(No Model.) 2 Sheets—Sheet 1.

D. H. GOOD.

GATE.

No. 554,180. Patented Feb. 4, 1896.

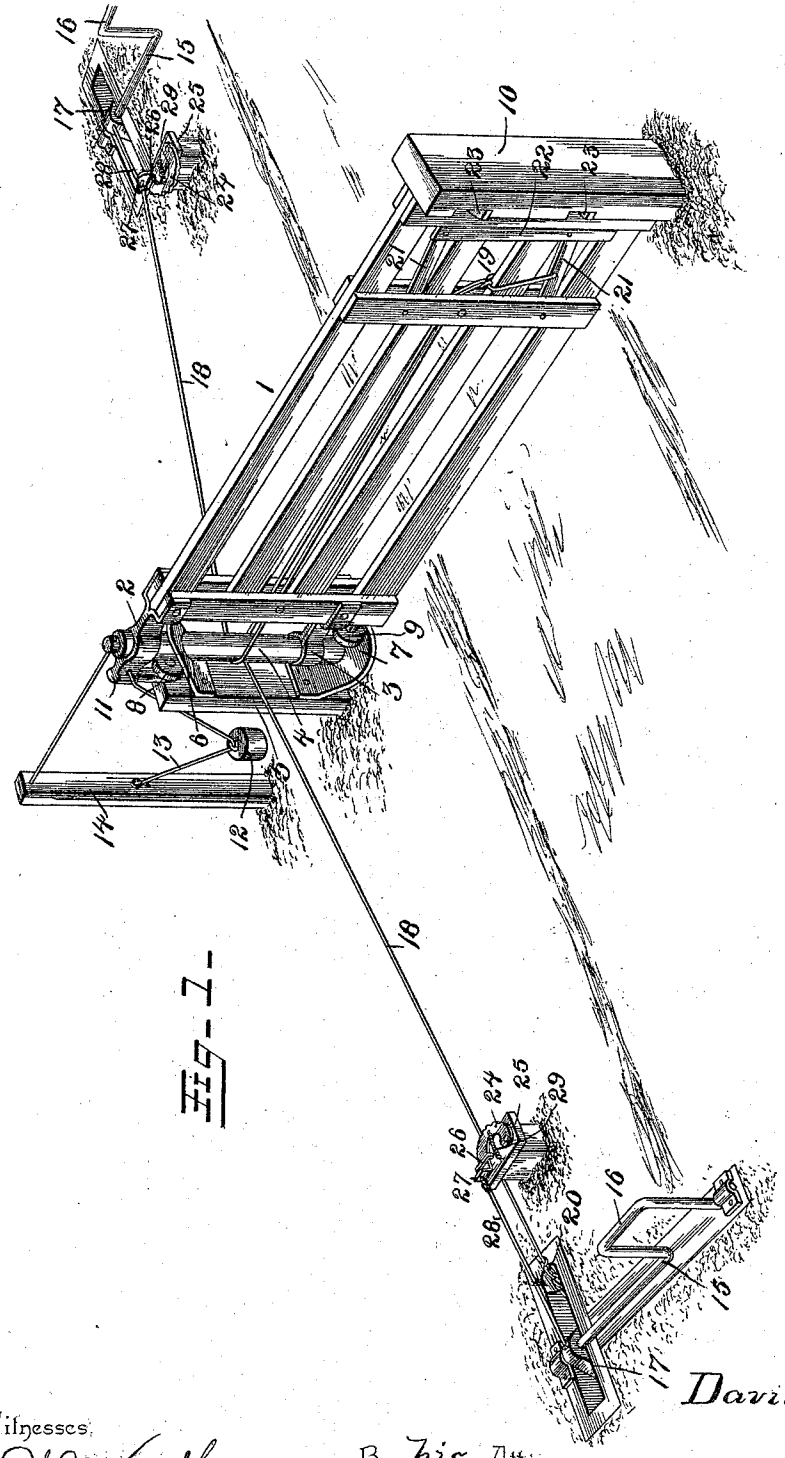

Fig. 1.

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(No Model.)

2 Sheets—Sheet 2.

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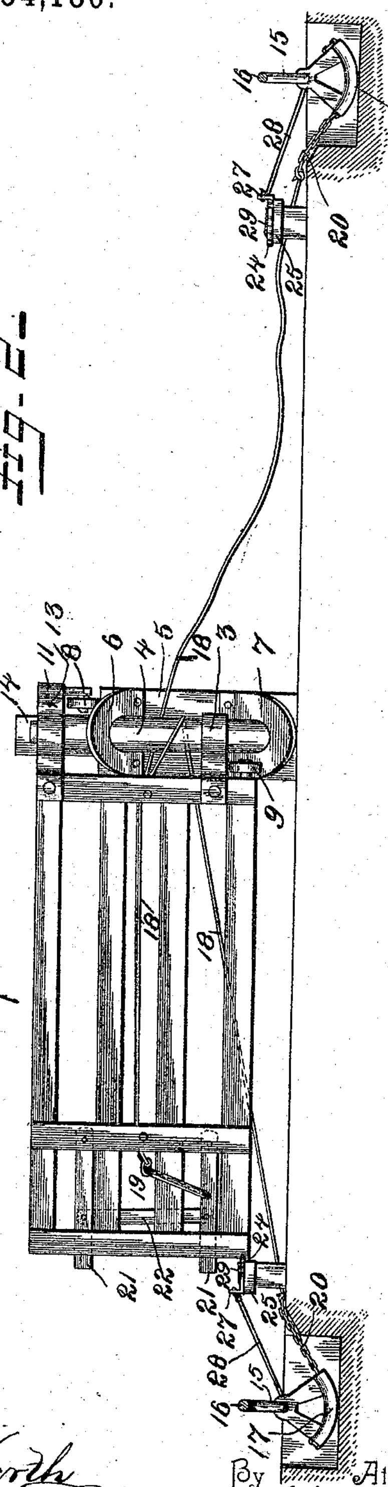

Fig. 2.

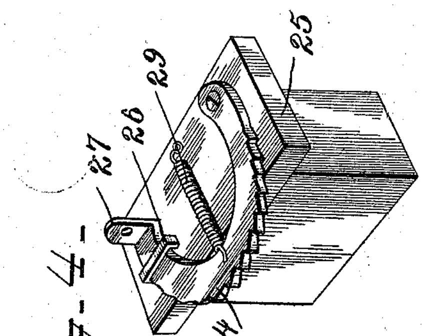

Fig. 4.

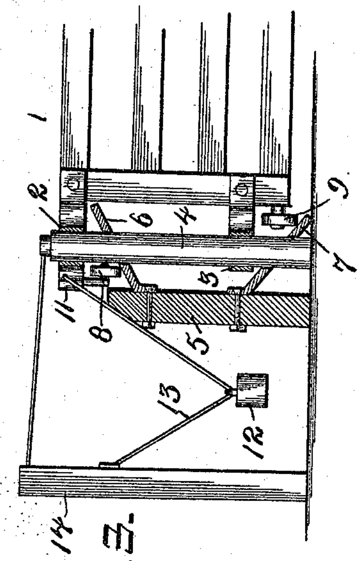

Fig. 3.

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UNITED STATES PATENT OFFICE.

DAVID H. GOOD, OF INDEPENDENCE, KANSAS.

GATE.

SPECIFICATION forming part of Letters Patent No. 554,180, dated February 4, 1896.

Application filed April 30, 1895. Serial No. 547,645. (No model.)

To all whom it may concern:

Be it known that I, DAVID H. GOOD, a citizen of the United States, residing at Independence, in the county of Montgomery and State of Kansas, 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 provide simple and efficient means for enabling a gate to be operated to open and close it by means of the wheels of a vehicle, and to provide an automatically-closing gate which will not be offset at its top or bottom from its pintle and which will be prevented from sagging.

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 and shown closed. Fig. 2 is a side elevation of the same partly in section, the gate being open. Fig. 3 is a vertical sectional view of the hinged end of the gate, the latter being closed. Fig. 4 is an enlarged detail perspective view of one of the supplemental latches for holding the gate in its open position.

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

1 designates a swinging gate of any suitable construction, provided at its rear or inner end with upper and lower eyes, 2 and 3, arranged on a vertical pintle 4 of a hinge-post 5, whereby the gate is hinged to the latter. The vertical pintle 4 is constructed of suitable metal, and is preferably tubular, and is supported in a vertical position by oppositely-inclined flanges or brackets 6 and 7, perforated to receive the pintle, and bolted or otherwise secured to the hinge-post.

The brackets or plates 6 and 7 form tracks or ways for upper and lower rollers, 8 and 9, located respectively in rear and in advance of the vertical pintle when the gate is in a closed position. The upper bracket or flange, 6, inclines upward and forward from the hinge-post, and the lower one inclines downward and forward, and when the gate is opened the rollers ascend the inclines and lift the gate, causing it to clear mud obstructions and the like. When the gate is free to close, it swings in the direction of the latch-post 10 automatically through gravity, the rollers descending the inclined tracks.

The upper roller, 8, is mounted on a journal of an L-shaped arm or extension 11 of the upper eye of the gate, and the lower roller is mounted on a suitable journal and is interposed between the back of the gate and the pintle.

The gate is prevented from sagging by a weight 12 on a rope or chain 13, extending from an upright 14 to the upper eye, 2, and secured to the arm 11 thereof. This weight also assists the closing of the gate, and it accelerates its return movement.

The operation of the gate is effected by transverse rock-shafts 15, located a suitable distance from the gate, and provided with crank-bends 16 arranged to be engaged by the wheels of vehicles and adapted to be swung either to or from the gate, according to the direction in which the vehicle is traveling. The rock-shafts are provided with depending quadrant or sector shaped arms 17, adapted to maintain the crank-bends 16 normally in a vertical position, and connected with oppositely-arranged operating-ropes 18, which pass around the pintle and are connected with a gate-latch 19. The operating-ropes by passing around the pintle are adapted to open the gate away from the operator, and their outer terminals are connected with chains 20, arranged on the peripheries of the sector-shaped arms of the rock-shafts, but any other desired construction of connections may be employed.

The gate-latch 19 is composed of upper and lower latch-bars 21, connected by a vertical bar 22 and pivoted at their inner ends to the gate, and having their outer ends projecting from the latter and arranged to engage upper and lower keepers 23 of the latch-post 10. The lower latch-bar 21 is connected by a link with the adjacent terminals of the operating ropes or connections which extend to the rock-shafts.

The gate may be opened in either direction, and a pair of supplemental spring-actuated catches 24 are located at opposite sides of the gate, preferably adjacent to the rock-shafts, to engage the free edge of the gate to lock the latter open. Each supplemental catch consists of a curved bar pivoted at its outer end to a support 25 and arranged in a horizontal position, and having a notched or serrated periphery for engaging the gate. The other end of the curved bar is arranged in a guide 26, and is provided with a lug 27, which is connected by a cord, wire or chain 28 with the arm of the rock-shaft, and the latter, when swung away from the gate, withdraws the catch 24 from engagement with the gate against the action of the spring 29 and permits the gate to close automatically. The spring 29 may be of any suitable form, and it is connected with the curved catch and is adapted to hold the same in engagement with the gate. As soon as the rock-shafts have been operated and are free to return to a vertical position, their sector-shaped arms operate as weights to raise the crank-bends.

It will be seen that the gate is simple and comparatively inexpensive in construction, that it is capable of being readily operated by the wheels of vehicles, and that it is adapted to close automatically when free to do so. It will also be apparent that it is prevented from sagging and that in making it capable of automatic closing neither the top nor bottom is unequally offset from the pintle or hinge-post to effect such automatic closing. Furthermore, it will be apparent that the gate in opening and rising is adapted to swing clear of mud, snow, or other obstruction, and that it cannot drag on the ground.

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, oppositely-inclined tracks projecting from the post, and upper and lower rollers carried by the gate and arranged on said tracks, and located at opposite sides of the point of hinging, whereby the gate is raised and lowered in opening and closing, substantially as described.

2. The combination of a post, provided with upper and lower tracks, the upper track inclining upward and forward, and the lower track inclining downward and forward, a gate hinged to the post, and upper and lower rollers carried by the gate and arranged on the tracks and located respectively in rear and in advance of the point of hinging, substantially as described.

3. The combination of a post, the upper and lower oppositely-inclined brackets or flanges forming ways or tracks, and provided with perforations, a vertical pintle mounted in the perforations of the flanges or brackets, a gate provided with upper and lower eyes arranged on the pintle and capable of a limited vertical movement, upper and lower rollers carried by the gate and located respectively in rear and in advance of the pintle, and a weight connected with the upper eye of the gate, and adapted to counteract sagging and to assist the gate in closing, substantially as described.

4. The combination of a swinging gate, transverse rock-shafts provided with crank-bends and having depending sector-shaped arms, connections between the sector-shaped arms and the gate, and the horizontally-disposed curved spring-actuated catches located at opposite sides of the gate, and connected with the sector-shaped arms, and presenting serrated or notched convex edges to the gate, whereby the latter is readily engaged and held in its open position, 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.

DAVID H. GOOD.

Witnesses:
H. TITTERINGTON,
J. R. AUSTIN.