

Y. MASUZAWA.
SWINGING GATE.
APPLICATION FILED OCT. 29, 1910.

990,447.

Patented Apr. 25, 1911.

3 SHEETS—SHEET 1.

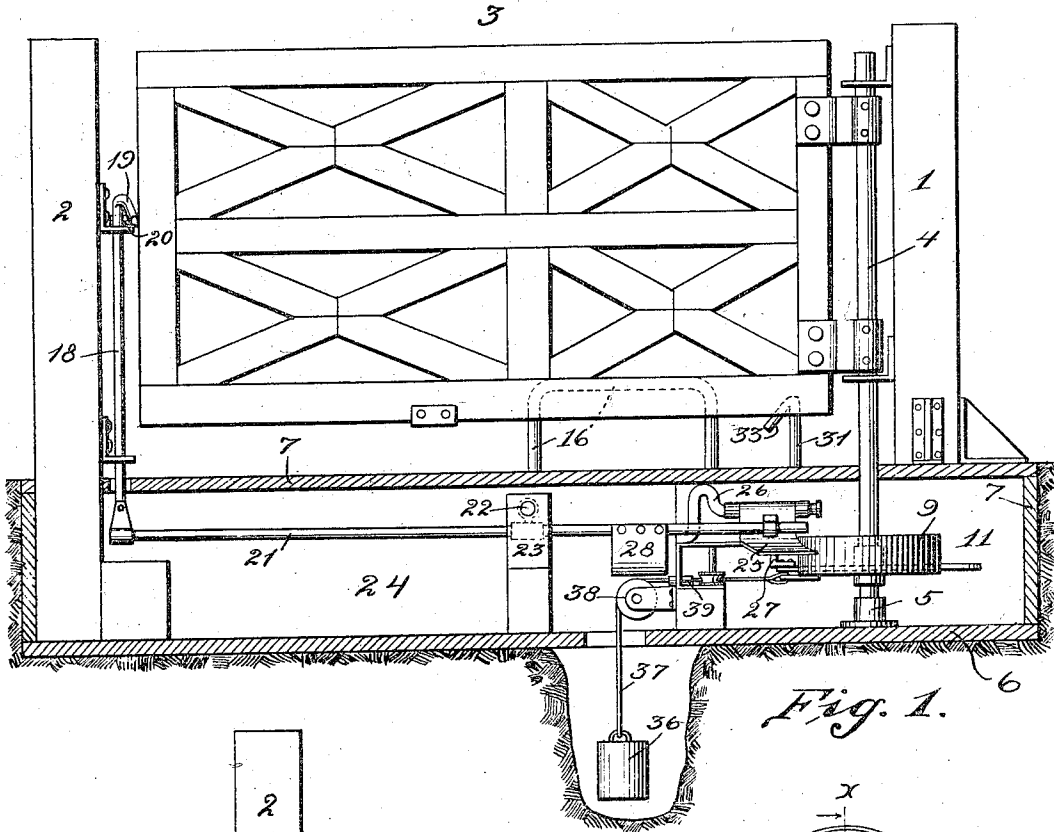


Fig. 1.

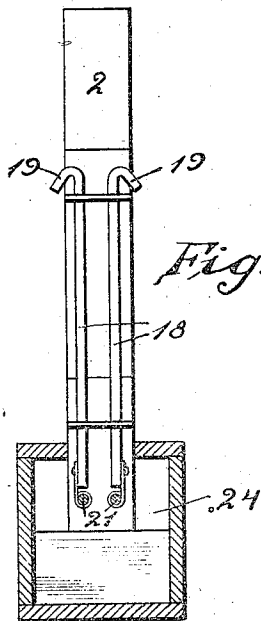


Fig. 7.

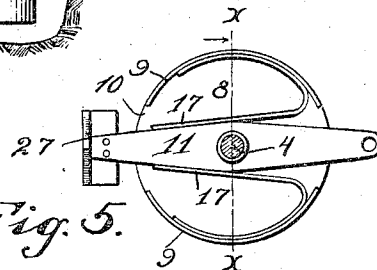


Fig. 5.

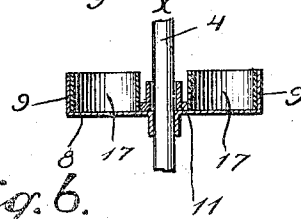


Fig. 6.

Inventor

Witnesses.

Milton Jester.
J. Randolph Jr.

By

Y. Masuzawa.
W. A. Souwick
Attorney

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3 SHEETS-SHEET 2.

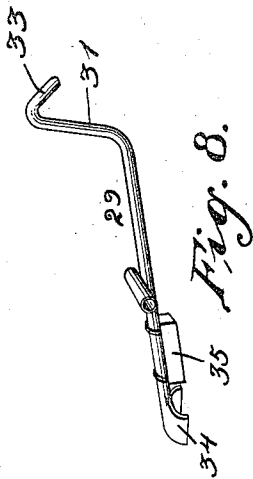


Fig. 8.

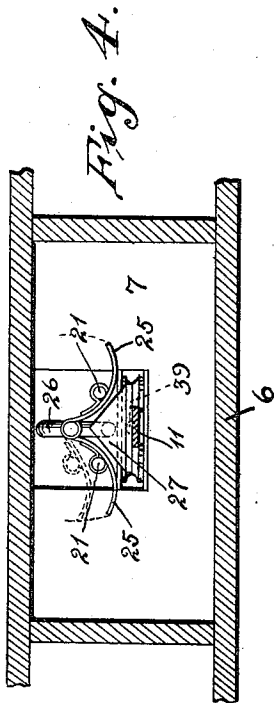


Fig. 4.

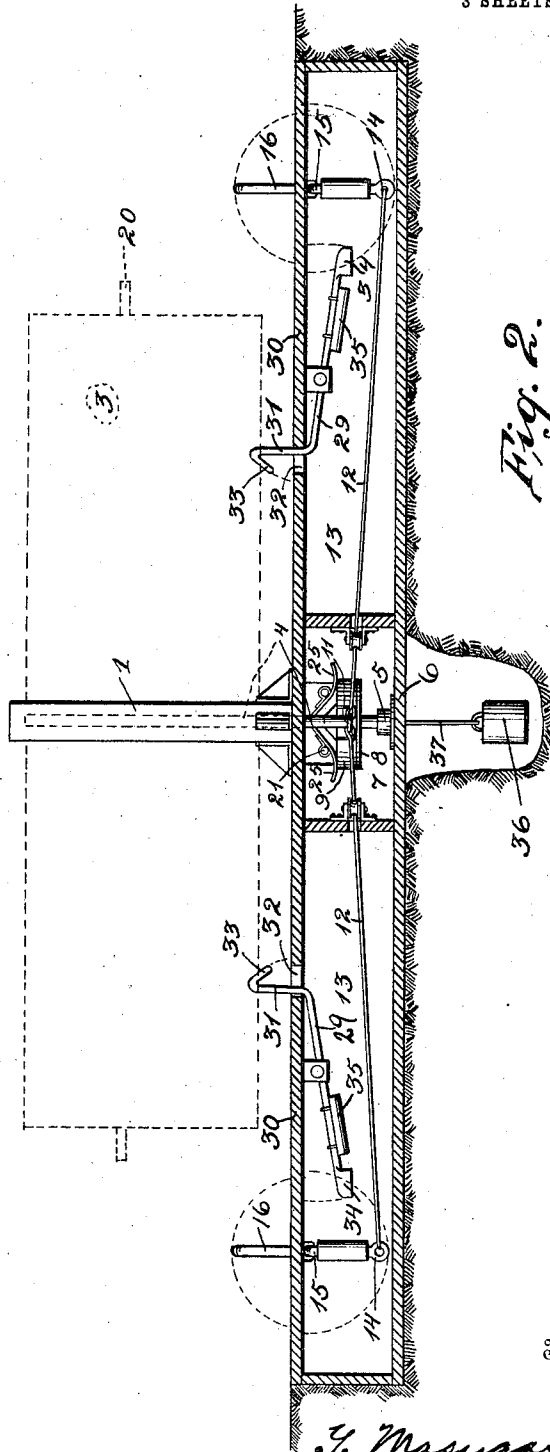


Fig. 2.

Witnesses

Milton Lester,
H. A. S. J.

34

Inventor

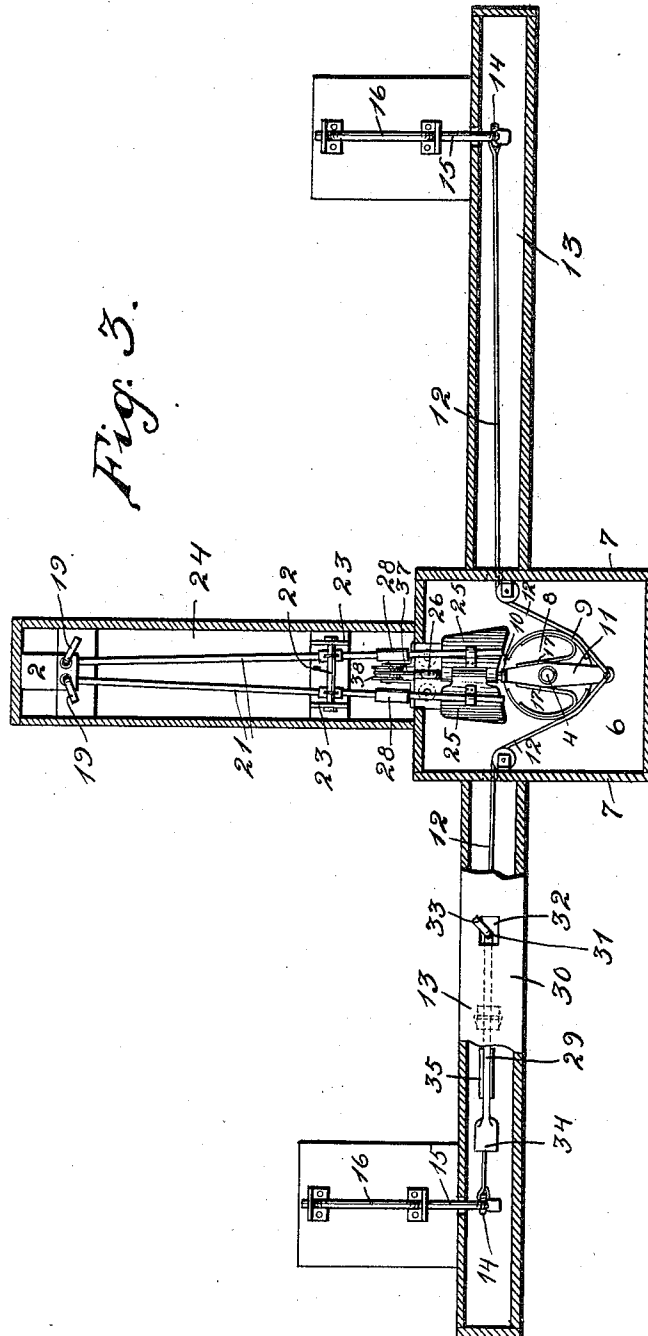
Y. Masuzawa
& D. A. Sourick
Attorney

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3 SHEETS—SHEET 3.



Inventor

Y. Masuzawa

By

D. A. Gouvier

Attorney

Witnesses

J. Milton Jester.

V. Handreph Jr.

UNITED STATES PATENT OFFICE.

YOSHIMASA MASUZAWA, OF ARMONA, CALIFORNIA.

SWINGING GATE.

990,447.

Specification of Letters Patent.

Patented Apr. 25, 1911.

Application filed October 29, 1910. Serial No. 539,766.

To all whom it may concern:

Be it known that I, YOSHIMASA MASUZAWA, a subject of the Mikado of Japan, and a resident of Armona, in the county of Kings and State of California, have invented certain new and useful Improvements in Swinging Gates, of which the following is a specification.

My invention relates to swinging gates and has for its object the provision of a gate operating means comprising a gate mechanism, operated by the wheels of vehicles approaching the gate, to open the gate away from the vehicles and to hold it in a latched position until the vehicle has passed through the gate, when the latch may be released by the wheels of the departing vehicle and the gate is returned to its closed position by a weight. A latch is also provided for the gate in its closed position that is operated by the gate swinging mechanism.

My invention will be described in detail hereinafter and illustrated in the accompanying drawings in which—

Figure 1 is a front view of the gate, showing the boxing containing the gate and latch operating mechanism in section, Fig. 2, an end view of the gate with the boxing in section. Fig. 3, a top plan view of the operating mechanism, Fig. 4, a detail view of the latch lever operating mechanism, and Fig. 5, a detail of gate latch operating mechanism, Fig. 6, a sectional view on the line $x-x$ of Fig. 5, Fig. 7, a view of the latch post and latches, and Fig. 8, a detail view of one of the latch levers for holding the gate in an open position.

In the drawings similar reference characters indicate corresponding parts in all of the views.

1 indicates the hinge post and 2 the latch post between which is swung the gate 3 secured to a vertical shaft 4 journaled on post 1 and having its lower end resting in a socket 5 secured to the base 6 of a housing or boxing 7 for the operating mechanism.

8 indicates a disk secured to shaft 4 and having an upstanding flange 9 thereon formed with a notch 10.

11 indicates a lever fulcrumed on shaft 4 and having one end mounted in notch 10 while its other end has ropes, chains or other flexible elements 12 secured thereto that extend through branches 13 of housing 7 to and are secured to arms 14 of shafts 15 journaled at a distance from the gate at

either side thereof. Shafts 15 are formed with upwardly extending crank portions 16 that are positioned to be engaged by the wheels of vehicles approaching or leaving the gate.

17 indicates springs secured to disk 8 and engaging opposite sides of lever 11 to hold it normally midway between the sides of notch 10.

18 indicates latch rods slidably mounted on latch post 2 which have their upper ends bent and inclined downwardly as shown at 19 to receive a pin or projection 20 secured to and extending outwardly from the end of the gate. The lower ends of latch rods 18 are pivotally secured to levers 21 fulcrumed on bar 22 secured to ears 23, said levers and their support being mounted in housing 24 under gate 3.

25 indicates curved wings pivotally secured to a support 26; the free ends of levers 21 being loosely secured to said wings and 27 indicates triangular shaped plate secured to the end of lever 11 and positioned so that two of its sides engage the wings 25 when the lever 11 is moved by the crank shafts 15 as hereinbefore stated, it being understood that when the shaft 15 at one or the other side of the gate is rotated by an approaching vehicle, the first effect is to swing the lever 11 so that the end of lever 21 secured to the latch rod 18 at the farther side of the gate from the vehicle is raised by the triangular plate 27 engaging wings 25, then when the lever 11 engages the side of notch 10 the disk 8 and shaft 4 is rotated carrying with it gate 3.

28 indicates counter balance weights mounted on levers 21 that tend to hold the latch rods 18 in their raised position to engage pin 20.

29 indicates levers journaled on the inner sides of top plates 30 of branch housings 13 that have upwardly extending portions 31 that extend through openings 32 in the top plates and formed with downwardly inclined ends 33 to engage the bottom of gate 3 when swung open, the other ends of the levers having plates 34 thereon to engage arms 14 of shafts 15 when rocked by the vehicle passing over the crank 16 of the shaft after passing through the gate. 35 indicates a counter balance weight on each lever 29 to hold the upwardly extending end 31 in position to engage the gate when swung open.

36 indicates a weight connected to the disk 8 by means of a rope or chain 37 mounted on sheave 38 and extending through tubular guide 39 that operates to close the gate when the end 31 of either lever 29 is released therefrom.

When the gate is opened, as heretofore described, by the approaching vehicle, passing over crank 16 of shaft 15, it swings the gate 3 away from the approaching vehicle and into engagement with the end 31 of lever 29, the inclined end 33 of the lever by engaging the gate causes the end 31 to be depressed so that the gate passes it and it operates as a latch to prevent the gate from closing. After the vehicle passes through the wheels are driven over the crank 16 of shaft 15 on the side of the gate opening to which the gate has swung so that the arm 14 is swung into contact with the plate 34 on the end of the lever lifting it and swinging the end 31 out of engagement with the gate. The weight 36 will then close the gate, the pin 20 on the end of the gate, by engaging the inclined ends 19 of the latch rod at the near side of the latch post 2, depressing the rod until the gate closes, when the counter-balance weight 28 on the lever will return the latch rod to its normal position and the gate will be held in a closed position.

Having thus described my invention what I claim is—

1. A gate operating mechanism comprising a vertical shaft, the gate secured to the shaft, a disk secured to the shaft, a lever mounted on the disk, latch rods suitably mounted to engage the gate, levers operatively secured to the latch rods, curved wings pivotally mounted and loosely engaging the latch operating levers, the first mentioned lever constructed to engage the wings aforesaid, and mechanism operated by the weight of a vehicle approaching the gate to swing the first mentioned lever.

2. A gate operating mechanism comprising a vertical shaft, the gate secured to the shaft, a disk secured to the shaft, an upstanding flange around said disk and having a notch therein, a lever mounted on the disk and seated in the notch, springs secured to the disk and engaging the levers to normally hold it from engagement with the sides of the notch, latch rods suitably mounted to engage the gate, levers operatively secured to the latch rods, curved wings pivotally

mounted and loosely engaging the latch operating levers, a triangular plate mounted on one end of the first mentioned lever and engaging the wings aforesaid, and means operated by the weight of a vehicle approaching the gate to swing the first mentioned lever.

3. A gate operating mechanism comprising a vertical shaft, the gate secured to the shaft, a disk secured to the shaft, an upstanding flange around said disk and having a notch therein, a lever mounted on the disk and seated in the notch, springs secured to the disk and engaging the lever to normally hold it from engagement with the sides of the notch, latch rods suitably mounted to engage the gate, levers operatively secured to the latch rods, curved wings pivotally mounted and loosely engaging the latch operating levers, a triangular plate mounted on one end of the first mentioned lever and engaging the wings aforesaid, crank shafts journaled at a distance on each side of the gate and adapted to be actuated by a vehicle approaching the gate, arms on said shafts, and flexible members connecting the first mentioned lever and said arms.

4. In combination with a swinging gate, a lever fulcrumed at a distance each side of the gate, one end of each lever extended upwardly to engage the gate when opened, the other end of each lever extended horizontally, crank shafts positioned to be engaged by a vehicle passing through the gate opening, and a swinging arm on each shaft and positioned to engage the horizontal portion of the adjacent lever and move its upwardly extending end from engaging the gate.

5. A gate operating mechanism consisting of a vertical shaft, the gate operatively connected to said shaft, crank shafts at a distance each side of the gate and adapted to be rocked by a vehicle passing over them, a disk secured to said vertical shaft, an upwardly extending flange on said disk and having a notch therein, a lever on the disk and mounted in said notch, and operative connections between said lever and the crank shafts.

In testimony whereof I hereto affix my signature in the presence of two witnesses.

YOSHIMASA MASUZAWA.

Witnesses:

R. YOSHIMURA,
E. A. RICKER.