

No. 607,333.

Patented July 12, 1898.

H. C. BETTS.
GATE.

(Application filed June 14, 1897.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

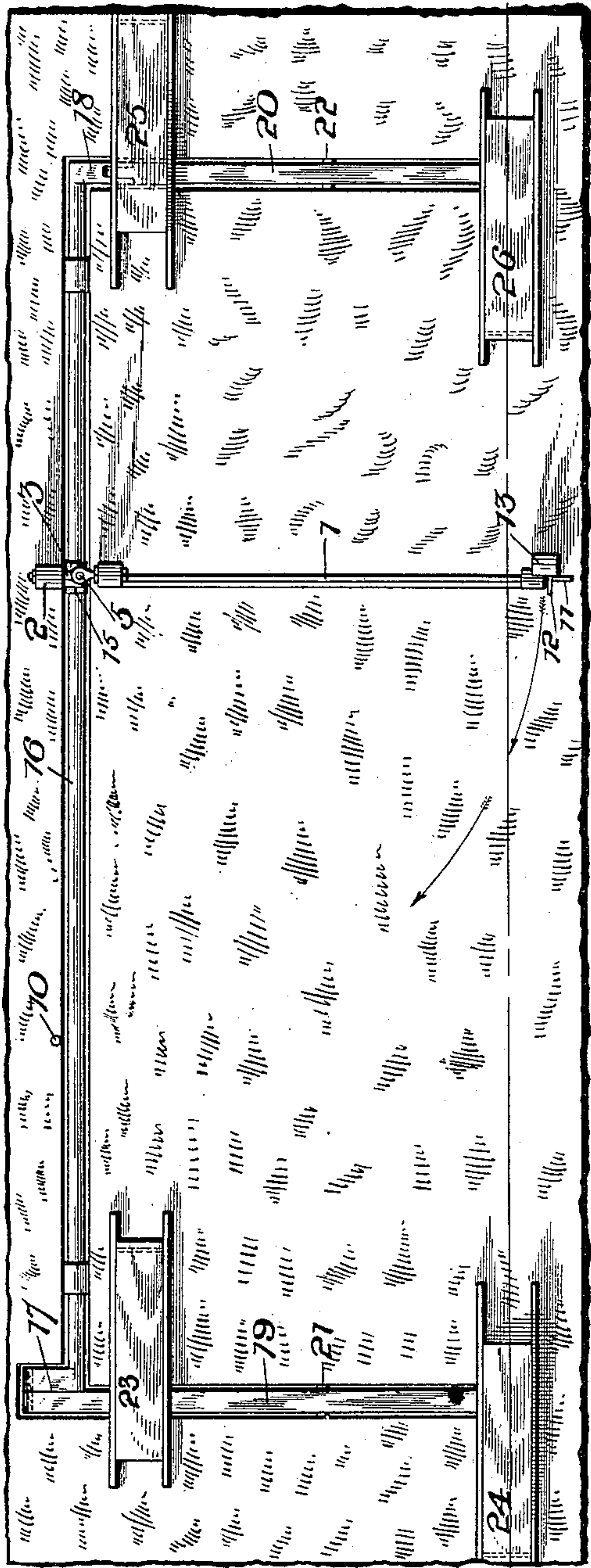
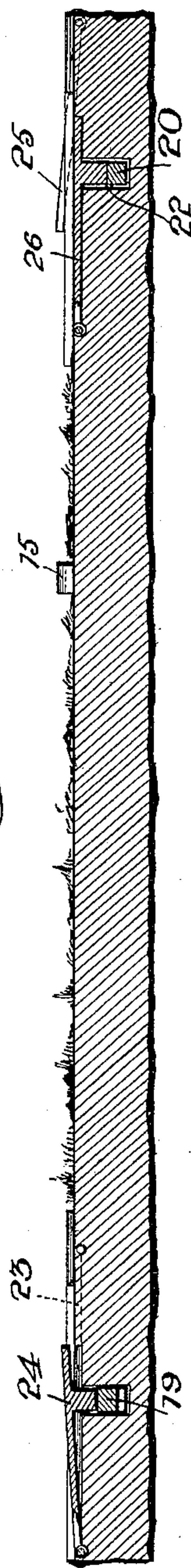


Fig. 2.



Inventor
Henry C. Betts.

Witnesses

A. R. Appleman

By *his* Attorneys,

J. F. Riley

C. A. Snow & Co.

No. 607,333.

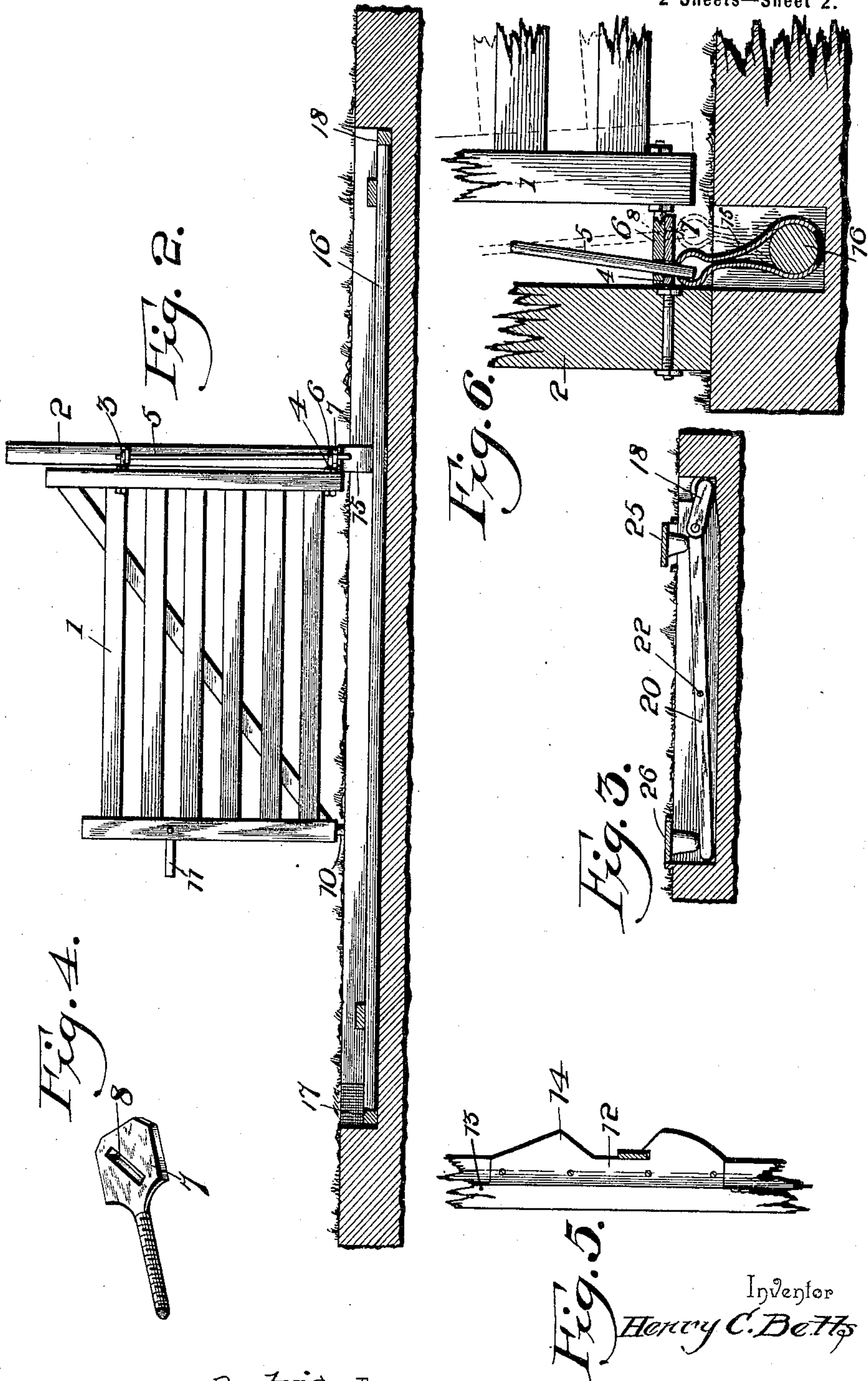
Patented July 12, 1898.

H. C. BETTS.
GATE.

(Application filed June 14, 1897.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses
A. R. Apperson
J. F. Riley

By *H. C. Betts* Attorneys,

Cash & Co.

UNITED STATES PATENT OFFICE.

HENRY C. BETTS, OF MIDDLETOWN, CALIFORNIA.

GATE.

SPECIFICATION forming part of Letters Patent No. 607,333, dated July 12, 1898.

Application filed June 14, 1897. Serial No. 640,659. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. BETTS, a citizen of the United States, residing at Middletown, in the county of Lake and State of California, 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 and to provide a simple, inexpensive, and efficient one adapted to be automatically opened and closed by the weight of a vehicle, bicycle, or the like without necessitating a person dismounting.

The invention consists in the construction and novel combination and arrangement of parts, as hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a plan view of a swinging gate constructed in accordance with this invention. Fig. 2 is a longitudinal sectional view, the gate being open. Fig. 3 is a transverse sectional view of the operating mechanism. Fig. 4 is a detail perspective view of the slotted member of the lower hinge. Fig. 5 is a detail view illustrating the construction of the keeper. Fig. 6 is a detail sectional view illustrating the connection between the lower end of the pintle and the central arm of the rock-shaft. Fig. 7 is a sectional view on line 7 7 of Fig. 1.

Like numerals of reference designate corresponding parts in the several figures of the drawings.

1 designates a swinging gate designed to be constructed of any suitable material and of any preferred form and connected with a hinge-post 2 by upper and lower hinges 3 and 4. The upper hinge 3 consists of a pair of eyes having threaded shanks and connected by a pintle-rod 5, and the said threaded shanks are secured in horizontal perforations of the hinge-post and the inner end bar of the gate by nuts arranged on the opposite faces of such parts. The lower hinge consists of eyes 6 and 7, having threaded shanks and secured to the end bar of the gate and the hinge-post by nuts.

The eye 6 of the gate is provided with a perforation to receive the pintle-rod, and the

eye 7 has a diagonal slot 8, adapted to permit the pintle and the lower end of the inner end bar 4 to be shifted laterally of the gate to throw the latter out of equilibrium and to cause it to open and close by gravity, and when the gate is at rest the pintle is at one end of the slot 8 and in position to hold the gate against movement.

When the gate is open, it is supported by a stop, such as a stake 10 or the like, and when closed it is held by a pivoted latch 11, which engages a keeper 12 of a latch-post 13. The keeper, which projects beyond the latch-post, is provided with a notch to receive the latch and is beveled to guide the latter into engagement with the notch. When the gate is open, the pintle is shifted to the outer or front end of the slot 8, and the front end of the gate is tilted upward, carrying the latch into engagement with an extension 14 of the keeper. The extension 14, which is located directly above the notch or recess that is engaged by the latch, has its lower edge beveled and inclining upward and outward, whereby the gate in opening is thrown suddenly outward and given an impetus and enabled to open sufficiently quick to prevent it from coming in contact with a horse or team.

The lower end of the pintle-rod is arranged in a perforation of a central arm 15 of a rock-shaft 16 and is thereby connected with the latter, and the central arm 15, which extends upward from the rock-shaft, is preferably constructed as illustrated in the accompanying drawings, being substantially U-shaped and composed of two sides. The arm is constructed of a single piece of metal doubled and curved at the bend to form a head, which is provided with the said perforation.

The rock-shaft 16, which is disposed longitudinally of the roadway, is provided at its ends with oppositely-disposed arms 17 and 18, which are connected with transverse levers 19 and 20, arranged at right angles to the rock-shaft and fulcrumed between their ends at 21 and 22 and adapted to be operated by treadles 23, 24, 25, and 26. The treadles are arranged in pairs at each side of the gate and are located a sufficient distance therefrom to enable them to be operated by a vehicle or bicycle without necessitating the operator stopping or materially slackening his speed.

When one treadle of each pair is depressed, the other treadle is elevated and in position to be depressed, so that one treadle at each side of the gate is always in position for operation. The treadles are fulcrumed near one end, and those at the same side of the road are correspondingly fulcrumed, so that a vehicle-wheel will first bear upon the fulcrumed end and gradually depress the treadle, and sufficient space is left between each pair of treadles to permit the passage of a vehicle without touching either of them. The rock-shaft, the levers, and the treadles are designed to be mounted in suitable boxes and bearings, and the treadles are designed to be of considerable length, being preferably constructed of an eight-foot board or plank, so that when depressed the treadle will be supported at opposite sides of the lever to relieve the latter of strain and prevent it from being injured by a heavy load.

The invention has the following advantages: The gate is purely automatic in its operation and is adapted to be readily opened and closed by a vehicle or bicycle, and it is also capable of being latched and unlatched by hand. The treadles are located at opposite sides of the road and are adapted to be operated by a person driving to the right in approaching the gate from either side. The gate is also rapidly opened and adapted to be operated by a vehicle or bicycle without necessitating the operator materially slackening his speed.

What I claim is—

1. The combination with a hinge-post, and a swinging gate, upper and lower hinges, the lower hinge comprising a slotted eye mounted on the post, and an eye mounted on the gate and provided with a depending pintle arranged in the said slot, the latter being disposed diagonally whereby the gate is thrown off its equilibrium, a rock-shaft disposed longitudinally of the roadway, journaled in suitable bearings and provided with a central upwardly-extending arm connected with the

pintle and adapted to shift the same when the rock-shaft is partially rotated, substantially as described.

2. The combination with a hinge-post, and a swinging gate provided with upper and lower hinges, the lower hinge having a shifting pintle adapted to throw the gate out of equilibrium, a rock-shaft disposed longitudinally of the roadway, journaled in suitable bearings and provided with a central arm connected with the pintle, said rock-shaft having at its ends oppositely-extending arms, transverse levers fulcrumed between their ends and connected with the end arms of the rock-shaft, and treadles arranged in pairs and engaging the transverse levers at opposite sides of the fulcrum-point, substantially as described.

3. The combination of a swinging gate, a rock-shaft disposed longitudinally of the roadway, journaled in suitable bearings and provided with arms, and the depressible levers extending transversely of the roadway, fulcrumed between their ends and connected with the arms of the rock-shaft, whereby the latter is rotated when the levers are depressed, substantially as described.

4. The combination of a swinging gate, a rock-shaft disposed longitudinally of the roadway, journaled in suitable bearings and provided at its ends with oppositely-disposed arms, the depressible levers fulcrumed between their ends, disposed transversely of the roadway and connected with the arms of the rock-shaft, and the treadles connected with the transverse levers at opposite sides of the fulcrums, 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.

HENRY C. BETTS.

Witnesses:

PERRY ROBISON,
WM. H. MAYN.