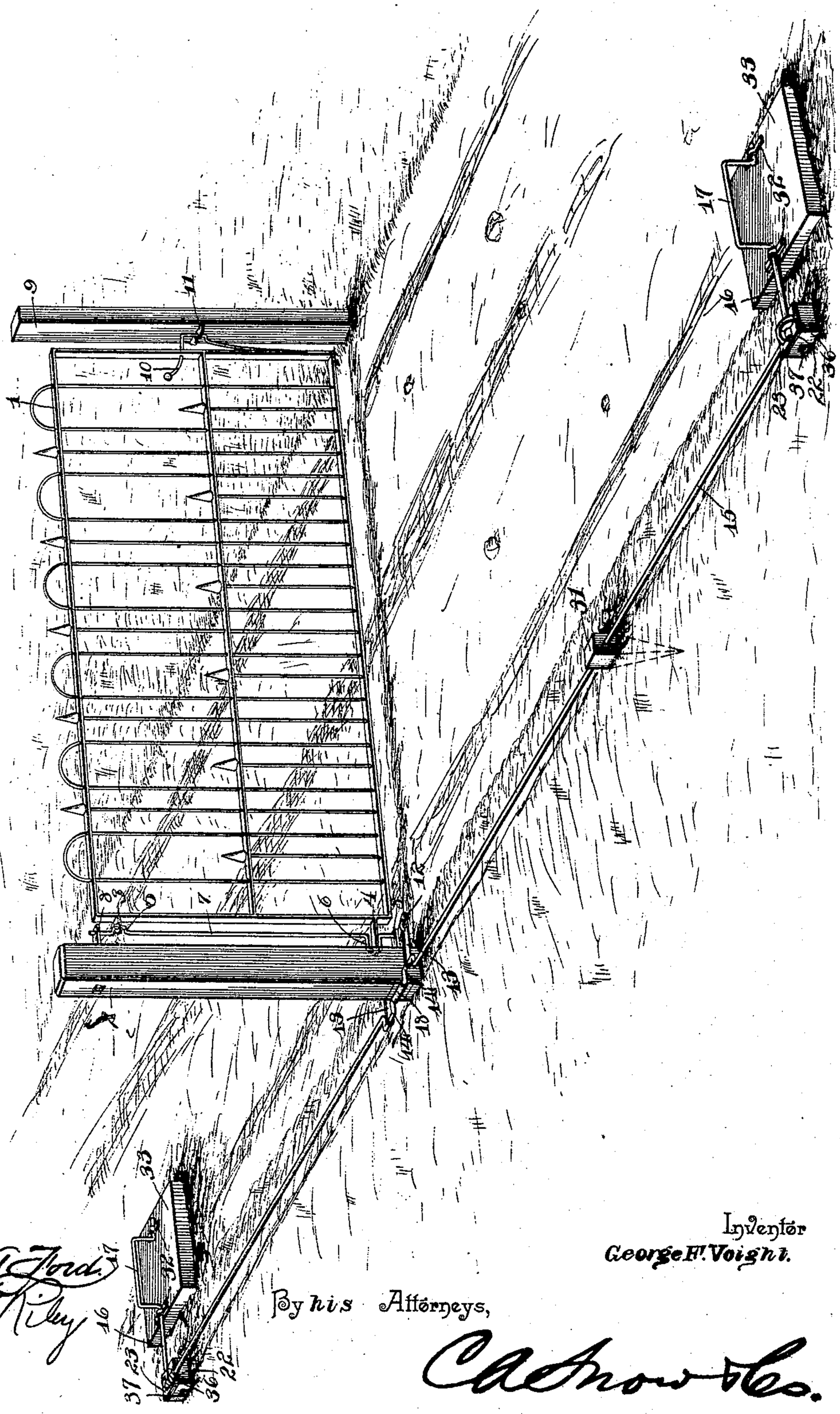
(No Model.) 2 Sheets—Sheet 1.

G. F. VOIGHT.

SWINGING GATE.

No. 501,813. Patented July 18, 1893.

Fig. 1.



Witnesses

Chas. G. Ford.

N. C. Riley

Inventor

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By his Attorneys,

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

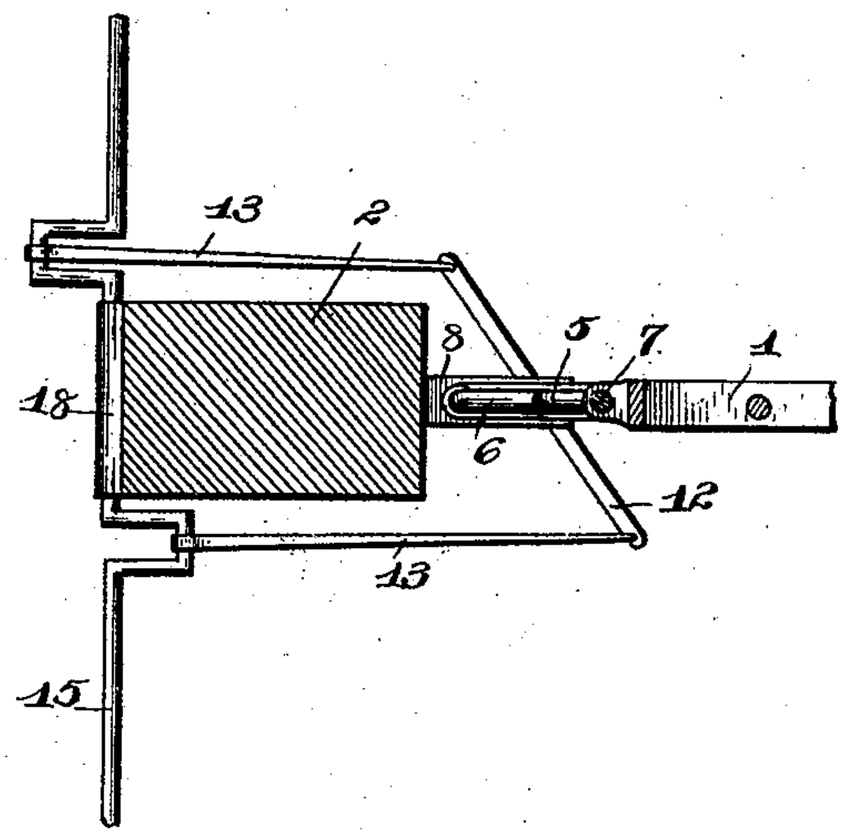


Fig. 3.

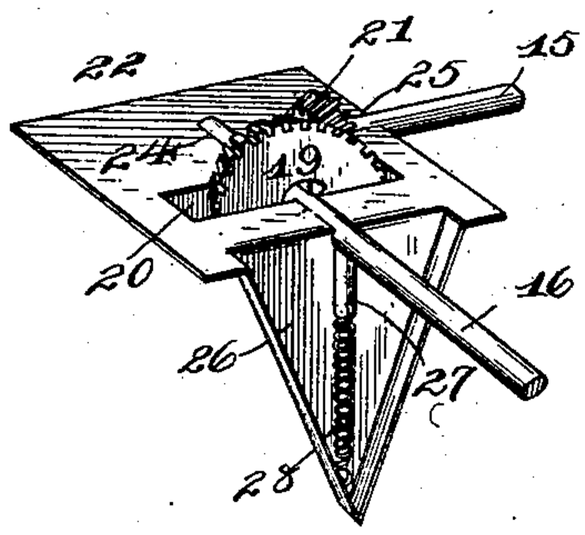


Fig. 4.

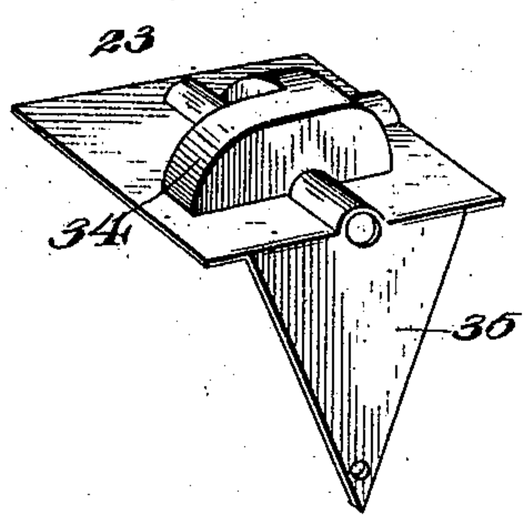
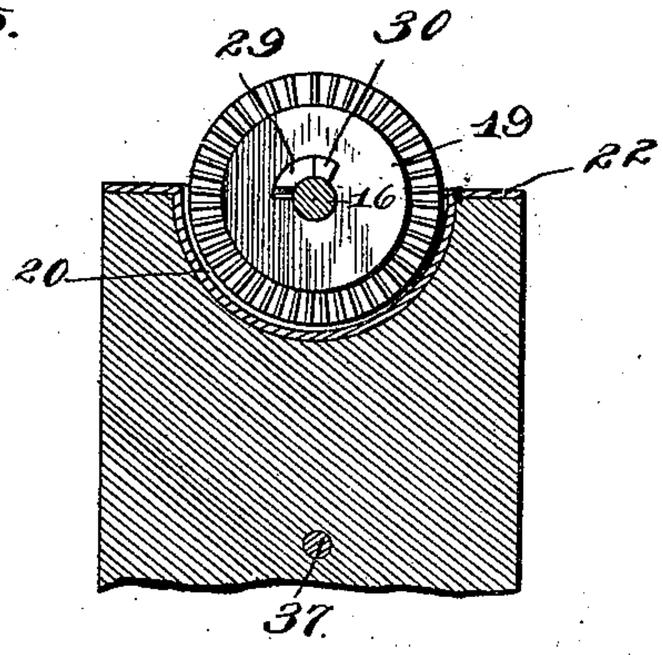


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE FRITZ VOIGHT, OF LOWER LAKE, CALIFORNIA.

SWINGING GATE.

SPECIFICATION forming part of Letters Patent No. 501,813, dated July 18, 1893.

Application filed September 7, 1892. Serial No. 445,233. (No model.)

To all whom it may concern:

Be it known that I, GEORGE FRITZ VOIGHT, a citizen of the United States, residing at Lower Lake, in the county of Lake and State of California, have invented a new and useful Swinging Gate, of which the following is a specification.

The invention relates to improvements in swinging gates.

The object of the present invention is to provide a swinging gate which may be readily opened and closed by the wheel of a vehicle, and which will be positive and reliable in its operation, and which will not accidentally close after being opened.

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 perspective view of a gate constructed in accordance with this invention. Fig. 2 is a horizontal sectional view. Fig. 3 is a detail perspective view of one of the gearing casings, the cap of the casing being removed to show the gearing. Fig. 4 is a detail perspective view of the cap. Fig. 5 is a detail sectional view illustrating the manner of connecting the beveled gear wheel with the operating shaft.

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

1 designates a swinging gate provided at its inner end adjacent to a hinge post 2 with eyes 3 and 4, which receive crank bends 5 and 6 of a pintle rod 7 arranged in horizontal bearing plates 8 of the hinge post. The upper crank bend 5 of the pintle rod is shorter than the lower one, and when the gate is closed it extends in the direction of a latch post 9, while the lower and longer crank bend 6 extends rearward from the gate in the direction of the hinge post 2. The hinging of the gate is such that when the pintle rod 7 is turned, the front end of the gate will be lifted, thereby disengaging a latch 10 from a keeper 11 and causing the gate to swing open by its own weight; and a reverse movement of the pintle rod causes the gate to close.

The pintle rod is provided at its lower end with a cross-bar 12 which is rigidly fixed to the pintle rod and forms oppositely disposed arms, and is connected at its ends by rods 13 with oppositely disposed crank bends 14 of a main shaft 15 which extends along the roadway to suitable distances on opposite sides of the gate, and has its ends geared with counter operating shafts 16 provided with rectangular bends 17 adapted to be engaged by a wheel of a vehicle to turn the operating shaft and, by means of the main shaft partially to rotate the pintle rod. The main shaft is journaled intermediately in a bearing plate 18 of the hinge post and the crank bends 14 are arranged on opposite sides of the post, and are of such length that a half rotation of the main shaft will produce a quarter turn of the pintle rod, and thereby open or close the gate. The connecting bars 13 are of the same length and when the gate is either open or closed the crank bends 14 are horizontally disposed, and are thus on a dead center which will prevent any accidental movement of the gate, and when the parts are in this position the cross-bar 12 which is centrally secured to the lower end of the pintle rod is arranged at an angle to the roadway.

The gearing which connects the operating shaft 16 with the adjacent end of the main shaft consists of a beveled gear wheel 19 mounted on the operating shaft 16 and disposed in a recess 20 of the bearing casing, and a beveled pinion 21 which is mounted on the end of the main shaft and is one half the size of the beveled gear wheel 19, whereby one quarter rotation of the operating shaft 16 will produce a half rotation of the main shaft and serve to open or close the gate.

The gearing casing 22 has a cap 23 and is provided with main and operating shaft bearings 24 and 25 and has the recess 20 which is L-shaped and receives the beveled gear wheel in one arm or branch, and the pinion in the other. The body of the gearing casing 22 is provided at one side with a depending triangular extension 26, and in a recess therein is arranged an arm 27 which has attached to it one end of a spring 28 secured at its other end to the lower end of the extension. This serves to maintain the rectangular bend of the operating shaft normally in a vertical po-

sition, whereby the bend 17 may be readily depressed by a vehicle wheel to give a quarter revolution to the operating shaft; and after the rectangular bend 17 has been so depressed it will when released be returned to its vertical position by the spiral spring 28.

The beveled gear wheel 19 which is mounted on the operating shaft is provided with a segmental slot or opening 29 in which is arranged a lug 30 of the operating shaft, and the opening 29 is of sufficient length to permit the operating shaft to make a quarter turn without operating the beveled gear wheel. When the gate is closed, the slots or openings 29 are so arranged that a movement of the crank or rectangular bend 17 of the operating shaft away from the gate would only move the lug through the opening 29 and not actuate the main shaft, but a movement toward the gate of the rectangular bend 17, which would be occasioned by a vehicle approaching the gate, would actuate the main shaft and open the gate. This operation which is caused by depressing one of the rectangular bends would not effect the other operating shaft, but, would leave the same in a vertical position and produce a quarter turn or revolution of the adjacent beveled gear 19 and change the position of the opening 29 with relation to the lug 30, whereby a vehicle after passing through the gate will move the other operating shaft away from the gate and produce an operation of the main shaft to close the gate.

The gate opens against a short post 31 and the operating shafts are journaled in suitable bearings 32 mounted on bases or platforms 33.

The cap 23 of the gearing casing is provided with a cavity or recess 34 which conforms to the configuration of the gearing and the shafts, and completes the bearings for the latter, and it is provided at one side with a depending triangular extension 35 which is arranged contiguous to the extension 26 and forms with it an arm of the casing to receive the spiral spring 28 and the arm 27 of the operating shaft. The gearing casings are mounted on short posts 36 and are secured thereto by bolts 37 which pass through the posts and the lower ends of the triangular extensions.

What I claim is—

1. The combination of a hinge post provided with bearings, a pintle rod journaled in the bearings and provided near its ends with oppositely disposed crank bends, the lower bend being longer than the upper one and disposed rearwardly, a swinging gate provided with eyes receiving the bends, a cross bar fixed to the pintle rod and forming oppositely disposed arms, a main shaft provided with oppositely disposed crank bends arranged on opposite sides of the hinge post and disposed horizontally when the gate is opened or closed, and rods connecting the crank loops of the shaft with the ends of the cross-bar, substantially as described.

2. The combination of a hinge post provided with bearings, a pintle rod journaled in the bearings and provided near its ends with oppositely disposed crank bends, the lower bend being the longer and disposed rearwardly, a swinging gate provided with eyes receiving the bends, a cross-bar fixed to the lower end of the pintle rod and forming oppositely disposed arms, a main shaft provided with oppositely disposed crank bends arranged on opposite sides of the hinge post and connected with the ends of the cross-bar, operating shafts arranged at right angles to the main shaft and provided with rectangular bends, and the gearing connecting the shafts, 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.

GEORGE FRITZ VOIGHT.

Witnesses:

JOE WOOD,

H. W. BREWER.