocally mounted therein a bell crank

actuating member, said bell crank being offset and the terminals thereof extended in opposite directions. A transverse bar is interposed between these bearings and has a rocker arm pivotally mounted thereon, said rocker arm being provided with a normally vertical actuating bar, the upper terminal of which is bifurcated and spans the central portion of the bell crank actuating member, said bifurcated terminal operating between two set collars secured rigidly to the body of the said bell crank actuating member. The terminals of the rocker arm have pivotally connected thereto a plurality of dependent links, the lower terminals of which are mounted for reciprocation in the inner terminal of the lever heretofore referred to. One of the terminals of the bell crank actuating member is connected to the lever aforesaid by a dependent link which is mounted for reciprocation in said lever. A plurality of actuating cables are connected to the terminals of said bell crank actuating member in order that the same may be moved, as will hereinafter be more fully described, to release the same when the gate is locked in a closed or open position.

Reference being had more particularly to the drawings, 10 indicates a hinge post, to which a gate 11 of any suitable construction is hinged, said gate coöperating at its free terminal with the latch post 12 carrying the latch 13. The upper and lower sides of the gate 11 have interposed therebetween a vertical bar or supporting member 14, said bar being located adjacent to the free terminal of the gate 11. A lever 15 is pivotally mounted upon said bar adjacent to the upper side of the gate, said pivotal point constituting a fulcrum for the lever, the terminals of the lever 15 operating in the guide 16 carried on the vertical terminals of the gate. A latch post 17 is mounted in right angular alinement with the hinge post 10, and provides a means whereby the gate may be locked in an open position, as will hereinafter be more fully described.

Mounted on the upper horizontal side 11^a of the gate 11, and adjacent to the hinge thereof, are a pair of bearings 18, in which is rotatably and slidably mounted the body portion 19 of the bell crank lever actuating member, a terminal 19^b thereof extending toward the latch post 17 at right angles to the body portion 19, while the opposite terminals 19^a extend in an opposite direction, likewise at right angles to the body

portion 19. A bar 20 is interposed between the bearings 18 and has pivotally mounted thereon a rocker arm or lever 21, said rocker arm or lever carrying a vertical actuating member 22, the upper terminal of which is bifurcated as at 23 to span and engage the body portion 19 of the bell crank actuating link. This bifurcated terminal of the normally vertical actuating arm 22 of the rocker arm 21 operates between the set collars 24 mounted upon the body portion 19 between the bearings 18. The inner terminal of the lever 15 is provided with a horizontal portion 15^a which is in direct vertical alinement with the bearings 18, and is connected with the terminals of the rocker arm 21 by the links 25; the lower terminals of which are mounted for reciprocation in the horizontal portion 15^a of the lever 15. A link 26 connects the arm 19^a to the horizontal portion 15^a of the lever 15, said link being connected to the lever to reciprocate therethrough and be provided with a certain play.

In order to provide a means whereby the arm 19^a may be retained in a normally elevated position and at the proper angle, a U-shaped stop 30 spans the arm 19^a, and is pivotally connected to the link 26 by a bolt or rivet passing through the orificed terminals of the arms 30^a of the said stop. A transverse bar 31 is interposed between the arms 30^a adjacent to the terminals thereof, and provide a means for retaining said stop in its proper position and limiting the movement of the arm 19^a. The free or outer terminal of the lever 15 coöperates with the latch 13 of the post 12 and the latch 17^a of the post 17 for locking the gate closed and open respectively.

In order to provide a means whereby the actuating member 19 may be operated, a post 27 is mounted at any suitable distance on each side of the hinged post 10 and in direct right angular alinement therewith. These posts carry the horizontal arms 28 at their upper terminals, upon each one of which is mounted a pair of pulleys 29. A flexible cable or rope 32 is connected to the free terminal of the arm 19^a and extend over the alined pulleys 29 of the posts 27, and is provided with arms 33 at their terminals. A similar rope 34 is secured to the arm 19^b and extends on each side thereof and operates over the arms and pulleys 29, and is provided with similar handles 33 at the free terminals thereof, said handles adapted to operate in a vertical plane.

Assuming that the gate is in a closed position, and that a pull is exerted upon the terminal of the rope 32, it will be clearly understood that the lever 19^a will operate upwardly, thereby lifting the terminal of the lever 15 adjacent to the post in a similar direction, and lowering the opposite ter-

minal thereof, thereby releasing the gate previous to any movement thereof. By a continued pull, the gate will swing about its pivotal point or hinge, and bring the operable end of the lever into engagement with the catch 17^a mounted on the post 17, locking the gate in an open position and permitting the vehicle to pass therethrough. When the gate is in a position as illustrated in Fig. 2, and the vehicle has passed through in the direction of the arrow 37, a pull may be exerted upon the rope or flexible member 34 in the direction of the arrow 35^a, thus causing the member 19 to move in the direction of the arrow 35^a, raising one of the links 25, thereby releasing the catch 36, raising one of the links 25 and lowering the operable end of the lever 15, disengaging the same from the catch 17^a, and permitting the gate to swing to its closed position. As soon as the gate is closed, it will clearly be understood that by exerting a continuous pull on one wire depending on the direction in which the gate is approached, the gate will be opened and locked in an open position, while exerting a similar pull on the opposite terminal of the same wire, the same will be unlocked from its open position and locked in its closed position, as will be seen in the drawings.

Having thus fully described my invention, what I claim as new and desire to secure by U. S. Letters Patent, is:

1. The combination with a gate, of a latch post coöperating therewith, of a lever pivotally mounted on said gate, adapted to engage said latch post, an actuating bar mounted on the hinged terminal of said gate, and means whereby said actuating bar may raise the adjoining terminal of the said lever upon the reciprocation or rotation thereof.

2. The combination with a gate, of a latch post coöperating therewith, of a lever pivotally mounted on said gate, adapted to engage said latch post, an actuating bar mounted on the hinged terminal of said gate, and means connecting said actuating bar to said lever, whereby the terminal thereof adjacent to the support of said gate may be raised upon the reciprocation or rotation of said actuating bar and the opposite end be lowered.

3. The combination with a gate, of a latch post coöperatively arranged adjacent to the swinging terminal thereof, a latch lever pivoted upon said gate, a secondary latch post located in a plane at right angles to the plane of the gate when closed, adapted to coöperate with the lever and lock the gate in an open position, a shaft reciprocatingly and rotatably mounted upon said gate, and means whereby said latch lever may be operated to release said gate upon either the reciprocation or rotation of said shaft.

4. The combination with a gate, of a latch post coöperatively arranged adjacent to the swinging terminal thereof, a latch lever pivoted upon said gate, a secondary latch post located in a plane at right angles to the plane of the gate when closed, adapted to coöperate with the lever and lock the gate in an open position, a bell-crank lever mounted for reciprocation and rotation upon said gate, a portion thereof constituting a shaft, and connections between the terminal of said bell-crank lever and said latch lever for the operation of the latter upon the reciprocation or rotation of the bell-crank lever aforesaid.

5. The combination with a gate, of a latch post coöperatively arranged adjacent to the swinging terminal thereof, a latch lever pivoted upon said gate, a secondary latch post located in a plane at right angles to the plane of the gate when closed, adapted to coöperate with the lever and lock the gate in an open position, bearings mounted on said gate, a shaft mounted for rotation and reciprocation in said bearings, arms extending from the ends of said shaft, and connections between said shaft and latch lever for the operation of the latter as said shaft reciprocates or rotates.

6. The combination with a gate, of a latch post coöperatively arranged adjacent to the swinging terminal thereof, a latch lever pivoted upon said gate, a secondary latch post located in a plane at right angles to the plane of the gate when closed, adapted to coöperate with the lever and lock the gate in an open position, bearings mounted on said gate, a shaft mounted for rotation and reciprocation in said bearings, arms extending from the ends of said shaft, in opposite directions, a link connecting one arm with the latch lever, and additional means for connecting said shaft to said lever.

7. The combination with a gate, of a latch post coöperatively arranged adjacent to the swinging terminal thereof, a latch lever pivoted upon said gate, a secondary latch post located in a plane at right angles to the plane of the gate when closed, adapted to coöperate with the lever and lock the gate in an open position, bearings mounted on said shaft, a shaft mounted for rotation and reciprocation in said bearings, arms extending from the ends of said shaft in opposite directions, a link connecting one arm with the latch lever, a rocker bar mounted between said bearings, a connection between said shaft and said bar to oscillate the latter upon the reciprocation of said shaft, and connections between said rocker bar and the latch lever to operate the latter as the shaft aforesaid reciprocates.

8. The combination with a gate, of a latch

post coöperatively arranged adjacent to the swinging terminal thereof, a latch lever pivoted upon said gate, a secondary latch post located in a plane at right angles to the plane of the gate when closed, adapted to coöperate with the lever and lock the gate in an open position, bearings mounted on said shaft, a shaft mounted for rotation and reciprocation in said bearings, arms extending from the ends of said shaft in opposite directions, a link connecting one arm with the latch lever, a rocker bar mounted between said bearings, a connection between said shaft and said bar to oscillate the latter upon the reciprocation of said shaft, and links connecting the end of said rocker bar and latch lever to operate the latter as said shaft reciprocates.

9. The combination with a gate, of a latch post coöperatively arranged adjacent to the swinging terminal thereof, a latch lever pivoted upon said gate, a secondary latch post located in a plane at right angles to the plane of the gate when closed, adapted to coöperate with the lever and lock the gate in an open position, bearings mounted on said shaft, a shaft mounted for rotation and reciprocation in said bearings, arms extending from the ends of said shaft in opposite directions, a link connecting one arm with the latch lever, a rocker bar mounted between said bearings, a pair of spaced collars mounted in said shaft, a lever secured to said rocker bar and engaging the shaft between said collars, and links connecting the ends of said rocker bar to said latch lever.

10. The combination with a gate, of a latch post coöperatively arranged adjacent to the swinging terminal thereof, a latch lever pivoted upon said gate, a secondary latch post located in a plane at right angles to the plane of the gate when closed, adapted to coöperate with the lever and lock the gate in an open position, bearings mounted on said shaft, a shaft mounted for rotation and reciprocation in said bearings, arms extending from the ends of said shaft in opposite directions, a link connecting one arm with the latch lever, a rocker bar mounted between said bearings, a pair of spaced collars mounted in said shaft, a lever secured to said rocker bar and engaging the shaft between said collars, links connecting the ends of said rocker bar to said latch lever, and means connected to the arm of said shaft for rotating and reciprocating the same.

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

LEWIS MARTIN.

Witnesses:

J. D. YOAKLEY,
CHARLES I. MILNEY.