

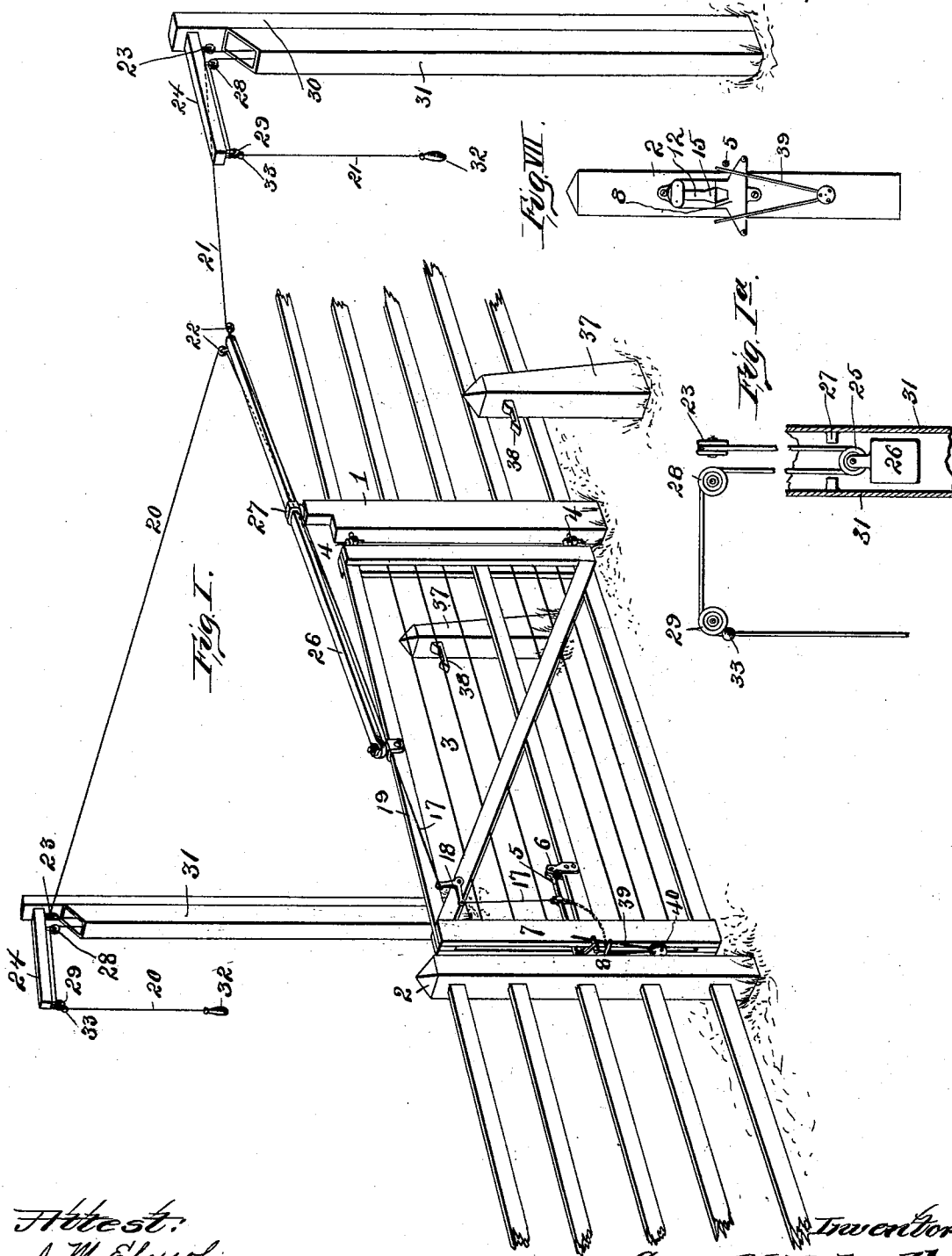
(No Model.)

2 Sheets—Sheet 1.


G. H. AYLWORTH
GATE.

No. 508,799.

Patented Nov. 14, 1893.



Attest:
A. M. Ebenole
C. C. Ebenole.


 Inward
 George H. Aythorpe.
 By Night Boys

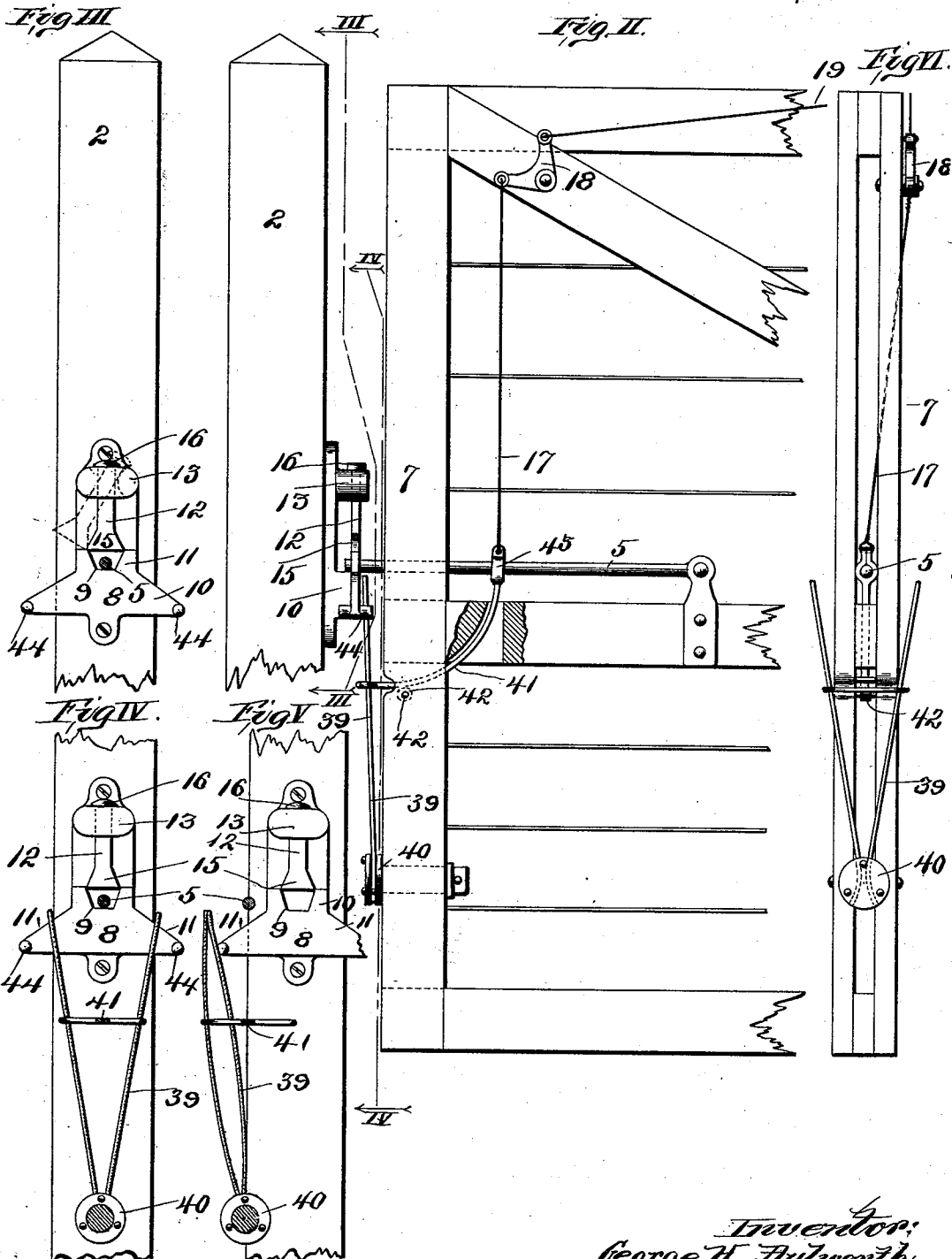
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Witness:
A. W. Ebersole
J. E. Ebersole

Inventor:
George H. Aylworth
By Knight and Atty's

UNITED STATES PATENT OFFICE.

GEORGE H. AYLWORTH, OF BRIGHTON, ILLINOIS.

GATE.

SPECIFICATION forming part of Letters Patent No. 508,799, dated November 14, 1893.

Application filed August 31, 1893. Serial No. 484,417. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. AYLWORTH, of Brighton, in the county of Macoupin and State of Illinois, have invented a certain new and useful Improvement in Gates, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

10 The subject of my present invention is an attachment or improvement applicable to the cord operated gate described in Patent No. 444,325, granted to me the 6th of January, 1891.

15 The subject of my present improvement is to provide against injury to the gate by slamming, either by the wind, or by careless handling. To this end I apply a spring either to the free end of the gate, or to the gate post, as hereinafter described, to take up the concussion and arranged to permit the closing of the gate by the operation of the latch by means of the cord, as hereinafter described.

In the accompanying drawings:—Figure I is a perspective view of my improved gate, with the anti-slaming attachment. Fig. I^a is a detail section, illustrating the movement of the take-up weight and cord. Fig. II is an elevation on a larger scale of the latch end of the gate and the gate post. Fig. III is a face view of the gate post, showing the latch in transverse section, on line III—III, Fig. II, and omitting the spring. Fig. IV is a face view of the gate post and of the spring, showing the gate latch and spring attachment in section on the line IV—IV, Fig. II, showing the position when the gate is closed. Fig. V is a view of the same, showing the action of the spring carried by the gate, when the gate is arrested thereby, in the act of closing. Fig. VI is an end view of the gate. Fig. VII is a face view of the gate post, showing the spring applied thereto instead of to the gate.

25 The main operating parts of the gate are as described in my Patent No. 444,325, above referred to.

1 represents the hinge post of the gate, 2 the latch post, and 3 the gate proper, hung to the post 1 by hinges 4, 4.

50 5 is a latch, pivoted at 6 to the gate 3, and extending through a vertical slot in the end piece 7.

8 is the fixed keeper secured to the latch post 2, and having a central recess 9 to receive and retain the free end of the latch 5. On each side of the recess are inclines 10, and above these are vertical abutments 11, which arrest the movement of the latch, unless it is lifted as hereinafter described.

12 represents a sliding and swinging stop piece, which passes through a slot in a bracket 13 secured to the latch post 2. The stop piece 12 widens at the lower end 15, and has at the upper end a head 16, which normally rests upon the top of the bracket so that the stop piece 12 hangs in vertical position, and its lower end covers the recess 9 in the keeper, as shown in Figs. III, IV and V. The stop piece 12 has a limited swinging movement in either direction to the extent indicated by dotted lines in Fig. III, so that when the latch is lifted to escape the vertical abutment 11, on either side of the keeper 8, the said latch coming in contact with the swinging stop piece presses it to the position shown in dotted lines, and can then drop into the recess 9 of the keeper, permitting the slot piece 12 to fall back into its normal, vertical position, where it rests while the gate remains closed. This operation is nearly the same as described in my previous patent, and so is the opening operation by which the latch 5, being lifted, slides the swinging stop piece 12 upward, in a vertical line, until the latch can escape from the recess 9, when the gate swings open, and is caught by one of the side posts 37. The latch is operated by the following means, differing but slightly from the mechanism shown and described in my previous patent: A wire 17 connects the latch 5 with a bell-crank lever 18, fulcrumed on the gate, to which is attached a horizontal rod or wire 19 connected at its inner end with cords 20, 21, passed around pulleys 22, and extending in each direction to the fulcrum posts 30, described in my previous patent. The rod 19, and cords 20, 21, which operate the same, are carried and guided upon the beam 26, which is fulcrumed in a swivel 27 on the top of the hinge-post 1. The cords 20 and 21, pass over carrying sheaves 23, suspended from horizontal arms 24 on the fulcrum posts 30, and thence down the weight case 31, and around a sheave 25, from which is suspended a weight 26, (Fig. I^a.)

which rises and falls in the casing 31, so as to take up the slack in the cord 20 or 21, and is limited in its upward movement by stops 27. From the sheave 25, the cord 20 or 21 extends upward around another sheave 28, suspended from the arm 24, thence horizontally around a sheave 29 at the extremity of said arm, from whence it depends and it is provided at its lower end with a handle 32. Fixed stops 33 on the depending cords limit the running of the same backward through the sheaves 29, when the cords are released, and the weight 26 descends to take up the slack.

37 represents the posts against which the gate is swung open in either direction, having catches or keepers 38 to retain the gate.

A gate constructed as above described, and operating substantially in the manner described in my former patent above referred to is liable to swing shut with too great violence in careless handling, or when blown to by the wind. To obviate this difficulty, and prevent any injurious effects from slamming of the gate, is the object of my present improvement. For this purpose I employ a V-shaped spring 39, the two arms of which project upward, with an outward inclination, and are united at bottom by a hinge connection 40 with the outer face of the latch bar 7, or end piece of the gate. The hinge connection 40 may consist of a simple shaft stud, with two heads, or a pair of washers between which the lower end of the V-spring 39 is clamped, so as to allow it to turn upon the end bar 7 of the gate, to a limited extent. Its upper end is controlled by a curved, operating rod 41, having a horizontal loop 42 in its extremity, which embraces the vertical arms of the spring, limits their spread and also the distance to which they can spring outward away from the outer face of the gate, as illustrated in Figs. II and IV. The curved, operating rod 41 passes over a roller 42 in the end bar 7 of the gate, and is connected at its upper end to a loop 43, inclosing the latch 5, to which loop 43 the vertical rod 18 is connected for operating the latch. The fixed keeper 8 is provided on its face at each lower corner with a horizontally projecting fixed stud 44, for receiving the impact of the spring when the gate swings to without the latch being raised.

The operation of my gate, as now improved, is as follows: On approaching the closed gate, the driver desiring to open the same, grasps the handle 32 of the pendent cord 20, or 21, as the case may be, and pulls the same, the first effect of which is to raise the weight 26 within the casing 31 until this movement is arrested by the stops 27. The cord, running through the sheaves 29, 28, 23 and 22, draws the rod 19, thereby operating the bell-crank lever 18, and through the vertical rod or wire 17, lifting the latch 5, and at the same time, through the medium of the curved connecting rod 41, drawing the spring 39 against the face of the gate out of reach of the studs

44, between which it rests, while the gate is closed. The continued draft of the cord then, through the agency of the beam 26, turns the gate on its hinges in the required direction, allowing the team to pass through. This done, the second handle 32 on the departing side of the gate is drawn down, and the gate is closed by the same operation. If the gate be closed with ordinary care, and the wind does not blow hard, very little service is required of the spring 39. If, however, the cord is released before the closing of the gate, allowing it to slam, or if the gate is caught by a strong wind, the spring 39 resting in its outer position, a short distance away from the outer bar 7 of the gate, as shown in Fig. II, will strike one of the fixed studs 44 of the keeper 8, and bending, as illustrated in Fig. V, will take up the concussion and prevent slamming of the gate. The gate will rest in this position, partially closed, until the latch 5 is lifted by means of the pull cord, which, through the medium of the curved connecting rod 41, draws the spring 39 into contact with the face of the gate, beyond the reach of the studs 44, as already described. The latch 5 being at the same time lifted above the vertical abutment 11, comes in contact with the swinging stop piece 12, which swings aside to the position shown in dotted lines, which permits the latch 5 to drop into the recess 9 of the keeper. The release of the latch permits the spring arms 39 to spring outward between the two studs 44, where they rest, as shown in Fig. IV.

Substantially the same operation is produced by the modification represented in Fig. VII, where the V-shaped spring 39 is applied to the face of the latch post 2, instead of to the gate. In this case the latch comes in contact with one of the arms of the spring, deflecting it so that the spring takes up the concussion, on the same principle already explained. When the latch 5 is lifted, to close the gate properly, it is carried above the end of the spring, and at the same time above the abutment 11, and permitted to fall into the recess 9, as explained. Similar springs are applied to the side posts 37, by which the gate is held open.

I claim as my invention—

1. In combination with a cord operated gate, a V-shaped spring 39, operating substantially as herein described, to take up the concussion in the closing of the gate by the wind, or by careless handling.

2. In combination with a cord operated gate, latch 5, keeper 8, and swinging stop 12 of the construction specified, a spring 39 operating to prevent slamming of the gate, as herein described.

GEORGE H. AYLWORTH.

In presence of—

DANIEL D. GOODELL,
P. H. SHORT.