

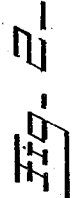
(No Model.)

2 Sheets—Sheet 1.

I. UNGER.
GATE.

No. 553,142.

Patented Jan. 14, 1896.



Witnesses

Dr. J. Koerth.
H. H. Riley

By his Attorneys,

Chenoweth.

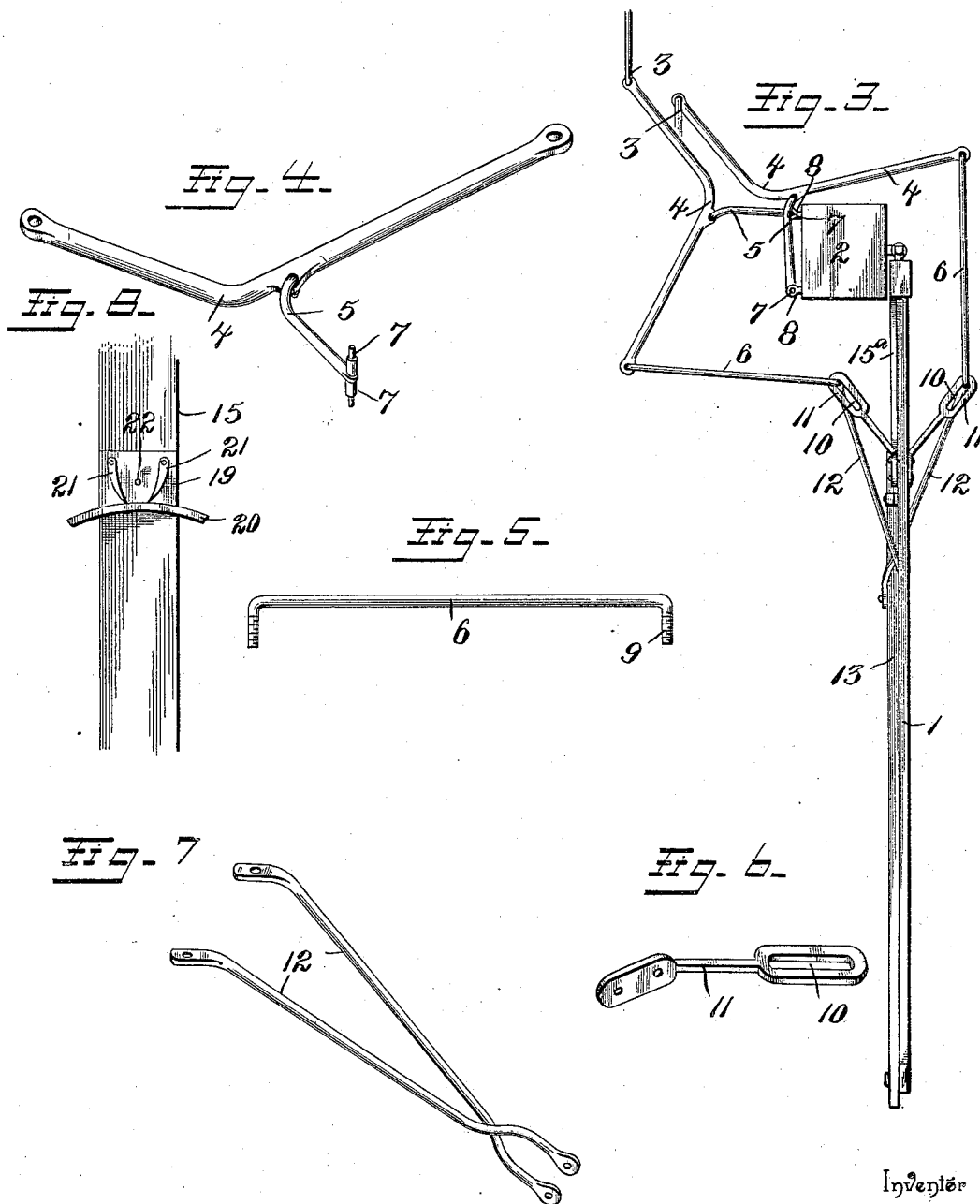
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Inventor
Isaac Unger

Witnesses

H. J. Koerth.
J. F. Riley

By his Attorneys,

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UNITED STATES PATENT OFFICE.

ISAAC UNGER, OF ARCANUM, OHIO.

GATE.

SPECIFICATION forming part of Letters Patent No. 553,142, dated January 14, 1896.

Application filed June 14, 1895. Serial No. 552,815. (No model.)

To all whom it may concern:

Be it known that I, ISAAC UNGER, a citizen of the United States, residing at Arcanum, in the county of Darke and State of Ohio, have invented a new and useful Gate, of which the following is a specification.

The invention relates to improvements in gates.

The object of the present invention is to improve the construction of swinging gates, to enable them to be readily opened in either direction a distance from them, to avoid dismounting or leaving a vehicle, and to be conveniently closed after passing through them, and to provide such operating mechanism as may be readily applied to the ordinary construction of swinging gates in use.

The invention consists in the construction and novel combination and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a side elevation of a gate constructed in accordance with this invention. Fig. 2 is a plan view illustrating the position of the parts when the gate is closed. Fig. 3 is a similar view illustrating the position of the parts when the gate is open. Fig. 4 is a detail view illustrating the construction of the bell-crank levers and the swinging link-bars. Fig. 5 is a detail view of one of the connecting-rods. Fig. 6 is a detail view of one of the diverging arms of the gate. Fig. 7 is a detail view of the latch-rods. Fig. 8 is a detail view illustrating the construction of the keeper.

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

1 designates a gate, hinged to a post 2 and constructed of any suitable material; but the gate is preferably composed of upper and lower horizontal bars, vertical end bars, and intermediate bars, and wires disposed horizontally, vertically, and arranged at an inclination or extending diagonally across the gate to support the bars or framework thereof.

The gate is designed to be operated from a distance at either side of it, and in opening always swings away from the person operating it, and operating-rods 3 or any other suitable connections may be employed and are

designed to be supported in the usual manner at opposite sides of the gate by uprights, (not shown,) as will be readily understood. The inner ends of the operating-rods 11 or other connections are crossed or overlapped, as clearly shown in Figs. 2 and 3 of the accompanying drawings, and are connected to the rear ends of oppositely-disposed bell-crank levers 4, which are fulcrumed near their angles to the outer ends of a pair of link-rods 5, and which have their front arms or portions diverging and connected by rods 6 with opposite sides of the gate. The link-rods 5 are hinged at their inner ends to the rear face of the hinge-post 2, and their outer ends are pivoted to the operating or bell-crank levers.

The inner ends of the link-rods 5 may be hinged by any suitable means to the back of the post 2, but are preferably provided with vertical pintles 7, located adjacent to the opposite rear corners of the post and arranged in eyes 8 thereof. The link-rods, near their outer ends, are bent slightly in order that the fulcrum-points of the bell-crank levers may swing in the opening of the gate sufficiently forward.

The connecting-rods 6 are provided at their ends with pivots or fastening devices, and the pivots 9 at their front ends are arranged in slots 10 of rearwardly-diverging arms 11, secured to opposite faces of the gate, and located at the top thereof. The rearwardly-diverging arms 11 are provided at their front ends with attachment-plates, and their rear portions are enlarged for the purpose of providing the slots 10. The said pivots 9 are capable of a limited movement in the slots of the arms 11, and are connected with latch-rods 12, which slightly diverge rearwardly, and which have their front ends loosely connected with a latch-bar 13 of the gate. The slots of the rearwardly-diverging arms 11 of the gate permit a sufficient movement of the bell-crank levers and the connections, independent of the gate, to permit the latch 13 to be operated, and when either operating rod or rope is moved by the operator the first operation which takes place is a movement of the latch-rods the length of the slots 10 to unlatch the gate, and a continued movement of the bell-crank lever produces a swinging of the gate, and the strain incident to the swinging

of the gate is borne by the arm 11, and is not transmitted to the latch 13.

The diverging latch-rods are crossed above the latch, and are connected at opposite sides thereof by a fastening device, which passes through a slot 14 of the latch, and the latter is normally maintained in engagement with a latch-post 15 by a semicircular spring 15^a, having one end secured to the inner end bar of the gate and its other end attached to the latch-bar 13. The spring is secured at an intermediate point to one of the horizontal wires of the gate, and possesses sufficient strength to actuate the latch, and its efficiency is not materially impaired by the mechanism for opening and closing the gate, as the latch is relieved of strain while the gate is being swung to open or close the same.

A supplemental latch rod or bar 16 is arranged at an inclination on the gate, and has its upper end secured to the latch-bar 13 and its lower end arranged in a guide 17 and projecting beyond the gate and adapted to engage a recess or socket 18 of the latch-post 15. The rod or bar 16 is actuated by the latch-bar 13, and moves upward and inward with the same when the gate is being opened.

The latch-post 15 has mounted on it a plate 19, provided at its bottom with a curved flange 20, projecting from opposite sides of the latch-post, and adapted to receive the latch-bar 13 and guide the same into engagement with pivoted pawls 21. The pawls 21 converge downwardly and are pivoted at their upper ends, their lower ends normally resting upon the upper face of the curved flange 20. The pawls are swung upward and inward by the latch-bar as it moves, and automatically engage the same, and their upward movement is limited by a stop 22, mounted on the plate 19, and located centrally thereof. The inward and upward movement of the latch-bar, when the gate is being opened, readily disengages it from the pawls of the keeper.

It will be seen that the operating mechanism is exceedingly simple and inexpensive in construction, that it possesses great strength and durability, and that it is capable of being readily applied to any ordinary swinging gate, and of enabling the same to be opened or closed without dismounting or leaving a vehicle.

Changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

What I claim is—

1. The combination of a post, a gate hinged thereto and provided with a latch, a pair of horizontally swinging link bars mounted on

the post, and a pair of levers fulcrumed intermediate of their ends on the link rods and connected with opposite sides of the gate, and with a latch, whereby the latter is operated by the levers, substantially as described.

2. The combination of a post, a gate hinged thereto, a pair of oppositely disposed horizontally swinging link bars mounted on the post and crossing each other, and the bell-crank levers fulcrumed intermediate of their ends on the outer ends of the link rods, and having diverging front portions located at opposite sides of the post, and connected with opposite sides of the gate, substantially as described.

3. The combination of a post, a gate hinged to the post and provided with a latch, the diverging arms arranged at opposite sides of the gate and provided with slots, the link rods crossing each other in rear of the post and hinged to the same, the opposite bell-crank levers fulcrumed intermediate of their ends on the link rods, the connecting rods extending from the front ends of the levers and connected with the arms of the gate, and having a sliding movement in the slots thereof, connections between the connecting rods and the latch of the gate, and means for operating the levers at a distance from the gate, substantially as described.

4. The combination of a post, a gate hinged to the same, and provided with a latch bar, a spring for holding the latch bar normally in its locked position, the rearwardly diverging arms mounted on the gate and provided with slots, the crossed link rods hinged to the back of the post, the bell-crank levers fulcrumed intermediate of their ends on the link rods, connecting rods extending from the front ends of the levers to the diverging arms of the gate and having a sliding movement in the slots thereof, and the latch rods loosely connected with the latch and attached to the connecting rods, substantially as described.

5. The combination of a latch post, a swinging gate, a horizontally disposed latch bar slidably mounted on the gate and capable of a limited upward and downward movement and arranged to engage the latch post, and an inclined latch bar arranged in a suitable guide of the gate and having its upper end secured to the horizontally disposed latch bar and moving therewith, the lower end of the inclined latch bar being arranged to engage the latch post, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ISAAC UNGER.

Witnesses:

J. E. FYE,
KIRK HOFFMAN.