(No Model.)

A. & S. A. DIFFENDERFER.

GATE.

No. 509,516. Patented Nov. 28, 1893.

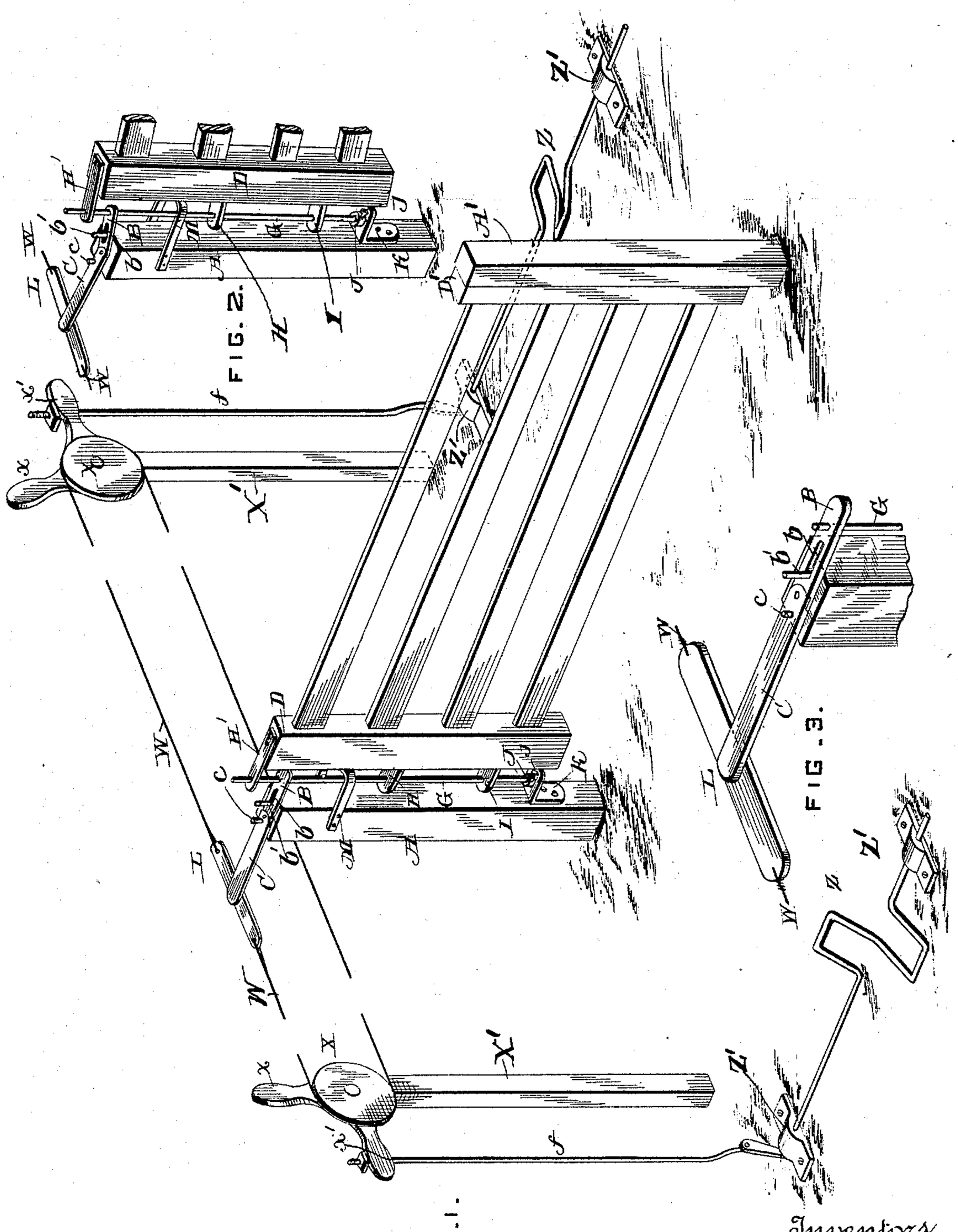

FIG. 2.

FIG. 3.

FIG. 1.

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GATE.

SPECIFICATION forming part of Letters Patent No. 509,516, dated November 28, 1893.

Application filed May 25, 1893. Serial No. 475,478. (No model.)

To all whom it may concern:

Be it known that we, AARON DIFFENDERFER and STEPHEN A. DIFFENDERFER, citizens of the United States, residing at Allensville, in the county of Mifflin and State of Pennsylvania, have invented certain new and useful Improvements in Gates; and we 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.

The invention relates to an improvement in gates, and has for its object to provide a simple, cheap, and effective device which may be opened either by hand or by a vehicle.

To this end it consists of the construction and arrangement of the parts, as will be hereinafter fully explained and claimed.

In the drawings: Figure 1 is a perspective view of the gate in a closed position. Fig. 2 is a similar view showing a part of the mechanism and gate, the latter being partially open. Fig. 3 is a detail on a larger scale.

Similar letters of reference are employed to indicate corresponding parts in the several figures of the drawings.

Referring to the drawings, A designates a stationary hinge post, provided near its lower end with an angular hinge-plate K. Near the top of said post is stationarily secured a loop M, which consists of a semi-circular band of metal or other suitable material, the ends of which are secured on opposite sides of the post, the looped body of the same standing out from the post. On the top of the said post A, near its center is secured a lever C, by a pin *c*, one end of the said lever C, projecting a suitable distance backwardly beyond the post A.

Pivoted or hinged to the inner end of the lever C, is the lever-plate B, having a slot *b*, through which a pin *b'* passes and enters the top of the post A, thus holding the lever-plate B in place thereon. The free end of the plate B, is provided with a small perforation, the purpose of which will be explained hereinafter.

To the free end of the lever C, is secured at right angles thereto, a hand or operating lever L, and to each end of the latter is attached a wire W, said wires passing around wheel levers X, pivoted to posts X', located at some distance from, and on opposite sides of, the hinge post A. The levers X are provided with arms or handles *x* and *x'*, the arm *x* in each instance being used as a hand pull. To each of the handles *x'* is secured a vertically disposed rod *f*, which extends downwardly, and is connected to a horizontally disposed double crank rod Z, mounted in bearing-plates Z' and located on the ground in convenient position to be engaged by vehicle wheels to open and close the gate. An ordinary latch-post A' is also located at the opposite end of the gate with which a front stile D of the said gate engages. The stile D has secured near the lower end thereof, a hinge-plate I, a duplicate of which is located higher up on the gate as at H, but not as high up as the loop M. On the top of the stile D is secured the hinge-plate H'. Passing through the loop M, hinge-plate K, the perforation in the end of the slotted lever B, and the plates I, H, and H', on the post is the hinge rod G. This rod G has near its lower end and below the lower hinge-plate I, a sliding collar J, which is retained at any desired place by a set screw *j*. As the hinge-rod passes through the plate K, loop M, and slotted lever B, and through the plates H, and H', and I, it will be seen that the gate is now swung to the post ready for use.

The operation of the gate is as follows: When the gate is shut, the parts occupy the positions shown in Fig. 1. If it is desired to swing the gate in toward you, you pull on the handle of the operating wheel X which is nearer to you. This pull throws the inner end of lever C, away from you, and consequently, the inner end of the slotted lever B, in toward you, by virtue of the slot in said plate. This throws the top of the gate outside of its center of gravity, and causes the gate to swing inwardly. To cause the gate to open outwardly, you simply reverse the operation. When in a carriage, to cause the gate to open, you drive the wheel over the crank which stands elevated, thereby depressing said crank and operating the mechanism to open the gate. After the vehicle has passed through the gate, the oppositely situated crank, which is now in elevated position is

engaged by one of the wheels of the vehicle and the mechanism is operated to close the gate. This operation is accomplished through the agency of the wheel lever X, and wires W, and the pivoted and slotted levers C and B, which are caused to operate and throw the upper part of the gate off its center, to open or close it. This mechanism can be used on a double gate as well as a single gate, and when a double gate is used, the parts will be duplicated.

Having thus described our invention, what we claim is—

1. In a swinging gate, the combination with a stile provided with suitable hinge-plates, and a hinge-rod, of a stationary post having secured on its top a pair of pivoted levers secured together at their inner ends, one of said levers encircling the said hinge rod, and means for operating said levers, substantially as shown and described.

2. The combination with stationary post A, having hinged plate K, loop M, and pivoted jointed lever plates B, and C, of the stile D, provided with hinge plates H, H′ and I, and hinge-rod G, substantially as shown and described.

3. The combination with the stationary post A, provided on its top with the lever C, and slotted plate B, united at their ends, and pivoted to the post A, of lever L, secured to the lever C, at right angles thereto, the stile D, having the hinged plates H, H′ and I, hinge-rod G, and means for operating the lever L, substantially as shown and described.

4. The combination with the stile D, having hinge-plates H, H′ and I, and hinge-rod G, of stationary post having hinged plate K, loop M, lever plates B and C, secured thereto, lever L, wires W, secured to the ends of lever L, and passing round wheel lever X, said lever X being provided with arms x, x', substantially as shown and described.

5. The combination with stile D, having hinge-plates H, H′ and I, and hinge-rod G, of the stationary post A, provided with suitable hinge-plates, and having the pivoted lever C, and slotted lever B secured on top thereof, lever L secured to lever C, wires W running to and around wheel lever X, provided with arms x and x', rod f and double crank-rod Z, substantially as shown and described.

6. The combination with stile D, having hinge-plates H, H′ and I, and hinge-rod G, provided with the collar J, secured in place by set-screw j, of the stationary post A, provided with suitable hinge-plates, and having secured to its top the pivoted united plate levers B and C, said lever B having elongated slot b, operating lever L, and means for operating the same, substantially as shown and described.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

AARON DIFFENDERFER.
S. A. DIFFENDERFER.

Witnesses:
JOHN A. WEBB,
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